



# Technical Appendix 5: Construction Traffic Management Plan

Longhedge Solar Farm

30/11/2022



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## EXECUTIVE SUMMARY

- 5.1. This Construction Traffic Management Plan (CTMP) outlines the overall framework for managing the movement of construction and delivery traffic to and from the Proposed Development Site, as well as considering the type of traffic it will generate. The traffic assessment for the operational and decommissioning phases were also considered.
- 5.2. Impacts from the operational phase of the site, consisting of between 10-15 LGVs per year, is not considered to be 'significant' and therefore a full Transport Assessment/Statement is not required. However, elements of the National Planning Practice Guidance (NPPG) which are relevant to this project, namely, to include details of the existing conditions and issues relating to the Proposed Development, have been considered in this CTMP.
- 5.3. Increased volumes of traffic will be generated by the Proposed Development during the construction period. However, the overall volumes of traffic generated are considered to be quite low. During the anticipated six-month construction period, a total of approximately 1106 HGV deliveries will be made to the Application Site. During the peak construction, which will be towards the beginning of the construction period, there will be an approximate maximum of 20 daily HGV deliveries.
- 5.4. The haulage route will be from the A46 to the southwest of the Application Site. The vehicles will exit the A46, signposted A6097 (Mansfield), take the 4<sup>th</sup> exit at the roundabout onto Bridgford Street followed by the 1<sup>st</sup> exit at the next roundabout onto Fosse Way. Vehicles will travel along this road for approximately 1.5km to the next roundabout, where they will take the 2<sup>nd</sup> exit onto Tenman Lane. This road will be travelled on in an eastern direction for approximately 3.2km before taking a left hand turn onto Hawksworth Road and vehicles will travel along here for approximately 2km before taking a right hand turn onto Thoroton Road. Vehicles will travel in a southeast direction for approximately 0.9km before turning left into the Application Site.
- 5.5. The site will be accessed from a new site access point off Thoroton Road and will be designed in accordance with the Nottinghamshire Highway Design Guide to ensure that the largest construction vehicles can enter and exit the site access point. To facilitate this, 13.3m of hedgerow will need to be removed.
- 5.6. It was noted during the site visit that it was likely that vehicles would be travelling up to the roads speed limit and therefore the full 210m x 2.4m visibility splay for a 60mph road is required. The visibility splay of 210m x 2.4m will be achievable without the need for any remedial works.
- 5.7. The Applicant will conduct a pre- and post-construction condition survey of the public road 200m either side of the site access point. The Applicant will be liable to repair any damage to the road attributed to the construction of the Proposed Development.

- 5.8. This Construction Traffic Management Plan (CTMP) sets out a variety of specific mitigation measures that will be implemented during construction that will minimise the impact of the construction traffic on the environment and local communities; these include:
- Limitations on working times and HGV scheduling;
  - Site security and signage; and,
  - Measures to control emissions of dust and other airborne contaminants.
- 5.9. This CTMP conforms to the policies and objectives of the Local Development Plan, adopted by Rushcliffe Borough Council and the Design Manual for Roads and Bridges.

## INTRODUCTION

### Background

5.10. This Construction Traffic Management Plan (“CTMP”) has been prepared by Neo Environmental Limited, on behalf of Renewable Energy Systems (RES) Ltd (“the Applicant”) in support of a planning application submitted to Rushcliffe Borough Council (“the Council”) for a proposed 49.9MW solar farm development (the “Proposed Development”) on lands between Hawksworth and Thoroton, circa 15.5km east of Nottingham, Nottinghamshire (the “Application Site”); the approximate centre point of which can be found at Grid Reference E476129, N343467.

### Development Description

5.11. The Proposed Development will consist of the construction of a c. 49.9MW solar farm. It will involve the construction of bi-facial ground mounted solar photovoltaic (PV) panels, new access tracks, underground cabling, perimeter fencing with CCTV cameras and access gates, 2x temporary construction compounds, substation and all ancillary grid infrastructure and associated works.

5.12. The Proposed Development will result in the production of clean energy from a renewable energy resource (daylight) and will also involve additional landscaping including hedgerow planting and improved biodiversity management.

### Site Description

5.13. The Application Site is located in a semi-rural setting on lands between the settlements of Hawksworth (0.1km west) and Thoroton (0.2km southeast), circa 15.5km east of Nottingham, Nottinghamshire. (See **Figure 1** of **Volume 2: Planning Application Drawings** for further detail).

5.14. Centred at approximate Grid Reference E476129, N343467, the Proposed Development Site comprises nine fields covering a total area of c. 94.24hectares (ha), although only 37.7ha of this area is required to accommodate the solar arrays themselves, with the remaining area being used for ancillary infrastructure and mitigation and enhancement measures. The Proposed Development Site covers low lying lightly undulating agricultural land with an elevation range of c. 20m to 25m AOD. Internal field boundaries comprise, hedgerows, tree lines and several linear strips of woodland shelter belt. External boundaries largely consist of mature to lower hedgerows with individual trees and some evident gaps. In terms of existing infrastructure; electricity pylons extend north-south through fields 5, 6 & 8, whilst electricity lines pass northwest to southwest through fields 4, 5, 6 & 9.

5.15. The Application Site will be accessed via the creation of a new entrance off the linear public highway Thoroton Road. The vegetation is set back from the road verge by a few metres and

therefore visibility will not be an issue. Appropriate visibility splays are included within the CTMP.

- 5.16. The haul route will be from the A46 to the southwest of the Application Site. The vehicles will exit the A46, signposted A6097 (Mansfield), take the 4th exit at the roundabout onto Bridgford Street followed by the 1st exit at the next roundabout onto Fosse Way. Vehicles will travel along this road for approximately 1.5km to the next roundabout, where they will take the 2nd exit onto Tenman Lane. This road will be travelled on in an eastern direction for approximately 3.2km before taking a left hand turn onto Hawksworth Road and vehicles will travel along here for approximately 2km before taking a right hand turn onto Thoroton Road. Vehicles will travel in a southeast direction for approximately 0.9km before turning left into the Application Site.
- 5.17. There is one recreational route located within the Proposed Development Site (Bridleway 1 & 6 that pass through the northern fields), and several located close by (**See Figure 3 of Vol 2: Planning Drawings**). National Cycle Network (NCN) route 64 shares the minor road on the east side of the Proposed Development Site.
- 5.18. The Proposed Development Site is mostly contained within Flood Zone 1 (at little or no risk of fluvial or tidal / coastal flooding), however there are some areas of Flood Zone 2 and 3a which follow the watercourse/drains within the site and have been carefully considered during the design phase.

## Scope of the Assessment

- 5.19. The purpose of this CTMP report is to provide a framework for managing the movement of traffic to and from the Application Site, and to minimise the impact on the local road network during the construction period of the Proposed Development. The potential impact of traffic during the operation and decommissioning periods are also assessed.
- 5.20. This CTMP will provide details of:
- Traffic route identification and assessment;
  - Swept path analysis; and
  - Construction traffic management procedures.
- 5.21. This report is supported by the following appendices:
- **Appendix 5A: Figures**
    - Figure 5.1: Proposed Haul Route
    - Figure 5.2: Swept Path Analysis
    - Figure 5.3: Visibility Splay



## Statement of Authority

- 5.22. This Construction Traffic Management Plan has been produced by Michael McGhee and Tom Saddington of Neo Environmental Ltd. Having completed a civil engineering degree in 2012, Michael has worked on over 1.5GW (approximately 50 individual sites) of solar farm Construction Traffic Management Plans across the UK and Ireland, as well as more detailed transport statements for major developments. Tom has an undergraduate degree in Bioengineering and graduated with an MSc in Environmental and Energy Engineering in January 2020. He has been working on various technical assessments for numerous solar farms in Ireland and the UK.

## Consultation

- 5.23. A pre-application request was submitted to Rushcliffe Council and feedback was received from the Highways Authority on the 10<sup>th</sup> March 2021. The feedback was general and included the following:

*“The submission includes very little information with regard access arrangements and anticipated vehicle numbers. A Construction Traffic Management Plan will need to be provided with any formal submission to further assess matters of access, vehicle movements etc.*

*It is stated within the supporting information that there are four potential options surrounding the site which are already existing farm entrances, although no further details are provided. Suitable access arrangements will need to be confirmed in terms of visibility and access geometry/construction. Further details on vehicle access design requirements can be found in the Nottinghamshire Highway Design Guide.*

*A Public Bridleway cuts across the site to the north, and the applicant should contact the Public Rights of Way team at an early stage to discuss any potential implications. Further information with regard to Public Rights of Way can be obtained by contacting countryside.access@nottscc.gov.uk”.*

- 5.24. The Public Rights of Way Team also provided feedback which mainly focused on buffers for existing bridleways which have been considered in the design of the project. This plan also considered impacts during the construction stage.
- 5.25. The Public Rights of Way Team / Countryside Access Team were also consulted and provided feedback which mainly focused on buffers for existing bridleways, as well as providing feedback on the proposed permissive bridleway routes which form part of the proposed development, both of which have been considered in the design of the project. This CTMP also considered impacts during the construction stage.
- 5.26. Please refer to **Volume 2: Figure 15** for details on the treatment of locations where internal site access tracks cross the bridleway route.

## LEGISLATION

- 5.27. The National Planning Policy Framework (NPPF, 2021)<sup>1</sup> seeks to promote sustainable transport within all new developments. However, the Government recognises that different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural areas.
- 5.28. All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:
- the opportunities for sustainable transport modes have been considered, depending on the nature and location of the site, to reduce the need for major transport infrastructure;
  - safe and suitable access to the site can be achieved for all people; and
  - improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development.
- 5.29. It is noted that development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are “severe”.

### National Planning Practice Guidance (NPPG)<sup>2</sup> Travel Plans, Transport Assessments and Statements in Decision Taking

- 5.30. This NPPG seeks to provide clarification on the issues raised within the NPPF in relation to Transport Statements and is a material consideration in the determination of applications.
- 5.31. The NPPG defines Transport Assessments and Statements as ways of ‘*assessing and mitigating the negative transport impacts of development in order to promote sustainable development*’. As set out within the guidance, this Transport Statement primarily focuses on evaluating the potential transport impacts of a development proposal and proposes mitigation measures where these are necessary to avoid unacceptable or “severe” impacts.
- 5.32. The guidance highlights a number of principles to be taken into account during the preparation of the Transport Statement, these include:

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<sup>1</sup> Ministry of Housing, Communities & Local Government, National Planning Policy Framework, Feb 2019. Available at [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/810197/NPPF\\_Feb\\_2019\\_revised.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf)

<sup>2</sup> Ministry of Housing, Communities & Local Government, National Planning Practice Guidance, Travel Plans, Transport Assessments and Statements, March 2014. Available at <https://www.gov.uk/guidance/travel-plans-transport-assessments-and-statements>

- Proportionality to the size and scope of the proposed development to which they relate and build on existing information wherever possible;
- Tailoring to particular local circumstances; and
- Works being brought forward through collaborative ongoing working between the Local Planning Authority/ Transport Authority, transport operators, Rail Network Operators, Highways Agency where there may be implications for the strategic road network and other relevant bodies.

5.33. NPPG identifies that the scope and level of detail in a Transport Assessment or Statement will be site specific and the following has been considered when setting the scope of the assessment:

- Information about the proposed development, site layout, (particularly proposed transport access and layout across all modes of transport);
- Information about neighbouring uses, amenity and character, existing functional classification of the nearby road network;
- Data about existing public transport provision, including provision/ frequency of services and proposed public transport changes;
- An analysis of the injury accident records on the public highway in the vicinity of the site access for the most recent three-year period, or five-year period if the proposed site has been identified as within a high accident area; and
- A description of parking facilities in the area and the parking strategy of the development.

5.34. The trip generation from the operational phase of the Proposed Development will not reach a high enough level to be described as 'significant' as it will be limited to maintenance visits approximately once per month. As the guidance states a Transport Statement or Assessment is only necessary when the Proposed Development generates a 'significant' amount of movement, it was felt that a CTMP would be sufficient to support this application.

5.35. This CTMP will consider elements of the NPPG which are relevant to this project, namely to include details of the existing conditions and issues relating to the Proposed Development.

## Local Plan Policies

- 5.36. The Rushcliffe Local Plan 2014 - 2028<sup>3</sup> (the “LP”) is the adopted plan.
- 5.37. Chapter 2 ‘Sustainable Requirements’, of the existing LP (Part 2) contains policies and objectives in relation to transport; with the below policies relating directly to this Proposed Development. **Policy 1** states:
- “Planning permission for new development, changes of use, conversions or extensions will be granted provided that, where relevant, the following criteria are met:*
- 1. there is no significant adverse effect upon the amenity, particularly residential amenity of adjoining properties or the surrounding area, by reason of the type and levels of activity on the site, or traffic generated;*
  - 2. a suitable means of access can be provided to the development without detriment to the amenity of adjacent properties or highway safety and the provision of parking is in accordance with advice provided by the Highways Authority.”*
- 5.38. Chapter 5 ‘Climate Change, Flood Risk and Water Management’, of the existing LP (Part 2) contains policies and objectives in relation to transport; with the below policies relating directly to this Proposed Development. **Policy 16** states:
- “1. Proposals for renewable energy schemes will be granted planning permission where they are acceptable in terms of:*
- o) vehicular access and traffic;”*
- 5.39. This CTMP will ensure that the Proposed Development adheres to the policies outlined above.

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<sup>3</sup> Rushcliffe Council. Rushcliffe Local Plan. Available at <https://www.rushcliffe.gov.uk/planningpolicy/localplan/>

## TRAFFIC ROUTE IDENTIFICATION AND ASSESSMENT

- 5.40. The chosen delivery route and subsequent CTMP is based upon information provided by the Applicant as well as a thorough review of the local and national roads in the vicinity of the Application Site.

### Site Access

- 5.41. The speed limit on Thoroton Road is 60mph. It was observed that vehicles are highly likely to travel at speeds close to the statutory speed limit due to the road alignment being straight and having good forward visibility. This section of road (near the site entrance point) does not contain centre markings, public lighting, or a defined carriageway edge. This road is approximately 3.7m wide, with passing places located at intervals and the carriageway appears to be in a good condition.
- 5.42. The new access point off Thoroton Road is designed in accordance with the Nottinghamshire Highway Design Guide and swept path analysis showing the largest construction vehicle entering and exiting the site entrance point shows that the design is suitable, see **Figure 5.2: Appendix 5A**. As per the drawing, to facilitate the new access point, 13.3m of hedgerow will need to be removed.
- 5.43. It was noted during the site visit that it was likely that vehicles would be travelling up to the roads speed limit and therefore the full 210m x 2.4m visibility splay for a 60mph road is required. The visibility splay of 210m x 2.4m will be achievable without the need for any remedial works, see **Figure 5.3: Appendix 5A**.
- 5.44. The Applicant will conduct a pre- and post-construction condition survey on the public road 200m either side of the site access point. The Applicant is liable to repair any damage to the road attributed to the construction of the Proposed Development.

### Internal Site Tracks

- 5.45. Additional and upgraded access tracks will be constructed to allow access for the construction, operation, maintenance and decommissioning of the solar panels and associated infrastructure.
- 5.46. Tracks will measure 4.5/5.5m wide with a 4/5m running width, however, this will increase at bends. All new tracks will be unpaved and constructed from local stone. Geosynthetic reinforcement or soil stabilisation may be used to reduce the depth of track construction. The surface will be a compacted granular material (crushed rock) up to an approximate thickness of 0.3m, dependent on the ground conditions. Details of the access track construction can be found in **Figure 6 of Volume 2: Planning Application Drawings**.

- 5.47. Load bearing crane hardstanding areas are required during construction to support the cranes as they lift the inverter substations from the delivery vehicles. The site tracks can be used for this purpose, with some localised widening where required.
- 5.48. The access tracks will be left in situ after completion of the solar farm construction, as they will provide:
- Access for the Proposed Development maintenance and repair works;
  - Access for the Landowner; and
  - Access for decommissioning of the Proposed Development.
- 5.49. Once the solar farm is decommissioned, unless required by the landowner and agreed with the council, all new access tracks will be removed.

### Proposed Haul Route

- 5.50. The proposed haul route has been identified by considering the ability of the route to physically accommodate the required vehicles, in addition to the sensitivity of the route to potential disruption by the movements of traffic to and from the Application Site.
- 5.51. The haulage route will be from the A46 to the southwest of the Application Site. The delivery vehicles will exit the A46, signposted A6097 (Mansfield), take the 4<sup>th</sup> exit at the roundabout onto Brdigford Street followed by the 1<sup>st</sup> exit at the next roundabout onto Fosse Way. Vehicles will travel along this road for approximately 1.5km to the next roundabout, where they will take the 2<sup>nd</sup> exit onto Tenman Lane. This road will be travelled on in an eastern direction for approximately 3.2km before taking a left hand turn onto Hawksworth Road and vehicle will travel along here for approximately 2km before taking a right hand turn onto Thoroton Road. Vehicles will travel in a southeast direction for approximately 0.9km before turning left into the Application Site.
- 5.52. A map showing the proposed local access route is presented in **Figure 5.1: Appendix 5A**.
- 5.53. The local access route is predominantly consisting of roads wide enough for vehicles to pass, however Thoroton Road becomes a single lane road towards the site entrance. This road has good forward visibility and a number of passing places and it is thought that with the addition of some construction traffic management measures that there will be limited impacts on local road users along this stretch of road.

### Route Assessment

- 5.54. This route assessment was conducted as a desk-based exercise, with a site visit to determine the best route. Where required, swept path analysis has been conducted using Autotrack software to model the movement of the most onerous load to determine what actions are required to address any issues identified.

- 5.55. As per the specifications provided, the most onerous loads for the purpose of the swept path are the delivery of the grid transformer. As part of the swept path analysis, the following vehicle was used:
- Articulated HGV incorporating a low loader trailer of 16.5m in total length with a 4.4m wide load.
- 5.56. The exact dimensions of this vehicle and turning details can be found on the drawing in **Figures 5.2: Appendix 5A.**
- 5.57. The analysis was conducted using Ordnance Survey (OS) mapping and topographic data.
- 5.58. No allowances have been made for the provision of independent driver-operated rear steering. The approved haulage operator for the project will confirm final vehicle types prior to construction.
- 5.59. The load bearing capacity of any bridges or structures has not been measured. These should be checked with the Highways Department prior to the construction period.
- 5.60. All traffic management and safety implications will be considered by suitably qualified and experienced personnel when arranging the transit of the loads and can be agreed through a suitably worded condition following planning approval.
- 5.61. **Table 5-1** provides a brief commentary of the route analysis at specific points on the haul route. These points can also be viewed on **Figure 5.1: Appendix 5A.**

**Table 5 - 1: Route Analysis**

Ref	Manoeuvre Required	Analysis	Required Action	Swept Path Drawings
1	Vehicles will need to take a left-hand turn from Thoroton Road into the site access point.	The new access point has been designed so that the largest construction vehicles can access the site.	13.3m of hedgerow removed, soil strip and land clearing for new access.	Figure 5.2 of Appendix 5A

### Summary of Enabling Works

- 5.62. As can be seen in the table above, enabling work will be required for access into the Application Site. This will include top soil strip and land clearing as well as the removal of 13.3m of hedgerow. Design details of the access track can be found in **Figure 6 of Volume 2: Planning Application Drawings.**
- 5.63. No remedial works are required to obtain the required visibility.

## CONSTRUCTION TRAFFIC MANAGEMENT

### Construction Programme

- 5.64. Construction of the Proposed Development is anticipated to occur over a six-month period. During this period, there will be a combination of HGVs (for the component and material deliveries) and cars/vans (for construction staff) on site. HGV movements are expected to be the most intense during the initial stages of construction, reducing in numbers throughout the construction period. Car/van movements are expected to be constant throughout.
- 5.65. **Table 5-2** shows the estimated number of deliveries and movements for the main infrastructure.

**Table 5 - 2: Estimates HGV Deliveries for construction equipment and infrastructure**

TRANSPORT	ESTIMATED NUMBER OF VEHICLES	MOVEMENTS
Delivery of Mounting Frames	98	196
Delivery of Modules	369	738
Delivery of Cabinets	33	66
Delivery of Cables	49	98
Delivery of Plant Equipment	98	196
Delivery of Gravel Hard Core Material	439	878
Delivery of Fencing / CCTV	20	40
<b>Total</b>	<b>1106</b>	<b>2212</b>

- 5.66. Additional site visits may be required due to site conditions, weather restrictions, and due to unforeseen circumstances and therefore, these numbers should be treated as a guideline for planning purposes only. In total, the construction of the solar farm is expected to give rise to 1,106 HGV deliveries over the six-month construction period. A daily maximum of approximately 20 HGV deliveries (40 HGV movements) is anticipated.
- 5.67. The expected HGV volumes are based on best estimates of trips generated for similar sized solar farms and will be subject to amendments based on local conditions and contractor working practices.

### Delivery Booking System



- 5.68. On a weekly basis, the appointed Site Manager will evaluate details of the daily profile of deliveries proposed for the upcoming week. Through discussions with hauliers, the Site Manager will ensure that that construction deliveries are managed in an efficient manner, with minimal disruption and delays.
- 5.69. It is proposed that temporary signage would be used to highlight the entrance to the Application Site and to direct construction traffic to the site via the public road network. The Applicant will provide banksmen to assist with the manoeuvring of delivery vehicles to and from the site, as well as internal site movements.
- 5.70. Hauliers will be required to contact the Site Manager to give an indicative delivery time, to ensure that the delivery space and banksmen are ready for their arrival on site.
- 5.71. To avoid any vehicles waiting, sufficient time will be provided between deliveries to allow for any delays (such as loading/unloading taking longer than expected).
- 5.72. Deliveries will be managed and scheduled to ensure that no vehicles would have to wait on the surrounding road network.

### Timing Restrictions

- 5.73. All traffic movements will be carried out between the hours of 07.00 to 19.00 on Monday to Friday and 08.00 to 16.00 on Saturdays. Outside of these times works are limited to a) commissioning and testing and b) Works required in an emergency where there is the potential of harm or damage to personnel, plant, equipment, or the environment, provided the developer retrospectively notifies the Council of such works within 24 hours of their occurrence.
- 5.74. Deliveries, where possible, will be scheduled to avoid peak times where relevant, e.g. avoiding rush hours and after school drop off and pick up times.

### Temporary Site Construction Compound

- 5.75. Two temporary construction compounds (see **Figure 7 of Volume 2: Planning Application Drawings**) will be required during the construction phase of the Proposed Development. The proposed location of the compounds is shown on the indicative infrastructure layout (**Figure 4 of Volume 2: Planning Application Drawings**) and consists of an area of approximately 50m by 60m each, in a rectangular shape. The compounds will contain the following:
- Temporary site facilities (Port-a-Cabin type) to be used for site office and welfare facilities, including welfare facilities with provision for sealed waste storage and removal;
  - Container storage unit(s) for tools and equipment storage;
  - Container storage unit(s) for components and materials;

- Refuelling compound for construction vehicles and machinery;
- Chemical toilets;
- Adequate parking area for cars, construction vehicles and machinery;
- Designated skips for construction waste; and
- Wheel washing facility.

## Construction Parking

- 5.76. It is forecast that there will be approximately 50 staff on site at any one time during the construction period, although this will vary subject to the overall programme of works. It is likely that there will be a degree of vehicle sharing by staff and therefore, less than 50 staff vehicles (estimated maximum at 25-30 per day at peak construction periods) are expected to arrive on site each day. Staff vehicle sharing will be actively encouraged to reduce vehicular movements.
- 5.77. Upon entrance/exit to and from the Application Site, workers vehicles will report directly to the area of hard standing at one of the temporary site construction compounds (see **Figure 7 of Volume 2: Planning Application Drawings**), where there will be sufficient space for parking and turning. Site opening and closing will be outside morning and evening peak traffic times, minimising local traffic disruption during busy periods.
- 5.78. No parking will be allowed for construction workers on the public road network in the vicinity of the site. A number of additional unscheduled visits may be required throughout the construction period for site inspections and due to unforeseen circumstances, which is accounted for in the existing car parking plans. Should the construction compound parking spaces be full, there will be overspill car parking within the 14 hardstanding areas located across the site.

## Turning Facilities

- 5.79. The construction compounds have been designed to provide adequate space for vehicle manoeuvring and turning, and all HGV deliveries will report here for unloading. The turning area will ensure that all vehicles will ingress and egress in a forward gear to maintain safety on the public highway.

## Site Security

- 5.80. For security and safety purposes, the Proposed Development will be closed to the general public via security fencing and a locked gate. The security fence installed around the perimeter of the solar farm will be erected at the start of the construction programme and

will remain for the duration of the operation until decommissioning of the solar farm (see **Figure 13 of Volume 2: Planning Application Drawings**).

- 5.81. Access to the construction site during construction hours will be controlled by personnel located at the entrance of the development. All visitors will sign in and out with security. Visitors to the site will be given a Health and Safety site induction, provided with Personal Protective Equipment (PPE), and will remain with an appropriately trained escort at all times.

### **Bridleways / Public Rights of Ways (PRoW)**

- 5.82. There are several Bridleways and PRoWs located close to the Proposed Development Site, including one Bridleway route (BW1 connecting to BW6), passing through the northern fields. These will all remain open during the construction period and into the operational phase. Where there are Bridleway crossings, the construction area will be signed to alert construction vehicle drivers not to cross without a banksman available and priority will be given to any users which are currently using the Bridleways. There will also be a dedicated Community Liaison Officer to engage with local residents, throughout the construction and operational phases.
- 5.83. There will also be a dedicated Community Liaison Officer to engage with local residents, throughout the construction and operational phases.

### **Operational Period**

- 5.84. The operational phase of the solar farm is anticipated to have negligible trip generation potential with approximately 10-15 Light Goods Vehicles (LGVs) expected every year for scheduled maintenance checks, with additional visits required to attend to remedial issues when necessary. The operational access point will use the same entrance to the site as during the construction period.

### **Decommissioning Period**

- 5.85. The number of HGVs required for the decommissioning period will be slightly higher than the construction phase due to the materials not being as neatly packed as when shipped from factory conditions. Whilst the construction phase had a total of approximately 2,212 movements, the decommissioning phase will have a total of circa 2,654 movements (estimate includes a 10% increase on the construction stage). This increase is not considered to be significant.

## MITIGATION

5.86. The impact of the Proposed Development has been identified as **temporary** in nature and associated with short construction and decommissioning phases only. It is still important that any impact is minimised as far as possible and, in light of this, the following mitigation measures have been considered:

- A dedicated Site Manager will be appointed for the management of the delivery booking system during the construction stage. It will also be this person's duty to make sure haulage companies use the chosen haul route (See **Figure 5.1: Appendix 5A**), without fail.
- The Applicant will conduct a pre- and post-construction condition survey on the public road 200m either side of the site access point. The Applicant is liable to repair any damage to the road attributed to the construction of the Proposed Development.
- Traffic movements will be limited to 07:00 - 19:00 on Monday to Friday and 08:00 – 16:00 on Saturdays, unless otherwise agreed in writing with the local Council. Deliveries will be scheduled to avoid morning and evening peak hours. This will avoid HGV traffic arriving during the morning peak hours, creating conflict with local residents' commute or school run. Construction personnel will be encouraged to car-pool, or to travel to site in minibuses.
- During the construction phase, clear construction warning signs will be placed on the roads leading to the Proposed Development access point, on the approach and in accordance with Chapter 8 of the Traffic Signs Manual. The site entrance will also be appropriately signed. Access to the construction site will be controlled by onsite personnel and all visitors will be asked to sign in and out of the site by security/site personnel. Site visitors will receive a suitable Health and Safety site induction and Personal Protective Equipment (PPE) will be worn.
- To control, prevent and minimise dirt on the access route and emissions of dust and other airborne contaminants during the construction works, the following mitigation measures will also be implemented:
  - Wheel washing equipment will be available and used onsite within the construction compound, as required, to prevent the transfer of dirt and stones onto the public highway. All drivers will be required to check that their vehicle is free of dirt, stones and dust prior to departing from the site;

- Wheel washing facilities will consist of a water bowser with pressure washer.
- The bowser will contain water only and no other additives.
- Run-off from this activity will be directed to the drainage situated on the lower boundary of the construction compound.
- Dampening of site roads to minimise dust emissions;
- Any soil stockpiles will be covered and / or lightly tracked when left for extended periods of time;
- Drivers will adopt driving practices that minimise dust generation including a 5m/h internal access road speed limit; and,
- Any dust generating activities will be avoided or minimised, wherever practical, during windy conditions.
- Once construction of the Proposed Development is completed, all portacabins, machinery and equipment will be removed and hard standing excavated. The area will be regraded with the stockpiled topsoil to a natural profile.

## SUMMARY

- 5.87. This CTMP outlines the overall framework for managing the movement of construction and delivery traffic to and from the Proposed Development, as well as considering the type of traffic it will generate. The traffic assessment for the operational and decommissioning phases were also considered.
- 5.88. Impacts from the operational phase of the site, consisting of between 10-15 LGVs per year, is not considered to be 'significant' and therefore a full Transport Assessment/Statement is not required. However, elements of the NPPG which are relevant to this project, namely, to include details of the existing conditions and issues relating to the Proposed Development, have been considered in this CTMP.
- 5.89. Increased volumes of traffic will be generated by the Proposed Development during the construction period. However, the overall volumes of traffic generated are considered to be quite low. During the anticipated six-month construction period, a total of 1,106 HGV deliveries will be made to the Application Site. During the peak construction, which will be towards the beginning of the construction period, there will be an approximate maximum of 20 daily HGV deliveries.
- 5.90. The haulage route will be from the A46 to the southwest of the Application Site. The vehicles will exit the A46, signposted A6097 (Mansfield), take the 4<sup>th</sup> exit at the roundabout onto Bridgford Street followed by the 1<sup>st</sup> exit at the next roundabout onto Fosse Way. Vehicles will travel along this road for approximately 1.5km to the next roundabout, where they will take the 2<sup>nd</sup> exit onto Tenman Lane. This road will be travelled on in an eastern direction for approximately 3.2km before taking a left hand turn onto Hawksworth Road and vehicles will travel along here for approximately 2km before taking a right hand turn onto Thoroton Road. Vehicles will travel in a southeast direction for approximately 0.9km before turning left into the Application Site.
- 5.91. The site will be accessed from a new site access point off Thoroton Road and will be designed in accordance with the Nottinghamshire Highway Design Guide to ensure that the largest construction vehicles can enter and exit the site access point. To facilitate this 13.3m of hedgerow will need to be removed.
- 5.92. It was noted during the site visit that it was likely that vehicles would be travelling up to the roads speed limit and therefore the full 210m x 2.4m visibility splay for a 60mph road is required. The visibility splay of 210m x 2.4m will be achievable without the need for any remedial works
- 5.93. The Applicant will conduct a pre- and post-construction condition survey of the public road 200m either side of the site access point. The Applicant will be liable to repair any damage to the road attributed to the construction of the Proposed Development.

5.94. This CTMP sets out a variety of specific mitigation measures that will be implemented during construction that will minimise the impact of the construction traffic on the environment and local communities; these include:

- Limitations on working times and HGV scheduling;
- Site security and signage; and,
- Measures to control emissions of dust and other airborne contaminants.

5.95. This Construction Traffic Management Plan conforms to the policies and objectives of the Local Development Plan, adopted by Rushcliffe Borough Council and the Design Manual for Roads and Bridges.

## APPENDICES

### Appendix 5A - Figures

- Figure 5.1: Proposed Haul Route
- Figure 5.2: Swept Path Analysis
- Figure 5.3: Visibility Splay