

Land north of Lullington, Swadlincote Construction Environmental Management Plan

**Prepared on Behalf of Lullington Solar Farm Ltd
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1.0 INTRODUCTION AND DESCRIPTION OF THE WORKS

1.1 INTRODUCTION

- 1.1.1 This CEMP has been produced on behalf of Lullington Solar Farm Ltd to support a planning application for the construction of ground mounted solar array on land north of Lullington.
- 1.1.2 This document is designed to outline those measures required to protect the environment during the general construction works.

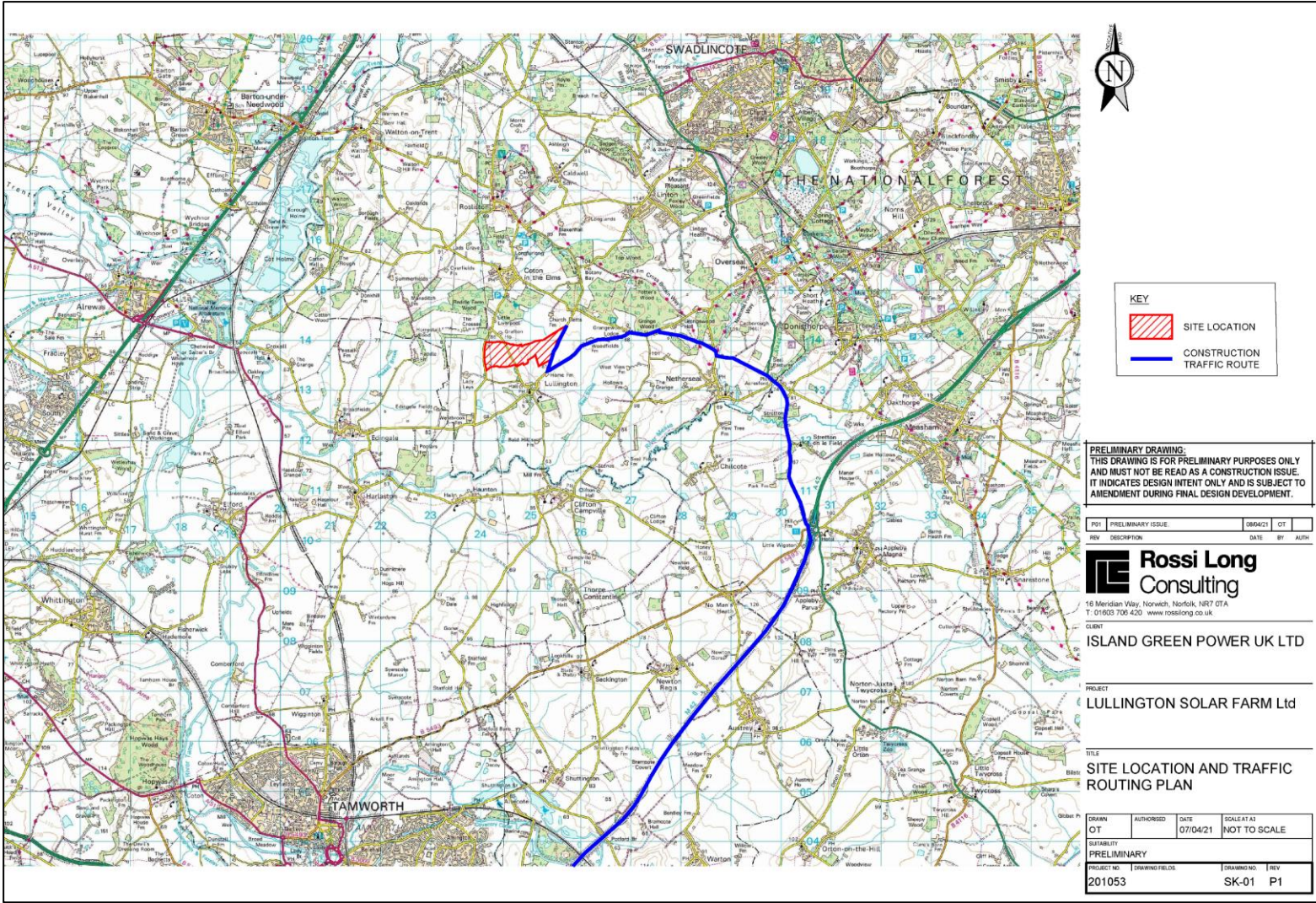
1.2 SUMMARY OF PROJECT

- 1.2.1 The development site is approximately 70.18ha and consists of the following:
'Ground mounted solar array with associated infrastructure comprising substations and associated equipment, buried grid connection, fencing and CCTV, landscaping including new woodland and site access'.
- 1.2.2 The supporting infrastructure will comprise 12 x conversion units housed in containers and one substation. The site will be bounded by a 2m high wood post/wire mesh security fence and CCTV cameras pointing into the site. No lighting is proposed.
- 1.2.3 The lifetime of the development is 40 years, after which the site will be decommissioned, and the land will return to agricultural use. The construction period of the development will be a maximum of 6 months which is anticipated to start in 2022.

1.3 SITE DESCRIPTION

- 1.3.1 The site covers approximately 70.18ha of farmland situated north of the village of Lullington, Derbyshire and south of Raddle Farm Wood, Garlands Wood and Grange Wood. The layout plan for the proposed development is provided in Figure 1.1 below.
- 1.3.2 The site comprises predominantly of arable fields with some improved grassland fields, associated ponds, hedgerows and field boundaries. A small block of woodland is also present within the site boundary.
- 1.3.3 The site is bordered partially by Garland Woods to the north and west and further arable and improved grassland fields to the north, south and east. The wider area consists largely of agricultural land, small settlements and several woodlands including Coton Wood, the village of Lullington to the south, agricultural land to the east and Homestall Wood Local Wildlife Site (LWS) 0.4 km to the west.
- 1.3.4 The site is located around 1.8km from the SAC, although is within the identified catchment area for the river. A number of tributaries draining to the Mease including Pessall Brook and a further unnamed watercourse are located within or close to the site.

Figure 1.1 Indicative Layout Plan



2.0 PRINCIPAL CONTRACTOR'S ROLES AND RESPONSIBILITIES

2.1 GENERAL ARRANGEMENTS AND RESPONSIBILITIES

The Client

- 2.1.1 Lullington Solar Farm Ltd will ensure that all contractors, including sub-contractors, in connection with the development acknowledge the CEMP and adhere to the requirements set out in the CEMP, including any subsequent revisions to the document.

Principal Contractor

- 2.1.2 The Principal Contractor shall prepare a diagram which shows the project's organisation chart for the construction phase.
- 2.1.3 This diagram shall show all lines of communication between the Principal Contractor, the Project Manager, the Client's Team and the Regulatory Authorities. It should demonstrate how environmental information will be disseminated to all levels of staff involved in the project.
- 2.1.4 The Principal Contractor will comply with all elements of this CEMP and shall be responsible for:
- Communicating the requirements of the CEMP to any sub-contractors;
 - Liaising with all project team members on environmental issues;
 - Maintaining an up-to-date register of legislation and meeting legislative requirements;
 - Maintaining a register of actions carried out; and,
 - Liaison with South Derbyshire District Council (SDDC) and the General Public.

Site Manager

- 2.1.5 It is expected that the Site Manager, an employee of the Principal Contractor, will be responsible for the day-to-day management of Health and Safety, Environmental and Quality performance during the construction of the Proposed Development.
- 2.1.6 It will be a requirement that they conform to ISO014001 and will also be responsible for implementing and maintaining the CEMP and monitoring the performance of sub-contractors. This will include participating in communication with SDDC and other third parties as required. The Site Manager will also be responsible for ensuring that all staff on site receive the necessary health and safety and environmental induction prior to starting work on site.

Sub-Contractors

- 2.1.7 All contractors are responsible for leading the work of their particular discipline on the project. They are responsible for ensuring that the requirements of the CEMP are communicated to all site workers.
- 2.1.8 A manager of the site staff will be made the main point of contact regarding the CEMP matters and report all incidents immediately to the Site Manager. This role includes inducting site personnel on the requirements of the CEMP and making staff aware of it prior to commencing any work on site.

2.2 COMPLAINTS PROCEDURE

- 2.2.1 The appointed Principal contractor will act as key contacts for the development works which are carried out and they will be the main point of contact for any complaints which are received during the programme of work.
- 2.2.2 The complaints procedure is as follows:
- Contact details and site information will be provided at site entrance so that the general public can report any concern to the Site Manager via email or by phone. An out-of-hours number will also be provided for emergencies;
 - If a site-based comment/complaint is received, then it is the responsibility of the Site Manager to provide an initial response. In case of emergencies, the response by the Site Manager to the emergency will be immediate;
 - In other cases, the response to the complaint will be as soon as practical via Principal Contractor's appointed relations consultant; and,
 - If the complaint is not resolved to the satisfaction of the complainant, then it will be escalated to an appropriate individual within the Principal Contractor's management team.

2.3 TRAINING, AWARENESS, COMPETENCE AND COMMUNICATION

- 2.3.1 Training, awareness and competence are an essential component of environmental management on construction sites. The training procedure shall be developed by the Principal Contractor at subsequent stages. It is expected that this will address:
- Site induction training;
 - Specialist environmental training; and,
 - Toolbox talks.
- 2.3.2 Good relations with people living and working in the vicinity of site operations are of paramount importance. Early establishment and maintenance of these relations throughout the carrying out of site operations will go some way towards minimising potential disruption. Therefore, the Principal Contractor will inform surrounding neighbours via a letter of the construction programme and then for any significant works along with updates on a 3-monthly basis.

2.4 PROCEDURE FOR MANAGEMENT, EMERGENCY AND INCIDENT REPORTING

- 2.4.1 The appointed Principal Contractor shall have procedures in place to deal with incidents involving environmental issues relating to site works.
- 2.4.2 All incidents shall be recorded and reported to Project Manager as soon as practicable and at least within 24 hours of the incident occurring, and if appropriate, reported to the Environment Agency (EA). A follow-up report shall also be produced providing details of all relevant information.
- 2.4.3 Environmental incidents shall be reported to the EA and the Statutory Authorities as required. In line with the following requirement:

2.4.4 'When reporting an incident, the following information must be included (when reporting out of hours, only brief personal/incident details should be left on the answer phone service and the remainder captured during normal working hours)':

- Name, job title and contact telephone number of the manager/person reporting;
- Operational Depot/Business Department/Directorate;
- The name of the operative or member of public involved in the accident or incident;
- Employee status: direct labour or contract labour;
- Operative job title and the type of work activity being undertaken at the time of the incident;
- The relevant Manager/First Line Report;
- The date and time of when the incident occurred;
- A brief factual description of what happened (do not speculate or make assumptions). For security related incidents, this should include any items stolen (with an estimate of the cost), crime reference numbers and police details; and,
- Details of actions already taken to safeguard individuals and the public.

2.4.5 A follow-up report should also be produced providing details of all relevant information.

3.0 CONSTRUCTION WORKING HOURS

3.1 RECOMMENDATIONS

- 3.1.1 The working hours for all construction activities, where reasonably practical, will be limited to the following times (excluding public holidays), unless otherwise agreed in writing by SDDC:
- Monday to Friday: 8:00am to 6:00pm; and,
 - Saturdays: 9:00am to 1:00pm (no working on Sundays and/or Bank Holidays).
- 3.1.2 These hours will be followed unless otherwise agreed in writing by SDDC. Outside the above periods the following working is permitted:
- Emergency works; and,
 - Works which do not cause noise that is audible at the boundary of the Order limits.
- 3.1.3 Any emergency works carried out must be notified to SDDC within 72 hours of their commencement.

4.0 CONSTRUCTION VEHICLE AND COMPOUND DETAILS

4.1 REQUIREMENTS

4.1.1 This section specifically deals with:

- Traffic access and routing;
- Storage and management of plant and materials (including loading and unloading);
- The spaces for and management of parking for site operatives and visitors' vehicles; and,
- A construction workers compound.

4.2 BASELINE

4.2.1 The Site is located north of Lullington and lies on the east and west sides of Lullington Road. The site is located in a rural area away from key/major transport routes susceptible to congestion.

4.2.2 There is a single Public Right Of Way (PROW) which passes through the site, i.e. SD29/1/2. This footpath will be maintained as part of the proposals. It is intended that the footpath will remain open during the short period of construction.

4.3 RECOMMENDATIONS

Access

4.3.1 A Construction Access Statement was prepared and will support this planning application. Access to the site is proposed off Lullington Road and a country road on the eastern boundary of the site.

4.3.2 The preferred routing strategy plan is provided as part of the Construction Access Statement. The construction traffic will arrive from the M42 then travel north via the A444 before turning west at Acresford so as to avoid the village of Overseal. The route continues to utilise local roads before turning right to access the site compound.

4.3.3 It is estimated that during the construction period there will be approximately 860 HGV movements. The construction period will last for a maximum of 6 months (although likely to be only 3-4 months) with an estimated maximum of 10-15 HGV movements per day; however, there may be periods of higher and lower movement.

4.3.4 The contractor must agree the principles and routes for material haulage to and from the Site with the Local Highways Authority and Highways Agency, as appropriate. Should it become apparent at any point during the construction works that an alternative access is required, details of this change would be submitted and agreed in writing with SDDC prior to making these changes. Where improvements of the access points are required, the Principal Contractor will submit plans and agree these in writing with SDDC prior to the commencement of works.

4.3.5 The Principal Contractor should set out specific measures in a Construction Management Traffic Plan (CMTTP) which should detail measures such as:

- The contractor will operate a traffic management system across the Site, which will be related to all personnel during induction;

- The general Site speed limit will be limited to 5mph, although alternative limits may be applicable in certain areas;
- The provision of temporary signalling should be considered where vehicle access to the Site is likely to cause congestion or the potential for access;
- The contractor shall agree a strategy of localised lane closures and/or diversion routes and if required these should be minimised and localised as far as is practicable;
- The movement of construction vehicles should be limited to non-peak hours where possible to limit any disruption to the local highway network;
- All construction traffic entering and leaving the Site shall be closely controlled and HGVs making deliveries to the Site or removing construction material etc, shall avoid prohibited routes;
- Prohibited routes for HGV traffic will be determined by the Principal Contractor, however it is recommended, where practical, to avoid routing through narrow or single-track lanes.
- Vehicles must be loaded and unloaded clear of the public highway; and,
- The site labour force shall be encouraged to car-share and to use sustainable modes of transport.

4.3.6 Access routes through Site will be maintained clear to enable unrestricted access to foot / vehicular traffic, including the Emergency Services in the event of an emergency.

4.3.7 Emergency escape routes will be designated prior to commencement of work.

4.3.8 All persons visiting the Site shall be logged in and out.

4.3.9 The contractor will also operate a traffic management system across the Site, which is relayed to all personnel during induction and will include;

- Deliveries will report to the Site office and all delivery drivers will sign in and out on completion of delivery;
- Banksman will be present during reversing operations, where operator's view is obscured. Flashing beacons will be fitted to all on site vehicles and plant; and,
- Plant is to be fitted with traverse alarms to ensure safe manoeuvring.

Construction compound and parking area

4.3.10 The establishment of a construction workers compound and parking areas are required to prevent and minimise the disruption to residents and road users as far as practicable. The site compound is located to the east of the site so as avoid traffic travelling through Lullington village where possible. The construction compound is not located adjacent to running water, to avoid contamination and associated effects on ecological species.

4.3.11 The construction workers compound will provide an area for storage of plant and materials and welfare facilities separate from construction. Appropriate Herras security fencing or hoardings will be provided around the perimeter of the compound, where necessary..

4.3.12 Prior to the commencement of works on Site the Principal Contractor will submit plans and agree in writing with SDDC a designated parking area for construction vehicles and contractors' private vehicles.

- 4.3.13 The vehicle parking area will be positioned within or as close to the contractor's compound as practical to minimise the disturbance of the surrounding area. It is recommended that this parking area is designated immediately next to the Site entrance to reduce the amount of vehicular movement on Site and therefore reduce the likelihood of vehicles taking mud/debris onto the existing highway network when leaving the Site.

5.0 CLEANINESS OF PUBLIC HIGHWAYS

5.1 REQUIREMENTS

- 5.1.1 This section specifically deals with measures to prevent the deposition of debris on the public highway.

5.2 BASELINE

- 5.2.1 Roads leading to the Site access road are public roads and are subject to standard Council maintenance and will be periodically cleaned.

5.3 RECOMMENDATIONS

- 5.3.1 The construction works will involve the regular use of the local highways network by construction related vehicles. As such it is imperative that measures are put in place to minimise the deposition of mud and debris on the local road network generated by vehicular movements. These measures are outlined below:
- Wheel wash facilities should be provided near to the Site's access and egress points to ensure that vehicles are appropriately cleaned prior to accessing public highways;
 - The type of wheel washing facilities should be appropriate to the types of vehicles being used on the Site and the amount of mud and debris likely to be on the vehicles;
 - Wheel wash areas should be contained and appropriately disposed of to prevent suspended solids or contaminated waters from entering any nearby water courses or drains. To dispose of this water, it will be necessary to obtain the consent of the EA to discharge into the foul sewers, or if the water contains contaminants such as oil or fuel it will need to dispose of as controlled waste;
 - All vehicles leaving the Site should be subject to a visual inspection before accessing the public highways to ensure that the level of dust/mud/debris on the vehicles has been minimised insofar as is practical; and,
 - All road surfaces affected shall be swept clean upon completion of the works.

6.0 SITE HOARDINGS AND CONSTRUCTION LIGHTING

6.1 REQUIREMENTS

- 6.1.1 This section specifically deals with the fencing for the duration of construction works.

6.2 BASELINE

- 6.2.1 The site is comprised largely of arable / improved grassland fields and associated hedgerows.
- 6.2.2 The Site located within a rural area with no or limited lighting sources present.

6.3 RECOMMENDATIONS

Site Hoardings

- 6.3.1 Appropriate security fencing or hoardings will be provided around the perimeter of the site, where necessary and around the construction compound. Fence type and construction will depend on factors such as the level of security required, the likelihood of intruders, and the degree of visual impact. Hoarding with gates will be installed so the site can be locked up securely outside working hours.

Protective Fencing

- 6.3.2 Protective fencing and warning signs will be provided to prevent construction vehicles and personnel accessing the more ecologically sensitive areas during the works. All areas of fencing are to be maintained in good order for the period of works. Within each demarcated area there is to be:
- No spoil, vehicles, temporary structures or equipment;
 - Ground levels shall not be lowered nor raised; and,
 - No services shall be laid out.

Tree Protection Fencing

- 6.3.3 Where trees are to be retained tree protection fencing will be provided in order to prevent damage to trees and their roots. It will be constructed in accordance with BS5837. The fencing is to consist of a framework of vertical and horizontal scaffolding poles, with bracing to resist impacts. Vertical poles are to be driven firmly into the ground, depths dependant on ground conditions, and located to avoid tree roots. Heras type weldmesh fencing is to be firmly fixed to the framework to prevent access. Notices are to be firmly fixed to the fencing with 'Protected Area Keep Out' or similar words.
- 6.3.4 Tree root protection fencing will be used as a secondary fence line.

Temporary lighting

- 6.3.5 Temporary lighting for construction purposes will be erected when the site personnel mobilise. The construction works will generally be carried out within daylight hours within the permitted working hours; as such the requirement for temporary construction lighting should be limited by this as far as is practical.

6.3.6 However, there may be occasions where temporary lighting is required for occasional night time working or during the darker winter months and therefore the following recommendations are made:

- The use of construction lighting outside normal working hours should be limited and kept to the minimum necessary for workforce, public safety and/or security;
- No artificial lighting should be placed in locations where it will cause light spillage on habitat corridors which are likely to be used by wildlife;
- Any temporary lighting used should be installed such that illumination is minimised and directional so that it is focussed on the specific location/s where it is required; and,
- Any temporary lighting should be switched off at all times when not required.

7.0 DUST AND EMISSIONS

7.1 REQUIREMENTS

7.1.1 This section specifically deals with the measures to control dust.

7.2 BASELINE

- 7.2.1 The Site is located in an area where effects on air quality are limited and are mainly influenced by minimal emissions from road transport.
- 7.2.2 The nearest residential receptors are Grafton House immediately to the north, Lady Leys cottages to the south west, Home Farm and residential dwellings associated with Lullington village to the south.
- 7.2.3 The site is within the Impact Risk Zone (IRZ) of the River Mease SSSI and SAC which is located 1.78 km to the south.

7.3 RECOMMENDATIONS

- 7.3.1 In order to prevent dust nuisance to residential properties located within the required 350m buffer (namely, Grafton House and Lady Leys cottages) particularly during dry and windy weather, there should be adequate screening and damping down during all construction works and other site preparations (including storage of construction materials).
- Any waste stockpiles will be damped down by water sprays and sheeted if required;
 - All rubbish skips will be exchanged on a regular basis and sheeted when required;
 - Vehicles shall be sheeted to prevent loss of materials off site;
 - Storage locations for all materials that create dust, including soil, must be located away from the sensitive receptors adjacent to the Proposed Development, except where impractical;
 - Storage locations should be aggregated where practical to avoid the creation of many stockpiles, adequately screened to prevent wind loss and damped down where practical when being handled;
 - All site vehicles should have vertical exhausts to limit surface dust resuspension;
 - Wastes must be placed in suitable containers prior to appropriate disposal; and,
 - Prolonged storage of materials on site prior to use and/or disposal is to be avoided.
- 7.3.2 A toolbox talk will be delivered to contractors in respect to potential dust and other emissions effects.

7.4 GENERATION OF EXHAUST EMISSIONS BY CONSTRUCTION VEHICLES AND PLANT

- 7.4.1 Given the nature of the works, the construction of the development will involve the use of construction vehicles and HGV's, likely to use the main access to the Site. As such it is imperative that measures are put in place to minimise the dust generated by vehicular movements. These measures are outlined below:
- Vehicular movements on the construction site should be limited to speeds not exceeding 5mph. This speed will limit the potential for dust dispersion and entrainment as well as reduce the potential for accidents on the site;
 - Wheel wash facilities should be provided at site access point to ensure that vehicles are appropriately cleaned prior to accessing public highways.
 - All vehicles leaving the Site should be subject to a visual inspection before accessing the public highways to ensure that the level of dust/mud/debris on the vehicles has been minimised insofar as it practical; and,
 - It will be the responsibility of the Principal Contractor to undertake a daily inspection of the adjoining highways and deploy road sweepers if mud and debris is likely to be deposited on the main roads.
- 7.4.2 Additionally, it is also recommended that any haul roads which are created to support the main construction works should be subject to regular water spraying to ensure that dust is suppressed. This should be carried out on at least a daily basis during extended periods of dry weather.
- 7.4.3 In order to reduce emissions generated by the construction works, the following measurements are recommended:
- Mobile plant should be located away from sensitive receptors, where practical.
 - Lorries and plant with diesel engines on or off site should be well maintained in order to reduce emissions of visible smoke.
 - Engines should not be left idling unnecessarily, and plant and vehicles must not be parked in a position that could give rise to nuisance from exhaust fumes.
 - Site machinery and vehicles should use low-emission fuels where practicable.
 - Site vehicles and plant with low exhaust emissions (e.g. with particle traps) and emission controls such as catalysts or diesel particle filters should be used.
 - Contractors should take all precautions to prevent the emissions of fumes from stored fuel oils, for safety and potential nuisance reasons.

7.5 MONITORING AND COMMUNICATIONS RECOMMENDATIONS:

- 7.5.1 The following monitoring recommendations should be adhered to and details of how these will be implemented should be submitted and agreed with SDDC at least four weeks prior to commencement of works on Site.
- Records of dust and air quality complaints shall be kept, including likely causes and mitigation measures to reduce impacts if appropriate;
 - Daily on-site and off-site visual inspections shall be undertaken and recorded;

- Notify local community of works hours and any specific works which are likely to generate higher levels of dust/emissions;
- Notify local community of appropriate details to make complaints if necessary;
- Inspections should be increased during dry and windy weather and/or during periods of high activity (vehicular or earthworks) which is likely to increase sources of dust and emissions; and,
- Consideration must be given to monitoring of dust soiling at nearby sensitive receptors (near residential properties etc) which should be agreed with SDDC.

8.0 CONTROL OF NOISE AND VIBRATION

8.1 REQUIREMENTS

8.1.1 This section specifically deals with the measures to control noise and vibration.

8.2 BASELINE

8.2.1 The Site is located in an area where noise effects are limited and are mainly influenced by minimal road transport.

8.2.2 The nearest residential receptors are Grafton House immediately to the north, Lady Leys cottages to the south west, Home Farm and residential dwellings associated with Lullington village to the south

8.3 CONSTRUCTION NOISE

8.3.1 As detailed in Section 3, for normal daytime construction works carried out on weekdays between 08:00am to 06:00pm hours and on Saturdays between 09:00am and 1:00pm hours, the noise level measured at a noise sensitive receptor must not exceed Leq, 12-hour, 75 dB(A), wherever practicable. Where this is not practicable prior approval under section 61 of the Control of Pollution Act 1974 (a) must be obtained.

8.3.2 A toolbox talk will be delivered to contractors in respect to potential noise effects

8.3.3 During the construction phase, 'Best Practicable Means', and the guidance provided within BS:5228 will be employed to minimise construction impacts. Some of these will also include the following measures:

- No deliveries should occur outside of the hours identified above unless agreed with SDDC;
- Careful selection of working methods and programme;
- Where applicable, selection of quietest working equipment available;
- Where practicable, positioning equipment behind physical barriers, i.e. existing features, hoarding etc;
- Ensuring that regularly maintained and appropriately silenced equipment is used;
- Handling all materials in a manner which minimises noise, such as minimising drop heights;
- Switching all audible warning systems to the minimum setting required by the Health and Safety Executive. Reverse warning alarms should be fitted with white noise (broadband) systems;
- Where processes could give rise to significant levels of noise for extended periods of time, noise levels should be monitored regularly by a suitably qualified person with the survey results kept on file; and,
- In terms of on-site employees, appropriate actions should be undertaken with regard to the Noise at Work Regulations including the requirement for the use of ear defenders and appropriate warning notices.

8.3.4 Further to the above, operatives should be trained to employ appropriate techniques to keep site noise to a minimum and should be effectively supervised to ensure that best working practice in respect of noise reduction is followed. All employees should be advised regularly of the following, as part of their training:

- The proper use and maintenance of tools and equipment;
- The positioning of machinery on site to reduce the emission of noise to the neighbourhood and to site personnel; and,
- The avoidance of unnecessary noise when carrying out manual operations and when operating plant and equipment.

8.4 COMPLAINTS

8.4.1 As outlined in Section 2, prior to the commencement of construction works a 'complaints hot-line' should be set up to allow local residents and members of the public to voice any concerns which they may have regarding the noise levels from the construction. The details of this phone number should be displayed on appropriate signage at the Site entrance. It is also recommended that a letter drop is provided to residents and any other people who could potentially be affected by the construction noise to provide details of the works and the number to the hot-line.

8.4.2 In the event that complaints for noise nuisance are received by SDDC which considers those complaints justified, the Principal Contractor must unless otherwise agreed by SDDC, at its own expense, employ a consultant approved by SDDC to carry out an assessment of noise from the construction works. The assessment will be carried out to an appropriate methodology agreed in writing by SDDC and the results of the assessment will be submitted to SDDC within 28 days of the assessment. Those results must include a comparison of measured data with the requirements, all data which was collected for the purposes of the assessment and certificates of the measuring instrument's calibration.

9.0 CONTROL OF CONTAMINATION OF WATERCOURSES, SOILS AND GROUNDWATER

9.1 REQUIREMENTS

- 9.1.1 This section specifically deals with pollution of watercourses, land, soils and groundwater.

9.2 BASELINE

- 9.2.1 The site is comprised largely of arable / improved grassland fields and associated hedgerows.
- 9.2.2 The 1:50:000 scale BGS data records the geology of the site as Gunthorpe Member Mudstone, overlain in the east by sand and gravel or by glacial till deposits.
- 9.2.3 The National Soil Map records most of the site as having slightly acid loamy and clayey soils with impeded drainage, although around 15-20% of the site is recorded as having freely draining slightly acid loamy soils. An Agricultural Land Quality Survey has been completed in support of this planning application as a separate document. The survey shows that the site comprises mostly classification subgrade 3b (predominantly in the west). Less than half the site comprises grade 2 or subgrade 3a land.
- 9.2.4 The Soilscape map also identifies potential risks in respect of water protection associated with groundwater contamination with nitrate; siltation and nutrient enrichment of streams from soil erosion on certain of these soils.
- 9.2.5 A tributary flows from the south-western corner of site (West Brook) to the River Mease therefore the site is within the Impact Risk Zone (IRZ) of the River Mease SSSI and SAC which is located 1.78 km to the south.

9.3 RECOMMENDATIONS

Soils

- 9.3.1 A Soil Management Strategy (SMS) has been prepared by Tetra Tech and will be submitted with the application. The primary role of this document is to provide the evidence relating to how the agricultural grade of the soil will be preserved so that it's pre-development use can be reinstated. This document will assess the construction, operation and decommissioning phases of the application
- 9.3.2 Given the nature of the development, limited stockpiling and stripping of soils will be required. The excavations required for the shallow foundations of the substations and the installation of the stanchions for the solar arrays would generate small quantities of soil. Buried grid connections would require initially excavating some soils although the vast majority would be backfilled in these areas to bury the connections. Should some disturbance of soil be required during the works mentioned above, a total of 300mm depth of soil will be removed and replaced with a blend of topsoil and sand to promote infiltration and biological growth. Key recommendations to support these works are provided within the SMS supporting this planning application.
- 9.3.3 If any stockpiling is required to support the construction of the substation, this should be regulated in line with the ['Construction Code of Practice for the Sustainable Use of Soils'](#) (2009) produced by DEFRA and in line with the recommendations provided below:

Stockpile Height

- 9.3.4 The size and height of the stockpile will depend on several factors, including the amount of space available, the nature and composition of the soil, the prevailing weather conditions at the time of stripping and any additional planning conditions associated with the development. Stockpile heights of 3-4m are commonly used for topsoil that can be stripped and stockpiled in a dry state.
- 9.3.5 As a general rule, if the soil is dry (e.g. drier than the plastic limit) when it goes into the stockpile, the vast majority of it should remain dry during storage, and thereby enable dry soil to be excavated and respread at the end of the storage period. Soil in a dry and non-plastic state is less prone to compaction, tends to retain a proportion of its structure, will respread easily and break down into a suitable tilth for landscaping. Any anaerobic soil also usually becomes re-aerated in a matter of days.
- 9.3.6 Soil stockpiled wet or when plastic in consistency is easily compacted by the weight of soil above it and from the machinery handling it. In a compacted state, soil in the core of the stockpile remains wet and anaerobic for the duration of the storage period, is difficult to handle and respread and does not usually break down into a suitable tilth. A period of further drying and cultivation is then required before the soil becomes re-aerated and acceptable for landscaping.

Stockpile location and stability

- 9.3.7 Stockpiles should not be positioned within the root or crown spread of trees, or adjacent to ditches or existing or future excavations. Soil will have a natural angle of repose of up to 40° depending on texture and moisture content but, if stable stockpiles are to be formed, slope angles will normally need to be less than that. For stockpiles that are to be grass seeded and maintained, a maximum side slope of 1 in 2 (25°) is appropriate.

Stockpile protection and maintenance

- 9.3.8 Once the stockpile has been completed the area should be cordoned off with secure fencing to prevent any disturbance or contamination by other construction activities. If the soil is to be stockpiled for more than six months, the surface of the stockpiles should be seeded with a grass/clover mix to minimise soil erosion and to help reduce infestation by nuisance weeds that might spread seed onto adjacent land.
- 9.3.9 Management of weeds that do appear should be undertaken during the summer months, either by spraying to kill them or by mowing or strimming to prevent their seeds being shed.

Land contamination

- 9.3.10 In order to manage any potential effects of land contamination associated with the existing agricultural activities, the following measures should be undertaken:
- The construction works should be managed so as to comply with the necessary standards and consents as identified by the EA and the local authority, and secure through planning condition;
 - All construction workers on the site will be briefed on appropriate working practice on contaminate site and issues with any necessary Personal Protective Equipment (PPE), including overalls, gloves and dust masks where necessary; and,
 - If suspected or unidentified contamination has been found work in the contaminated area shall stop immediately. The contaminated land shall be clearly identified and quarantined to prevent access to the contaminated area. The contractor will report the incident to the Site Manager who shall seek advice from the EA.

Water

9.3.11 The construction site must be managed to reduce the likelihood of significant pollution of watercourses such as contamination through oils and fuels. These measures will include:

- Avoidance of working within 20 m of flowing watercourses where possible;
- Emergency incident strategy. Any suspected soil/groundwater contamination encountered, not previously identified during investigation works, shall immediately be reported to the Client's Project Manager.
- Regular visual inspections and monitoring of nearby water courses shall be undertaken during the construction phase to provide an early indication of any potential contamination releases to controlled waters.
- Pollution prevention equipment will be kept in the construction area and procedures for use put in place. The Contractor will be required to keep sufficient spill kits on site at all times so that one can be deployed to any part of the construction site within 15 minutes.
- Works associated with the creation of swales should be undertaken prior to the construction works and should be clearly marked and protected by signage and silt fencing;
- Additional signage will be on site in contractors' compounds relating to sensitivity of the nearby waterbody which leads to the River Mease SAC; and
- The Constructor's main compound will be located in a position away from any watercourses and on hardstanding areas;
- Areas where contamination may occur would be provided with suitable pollution protection. Storage areas and vehicle refuelling/maintenance areas would be protected by an impervious base, while impermeable bunds of an adequate capacity would be provided around tanks containing potential pollutants;
- All fuel and chemical storage would be away (twenty metres minimum) from all watercourses, with oil and fuel storage will be undertaken in accordance with the Environment Agency Pollution Prevention Guidelines;
- Construction materials and/or waste will be safely stored within either bunded or hard surfaced areas. Bunded storage areas will be located within the constructor's compound and will be provided for the duration of the works; A waste disposal plan will be in place for the site, detailing where all waste generated will be stored prior to removal; and,
- All foul and surface water drains will be bunded prior to the start of works.

Silt Fencing

9.3.12 To prevent silt pollution from the proposed development, the construction contractor should carefully plan the site works so that activities likely to generate silt-laden runoff are carried out during drier weather, and erosion of surface soils and excavations is controlled.

9.3.13 Works associated with the creation of swales should be undertaken prior to the construction works and should be clearly marked and protected by signage and silt fencing to avoid disturbance during construction.

9.3.14 In addition, prior to, or at the same time as the construction works commence, it is recommended that silt management features are installed within 20m of flowing watercourses where vegetation clearance or temporary stockpiling is undertaken. This is to prevent direct siltation of flowing watercourses and consequent SAC and SSSI designated sites.

- 9.3.15 Should there be any incidents of pollution to the watercourses, EA should be notified following the incident reporting process outlined in Section 2.4.

Toolbox Talks

- 9.3.16 A toolbox talk will be delivered to contractors in respect to the importance of water supply, waterbodies and use of pollution control packs.

10.0 STORAGE OF CHEMICALS AND CONTROL OF WASTE

10.1 REQUIREMENTS

10.1.1 This section provides recommendations for storage of fuel, oil and other chemicals, including measures to control waste.

10.2 BASELINE

10.2.1 The Site comprises a development ground, demarked by line of trees to the north and north west. Thus, limited habitats which are susceptible to pollution are anticipated to be present in these areas.

10.3 STORAGE OF FUEL, OIL AND OTHER CHEMICALS

- 10.3.1 The Principal Contractor will be required to develop detailed method statements for key aspects of work and handling of materials/liquids which have a potential for environmental impact. These should encompass proposals for the control of pollution, together with emergency response plans. The Principal Contractor will be required to observe and adhere to relevant legislation and guidelines.
- 10.3.2 Plant and equipment will be stored in areas which are less susceptible to pollution and should be stored on a hardstanding base within the secure compound as agreed by the Principal Contractor.
- 10.3.3 Immobile plant, fuels, oils and chemicals will be stood on impervious drip trays or be secured/locked in appropriately bunded areas (at 110% of volume). Refuelling operations will be carried out within a designated construction Site compound remote from surface drainage systems. Leaking or empty drums will be removed from Site at once.
- 10.3.4 In order to protect surface water drainage, the following mitigation measures should be adopted by the Principal Contractor:
- Construction materials should be safely stored within either bunded or hard surfaced areas as far away from drains as possible. Bunded storage areas will be located within the constructor's compound and will be provided for the duration of the works;
 - Any suspected soil/groundwater contamination encountered, not previously identified during investigation works, shall immediately be reported to the Client's Project Manager;
 - Regular visual inspections and monitoring shall be undertaken during the construction phase to provide an early indication of any potential contamination releases to controlled waters;
 - Pollution prevention equipment will be kept in the construction area and procedures for use put in place;
 - The Contractor will be required to keep sufficient amount of spill kits on Site at all times so that one can be deployed to any part of the construction Site within 15 minutes;
 - Construction vehicles will only be active when required and will be regularly maintained to reduce the risk of leakage or spillage. Maintenance work will be carried out off-site or on impervious drip trays of sufficient capacity to prevent spillage of fuel and oil;
 - Provision will be made to remove any suspended sediments in surface water runoff during excavation and construction works before entering any off-site watercourse/drainage system.

This provision should include the installation of temporary basins/settlement pond where water run off can collect and excess sediment can settle prior to the discharge; and,

- Sediment traps/basins should be installed prior to any major earthworks or regarding of the land take place and additional sediment traps and/or silt fences should be installed as ground works are occurring to keep sediment contained within appropriate locations.

10.4 TOOLBOX TALKS

10.4.1 A toolbox talk will be delivered to contractors in respect to potential effects to pollution events.

10.5 WASTE MANAGEMENT PLAN

10.5.1 A Site waste management plan will be put in place prior to construction commencing. These should encompass proposals for the control of pollution, together with emergency response plans. The contractor will be required to observe and adhere to relevant legislation and guidelines.

10.5.2 The generation of construction waste should, as the first priority, be avoided wherever practicable. Any remaining materials will be sent to a waste transfer station to recycle, and where this is not possible, will be sent to landfill.

10.5.3 Any waste sent for disposal should be directed to sites which hold valid waste management licenses issued by the EA and which are authorised to accept the type and quantity of waste. Transport of wastes should be minimised by the selection of local disposal sites where available. All contractors used for transport of waste should be registered and licensed haulage contractors following 'Duty of Care'. No disposal of waste by dumping or open burning should be permitted on site. All waste should be subject to controlled collection and storage on site.

10.5.4 Additional waste segregation and storage strategies include:

- Segregate different types of waste as they are generated using different skips/heaps where practical;
- Make sure storage areas are safe, secure and weatherproof; and,
- Ensure materials that have the potential to cause dust impacts are suitably located and managed to avoid dust effects.

11.0 PROTECTION OF BIODIVERSITY

11.1 REQUIREMENTS

11.1.1 This section provides recommendations for reducing effects on biodiversity.

11.2 BASELINE

11.2.1 A tributary flows from the south-western corner of site (West Brook) to the River Mease therefore the site is within the Impact Risk Zone (IRZ) of the River Mease SSSI and SAC which is located 1.78 km to the south.

11.2.2 There are 12 Local Wildlife Sites (LWS) / potential Local Wildlife Sites (pLWS) within 2 km of the site. The site is comprised largely of arable / improved grassland fields and associated hedgerows. Other habitats included scattered trees, poor semi-improved grassland, scrub, tall ruderal herbs, semi-natural broad-leaved woodland and standing water. Phase 2 Ecological surveys for bat activity, breeding birds, GCN and badger were undertaken in 2020/2021.

11.3 GENERAL MITIGATION

11.3.1 The site was subject to a number of ecological surveys the results of which are presented in the Tetra Tech Ecological Appraisal (2021) and Phase 2 survey reports submitted with the planning application.

11.3.2 Mitigation measures to reduce effects on the designated ecological assets are outlined within the Ecological Appraisal and relevant and Phase 2 survey reports, and in sections 7, 9 and 10 of this report. Additional mitigation which will be implemented during all construction activities to protect biodiversity are also listed below:

- Works will adhere to standard construction procedure and codes of good engineering practice any potential indirect impacts such as dust deposition and pollution risk will be mitigated;
- Storage of potential hazardous materials will be kept away from watercourses;
- All trenches and holes dug within the site will be covered over night or will be made that if any animal falls into them they can get back out;
- All HGVs transporting friable materials when moving around the site will be covered;
- Mitigation areas will be clearly marked out and construction traffic and personnel will be excluded from these areas;
- Signage will be on site in the construction compound relating to sensitivity of the nearby waterbody which leads to the River Mease SAC;
- In the extremely unlikely event that a protected species is found which has not been identified previously on site, then the Principal Contractor Site Manager will contact the Project Ecologist for advice, and all works in that area would cease. The Principal

Contractor Site Manager will then await further instruction from the ecologist before proceeding with works; and,

- An ecological clerk of works will oversee the site and make regular checks to ensure that no new constraints are present and that the protocol is being followed.

11.3.3 Additional measures that will be in place throughout the construction period to control the risk of potential impacts on the habitat and species identified on site are identified below:

Breeding Birds

11.3.4 Suitable breeding bird habitat will be removed outside the breeding season (i.e. works to be undertaken between October – February) wherever practical.

11.3.5 If unavoidable, prior to any works activities during the bird breeding season (i.e. between March – September) the works area will be inspected for nesting birds by an ECOW. The inspection will occur no more than 48 hours prior any construction works. Should a nest be found, works will need to stop within the immediate area and an appropriate buffer put in place. No works would then be allowed to take place within this buffer until the birds have successfully fledged and left the nest. This would be established by the ECoW

Commuting and Foraging Bats

11.3.6 Habitats supporting commuting and foraging bats have been identified on site, To mitigate for impacts on bats, night working will be minimised throughout construction, particularly between the months of April to October.

11.3.7 Additional mitigation measures are provided within Tetra Tech Bat Activity Report 2021 submitted with the planning application.

Roosting Bats

11.3.8 Two trees that require felling to facilitate the development proposals have been identified as having potential roosting features for bats. Surveys are ongoing to determine the presence or likely absence of bats, and to inform an appropriate mitigation strategy if required. If bats are found to roost in the trees, a European Protected Species License (EPSL) will be obtained from Natural England. This will detail how bats themselves will be protected during works e.g. via timing and supervision of works, and the loss of roosts compensated for e.g. via the erection of bat boxes

Badgers

11.3.9 An updated badger survey will be undertaken prior to the start of the construction works. The survey should be carried out by an experienced badger surveyor at an appropriate time of the year allowing enough time for any badger mitigation measures to be carried out.

11.3.10 Additional mitigation measures are provided within Tetra Tech Badger Report 2021 submitted with the planning application.

Great Crested Newts

11.3.11 Two ponds within the boundary of the site tested positive for environmental DNA belonging to great crested newts (GCN) in April 2021. However, six population estimate surveys in May and June 2021 did not detect adult, larvae or eggs belonging to the species. The results are therefore erroneous, the species left ponds after eDNA testing but before traditional surveys were completed, or they were only present in very low numbers.

11.3.12 Precautionary working methods to protect against great crested newts from injured or killed could therefore be used. This would not require that an EPSL is obtained. The methods would comprise the temporary installation of GCN fencing around the ponds with positive results. Should this be undertaken, this would be done in winter when GCN are hibernating under supervision of fence installation by an Ecological Clerk of Works (ECoW) as necessary. The fencing would be removed once construction is complete.

Reptiles

11.3.13 Based on the small risk of reptiles being present is considered to be extremely low, precautionary measures to be followed include the following:

- Site contractors will inform site staff on the potential for reptiles to be present during site inductions;
- Works to clear any potentially suitable areas of habitats for reptiles will only be completed in the reptile active season. This is considered to be March to October inclusive, although in periods of unseasonably low temperature (i.e. overnight frosts), works will also not be carried out; and,
- Should widening of the existing access and subsequent removal of small areas of boundary habitat, mitigation measures provided in the EA, (2021) should be followed.

11.4 RISK ASSESSMENT OF POTENTIALLY DAMAGING CONSTRUCTION ACTIVITIES

11.4.1 A full risk assessment of the potentially damaging construction activities must be produced by in consultation with ecological consultant. The risk assessments will need to consider both the direct and indirect impacts upon habitat and species identified on site.