Belvoir Solar Farm

on behalf of JBM Solar Projects 10 Ltd

Construction Environmental Management Plan

avian ecology

Document Control				
Project Name:	Belvoir Solar Farm			
Project Number:	Pegas-075-1270			
Report Title:	Construction Environmental Management Plan			
Issue	**Date**	**Notes**	**Prepared**	**Reviewed**
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V2	20/09/2022	Final	B. Walker *MSc MCIEEM*	N. Robinson *MSc BSc (Hons) ACIEEM*

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1 INTRODUCTION

1.1 Background

1.1.1 Planning approval is being sought for the development of a solar park on land to the north of Belvoir, Leicestershire, henceforth referred to as 'the Site'. The development comprised the construction of a solar farm together with all associated works, equipment and ancillary infrastructure.

1.1.2 This Construction Environmental Management Plan (CEMP) provides the management framework required for the planning and implementation of construction activities in accordance with the biodiversity commitments. Its purpose is to set out suitable measures to avoid the risk of adverse impacts on sensitive ecological receptors and ensure legal compliance in relation to protected habitats and species. It describes the checking and monitoring that will be implemented to ensure works are being undertaken in accordance with these requirements, together with measures to ensure that appropriate corrective actions or mitigation measures are taken where necessary.

1.1.3 The Site Manager and all site personnel will be responsible for the implementation of the CEMP once finalised and will comply with all conditions of the planning permission and the relevant provisions contained in the reports submitted in accordance with those conditions. The CEMP will be monitored regularly throughout the works.

1.1.4 This CEMP is to be read in conjunction with the Landscape and Ecology Management Plan (LEMP), Landscape Plan and Ecological Assessment Report (EAR) for the consented development.

2 PROPOSED WORKS

2.1.1 The development requires the use of chemicals, equipment, tools and concrete /hardstanding and also requires washing down of tools, equipment and work surfaces that might contain contaminants. Suitable mitigation and protection measures will be implemented to ensure no impacts are associated with these tasks for construction.

2.1.2 It is anticipated that construction will comprise the creation of:

- Solar array and associated infrastructure
- Battery storage compound and associated infrastructure
- Temporary compound to include;
    - Portable buildings to be used as offices, welfare and toilet facilities;
    - Containerised storage areas;
    - Parking for construction and worker vehicles;
    - Temporary hardstanding;
    - Temporary gated compound; and,
    - Wheel washing facilities.

2.2 General Site Management

2.2.1 The Site Manager will be responsible for protecting project personnel and the general public during the construction works. These responsibilities will include relevant safeguards in relation to wildlife

and ecology as set out within this CEMP and accompanying Biodiversity Management Plan (BMP) (**Appendix 5.7**).

2.2.2 Appropriate induction training will be given to all persons visiting and working on the Site and the Contractor and any subcontractors will fully comply with the site rules.

2.2.3 All standard safety procedures as laid down in the appropriate guidelines for the type of work will be adhered to at all times. To prevent vandalism and accidental harm to people and wildlife, the Site and associated plant and machinery will be secured during non-working hours. In addition, the Site will have a 24 hour a day security presence at the key access points to deter any criminal activity.

2.2.4 The Site Manager will ensure that measures are in place to allow all vehicles to safely enter and exit the Site. All loading and unloading of HGVs will be undertaken within the works/Site boundary. Upon exit, all lorries will be fully sheeted and pass through a wheel washing installation prior to departure.

2.2.5 On completion of construction works, all plant, surplus materials, rubbish and temporary works will be removed and the Site left in a clean, safe and tidy condition.

2.2.6 All necessary and reasonable measures will be taken to minimise fire risk and comply with the requirements of the local fire authority. Open fires are prohibited at all times and there will be no burning of rubbish on Site.

2.3 Communication of Construction Environmental Management Plan

2.3.1 The Site Manager will manage and co-ordinate on-site environmental activities and act as a point of contact for local residents to ensure that any concerns are resolved quickly and efficiently. The Site Manager will be responsible for inductions and briefing all staff and visitors; meeting environmental and ecological obligations; resolving, reporting and monitoring any environmental incidents; and ensuring waste management procedures are followed.

2.3.2 The requirements of the CEMP and other environmental responsibilities will be communicated to employees and sub-contractors by:

- Site Induction;
- Risk Assessment & Method Statements for works likely to pose environmental issues;
- Toolbox talks; and,
- Environmental Monitoring and reporting (by site team).

2.3.3 All environmental incidents will be reported and recorded and a full investigation will be completed where appropriate, and corrective action applied. Records will be kept for all environmental occurrences including but not restricted to potential hazards, near misses, incidents; and complaints.

2.4 Noise and Vibration (Construction Works)

2.4.1 During construction activities, noise and vibration will be minimised wherever possible. Manufacturers' recommendations with regards to vibration levels from machinery shall be adhered to. All plant will be properly maintained and contractors will comply with the terms laid down in the approved Code of Practice Order 2015 and BS 5228: Part 1: *Noise Control on Construction and Open Sites*.

2.4.2 All plant and machinery in use shall be properly silenced and maintained in accordance with the manufacturers' instructions.

2.4.3 The following actions will be implemented to manage noise levels:

- Noise rating of equipment will inform equipment selection (where it is necessary to use equipment with high noise levels, mitigation measures will be adopted; e.g. limited times of operations);
- All plant and equipment will be suitably sited, operated and serviced in order to minimise noise and vibration;
- All plant will be turned off when not in use.

2.5 Air Quality

2.5.1 With the exception of vehicular movements on Site and associated construction machinery, there are no construction processes that have emissions to air. However, during ground works there is potential for dust to be generated (at a local level) due to small scale excavation and storage of soils, laying of gravel for the temporary construction compound and movement of vehicles and plant around the Site.

2.5.2 Wheel washing facilities will be provided by means of a pressurised hose attached to a bowser or water tank and located close to the Site access. All operatives exiting the Site in vehicles will be required to use the wheel cleaning facilities to remove dirt and mud that has accumulated on the vehicle by cleaning the wheels and underside of the vehicle. Signage will be provided directing vehicle operatives to use the facilities and appropriate methods (such as silt traps and cut off drains) will be used as necessary ensure that any contaminants within washwater does not enter the environment or overflow back into the Site or onto neighbouring land, in particular neighbouring designated sites.

2.6 Water Quality and Drainage

2.6.1 During construction, the Contractors will implement working methods to protect surface water and groundwater resources (and associated habitats and species) from pollution, in line with current guidance and good practice.

2.6.2 Construction traffic and underground cable laying within the solar farm will no be permitted within a 10m buffer zone of drainage ditches.

2.6.3 Waste storage and concrete washout areas will be designated to minimise areas prone to contamination. Where there is increased risk of contained spillage additional precautions will be taken. Fuels, lubricants and chemical will be stored in accordance with the appropriate Environment Agency Environmental Management Guidance with an impermeable base and suitable bunding to prevent discharge.

2.6.4 All works will be undertaken in a manner to ensure that existing watercourses and drainage are not polluted, dirtied or obstructed during the construction period.

2.6.5 If any pollution occurs, then the Site Manager shall advise the Environment Agency and the Local Planning Authority immediately and take prompt action to minimise the impact and prevent re-occurrence. A common cause of pollution from sites is through vandalism. Therefore, the Contractor shall ensure that Site is adequately protected by the provision of secure fences, locked accesses and security where possible.

2.6.6 The measures adopted during the proposed works will include (but not limited to):

- Waste storage and concrete washout areas to be designated to minimise areas prone to contamination;

- Silt traps and settlement ponds will be constructed as required to intercept run-off where necessary;
- Fuels, lubricants and chemicals will be stored in a secure place containing an impermeable base and suitable bunding in accordance with current legislation;
- Generators, pumps and similar plant will be placed on drip-trays to prevent contamination by oil;
- Any re-fueling will take place more than 50m away from existing waterbodies;
- The construction of the drainage system will be phased;
- Spill kits will be available on Site, in close proximity to any fuel storage tanks or bowsers, to ensure that any accidental spillage can be promptly dealt with;
- The site will be secured at all times and staff will be trained and made aware of the actions to take in the event of a spillage of potential contaminants. Emergency procedures to be implemented in the event of a spillage or leakage of any polluting material such as fuel, oil or silt-laden drainage will be in place on Site and cleaned up and disposed of correctly;
- Public roads and accesses will be regularly maintained and cleaned so they are kept free from deposits in order to prevent silt, oil or other materials entering any drain or watercourse;
- Any lorry wheel cleaning facilities shall be securely constructed; overflow and effluent will be contained for proper treatment and disposal;
- Dewatering activities will discharge to settlement tanks prior to discharge to a surface water sewer to minimise risk of sedimentation to downstream watercourses; and,
- The groundwater inflow into any deep excavation will be managed to minimise the volume of inflow (and therefore the volume of water requiring removal).

2.6.7 The site once constructed will contain impermeable surfaces and structures (inverter substations, battery storage containers and batter auxiliary equipment container). The implementation of surface water drainage systems will incorporate pollution control measures.

2.6.8 Surface water runoff and drainage management measures form part of the embedded design with measures to prevent silt-laden or polluted runoff during construction or operation of the solar farm. These measures are described separately but in summary include:

- Seeding and vegetation establishment to prevent soil runoff, prior to start on site;
- Phasing of construction to minimise compaction of the soil during the works;
- Installation of permeable tracks;
- Constructed using low ground pressure equipment off the tracks, and establishing access rules to minimising repeat trafficking of routes; and,
- Daily monitoring of watercourses to identify any issues relating to runoff and silt to allow immediate contingency control measures to be set in place.

2.6.9 It is noted that current agricultural practices across the Site present their own risk to adjacent watercourses and other habitats in relation to soils and surface water runoff, with regular ploughing, use of heavy agricultural machinery and periods when soils are exposed and devoid of vegetation cover. Construction disturbance relating to the solar farm will be temporary and not dissimilar to existing levels resulting from agricultural practices. Once complete, the Site will maintain permanent grassland cover and will no longer be subject to regular soil disturbance or compaction from machinery and hence there will be no significant effects on adjacent habitats or the species they support.

2.6.10 Foul water from the development including that from cleaning and wash down will be discharged to an onsite foul water sewer system and the relevant consents sought from Anglian Water.

2.7 Wildlife and Biodiversity

2.7.1 The Environmental Statement; Biodiversity Chapter and BMP shall be followed to protect wildlife and biodiversity to ensure that construction activities do not harm protected species or their habitats and to ensure compliance with legislation, as listed within **Section 1.4** of **Appendix 5.2**.

Designated Sites and Habitats

2.7.2 The closest statutory designated site is Muston Meadows Site of Special Scientific Interest (SSSI) and National Nature Reserve (NNR), which lies adjacent to the Site.

2.7.3 Habitats within the Site are considered to be of low ecological value in relation to the local landscape, and primarily include arable with modified grassland field margins. Habitats of greater ecological value such as field boundary hedgerows and trees will be largely retained and protected during works.

2.7.4 No impacts are anticipated due to the low impact/temporary nature of the construction activities proposed, in conjunction with implementation of suggested protection measures, are thought to significantly reduce the likelihood of any direct or indirect impacts on the aforementioned designated sites.

2.7.5 Timed, sectional works, limiting disturbance across the Site at any given time will also be implemented. The Site will not be routinely lit during either construction or operation; any lighting employed will be designed to maintain dark corridors around the Site and avoid illumination of the designated sites.

2.7.6 Additional protections relating to habitats include implementing tree protection measures in line with BS 5837:2012: Trees in relation to design, demolition and construction. The development has been designed to avoid woodland/tree removal, with any necessary habitat removal to be compensated for upon the completion of construction, helping to safeguard retained terrestrial habitats within the Site, and within the surrounding environment.

2.7.7 There will also be clear delineation of working areas and access routes for vehicles entering the Site and instructions on these will be given to all site construction staff, delivery drivers and subcontractors.

2.7.8 During the operation of the solar farm over time, dirt and dust can accumulate on the glass surface of the module, reducing its power output. Periodic cleaning of PV modules where required will be undertaken with a soft brush and using soft, clean water. No chemicals are required.

2.7.9 Standard measures to ensure runoff control and pollution prevention will be implemented site-wide; these measures will safeguard on-site ditches and boundary habitats as well as off-site land and associated habitats and species.

Birds

2.7.10 The majority of the habitats found within the Site are considered to be of low value to a small number of common and widespread breeding birds only, with few ground-nesting species considered to be likely to breed within vegetation along field boundaries, principally hedgerows and trees.

2.7.11 Site clearance works should be undertaken outside of the breeding bird season in so far as reasonably practical. The breeding bird season is generally considered to be 1st March to 31st August inclusive. Where this cannot be avoided, a suitably experienced ecologist will be appointed to undertake a pre-site clearance survey to identify the presence of any wild bird nests being built or in use (including

those of ground nesting birds such as skylarks *Alauda arvensis*). Only once the appointed ecologist is satisfied that an offence under Part 1 of the Wildlife and Countryside Act 1981 (as amended) will not occur, may works proceed.

2.7.12 If a nesting species is identified, suitable work exclusion zone will be established around nest site where required, in line with best practice guidance and in consultation with the advising ecologist.

2.7.13 During operation, disturbance will be minimal and limited to intermittent maintenance activities. However, it is recommended that the cleaning of panels is undertaken outside of the breeding bird season in so far as reasonably practical to minimise disturbance to nesting birds.

Bats

2.7.14 The Site is considered to be of moderate habitat suitability for bats in regards to foraging and commuting, given the Site's predominantly arable habitat classification.

2.7.15 Protection of woodlands, hedgerows and mature trees on and adjacent to the Site will safeguard potential roost sites and maintain foraging and commuting opportunities.

2.7.16 Minimal lighting is required during construction and/or operation of the solar farm, but any required will be employed in a sensitive manner and directed away from field boundary habitats to maintain bat foraging and commuting routes as dark corridors. This will be achieved in line with Bat Conservation Trust guidance (2018) Bats and Lighting in the UK: Bats and the Built Environment Series).

Badger

2.7.17 A pre-construction badger *Meles meles* survey will be undertaken immediately prior to works commencing to check for active or any newly constructed setts (between the initial baseline survey and the construction start date) within at least 30m of construction areas.

2.7.18 If baseline conditions have altered and significant disturbance to badgers or their setts is considered likely during the proposed works, one or both of the following options will be incorporated:

- The development design will be amended to avoid works which may impact upon badgers and their setts (e.g. alteration of the configuration of panels and/or fencing); and/or,
- A disturbance licence will be obtained from Natural England before construction commences.

Amphibians

2.7.19 Three ponds are present on Site, all of which were found to be dry during surveys and appeared to be dry for some time. Additionally, a further eight pond are located within 250m of the Site, one of which pond P2 was accessed and surveyed for great crested newts (GCN). The remaining seven ponds were not accessed. Surveys found GCN to be likely absent from pond P2.

2.7.20 GCN are considered to be present in the wider area, with reference to the species within the citation for Muston Meadows SSSI. In addition, an Ecological Constraints Opportunities Plan (ref: 1276) supplied by Grassroots Ecology references ponds P1 and P3 (shown on **Figure 5.2.5** in **Appendix 5.2**) as having a known population of GCN.

2.7.21 Grantham Canal is considered to be unsuitable for supporting GCN, due to the high waterbird population, likely fish population and large size and potential flow of the disused canal.

2.7.22 The arable fields are considered to be of low value amphibians, however the field boundary features such as hedgerows and dry ditches are considered to offer more suitable terrestrial habitat for amphibians if present, providing foraging, refuge and commuting opportunities.

2.7.23 As a precautionary measure, Reasonable Avoidance Measures are required during the construction phase to avoid adverse effects on great crested newt and other amphibian species (if present) and to ensure works can be undertaken within the applicable legislation. The RAMS includes a 'tool box talk' information leaflet to minimise risk of accidental harm. The RAMs can be found in **Annex 1**.

2.7.24 Neighbouring terrestrial habitat will not be directly or indirectly affected by the development with perimeter fencing and pollution prevention measures in place.

Reptiles

2.7.25 The arable fields are considered to be of low value to reptiles, however the field boundary features such as hedgerows and dry ditches are considered to offer more suitable habitat for reptiles if present, providing foraging, refuge and commuting opportunities.

2.7.26 A Reasonable Avoidance Measures (RAMs) has been created to avoid impacts on individual reptiles (and other wildlife) potentially present, see **Annex 1**.

2.7.27 Neighbouring terrestrial habitat will not be directly or indirectly affected by the development with perimeter fencing and pollution prevention measures in place.

Water vole & otter

2.7.28 No signs of water vole or otters were recorded during surveys. However, ditches and suitable terrestrial habitat is present on Site, although the majority of which is considered to be of low value due to be dry or extremely shallow.

2.7.29 The proposed development works will adopt a stand-off buffer of 5m from the banks of the watercourses/ditches ensuring connectivity is maintained and no impacts to either species (if present).

2.7.30 Standard good practice measures will be employed to ensure runoff control and pollution prevention to protect aquatic/bankside habitats both on Site and in the wider ditch network.

<u>Good Practice to be Employed</u>

2.7.31 Site staff will be briefed at induction on the requirements in regard to the environmental good practice on Site including the protection of retained vegetation. Briefings and training will be repeated as required for new starters on site and/or refreshed through Toolbox Talks or similar when Site conditions or special measures are changed or updated.

2.7.32 Standard measures to ensure runoff control and pollution prevention will be implemented; these measures will safeguard the nearby watercourses and wetland features and associated habitats and species.

2.8 Materials and Waste

2.8.1 Materials supplied and used on Site will be recorded, with surplus materials reused or recycled where possible. Material that cannot be reused or recycled will be disposed of in accordance with current legislation. Construction waste generated is expected to be restricted to normal construction wastes which will be sorted and either recycled or disposed of offsite to an appropriately licensed landfill by the Contractor.

2.8.2 Waste management will be in compliance with the Environmental Protection Act 1990 and in accordance with the 'Waste Management - A Duty of Care - A Code of Practice'.

2.8.3 Welfare facilities will be self-contained with all discharge of waste water to sealed tanks which will be regularly emptied off-site in an authorised manner. All other waste will be collected in skips and removed from Site at appropriate intervals to an authorised site.

2.8.4 For waste materials that do arise as a consequence of the works, the following measures will be adopted:

- All waste streams will be segregated;
- All waste will be stored safely and securely to prevent damage to health, or escape into the environment. Consideration will be given to prevent the theft of waste, acts of vandalism and scavenging by animals. Separate containers for different waste will be labelled to avoid confusion;
- Waste Management (Duty of Care) training for nominated site operatives;
- Nominated person(s) on Site for the signing-off of Waste Transfer Notes;
- Records of waste transfer will be maintained up to date and easily retrievable in order that waste officers from the Environment Agency can inspect them at any time; and,
- Rubbish will be removed regularly and the Site will be kept clean and tidy.

Annex 1; Reasonable Avoidance Measures (RAMs) Method Statement

The following Method Statement outlines suitable measures to be implemented during construction works associated with the proposed solar development at Belvoir (the Site), to avoid the disturbance, injury or killing of amphibians including GCN and individual reptiles including common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, grass snake *Natrix helvetica* and adder *Vipera berus*.

These RAMs relate to small scale removal of hedgerow habitat for access involving a few metres of vegetation and should not be employed for larger scale or extensive scrub woodland or hedgerow habitat removal. Minor or short term destructive or disturbance works (e.g. grid connection, cable laying, ground mountings, construction of substations) will also follow this Method Statement to ensure legal compliance and to ensure the objectives are achieved.

Although amphibians and reptiles are considered unlikely to be present other than as occasional individuals, as a precautionary measure these RAMs will be used to guide works.

Amphibians, Reptiles

Summary of Method Statement

Vegetation clearance works may include removal of small areas of hedgerow as well as grasslands greater than 15cm in height will be supervised by a suitably licensed ecologist and/or accredited agent.

Method Statement

This Method Statement should be followed for the construction works and associated minor short term destructive habitat clearance works within the Site in order to ensure legal compliance and to ensure the objectives are achieved.

The following measures will be adopted throughout the construction period of the proposed development:

- Site operatives will be informed by 'tool box' talk of the potential for protected species to occur on-site, what to look out for and what to do in the event that animal is found.

- Vegetation clearance works should only commence after a careful visual inspection by an Ecological Clerk of Works (ECoW) has determined that no animals are present. Vegetation should be reduced (by hand strimmer) to a height of c.150mm prior to ground works commencing to aid visual searches and encourage individuals to temporarily move away from the working areas.

- The proposed timing of the works associated with hedgerows should avoid the hibernation period (November to February inclusive) in order to prevent disturbance to hibernating animals.

- Trenches and excavations should include an escape route for animals that might enter the trench, especially if left open overnight. Ramps should be no greater than 45 degrees in angle and can include wooden planks or ramped earth. Ideally, any excavations open for a prolonged period should be covered.

- All excavations left open overnight or longer should be checked for animals prior to the continuation of works or infilling.

- Any excavated material stored overnight should be searched prior to being used as infill.

- Any brash cut down from the Site should be placed in piles within the set aside habitat area, to create additional hibernacula for both amphibian and reptile species.

Should a great crested newt, reptile or other notable species (or signs of) be found at any point during construction, works within suitable habitat and/or potentially disturbing works in close proximity to the animal must cease immediately and the ECoW will advise on the appropriate actions, including applying for a licence, if required.

Other amphibians found during the visual inspection will be placed away from the development works in the wider area comprising of terrestrial habitats which will not be impacted by the proposed works and has excellent connectivity with surrounding terrestrial habitats.