Greenscape Energy Ltd, 544 Woodbridge Road, Ipswich, IP4 4PN
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Construction Management Plan for Solar PV Array at Mendlesham Manor

Project Outline

The construction project aims to create a ground mounted solar PV array on the clients land to the south of Mendlesham Manor, Brockford Road, Mendlesham, IP14 5SG, with associated electrical connection work and battery storage system contained within the property.

The solar PV array will consist of 80 solar panels fixed onto a metallic frame that will maintain an angle of approximately 30° from horizontal.

The array is to be split into two blocks as detailed in the block drawing submitted reference RG.020/02.P1.

An excavation will be opened to allow electrical cables to be installed from the solar PV array to the electrical supply within Mendlesham Manor.

Project Logistics

The location of the proposed solar PV array is on land owned by the client, immediately to the South of Mendlesham Manor, detailed in the aerial image below, outlined in red.

Fig 1) Location of proposed solar PV array at Mendlesham Manor.

Greenscape Energy operatives and sub-contractors will access the site turning onto the access track from Brockford Road, see Fig 2 below.

Vehicles will typically be Transit type vans, with trailers where necessary to transport plant and machinery to the work area.

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Fig 2) Access track to Mendlesham Manor from Brockford Road

Vehicles will be parked within the clients existing driveway, outlined in blue in fig 3, below with access to the work area being made along the existing access outlined in green.

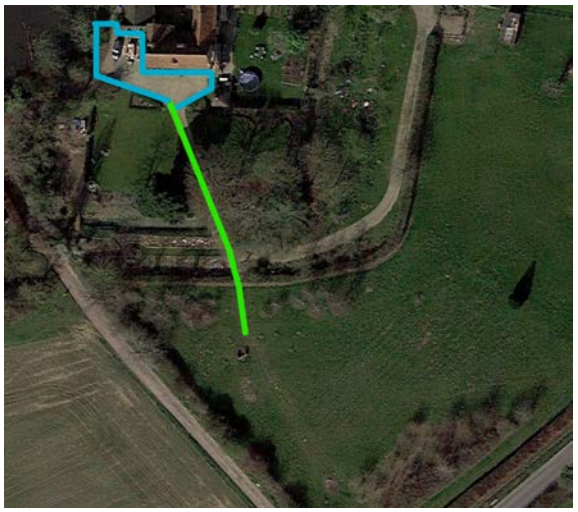
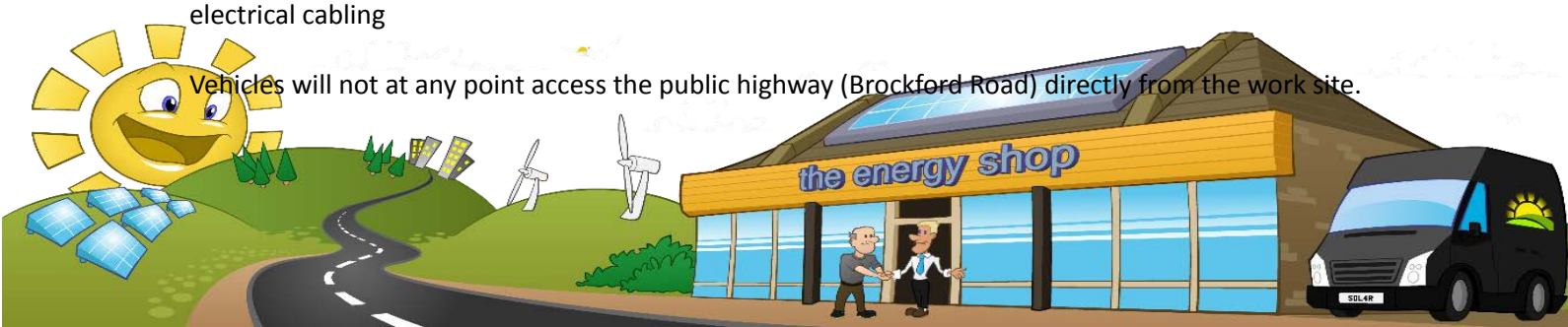


Fig 3) Parking and access

A vehicle will be required to park adjacent to the array construction area to provide power to the equipment required for installing the ground screws. This shall be for the duration of this task alone.

A 1.5ton excavator and pedestrian ground saw will also be required to open the excavation for electrical cabling

Vehicles will not at any point access the public highway (Brockford Road) directly from the work site.



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Following each shift, a Greenscape Energy Operative will check that no spoil from the work site has been pulled into the public highway.
If this does occur it will be cleaned away daily.

Project Installation Method
The mounting frames are fixed into the ground using a 1.5M long ground screw, see fig 4.
A pilot drill hole is first drilled at the central location of the ground screw to ease passage of the ground screw into the earth.
The ground screw is then rotated into the pilot hole using a hand held auger which is powered from a vehicle mounted power supply.

Fig 4) Radix ground screws

The solar PV panel mounting frames are then fixed to the top of the ground screw giving a firm foundation to secure the array.

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Fig 5) Mounting frames constructed onto the ground screws

The solar PV modules are then installed onto the metallic framework with cabling neatly tied up to the rear of the structure. Fig 6 below shows an example of a completed system.

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Fig 6) Example of a completed installation

Once the solar PV array has reached the end of its useful life, the system can be dismantled in the reverse of the construction method with the ground screws being unwound, leaving only small “molehills” which will settle back into the landscape.

In order to connect the solar PV array to the client’s electricity supply, cables must be ducted underground from the solar PV array location to the client’s garage where the battery storage and solar PV inverters will be located.

A 110mm twin walled cable duct will be installed into the ground from the array location, following the existing access track to a point adjacent to the driveway where existing ducts have been installed.

The duct will be installed no less than 400mm from the ground surface.

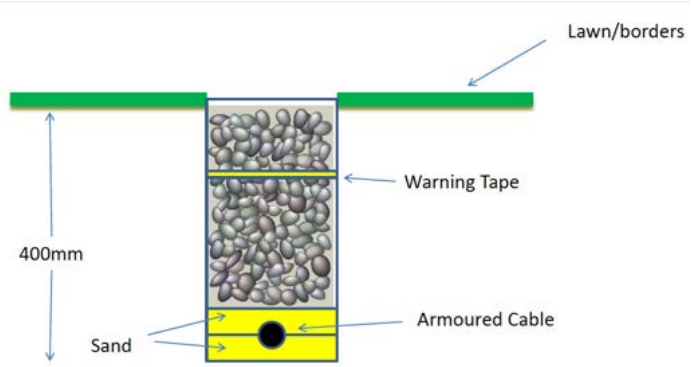

Fig 7) Typical excavation cross section

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This excavation will be completed using a pedestrian excavator and 1.5ton mini-excavator

Fig 8) Example of a pedestrian excavator

Once the excavation enters the grounds of Mendlesham Manor, extra care will need to be taken to avoid damage to existing tree roots and existing service pipes that are known to be in the area.
The excavation will follow the access route to avoid unnecessary disruption to the vegetation in the gardens of Mendlesham Manor.

Fig 9) Proposed route of excavation through the grounds of Mendlesham Manor

The spoils created by the excavation will be temporarily stored on site and will be reused when the excavation is backfilled.
Any spoils that are left over will remain on site for the client to make use of.

Upon completion of the solar PV panel installation the site will be cleaned and access routes will be inspected to ensure no damage has been sustained during the works.

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Greenscape Energy typically expect an installation of this type to be completed within 2 weeks of commencement and therefore any permanent disruption to the local environment is extremely unlikely.