

Green Hill Solar Farm

EN010170

Outline Construction Traffic Management Plan

Revision A

Prepared by: KMC
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APFP Regulation 5(2)(q)



Schedule of Changes

Revision	Section Reference	Description of Changes	Reason for Revision
A	[cover]	Updated to Revision A	As required for submission at Deadline 1.
	[throughout]	Updates to document references	As required for submission at Deadline 1.
	[throughout]	Typographical and nomenclature amendments	Applicant's due diligence.
	Section 2.2 Section 2.7	Clarification on the use of highway access versus crossings.	In response to actions from Issue Specific Hearing 1, and Examiner's First Questions.
	Section 4.1	Updated descriptions of HGV routes during construction.	In response to actions from Issue Specific Hearing 1, and Examiner's First Questions.
	Section 5.5 Section 5.6	Updated mitigation wording including additional detail of wheelwashing.	In response to actions from Issue Specific Hearing 1, and Examiner's First Questions.
	Section 5.12	Addition of mitigation in event of an incident on HGV routes.	In response to actions from Issue Specific Hearing 1, and Examiner's First Questions.
	Section 5.13	Addition of monitoring and compliance requirements.	In response to actions from Issue Specific Hearing 1, and Examiner's First Questions.
	Section 6.1	Restriction on HGV movements during school drop-off and pick-up times where in the vicinity of access points to the Scheme.	In response to actions from Issue Specific Hearing 1, and Examiner's First Questions.
	Section 7	Updated Abnormal Indivisible Load management and procedures.	In response to actions from Issue Specific Hearing 1, and Examiner's First Questions.



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November 2025

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This report has been prepared by KMC Transport Planning Ltd ('KMC') on behalf of its client to whom this report is addressed ('Client') in connection with the project described in this report and takes into account the Client's particular instructions and requirements. This report was prepared in accordance with the professional services appointment under which KMC was appointed by its Client. This report is not intended for and should not be relied on by any third party (i.e. parties other than the Client). KMC accepts no duty or responsibility (including in negligence) to any party other than the Client and disclaims all liability of any nature whatsoever to any such party in respect of this report.

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1 Introduction

1.1 Outline

1.1.1 This Outline Construction Traffic Management Plan (OCTMP) has been prepared by KMC Transport Planning (KMC) on behalf of Green Hill Solar Farm Limited (the Applicant) in relation to an application for a Development Consent Order (DCO) **[EX1/GH3.1_A]** for Green Hill Solar Farm (hereafter referred to as the Scheme).

1.1.2 The proposed development spans several local highway authorities:

- West Northamptonshire Council;
- North Northamptonshire Council;
- Milton Keynes City Council; and
- National Highways.

1.2 The Scheme

1.2.1 The Scheme will comprise the construction, operation, maintenance and decommissioning of a Solar Photovoltaic (PV) electricity generating facility and Battery Energy Storage System (BESS) with a total capacity exceeding 50 megawatts. The Scheme comprises nine land parcels (Sites). The Sites are connected by a Cable Route Corridor to each other and to the Point of Connection (POC) at Grendon National Grid Substation.

1.2.2 The Sites are in an area of countryside to the west and south of Wellingborough, and north, east and south east of Northampton as shown in **Figure 1.1** along with the Study Area.

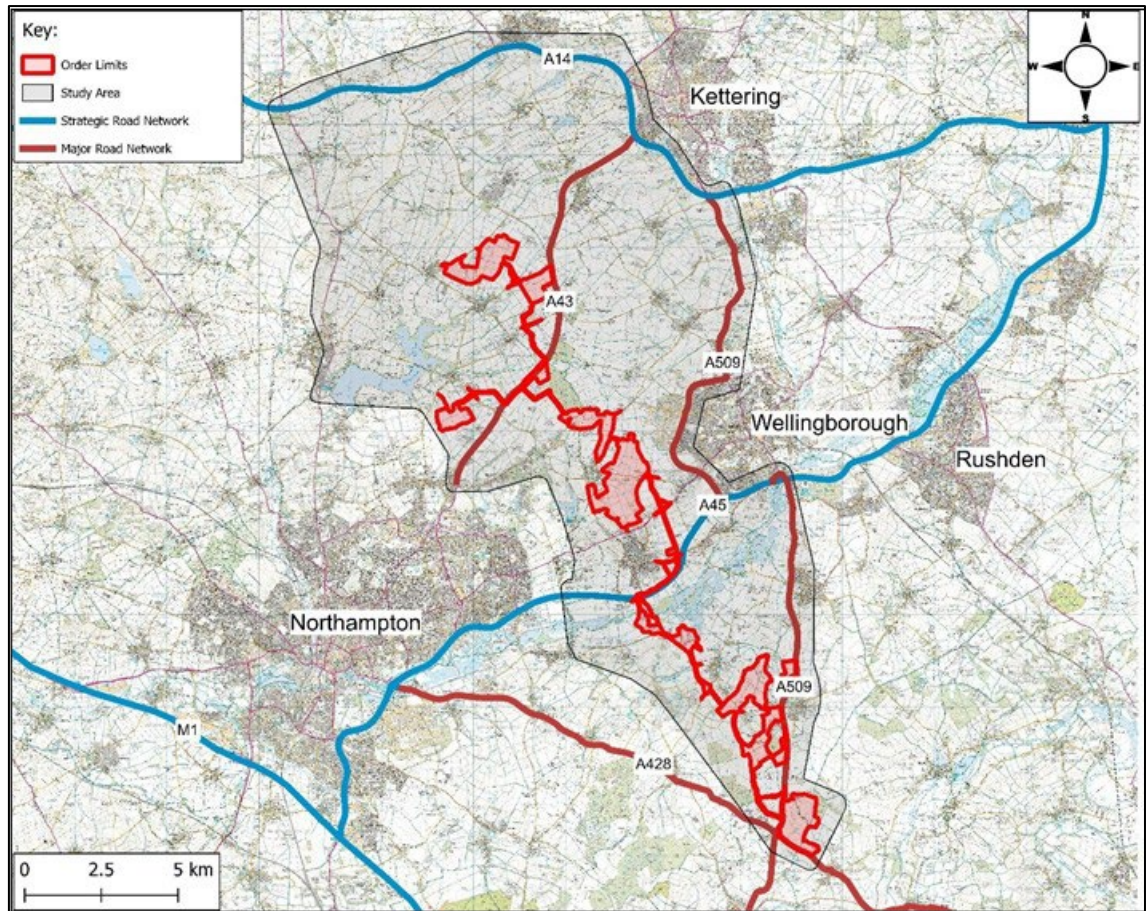


Figure 1.1 – Scheme Overview and Highway Network Context

1.3 Outline CTMP

- 1.3.1 This OCTMP provides a framework for the management of vehicle movements to and from the Site during the construction phase, to reduce, as far as practicable, impacts of the Scheme on the local highway network. It is a live document that will be updated prior to commencement of construction to reflect any amends or comments made during the DCO process, and to add detail once a contractor is appointed.
- 1.3.2 A Final CTMP will be prepared prior to commencement of construction for approval of the relevant highway authorities.
- 1.3.3 The OCTMP has the following objectives:
- Minimise the number of construction vehicles;
 - Ensure the safe movement of equipment, material and construction workers; and
 - Minimise the effects of construction traffic on the local community and other road users.

- 1.3.4 It will be the responsibility of the Applicant to ensure that the appointed contractor complies with all statutory regulations and guidelines in relation to construction and movement activities.
- 1.3.5 This OCTMP has been prepared following various stages of consultation, and should be read in conjunction with the Environmental Statement (ES) **[APP-050]** and the Transport Assessment (TA) **[APP-151 to APP-153]** also submitted as part of the DCO application.

2 Proposed Development

2.1 Outline

2.1.1 This section provides an overview of the Scheme and the construction programme.

2.2 Solar Arrays

2.2.1 The main element of the Scheme comprises nine Sites that will accommodate the solar arrays. These are referred to as:

- **Green Hill A** – Accessed via Access A-1: Broughton Road
- **Green Hill A.2** – Accessed via Access A.2-1: Kettering Road
- **Green Hill B** – Accessed via Access B-1: Sywell Road
- **Green Hill C** – Accessed via Access C-1: Sywell Road/Glebe Road junction
- **Green Hill D** – Accessed via Accesses:
 - Access-D-1: Highfield Road adjacent to Sywell Road
 - Access-D-2: Highfield Road adjacent to the access to Highfield Happy Hounds
 - Access-D-3: Highfield Road, c.200m south of the access to Highfield Happy Hounds
 - Access-D-4: Highfield Road adjacent to Access-E-1
- **Green Hill E** – Accessed via Accesses:
 - Access-E-1: c.200m south of the access to Highfield Happy Hounds
 - Access-E-2: Mears Ashby Road
- **Green Hill BESS** – Accessed via Accesses:
 - Access-BESS-1: c.600m northwest of Grendon Substation access
 - Access-BESS-2: c.190m northwest of Grendon Substation access
 - Access-BESS-3: c.60m southeast of Grendon Substation access
 - Access-BESS-4: c.175m southeast of Grendon Substation access
- **Green Hill F** – Accessed via Accesses:
 - Access F-1: Off the A509, north of Bozeat.
 - Access F-2: Easton Lane/Private Access to Motorcycle Dealership junction
 - Access F-3: Off the A509 to the west of Bozeat.
- **Green Hill G** – Accessed via Access G-1: off the A428, c.100m to the east of the junction with the A509.

2.2.2 A number of crossing point accesses are included to provide access to parts of the Site or the Cable Route Corridor whilst minimising or avoiding the use of unsuitable highways.

2.2.3 The Sites and all HGV accesses associated with the Scheme, including crossing point accesses and accesses for the Cable Route Corridor, are shown in **Figures 2.1, 2.2, 2.3, 2.4, and 2.5**.

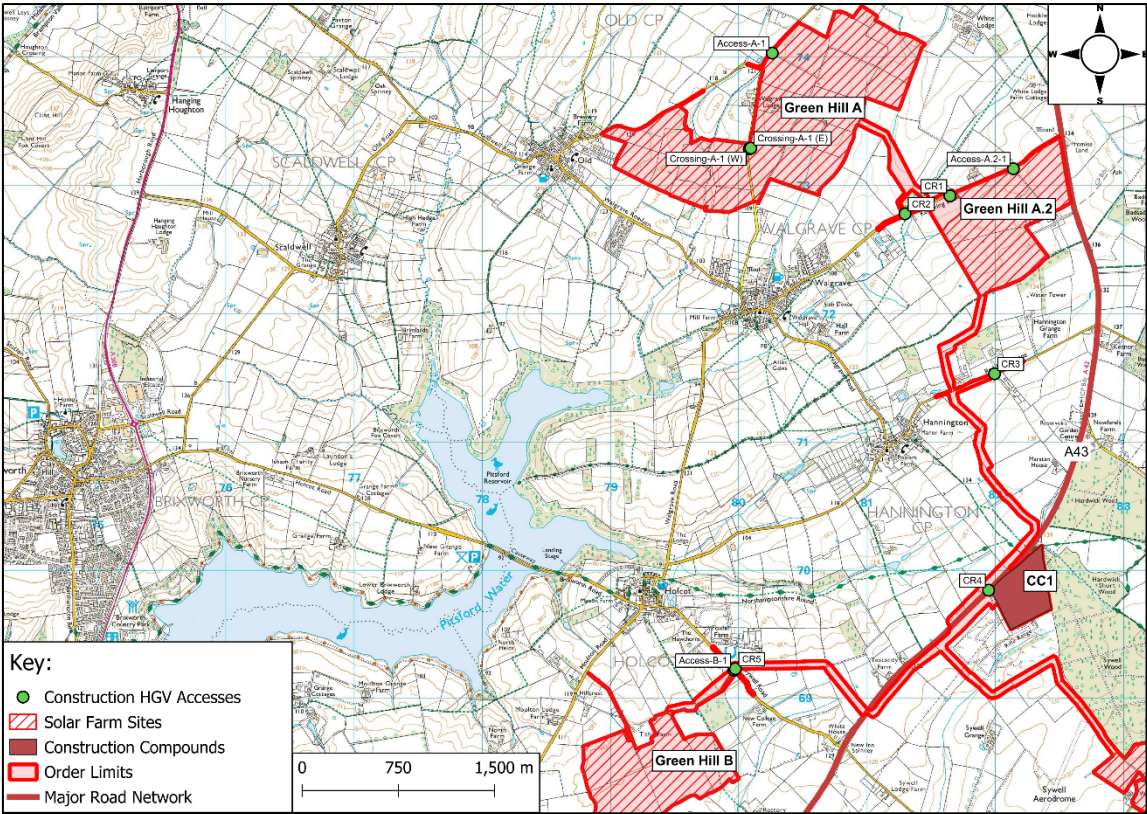


Figure 2.1 – HGV Access Locations for Sites and Cable Route Corridor (North Area)

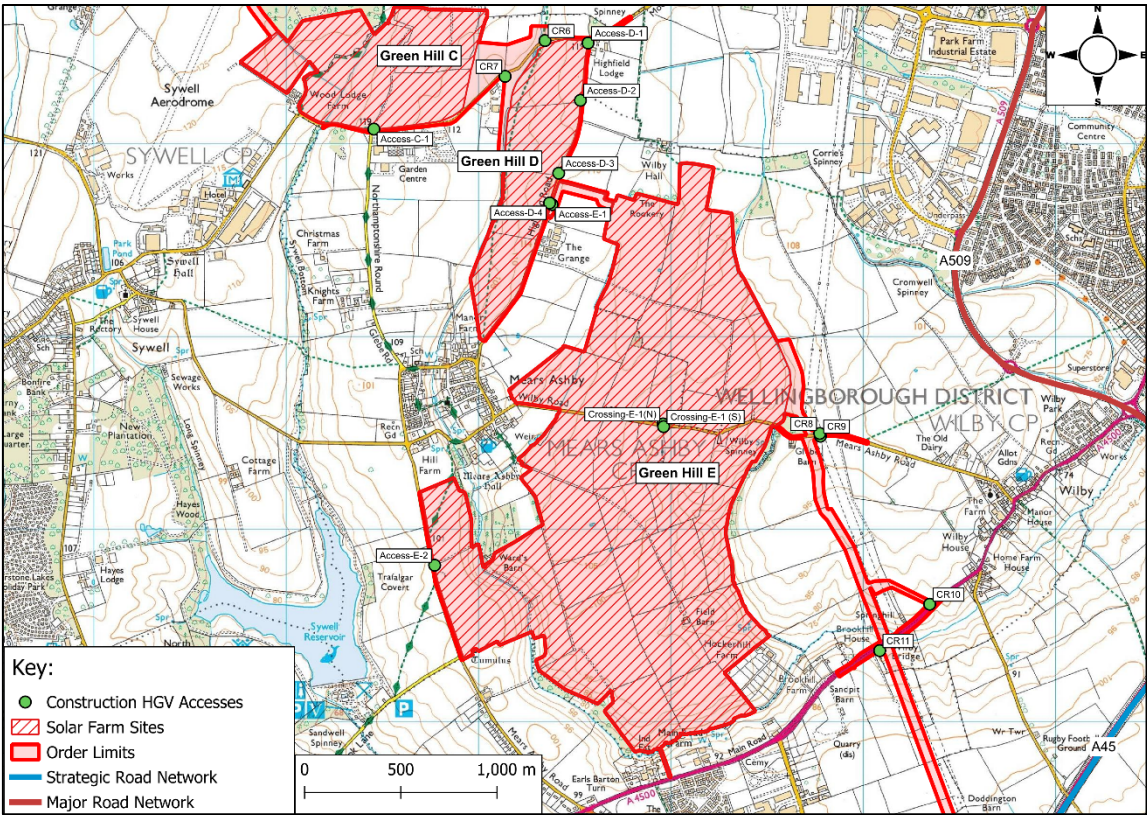


Figure 2.2 – HGV Access Locations for Sites and Cable Route Corridor (Central Area)

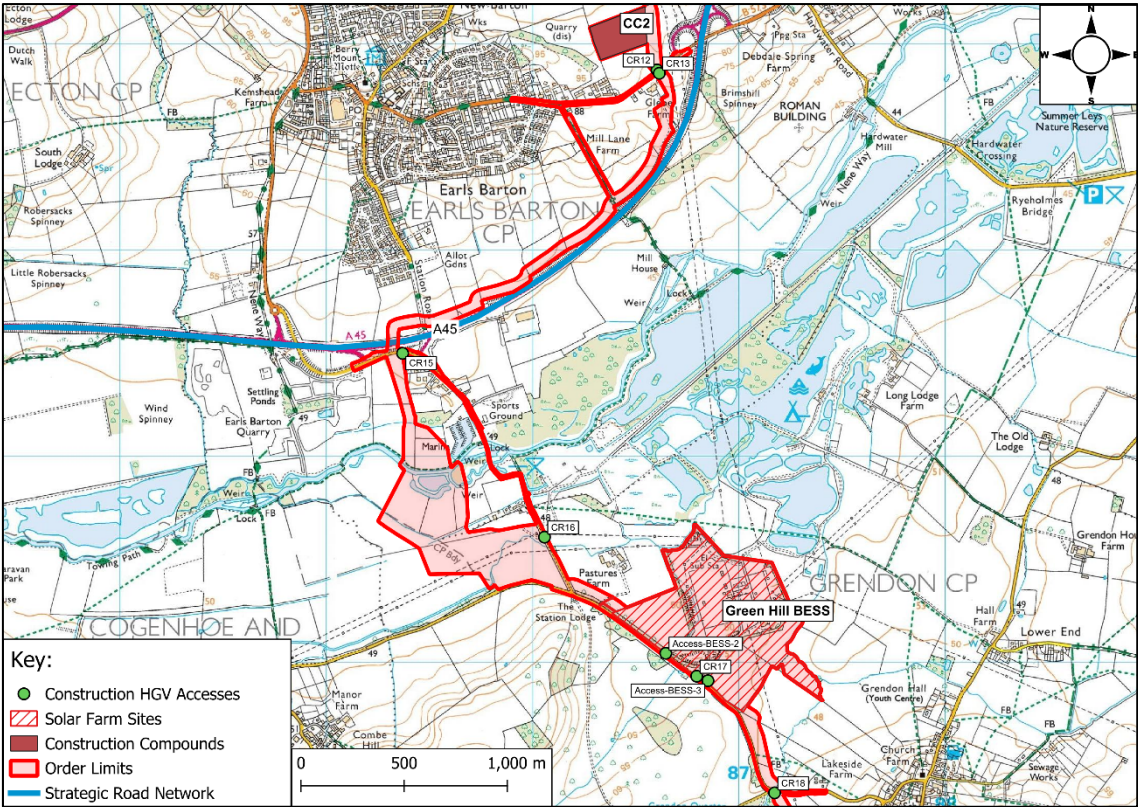


Figure 2.3 – HGV Access Locations for Sites and Cable Route Corridor (South Area Part 1)

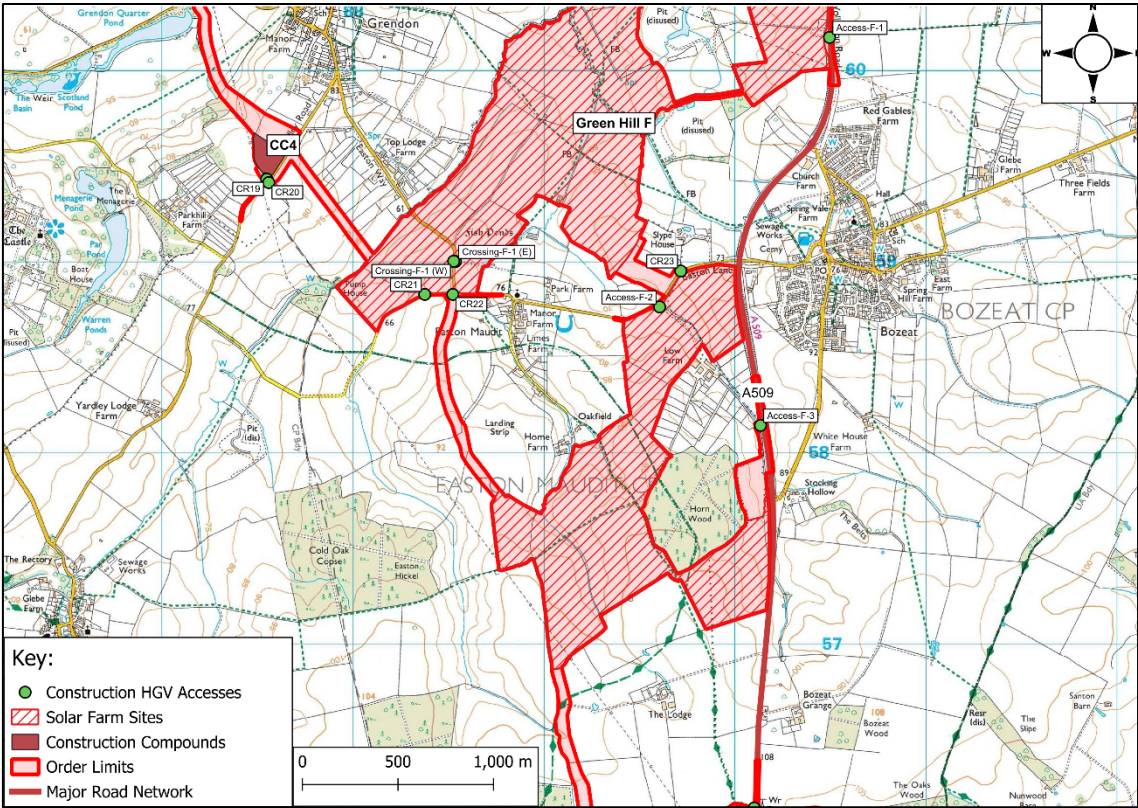


Figure 2.4 – HGV Access Locations for Sites and Cable Route Corridor (South Area Part 2)

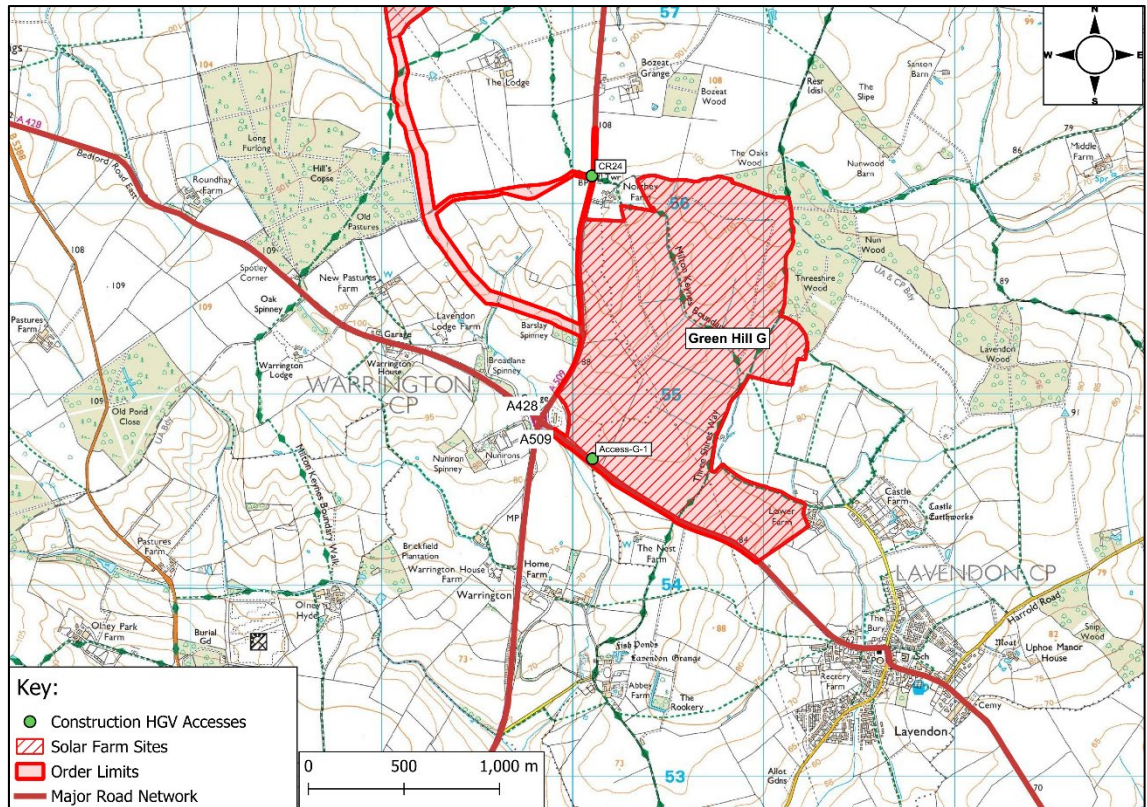


Figure 2.5 – HGV Access Locations for Sites and Cable Route Corridor (South Area Part 3)

2.2.4 The key equipment within the Solar Array Works Areas are:

- The Solar Photovoltaic panels (Solar PV Panels) which convert sunlight/daylight into electrical current;
- Solar PV Mounting Structures will be metal frames, typically aluminium or steel. The metal frames are typically installed by driving the piles directly into the ground;
- A tracker system which involves attaching the Solar PV Panels to a motorized table that can move in relation to the sun. This allows for optimal power generation throughout the day and may be utilised across Sites;
- Conversion Units incorporate the inverters, transformers and associated equipment and are required to manage the electricity generated by the PV Panels; and
- Transformers are required to step up the voltage of the AC electricity generated by the inverters across the solar sites before it reaches the Site substation.

2.3 Energy Storage Facility

2.3.1 An Energy Storage Facility (also referred to as a Battery Energy Storage System (BESS)) is proposed. The preferred location for the BESS is at Green Hill BESS adjacent to Grendon National Grid Substation, however BESS may also or alternatively be located within Green Hill C.

2.3.2 The BESS is designed to provide peak generation and balancing services to the grid by allowing excess electricity generated either from the solar PV panels, or imported from the grid, to be stored in batteries and dispatched when required.

2.4 Substations

- 2.4.1 The Scheme includes two 400kV Substations. These substations are to be located within Green Hill BESS and Green Hill C. The Green Hill C 400kV Substation will be air insulated switchgear, whereas Green Hill BESS will either be air insulated switchgear or gas insulated switchgear.
- 2.4.2 The 400kV Substations would also step down the voltage from 400kV to 132kV and 33kV. This would allow for both electricity provided from the grid at 400kV and provided from the Sites to be stored within the BESS.
- 2.4.3 On Green Hill A, B, E, F and G, there will be the need for a 132kV Substation on each of the Sites.
- 2.4.4 There will be a requirement for 33kV Substations on Green Hill A.2 and D.

2.5 Grid Connection

- 2.5.1 The electricity generated and stored by the Scheme will be exported to the National Grid at the existing Grendon Substation. The Sites will be linked to Grendon Substation via underground cables within the Cable Route Corridor. The underground cables will also transfer electricity from the National Grid to the BESS.
- 2.5.2 The Cable Route Corridor will comprise underground electrical cables to connect the Sites to the Point of Connection (PoC) at Grendon Substation. The Cable Route Corridor runs for approximately 31km from Green Hill A at its most northern extent to Green Hill G at its southernmost point.
- 2.5.3 The Cable Route Corridor has a typical width of 50m, however the Cable Route Corridor incorporates a number of wider areas, for example to allow additional working area for trenchless techniques such as Horizontal Directional Drilling (HDD), enable flexibility around areas of environmental sensitivity and temporary construction compounds.
- 2.5.4 Twenty-four access points to the Cable Route Corridor are proposed (CR1-CR24). These are shown in **Figures 2.1, 2.2, 2.3, 2.4 and 2.5**.

2.6 Construction Compounds

- 2.6.1 Three Construction Compounds will be built to serve the Solar Array Sites and Cable Route Corridor. These are proposed to accommodate the following elements:
- Material and equipment storage;
 - Construction vehicle parking;
 - Site office; and
 - Construction worker welfare facilities.

2.6.2 The Construction Compounds are proposed to be provided at the following locations:

- CC1: Off the A43 near Holcot;
- CC2: Adjacent to the A45/B573 Junction; and
- CC4: Located South of Grendon, accessed via an internal haul route accessed via Station Road.

2.6.3 The proposed locations of the Construction Compounds are shown on **Figures 2.1, 2.2, 2.3, 2.4** and **2.5**.

2.6.4 The provision of the Construction Compounds will ensure that there will be no parking by contractors, visitors or delivery vehicles on the local highway network and visitors will be advised of the parking arrangements in advance of travelling to the Site. The Site Manager will monitor that parking is taking place in the designated area on a regular basis.

2.7 Internal Haul Routes

2.7.1 The Scheme will include haul routes throughout the Solar Array Sites and along the Cable Route Corridor to allow for the movement of some construction vehicles through the proposed development off the public highway.

2.7.2 In order for construction vehicles to cross between the Solar Array Sites, crossings will be provided across various sections of public highway. These are shown connecting the Sites in **Figures 2.1, 2.2, 2.3, 2.4** and **2.5**.

2.7.3 The following pairs accesses must be utilised as crossing points, with HGVs restricted from access from the highway:

- Crossing A-1 (E) and Crossing A-1 (W)
- Crossing E-1 (N) and Crossing E-1 (S)
- Crossing F-1 (E) and Crossing F-1 (W)
- CR8 and CR9
- CR19 and CR20
- CR21 and CR22 (via approximately 150m of Yardley Road, Easton Maudit)

2.8 General Works

2.8.1 Across the Scheme there will be a need to undertake general works associated with construction and development of individual Sites. These works include the following:

- The formation of temporary and permanent access tracks;
- Fencing, security and lighting;
- Landscaping and habitat management;
- Water management and drainage; and
- Construction laydown areas/compounds.

2.9 Programme

- 2.9.1 The Scheme currently has a grid connection date of 2029. It is anticipated that construction works will commence, at the earliest, in Q1 2027 and will run to 2029. The construction programme for the entire Scheme is anticipated to be 24 months with overlapping construction works on the different Scheme Sites.
- 2.9.2 **Figure 2.6** indicates the potential construction durations across the different parts of the Scheme, showing a series of overlapping stages.

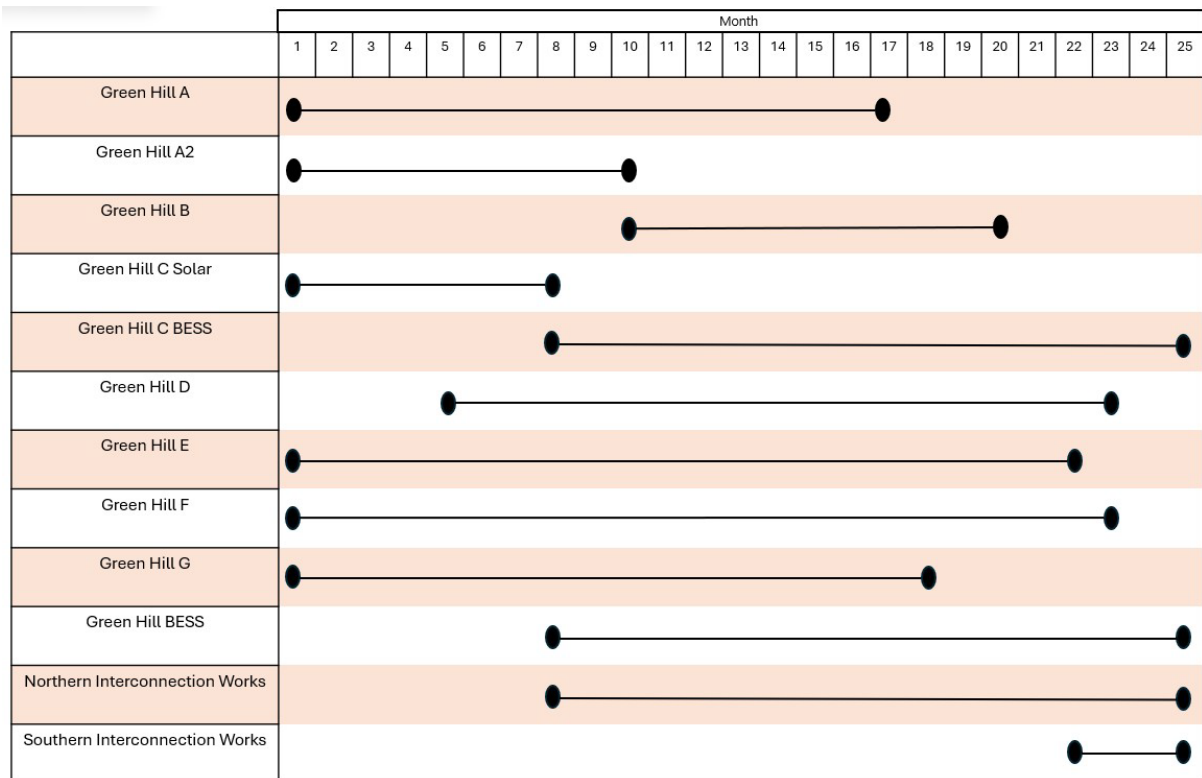


Figure 2.6 – Indicative construction programme for Green Hill Solar Farm

3 Construction Vehicle Trips

3.1 Trip Generation

- 3.1.1 A full breakdown of how construction vehicle trips have been estimated is provided in Section 5 of the Transport Assessment which accompanies this application. A summary is provided within this section of the OCTMP.
- 3.1.2 Deliveries of materials to individual Sites will be made principally by HGVs. This will vary between 16.5m long articulated vehicles and rigid vehicles 8-10m in length. There will be a small number of abnormal indivisible load (AIL) deliveries associated with the Conversion Units. AIL movements are summarised separately in Section 7.

3.2 Construction Phase

Solar Sites and BESS

- 3.2.1 The forecast of HGV movements is based upon forecasts that have been agreed through consented DCO Solar Schemes at Cottam and West Burton, which do not have any discernible or design differences to the Green Hill Scheme. Based on these consented DCOs, 'HGV movements per solar module' have been calculated and is considered an appropriate trip rate to forecast the HGV movements associated with each Green Hill Site.
- 3.2.2 It is expected that there will be a relatively flat profile of deliveries across the construction period for the Scheme and each individual Site. Notwithstanding this, a peak HGV activity has been identified through the indicative programme with the delivery of HGV modules.
- 3.2.3 **Table 3.1** shows the forecast average and peak daily HGV movements expected at the Solar Sites and BESS.

Table 3.1 – Solar Sites and BESS daily HGV movements

Vehicles/day	Green Hill A	Green Hill A.2	Green Hill B	Green Hill C / BESS	Green Hill D	Green Hill E	Green Hill F	Green Hill G	BESS
Average daily HGV deliveries	3	2	2	1	2	3	4	4	2
Peak daily HGV deliveries	8	9	9	5	9	9	9	9	4
Peak HGV movements (two-way)	15	18	18	10	18	18	17	19	8

- 3.2.4 The peak number of workers is expected to be 787 workers spread across the Scheme. To account for peak periods at the different Sites, the groupings of sites across the North, Central and South areas have been assessed separately where these represent different sections of the highway network, with peak workers in each area considered. Taking these individual areas into

account, 1,099 construction workers across the Scheme have been taken forward for assessment as a reasonable worst case.

- 3.2.5 **Table 3.2** shows the estimated construction worker movements expected at the Solar Sites and BESS.

Table 3.2 – Solar Sites and BESS construction worker movements

Vehicles/day	Green Hill A	Green Hill A.2	Green Hill B	Green Hill C / BESS	Green Hill D	Green Hill E	Green Hill F	Green Hill G	BESS
Total worker arrivals	68	27	27	33	8	75	76	62	36
Total worker two-way vehicle movements	136	54	54	20	16	150	152	124	56

- 3.2.6 **Table 3.3** shows the estimated combined Peak HGV and construction worker movements for the Solar Sites and BESS.

Table 3.3 – Combined HGV and construction worker movements: Solar Sites and BESS

Vehicles/day	Green Hill A	Green Hill A.2	Green Hill B	Green Hill C / BESS	Green Hill D	Green Hill E	Green Hill F	Green Hill G	BESS
Total vehicle arrivals	76	36	36	38	17	84	85	71	40
Total two-way vehicle movements	151	72	72	30	34	168	169	143	64

Cable Route Corridor construction vehicle movements

- 3.2.7 Based on input from construction experts, it is forecast that each compound will generate up to 11 HGV arrivals per day for the delivery of material and equipment with a further 5 LGV movements for this purpose. There will also be up to 24 construction workers per compound, arriving by car / van and shuttle bus where a lower occupancy rate of 12 workers has been assumed per shuttle. The forecast vehicle movements across a typical day for the construction of the cable connections across the Cable Route Corridor, are shown at **Table 3.4**.

Table 3.4– Cable Route Corridor construction vehicle movements

Vehicles/day	CC1	CC2	CC4
Total vehicle arrivals	25	25	25
Total two-way vehicle movements	50	50	50

Combined Solar Site, BESS, and Cable Route Corridor construction vehicle movements

- 3.2.8 The forecast two-way vehicle movements across the entire Scheme over a typical day are presented in **Table 3.5**.

Table 3.5– Total Scheme Daily Two-way Vehicle Movements

	North Sites				Central Sites				South Sites			
	Cars/LGVs/ shuttles		HGVs		Cars/LGVs/ shuttles		HGVs		Cars/LGVs/ shuttles		HGVs	
	Arrive	Depart	Arrive	Depart	Arrive	Depart	Arrive	Depart	Arrive	Depart	Arrive	Depart
Total	136	136	36	36	166	166	38	38	152	152	29	29

4 Construction Vehicle Routing

- 4.1.1 **Figures 4.1, 4.2 and 4.3** show the proposed HGV construction vehicle routes. These are chosen to provide routes which are the shortest distance between the various access points associated with the proposed development and the Strategic Road Network (A14 and A45), therefore minimising travel on less suitable roads.

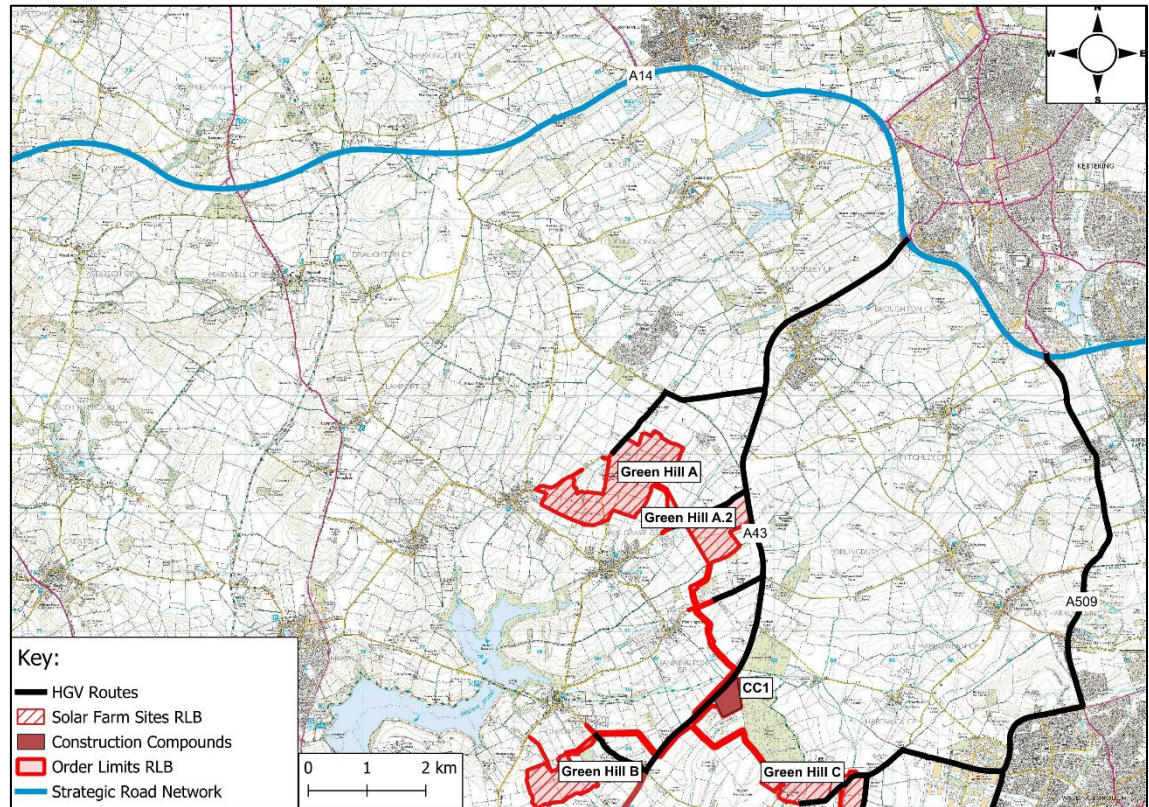


Figure 4.1 – Construction HGV Routing- North Sites

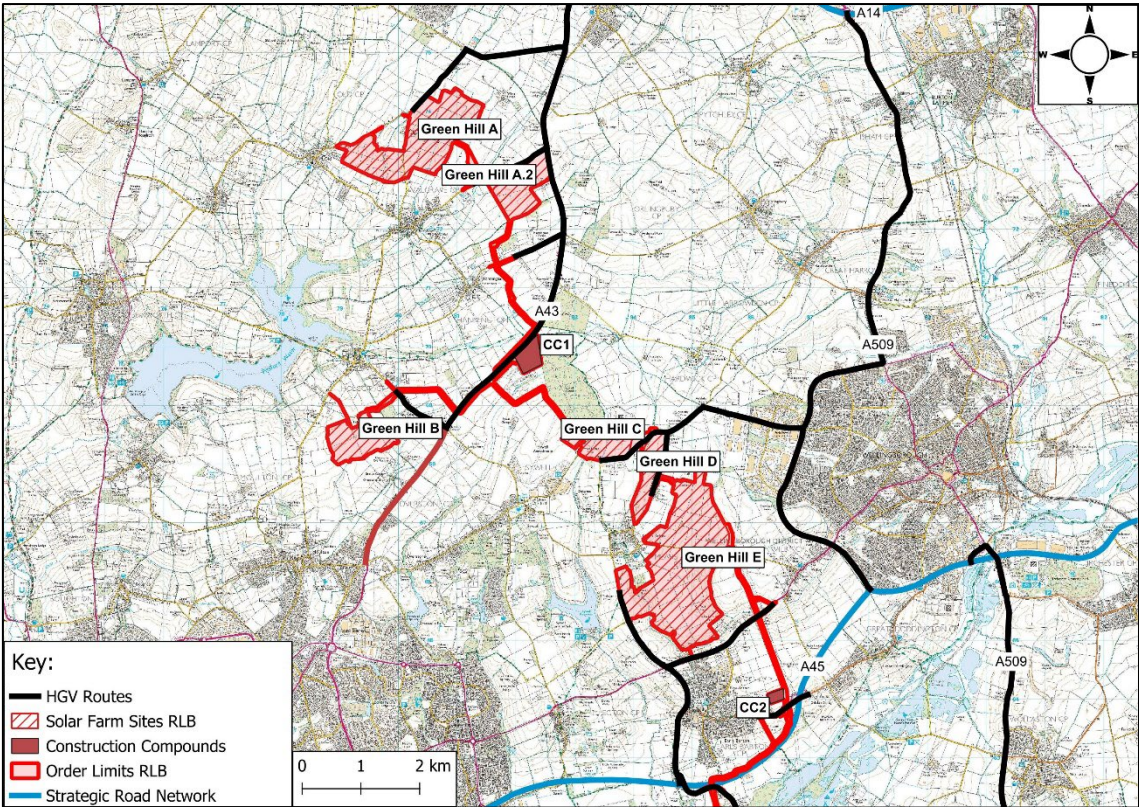


Figure 4.2 – Construction HGV Routing- Central Sites

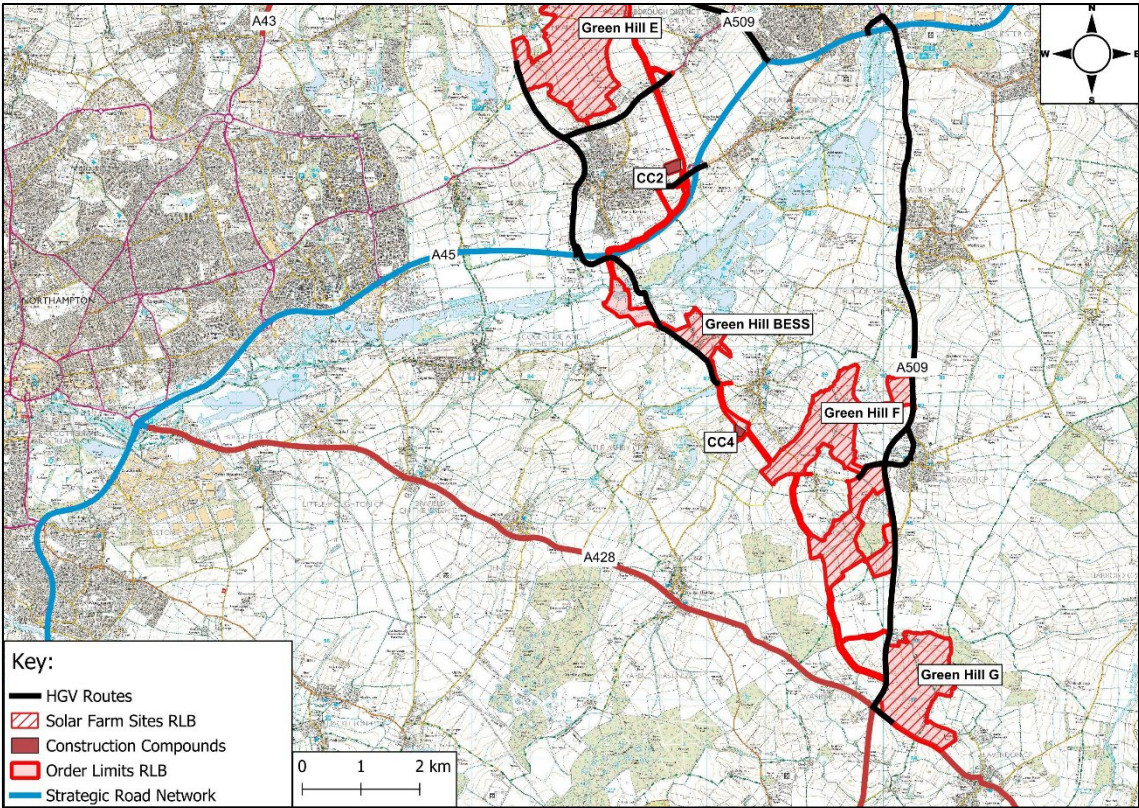


Figure 4.3 – Construction HGV Routing- Southern Sites

4.1.2 **Table 4.1** below summarises the roads that form the construction HGV route(s) to each site access and the permitted HGV movements at each site access.

Table 4.1: Construction HGV Routes to Site Accesses

Site	Site Access	HGV Route to Site Access	Permitted HGV movements at site access
Green Hill A	Access A-1	A14, A43, Old Road, Broughton Road	Left in / right out
	Access A-2	N/A (Operational and worker access only)	
	Crossing A-1 (E)	Across Newland Road	Crossing over Newland Road only. No HGVs along Newland Road
	Crossing A-1 (W)		
Green Hill A.2	Access A2-1	A14, A43, Kettering Road	Left in / right out
Green Hill B	Access B-1	A14, A43, Sywell Road (Holcot)	Left in / right out
	Access B-2	N/A (Operational and worker access only)	
Green Hill C	Access C-1	A509, Sywell Road (Wellingborough)	Right in / left out
Green Hill D	Access D-1	A509, Sywell Road (Wellingborough), Highfield Road	Right in / left out
	Access D-2		
	Access D-3		
	Access D-4		
	Access D-5	N/A (Operational and worker access only)	
Green Hill E	Access E-1	A509, Sywell Road (Wellingborough), Highfield Road	Either along Highfield Road and left in / right out or along an internal haul road within Site D and crossing Highfield Road between Access D-4 and Access E-1
	Access E-2	A45, Northampton Road, Mears Asby Road (Earls Barton), Earls Barton Road	Right in / left out
	Crossing E-1 (N)	Wilby Road (Mears Ashby)	Crossing over Wilby Road only.
	Crossing E-1 (S)		
Green Hill BESS	Access BESS-1	N/A (Emergency access only)	
	Access BESS-2	A45, Grendon Road, Station Road	Left in / right out
	Access BESS-3		Left in / right out
		Access BESS-4	N/A (Emergency access only)
Green Hill F	Access F-1	A509	All movements permitted on A509

Site	Site Access	HGV Route to Site Access	Permitted HGV movements at site access
	Access F-2	A509, London Road (Bozeat), Easton Lane (Bozeat)	Left in / right out
	Access F-3	A509	All movements permitted on A509
	Crossing F-1(E)	Easton Way (Easton Maudit)	Crossing over Easton Way only
	Crossing F-1(W)		
Green Hill G	Access G-1	A509, A428	Left in / right out

4.1.3 **Table 4.2** below summarises the roads that form the construction HGV route(s) to the Cable Route Corridor site accesses and the permitted HGV movements at each Cable Route Corridor access. In addition, some of the site accesses in **Table 4.1** will be used to access the Cable Route Corridor.

Table 4.2: Construction HGV Routes to Cable Route Corridor

Cable Route Corridor Access	HGV Route to Cable Route Corridor	Permitted HGV movements Cable Route Corridor access
CR1	A14, A43, Kettering Road	Left in / right out
CR2		Right in / left out
CR3	A14, A43, Red House Lane	Left in / right out
CR4	A14, A43	Left in / left out with u-turn at roundabout to the south at the junction of A43 / Sywell Road / Holcot Lane
CR5	A43, Sywell Road	Right in / left out
CR6	A509, Sywell Road	Right in / left out
CR7		Left in / right out
CR8	Either via Access E-1 (A509, Sywell Road (Wellingborough), Highfield Road) or via Access CR10 (A4500)	Crossing only over Mears Ashby Road (Wilby)
CR9		
CR10	A4500	Left in / right out
CR11		Right in / left out
CR12	A45, Doddington Road	Right in / left out
CR13		
CR14	N/A (Construction worker and inspection access during operation only)	
CR15	A45, Grendon Road	Left in / right in and left out
CR16	A45, Station Road	Right in / left out
CR17		Left in / right out

Cable Route Corridor Access	HGV Route to Cable Route Corridor	Permitted HGV movements Cable Route Corridor access
CR18		Right in / left out
CR19	A45, Grendon Road, Station Road, CR18 and along the haul route for the Cable Route Corridor.	Crossing over Yardley Road only
CR20		
CR21	A509, Access F-1, through Green Hill F, across Easton Way at Crossing F-1 to exit at CR21, to Yardley Road	Left out / right in
CR22	CR21, Yardley Road (Easton Maudit) to CR22	Right in / left out
CR23	A509, London Road (Bozeat), Easton Lane (Bozeat)	Right in / left out
CR24	A509	All movements

5 Construction Vehicle Traffic – Mitigation Measures

- 5.1.1 The following measures will be implemented during the construction phase to mitigate impacts owing to construction traffic.

5.2 Road Condition Survey

- 5.2.1 Road Condition Surveys will be carried out on minor roads proposed for construction access prior to commencement of construction. The extent of the surveys will be agreed with the local highway authority in advance.
- 5.2.2 Once construction is complete, a further Road Condition Survey will be undertaken in order to identify any additional defects that can reasonably be attributable to construction activities associated with the Scheme. Any identified highways defects directly attributable to construction activities associated with the Scheme will be agreed with the local highway authority and corrected to the satisfaction of the local highway authority (or individual owner if a private road).

5.3 Access Points

- 5.3.1 Existing accesses to Sites will be used where practicable, however any access that is temporarily created for the construction period will be restored to its original condition post-construction or retained subject to agreement. Where existing accesses are utilised, these will be widened and formalised where required. Visibility splays will be kept clear throughout the construction period.
- 5.3.2 The use of temporary traffic management to construct, and where required, manage construction accesses will be considered on a site-by-site basis and agreed with the highway authorities.
- 5.3.3 All construction vehicles will access and egress the Site in a forward gear. Where required, banksmen or other traffic management will be utilised at crossing access points, to ensure the safe manoeuvring of HGVs across public highway.

5.4 Parking

- 5.4.1 Signs informing contractors and visitors that parking is not permitted on-street in the vicinity of the Site or on the Site access road will be erected. Contractors and visitors will be advised that parking facilities will be provided onsite in advance of visiting.

5.5 Management of Deliveries

- 5.5.1 Construction vehicles will avoid travel during the morning and evening network peak hours, where possible. Therefore, deliveries will be arranged to occur after 09:30 and before 16:30.

- 5.5.2 In order to minimise instances of HGVs passing each other in opposite directions on narrow/inappropriate roads, all deliveries will be required to use a delivery booking system. Drivers will be instructed to not leave their depot, or alternatively stop in an appropriate layby or other appropriate stopping place, and report if they are likely to miss their slot.

Procedure for Arrival to Site

- Drivers will be allocated a slot arrival time and instructed which access/route to use;
- Where required, when the vehicle is due, the banksmen will be notified and will position at the relevant access;
- The driver will then be notified to travel to the Site via the agreed route;
- All operatives will communicate with each other, as necessary; and
- Where required, banksmen or other traffic management will be utilised to assist HGVs to manoeuvre from the public highway into the Site accesses.

Procedure for Leaving the Site

- When vehicles are ready to depart, the Site Manager will be notified. If required, they will then mobilise the banksmen at the relevant Site access;
- Drivers will be advised when the banksmen are in place; and
- Banksmen will guide the vehicles safely on to the public highway or other traffic management will be utilised to provide safe access onto the highway.

5.6 Wheel Washing

- 5.6.1 Wheel washing facilities will be provided at each access. This will be located at the egress of each Site and Cable Route Corridor access. A visual inspection of vehicles will be undertaken before they depart the Site, to ensure that they are not carrying debris onto the highway. Notwithstanding wheel washing measures, if required, a road sweeper will be provided for the area surrounding access to alleviate any residual debris generated during the construction phase. At low movement access points such as Cable Route Corridor crossings and where roads being crossed are minor, road sweeping in isolation will be used subject to approval from the relevant highway authority.
- 5.6.2 Visual inspections of the public highway in the vicinity of the site accesses will be undertaken on a daily basis by the site manager. Where inspections identify visible deposits of mud, dust, or debris on the public highway, or where concerns are raised by the local highway authority, a road sweeper will be deployed promptly to remove such material.
- 5.6.3 Records of inspections and any road sweeping undertaken will be maintained within the site's environmental log and made available to the local highway authority upon request. The frequency and effectiveness of the measures will be reviewed throughout the construction period to ensure that appropriate and proportionate mitigation remains in place to maintain highway safety and cleanliness.

5.7 Traffic Management Measures

Route Signage

- 5.7.1 Temporary road signage will be installed along the construction traffic routes to inform all road users of the construction works and to direct construction traffic to and from the various construction accesses.
- 5.7.2 Signage will comply with Chapter 8 of the Traffic Signs Manual. The following will be considered when locating signage:
- The position of the sign in relation to the highway to ensure visibility splays are maintained;
 - Possible distraction to drivers; and
 - The proximity to junctions and roundabouts.
- 5.7.3 Details of the form and proposed locations of any signs (or signals) to be placed on a public highway will be pursuant to relevant Articles of the DCO Revision A **[EX1/GH3.1_A]** and will be submitted to the traffic authority for approval in advance of being placed.
- 5.7.4 All signage on the designated route will be inspected, to ensure they are kept in a well-maintained condition and located in safe and appropriate locations.
- 5.7.5 Traffic management for abnormal load movements will be agreed with the local highway authority and police prior to the abnormal load movements taking place.

5.8 Public Rights of Way

- 5.8.1 A Public Rights of Way and Permissive Paths Management Plan will be implemented during the construction phase of the Scheme. An Outline Public Rights of Way and Permissive Paths Management Plan Revision A **[EX1/GH7.10_A]** is included as part of the application. As part of this plan, the following measures will be implemented:
- Appropriate signage will be installed along the PRoW to make PRoW users aware of the construction activity. This will include information on construction times and contact details for a public liaison officer;
 - Drivers will stop and give-way to any PRoW user (in particular for equestrians);
 - Where relevant, widened access tracks to ensure vehicles can pass PRoW users safely;
 - Banksmen to be positioned where relevant along a PRoW impacted by construction traffic, to hold vehicles if a PRoW user is present and advise PRoW users of the potential for construction vehicles;
 - Speeds to be limited to 10mph near PRoWs;
 - The PRoW will be kept clear of construction vehicles and apparatus outside of permitted construction hours so far as is practicable to do so; and
 - Any damage to the surface of the footpath/bridleway directly attributable to the Scheme will be repaired as soon as practicable.

5.9 Noise Reduction and Air Quality

- 5.9.1 When on Site and when not in use, engines will be required to be switched off. Vehicles carrying material off-Site will be sheeted / covered to prevent the spread of dust and debris. In dry conditions, areas near to the Site access will be sprayed with water to prevent the spread of dust and debris.

5.10 Site Security

- 5.10.1 All construction compounds will be secured via fencing. CCTV will be installed within construction compounds. All access tracks will be secured by gates, which will be set back from the public highway. Where existing access tracks are used that also provide access to residential properties, appropriate security measures will be put in place in consultation with the relevant property owner.

5.11 Community Engagement

- 5.11.1 The details of the Construction Site Manager will be provided to the local highway authorities in advance of any work being carried out and will also be advertised on a Site information board.
- 5.11.2 Residents and businesses in the vicinity of the Sites will be provided with contact details of the Site Manager to report any identified issue.

5.12 Procedure in the event of incident on an HGV route

Flooding on HGV Route

- 5.12.1 In the event of flooding on a proposed HGV route the following procedure will apply:
- The contractor(s) will monitor local flood alerts (e.g. Environment Agency warnings, local authority updates);
 - If there is advance warning of a significant flood event that is likely to impact an HGV route, HGV bookings will be rescheduled;
 - In the event that a flood event temporarily closes an HGV route without advanced warning, the HGVs will be required to follow the diversion route provided by the emergency services/ local highway authority.

Other Incident on HGV Route

- 5.12.2 In the event of an incident on a proposed HGV route which temporarily closes the road HGVs will be required to following the approved diversion route set by the highway authority. Diversion routes are required to be on the same class of road as the closed highway to ensure that the route is suitable for the traffic volume.

5.13 Monitoring and Compliance

- 5.13.1 Any unforeseen issues that arise in relation to construction vehicle movement will be logged by the Site Manager. If necessary, the issues will be discussed with the local highway authority so that they can be resolved as appropriate.
- 5.13.2 The monitoring of HGV movements to ensure their compliance to the oCTMP will include:
- Banksman will record the direction HGVs arrive from. Any that do not arrive from the direction adhering to the HGV routes will be recorded and any instances on non-compliance will be raised with the relevant contractor.
 - A telephone line will be set up for members of the public to report suspected breaches of the HGV routes which will be investigated and addressed with the relevant contractor.
- 5.13.3 Potential corrective actions include, but are not limited to:
- Improvements to the communication strategy;
 - Replace HGV drivers if there are repeat instances of individual HGV drivers diverging from the HGV routes;
 - Suspend booking delivery slots to contractors that repeatedly breach the HGV routes until corrective action is demonstrated; and
 - Provision of additional signage on the HGV routes.

6 Construction Worker Traffic – Mitigation Measures

6.1 Working Hours

- 6.1.1 Construction activities will be carried out Monday to Friday 07:00-18:00 and between 08:00 and 13:30 on Saturdays, which constitute the core working hours (excluding any start-up and shut down works). No construction activities will take place on Public Holidays. However, some activities may be required outside of these times (such as the arrival and departures of workers, the delivery of abnormal loads, night-time working for cable construction works in public highways or HDD activities).
- 6.1.2 Construction deliveries by HGV will be scheduled to arrive between 09:30-16:30. They will be coordinated to avoid construction vehicle movements during the traditional AM peak hour (08:00-09:00) and PM peak hour (17:00-18:00). In addition, construction worker shift patterns will be coordinated to avoid travel during the network peak hours of 08:00-09:00 and 17:00-18:00 and workers will be advised of local schools in the vicinity of access points (e.g. Grendon Primary School) and advised not to travel past these during the school drop off and pick up times (typically 08:00-09:00 and 15:00-16:00).

6.2 Vehicle Trip Reduction

- 6.2.1 Measures are proposed to minimise the number of construction workers travelling by car or van, including the provision of shuttle buses to transport construction workers to and from each Site and nearby conurbations.
- 6.2.2 Construction workers who drive to any Site will be encouraged to car share where possible and this tends to occur on major construction projects without intervention. An assumption of 1.5 construction workers per car / van has been made based on the national car / van occupancy average.

6.3 Construction Worker Travel Plan

- 6.3.1 A Construction Worker Travel Plan (CWTP) will be drafted and implemented, to encourage construction workers to travel to the Site via sustainable travel, where possible. The CWTP will form part of the detailed CTMP, and will be submitted to the Local Highway Authorities for their approval prior to the commencement of the construction phase.
- 6.3.2 The following key aims and objectives are identified at this stage:
- To reduce single occupancy car travel by construction workers;
 - To increase car sharing and shuttle bus use; and
 - To increase knowledge of the public transport and/or Active Travel opportunities available to construction workers (where applicable/viable).
- 6.3.3 A Travel Plan Coordinator (TPC) will be appointed to oversee the implementation of the CWTP whose responsibilities will comprise, but not necessarily be limited to, the following:

- Implement measures set out in the Travel Plan;
- Raise awareness and promote the Travel Plan; and
- Provide advice to construction workers regarding sustainable travel options.

6.3.4 Suggested measures could include:

- Establish a car share scheme for construction workers;
- Arrange on-site facilities for workers, such as storage lockers for equipment;
- Provide a map with identified cycling/walking/bus routes to a Site; and
- Provide emergency cycle repair kit at the compounds.

6.3.5 Consideration will also be given to the potential for construction workers to access CC4 using access CR19, designated as a crossing point for HGVs. The CWTP will set out any additional measures that will be implemented to ensure safe access and egress for construction workers using this access. These measures may include:

- Temporary reduction of speed limits during the construction phase;
- Manually controlled temporary traffic signals;
- A Temporary Obstruction 15 (TO15) to temporarily stop traffic to allow workers to safely depart the site.

6.3.6 Uptake of Travel Plan measures will be monitored by the TPC. Additional measures will be provided if necessary/as appropriate.

7 Abnormal Indivisible Loads (AILs)

- 7.1.1 There will be a number of abnormal load movements associated with the construction of the Scheme.
- 7.1.2 An AIL vehicle is defined as having one or more of the following characteristics on any part of the vehicle combination:
- a gross vehicle weight of more than 44,000kg;
 - an axle load of more than 10,000kg for a single non-driving axle and 11,500kg for a single driving axle;
 - a width of more than 2.9 metres;
 - a rigid length of more than 18.65 metres;
 - the vehicle load projects over the front or rear of the vehicle by more than 3.05m or more than 305mm over the side of the vehicle; or
 - is a Part 2 vehicle combination (N3 vehicle and trailer) of greater than 25.9m total length.
- 7.1.3 Road based AILs fall into three principal classifications:
- Special order for the heaviest, widest or longest loads. Any AIL greater than 150 tonnes gross vehicle weight or over 6.1m wide or over 30m long is classified as a Special Order load;
 - Special type General Order (STGO) for loads not in the Special Order category, but which are over the weight limit for the number of axles, wider than 4.3m or longer than 27.5 m. STGO are sub-divided into three categories (Cat 1, 2 or 3) depending on the gross weight and axle weight. A further STGO category is used for loads over 5m wide, which are referred to as VR1 loads; and
 - Construction and Use (C&U) for loads that are not in the STGO category but do not qualify as an HGV movement due to their size (width, length or overhang).
- 7.1.4 A report has been prepared to consider the routes that Abnormal Load movements will take and is appended to the Transport Assessment.

7.2 Forecast Movements

Green Hill Sites

- 7.2.1 Substations will be required within Sites across the Scheme. The substations will consist of electrical infrastructure such as the transformers, switchgear and metering equipment required to facilitate the export of electricity from each respective area.
- 7.2.2 The Abnormal Load movements associated with the substations and the Sites they relate to are summarised in **Table 7.1**.

Table 7.1 - Summary of Abnormal Load movements for Green Hill Sites

Green Hill Site	Substation voltage	Transformer sizes	Number	Access
Green Hill A	132kV	120/140MVA 132/33 kV – L: 7.6m, W: 2.7m, H: 4.5m – Weight: 95 tonnes	2	Broughton Road
Green Hill B	132kV	60/90MVA 132/33kV L:7m, W:2.6m, H:4m – Weight: 65 tonnes	1	Sywell Road
Green Hill C	400kV	150MVA 400/33 kV – L: 8m, W: 4m, H: 4.9m – Weight: 155 tonnes	4	Sywell Road
		240MVA 400/132kV – L: 10m, W: 3.8m, H: 4.7m – Weight: 183 tonnes	1	
Green Hill E	132kV	120/140MVA 132/33 kV – L: 7.6m, W: 2.7m, H: 4.5m – Weight: 95 tonnes	2	Highfield Road
Green Hill F	132kV	120/140MVA 132/33 kV – L: 7.6m, W: 2.7m, H: 4.5m – Weight: 95 tonnes	2	Easton Lane
Green Hill G	132kV	120/140MVA 132/33 kV – L: 7.6m, W: 2.7m, H: 4.5m – Weight: 95 tonnes	2	A428
Green Hill BESS	400kV	4 x 150MVA 400/33 kV – L: 8m, W: 4m, H: 4.9m – Weight: 155 tonnes	4	Station Road
		1 x 240MVA 400/33kV - L: 10m, W: 3.8m, H:4.7m Weight: 183 tonnes	1	

7.2.3 The information presented in **Table 7.1** suggests that across the nine Green Hill Sites and at varying times across the two-year construction programme, a total of 19 Abnormal Load movements will be necessary.

Cable Route Corridor

7.2.4 30 tonne cable drums will be required to deliver the connection between the Sites to Grendon National Grid Substation. The drums will be delivered on a Cable Reel Trailer and this vehicle, together with its material is classified as an abnormal load. The vehicle is smaller than those required to deliver the transformers at around 26m in length. The forecast peak cable drum deliveries on a single day will total 12 deliveries (24 two-way cable drum movements) spread across the Cable Route Corridor.

7.2.5 The Cable Reel Trailer and vehicle will enter the corridor or compound. Once fully off the public highway, the cable drum can be unloaded and towed along the haulage road to the appropriate location for installation.

7.3 Management

7.3.1 Application for notification of AIL deliveries must be made by transport (haulage) operators, preferably through the Electronic Service Delivery for Abnormal Loads (ESDAL2) system. If the

ESDAL2 system is not used, the application for each AIL movement must be submitted in adequate time to allow consultation, planning and further notification.

- 7.3.2 The ESDAL system will notify the police, highway authorities and bridge authorities of the proposed AIL movement. Authorities will respond with objections, conditions, or consent through the portal.
- 7.3.3 A police escort is normally only required where road safety, traffic management or public safety cannot be maintained without a police escort. The police will be notified through the ESDAL notification system and will review the route and assess risk. They will confirm in their response whether a police escort is required or not.
- 7.3.4 Where an AIL cannot pass safely along a route due to street furniture, the haulier must plan for the temporary removal of the affected street furniture in co-ordination with the relevant highway authority. The process undertaken for this is typically as follows:
- During a detailed route survey, street furniture requiring temporary removal is identified (e.g. signs, bollards, lighting columns, guardrails etc);
 - The highway authority is notified well in advance of the AIL movement, providing details of the location and type of street furniture to be removed, estimated duration of removal, and the traffic management required during the temporary removal and reinstatement of the street furniture;
 - The highway authority will review the safety implications and, if acceptable, approve the proposed temporary street furniture removal;
 - All street furniture is required to be reinstated after the AIL movement and all costs of the AIL movement and associated works are borne by the undertaker.