



## **CONSTRUCTION TRAFFIC MANAGEMENT PLAN**

BURSTEAD SOLAR FARM AND BATTERY STORAGE 'FREE GO'  
LAND SOUTH AND EAST OF GREAT BURSTEAD, BILLERICAY, ESSEX

NOVEMBER 2023



## Document Management

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### Document Review

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# 1 Introduction

1.1 This Construction Traffic Management Plan (CTMP) has been prepared by Transport Planning Associates (TPA) on behalf of Enso Green Holdings J Limited (the 'Applicant') in relation to a "Free Go" planning application for a solar farm and battery storage facility with associated works (the 'Proposed Development') on land south and east of Great Burstead, Billericay, Essex (the 'Site').

## Site Location and Proposed Development

1.2 The Site comprises two land parcels (of which only one will be developed) located off the A129 Southend Road. A Site location plan is included as **Figure 1.1**. The majority of the Site is currently agricultural land.

1.3 The A129 Southend Road connects to the A127, located approximately two kilometres to the south of the Site. The A127 provides access to the wider Strategic Highway Network, including the M25.

1.4 The Proposed Development comprises the construction, operation, management and decommissioning of a ground mounted solar photovoltaic panel array and Battery Energy Storage System. Only the eastern parcel of land will be developed. The western parcel of land will be retained for agricultural use.

1.5 A Site Layout Plan is shown in **Appendix A**.

## Construction Traffic Management Plan

1.6 This CTMP provides a framework for the management of construction vehicle movements to and from the Site, to ensure that the effect of the construction phase on the local highway network is minimised.

1.7 This CTMP sets out the strategy for the following;

- Site access;
- Construction vehicle routing;
- Site compound and internal routing;
- Construction vehicle trip generation; and
- Proposed mitigation measures.

1.8 It will be the responsibility of the appointed contractor to comply with all statutory regulations and guidelines in relation to construction and movement activities. The Site manager's details can be provided upon request to the highway authority in advance of any work being carried out.

## 2 Site Access Arrangements

2.1 This section sets out the details of the construction phase access arrangement.

### Construction Phase

2.2 During the construction phase, the Site will be accessed via an existing access known as Granites Chase. This is located on the A129 Southend Road. The proposed Site accesses is shown in **Drawing SK02** in **Appendix B**.

2.3 Swept path analysis of a 16.5m articulated lorry negotiating the access is shown in **Drawing SK02**. Banksmen will be provided at the access to ensure the safe movement of all construction vehicles.

2.4 In summary, the proposed access arrangement is considered suitable for the following reasons:

- The access is already used by large HGVs associated with an existing industrial estate on Granites Chase;
- Banksmen will be deployed at the access whenever construction vehicles are accessing or egressing the Site; and
- All construction vehicles will access and egress the Site in a forward gear.

2.5 Temporary signage will be erected in the vicinity of the access during the construction phase. Diagram 7301 'WORKS TRAFFIC' in the Traffic Signs Regulations and General Directions (TSRGD) will be used to indicate the access and will read 'WORKS TRAFFIC LARGE VEHICLE TURNING'. These signs will be white text and red background 1050 x 750 mm mounted in 'A' frames. The temporary signs will be in place for the duration of the construction phase.

### Public Rights of Way

2.6 There are a number of Public Rights of Way (PRoW) within and in the vicinity of the Site.

2.7 All PRoWs will remain open throughout the construction phases. Whenever construction vehicles are within the vicinity of a PRoW, the following measures will be implemented:

- Speeds will be limited to 10mph;
- Drivers will stop and give-way to any pedestrian that they encounter;
- Appropriate signage will be installed along the PRoW to make users aware of the construction activity. This will include information on operating times;
- Banksmen will also be present to ensure the safe movement of all users;

- The PRow will be kept clear outside of construction hours;
- Any damage to the surface of the footpath will be repaired immediately. The surface will be returned to its original condition following construction.

## **Operational Phase**

- 2.8 Once operational, maintenance vehicles will access the Site via the same access arrangement as described above for the construction phase. A maintenance vehicle, likely a transit van, will access the Site once or twice a month during the operational phase.

## 3 Construction Vehicle Routing

- 3.1 The details of the construction vehicle route is set out below. Drivers will be made aware of the route in advance of driving to the Site. The selected route is considered the most appropriate route to the Site.

### Route Overview

- 3.2 The designated route for all vehicles associated with the construction period is illustrated in **Figure 3.1**.
- 3.3 The designated route requires all construction vehicles to access the Site from the A127. From the A127/A176 junction, construction vehicles will follow Wash Road around Noak Bridge. They will then turn on to Barleylands Road and travel northwards to join the A129 Southend Road, where the Site access is located.

### Route Details

#### *Inbound Construction Traffic*

- 3.4 Construction vehicles will route to the Site via the A127, which connects to Wash Road to the North West. Wash Road comprises a single carriageway two-way road subject to a 30mph speed limit.
- 3.5 The route heads north and east, around Noak Bridge, turning left at a roundabout, onto Barleylands Road. Barleylands Road is a single carriageway road, subject to the national speed limit, before changing to a 40mph, approximately 650m from the junction.
- 3.6 Barleylands Road connects to Southend Road via a priority junction. Southend Road is a single carriageway road, subject to the national speed limit. Vehicles will turn right, before turning left onto Granites Chase and the Site at a priority junction.
- 3.7 There are no posted weight or height restrictions along the above described route.

#### *Outbound Construction Traffic*

- 3.8 Upon egressing the Site, outbound construction vehicles will follow the reverse of the above described route.

## Route Signage

- 3.9 Temporary road signage will be implemented along the designated route to inform background traffic of the ongoing construction works and to direct construction traffic to and from the Site. The signs will be located at key points on the route, such as at junctions.
- 3.10 All signage will be compliant with Chapter 8 of the Traffic Signs Manual where applicable. The following points will be considered when locating signage:
- The position of the sign in relation to the highway;
  - Possible distraction to drivers; and
  - The proximity to junctions.

## Management of Deliveries

- 3.11 All deliveries will be scheduled in advance using a booking system. Drivers will be instructed to stop in an appropriate layby or service station and make contact if they are likely to miss their allotted slot to allow the schedule to be adapted in as much as possible.
- 3.12 The following procedure will be initiated when deliveries are made to the Site:

### *Procedure for Arrival to Site*

- Drivers to be notified of scheduled arrival time ahead of delivery to the Site;
  - When the delivery vehicle is due, operators will be mobilised and will go to position at the Site access;
  - All operatives will communicate with each other, as necessary; and
  - Banksmen will assist HGVs to manoeuvre into the Site access.
- 3.13 The following procedure will be initiated when HGVs are leaving the Site:

### *Procedure for Leaving the Site*

- Before drivers depart, the Site Manager will be notified. They will then mobilise the banksmen at the Site access;
- Drivers will be advised when the banksmen are in place; and
- Banksmen will guide the drivers out of the Site access.

## Summary

- 3.14 The proposed construction vehicle route is considered to provide the most direct and appropriate route from the strategic highway network to the Site.



- 3.15 The use of any roads other than the designated and signposted route shall not be permitted and this shall be enforced through the agreement of the CTMP.
- 3.16 Appropriate mitigation measures will be provided throughout the construction phase in order to manage the arrival and departure of HGVs at the Site. This is set out further in **Chapter 6**.

## 4 Contractors Compound and Internal Routing

### Contractors Compound

- 4.1 A construction compound will be set up at the Site.
- 4.2 Approximately 50 construction workers are anticipated to be required on Site on an average day. This may increase slightly during peak construction. The location of where staff will travel from is unknown at this stage as it will depend on the appointed contractor. However, it is envisaged that the majority of non-local workforce will stay at local accommodation and be transported to the Site by minibuses to minimise the impact on the strategic and local highway network. Full details of the minibus operation will be set out in the final CTMP, to be secured by planning condition.
- 4.3 At this stage, it is envisaged that approximately 20-30 parking spaces will be provided at the Site. No parking by contractors, visitors or delivery vehicles will be permitted on the local highway network or the Site access road at any time during the construction phase, and visitors will be advised of the parking arrangements in advance of travelling to the Site. The Site Manager will monitor that parking is taking place in the designated area on a regular basis.
- 4.4 No diversion of pedestrian routes, parking suspensions or closure of lanes are required.

### Internal Access Road

- 4.5 The proposed development will include an internal access road throughout the Site allowing for the movement of construction and maintenance vehicles. A new access track is to be constructed from Granites Chase, adjacent to the existing track, leading to Gurnard Farm.
- 4.6 The internal access road will be completed during the initial stages of construction.
- 4.7 During the construction phase, appropriate turning areas will be provided in the vicinity of the internal access road to ensure all vehicles egress the Site in a forward gear.

## 5 Vehicle Trip Attraction

- 5.1 The section sets out the trip generation associated with the construction, operation, and decommissioning phase of the Scheme.
- 5.2 It is anticipated that the construction phase will last for approximately 30 weeks. Construction activities and deliveries will be carried out Monday to Friday 08:00-18:00 and between 08:00 and 13:30 on Saturdays. No construction activities or deliveries will occur on Sunday or Public Holidays. Where possible, construction deliveries will be coordinated to avoid construction vehicle movements during the traditional AM peak hour (08:00-09:00) and PM peak hour (17:00-18:00).
- 5.3 The construction period will include the use of HGVs to bring the equipment onto the Site and this will be strictly managed to ensure that vehicle movement is controlled and kept to a minimum. The vast majority of deliveries by HGV will be by 16.5m articulated vehicles or 8-10m rigid vehicles.
- 5.4 Deliveries to the Site will be reported to the Site Manager and will be made by the smallest possible vehicle for that particular item of plant or material.

### HGV Movements

- 5.5 A summary of the construction activity that requires HGV movements is as follows:
- Delivery of solar modules and mounting structures;
  - Delivery of inverters and transformers;
  - Delivery of substation equipment;
  - Delivery of battery modules;
  - Delivery of material for the construction compound and access track construction;
  - Other deliveries for items such as waste, fencing, sand and gravel, and for non-grid connection elements such as landscaping.

**Table 5.1** sets out a summary of the HGV movements that could be associated with the construction phase of the solar farm.

Table 5.1 Heavy Goods Vehicle Movements – Construction Period

Activity	Type of Vehicle	Total Number of Deliveries
<b>Solar Farm</b>		
Solar Modules & Mounting Structures	Max 16.5 Articulated	215 (430 two-way movements)
Inverters/Transformers	10m Rigid	8 (16 two-way movements)
Substation	10m Rigid/16.5m Articulated	5 (10 two-way movements)
Internal Access Tracks	10m Rigid/Tipper	110 (220 two-way movements)
JCB Delivery	Low loader	2 (4 two-way movements)
Other (sand, gravel, waste etc)	Max 16.5 Articulated	160 (320 two-way movements)
Total		500 (1,000 two-way movements)
<b>Battery Energy Storage System (BESS)</b>		
Battery Modules	Max 16.5 Articulated	48 (96 two-way movements)
General (cables, fencing etc.)	Max 16.5 Articulated	75 (150 two-way movements)
Contractor's Compound	Max 16.5 Articulated	6 (12 two-way movements)
Total		129 (258 two-way movements)
<b>Total (Solar Farm and BESS)</b>		<b>629 (1,258 two-way movements)</b>
<b>Total (Solar Farm and BESS) plus 10%</b>		<b>692 (1,384 two-way movements)</b>

- 5.6 As set out in **Table 5.1**, it is anticipated that 629 deliveries (1,258 two-way movements) could be made by HGVs during the construction of the solar farm and BESS. Based on a 30-week construction period (180 working days), this relates to an average of around four deliveries, or eight two-way movements, per day.
- 5.7 There will be a relatively flat programme for deliveries of equipment to the Site. Notwithstanding this, there is likely to be a small peak in deliveries early in the construction process, for Site set-up, including the construction of the access track. From previous experience, this should be no more than 15 deliveries per day during this period, which will last for two or three weeks.

### Construction Worker Trips

- 5.8 In addition to the HGV movements identified in **Table 5.1**, there will also be a number of construction movements associated with smaller vehicles for the transportation of construction workers and sub-contractors.
- 5.9 Approximately 50 construction workers are anticipated to be required on Site on an average day. This may increase slightly during peak construction. The location where staff will travel from is unknown at this stage as it will depend on the appointed contractor. However, it is envisaged that the majority of non-local workforce will stay at local accommodation and be transported to the Site by minibuses to minimise the impact on the strategic and local highway network.

### Construction Vehicle Movements Timings

- 5.10 Where possible, construction deliveries will be coordinated to avoid construction vehicle movements during the traditional AM peak hour (08:00-09:00) and PM peak hour (17:00-18:00).
- 5.11 Due to the Site operational hours (08:00-18:00), construction worker travel will occur outside of the peak hours.

### Operational Phase

- 5.12 Once operational, maintenance vehicles will utilise the same access point. Maintenance vehicles (likely to be a transit van) will visit the Site once or twice a month.
- 5.13 Space will be available within the Site on the access road for such a vehicle to turn around to ensure that reversing will not occur onto the highway.

## 6 Mitigation Measures

- 6.1 The contractor will introduce measures to minimise the impact resulting from construction activities. It will be the responsibility of the Project Manager and Site Manager to oversee the implementation of the mitigation measures.
- 6.2 The mitigation measures are set out below.

### Signage

- (i) Signs to direct construction vehicles associated with the development will be installed along the construction traffic route. Delivery drivers, contractors and visitors will be provided with a route plan in advance of delivering to Site to ensure that vehicles follow the identified route;
- (ii) All signage on the designated route will be inspected daily by the Site Manager, to ensure they are kept in a well-maintained condition and located in safe and appropriate locations;

### Vehicle Movement

- (iii) Where possible, construction deliveries by HGV will be coordinated to avoid the network peak hours of 08:00-09:00 and 17:00-18:00;
- (iv) Banksman will be provided at the Site accesses to indicate to construction traffic when it is safe for them to enter and exit the Site;

### Booking System

- (v) A booking system will be set up to manage arrivals and departures to the Site. A log will be kept as part of the booking system;

### Parking

- (vi) Advisory signs informing contractors and visitors that parking is not permitted on-street in the vicinity of the Site or on the Site access track. Contractors and visitors will be advised that parking facilities will be provided on-Site in advance of visiting the Site and that they should not park on-street;

### Wheel Wash Facility

- (vii) A wheel washing facility will be provided. This will be located on the access track. In the unlikely case the wheel wash facility breaks down for a short period, construction workers will spray wheels using a power hose, before they re-enter the public highway;

- (viii) A visual inspection of vehicles will be undertaken before they depart the Site, to ensure that they are not carrying any residual debris onto the highway;

### **Noise Reduction and Air Quality**

- (ix) When on Site and when not in use, vehicle engines will be switched off;
- (x) Vehicles carrying material off-Site will be sheeted to prevent the spread of dust;
- (xi) In dry conditions, areas near to the Site access will be sprayed with water supplied to prevent the spread of dust;

### **Site Security**

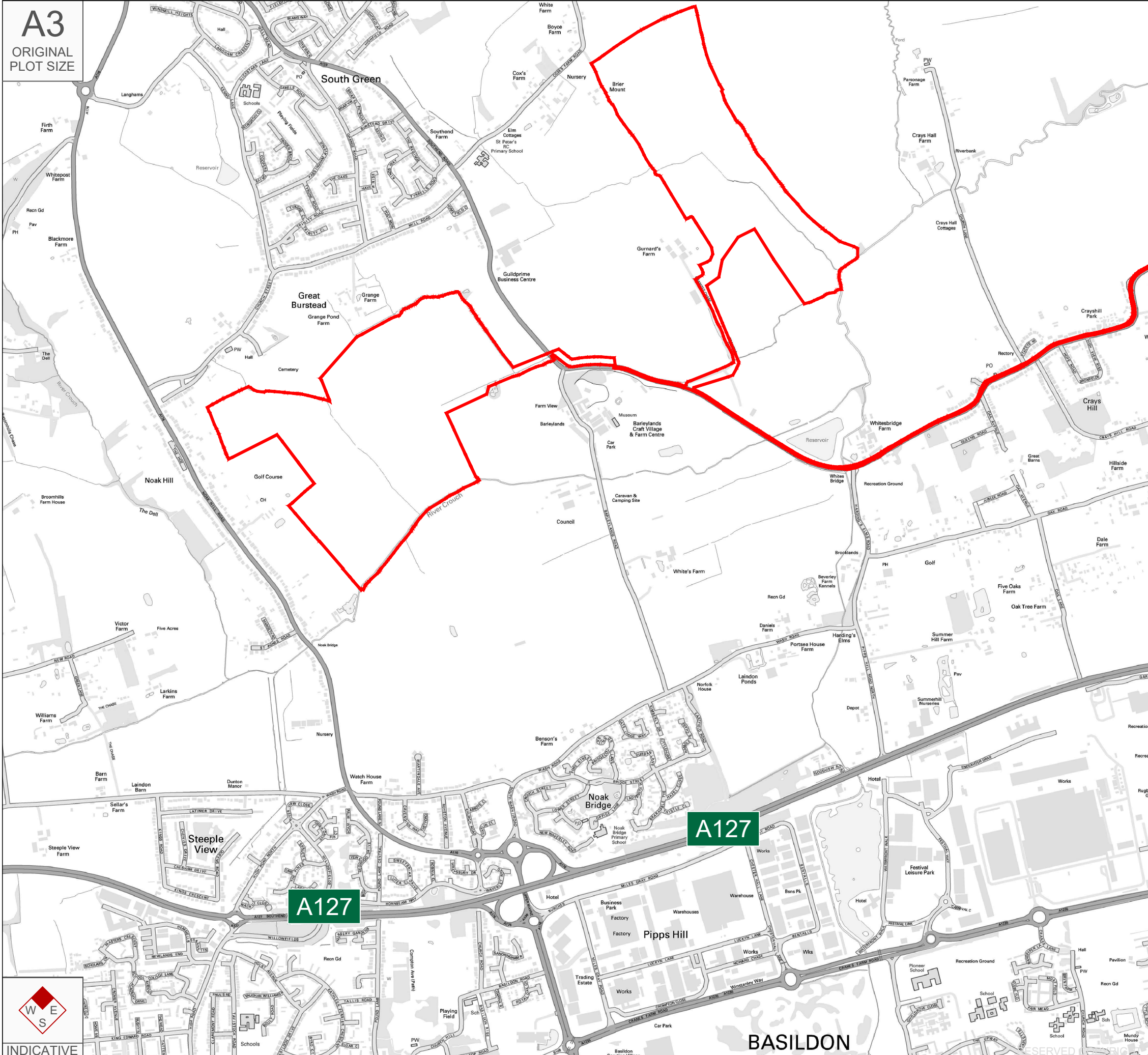
- (xii) The Site will be secured at all times via a perimeter fence or temporary fencing. CCTV will be operational within the construction compound;

### **Community Engagement**

- (i) The details of the Construction Site Manager will be provided to the local highway authority in advance of any work being carried out.
- (ii) The Construction Site Managers details will also be provided on a Site-board at the Site access. If anyone in the local community has any issues during the construction phase, the Site Manager will be available to discuss.

# Figures





**A3**  
ORIGINAL  
PLOT SIZE

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**KEY**  
— Approximate development outline.

Rev	Date	Details	Drawn by	Checked by	Approved by
A	23.02.22	Updated Red Line Boundary	SG	RR	JD

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CLIENT:  
**ENSO GREEN HOLDINGS J LTD**

PROJECT:  
**Burstead Solar Farm**

TITLE:  
**Site Location Plan**

STATUS:  
**INFORMATION**

SCALE: NTS	DATE: 19.10.21	DRAWN: SG	CHECKED: RR	APPROVED: JD
JOB NO: 2108-006	DRAWING NO: Figure 1.1	REVISION: A		



INDICATIVE

**A3**  
ORIGINAL  
PLOT SIZE

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**KEY**

- Approximate development outline.
- Construction traffic route.

Rev	Date	Details	Drawn by	Checked by	Approved by
B	23.02.22	Revised Red Line Boundary	SG	RR	JD
A	03.11.21	Revised Red Line Boundary	SG	RR	JD

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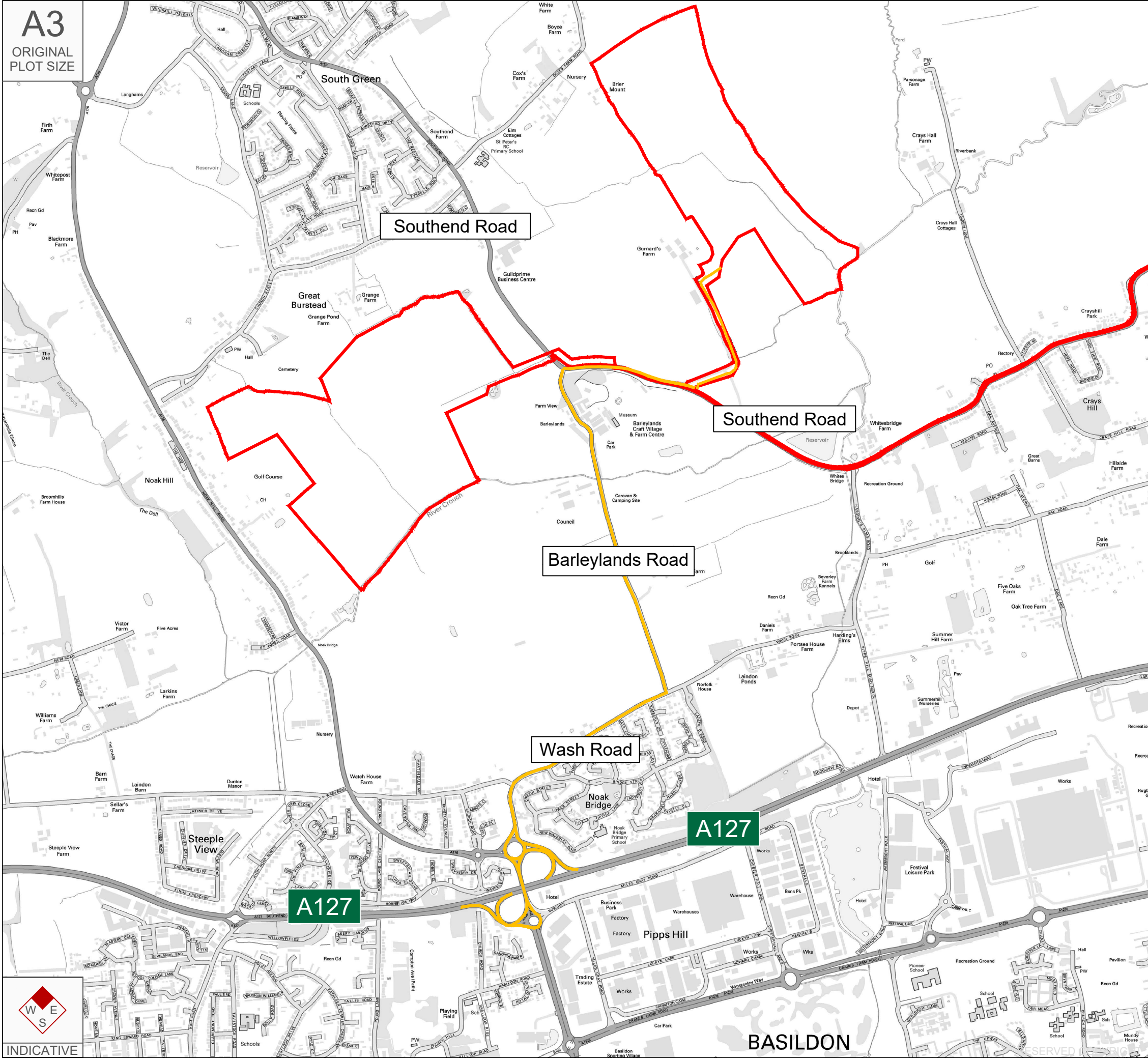
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PROJECT:  
**Burstead Solar Farm**

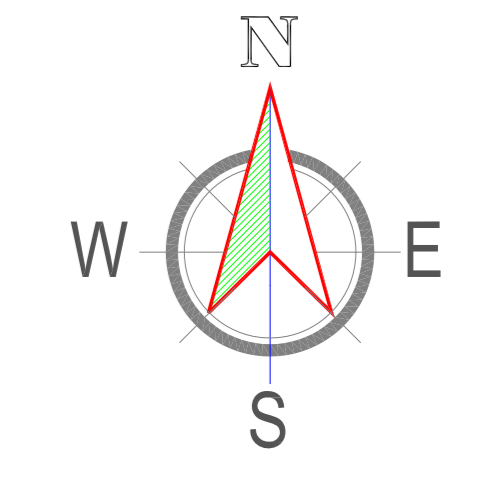
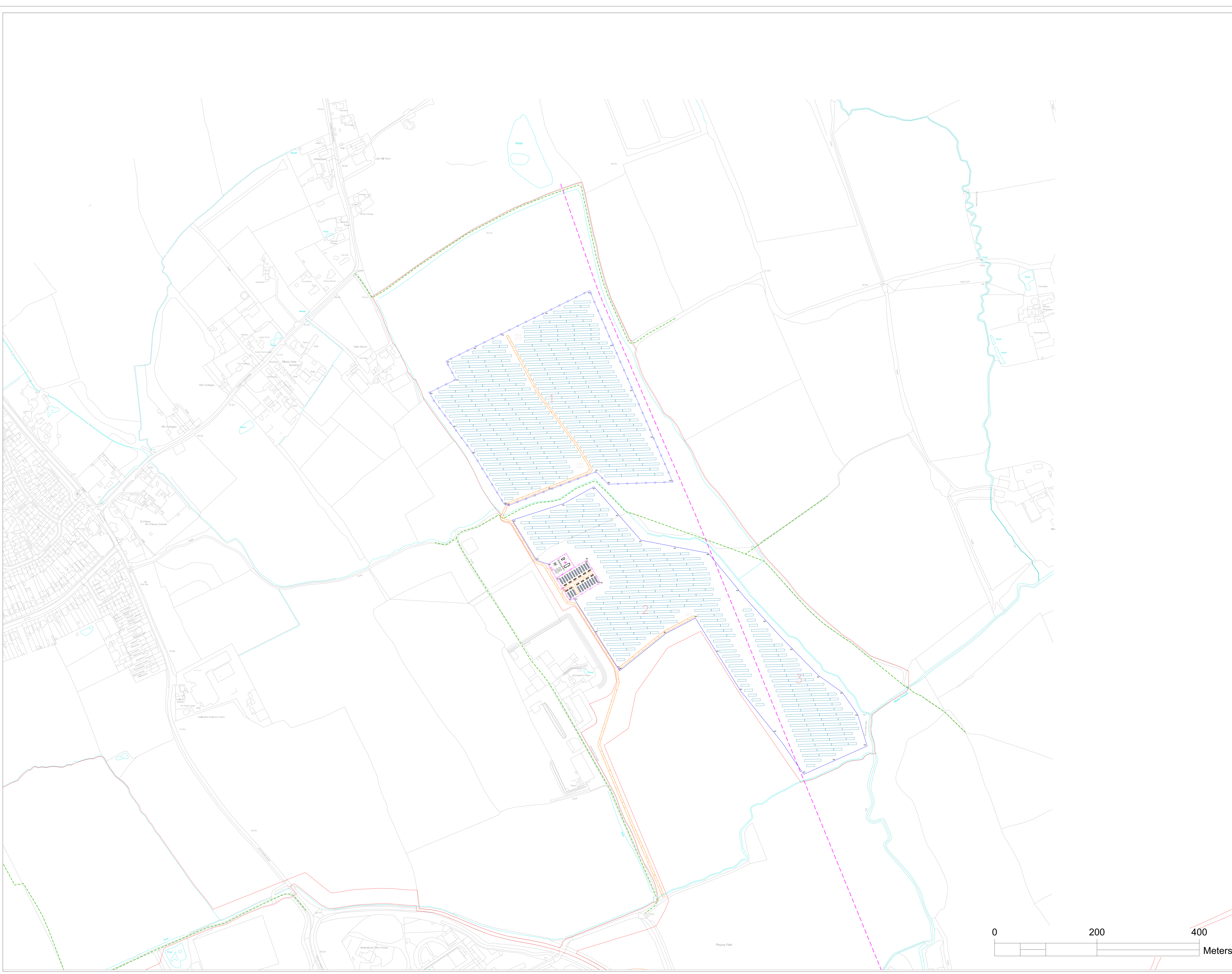
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**Construction Traffic Routing Plan**

STATUS:  
**INFORMATION**

SCALE: NTS	DATE: 19.10.21	DRAWN: SG	CHECKED: RR	APPROVED: JD
JOB NO: 2108-006	DRAWING NO: Figure 3.1	REVISION: B		



# APPENDIX A



**GENERAL NOTES**

**LEGEND**

- PV MODULE
- RED LINE BOUNDARY
- PERIMETER FENCE
- BATTERY STORAGE FENCE
- BATTERY STORAGE CONTAINER
- BATTERY STORAGE INVERTER/TRANSFORMER
- OVERHEAD LINES
- PUBLIC RIGHT OF WAY
- UNDERGROUND SERVICES
- INVERTER STATION
- INTERNAL ROAD
- CCTV CAMERA
- WEATHER STATION

**REFERENCE DRAWINGS**

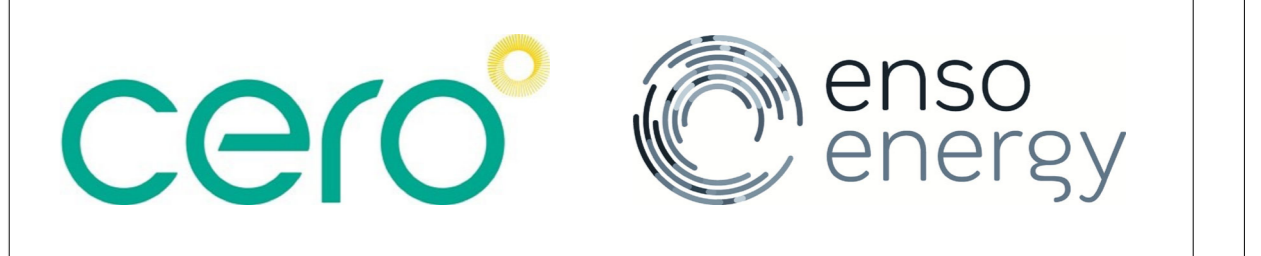
No.	DRAWING TITLE	DRAWING No.

R	DATE	DESCRIPTION OF REVISION	REMARKS

PROJECT NAME : **BURSTEAD SOLAR PV AND BATTERY**

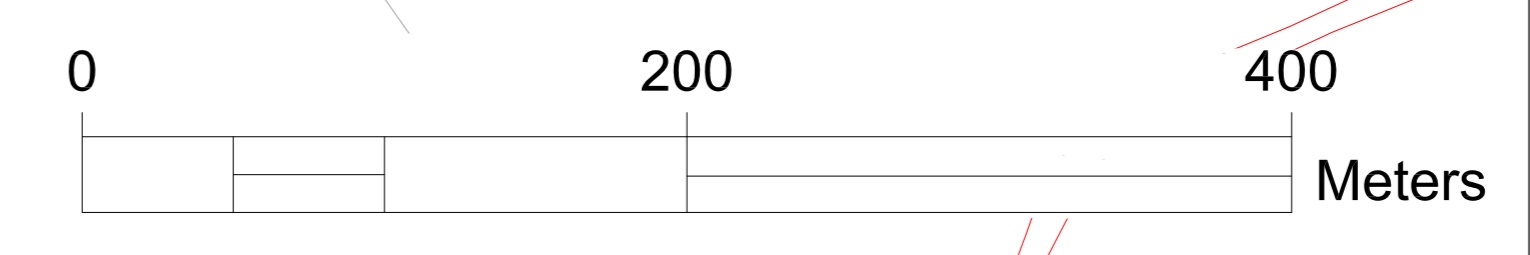
OWNER'S ENGINEER :

GENERAL CONTRACTOR :



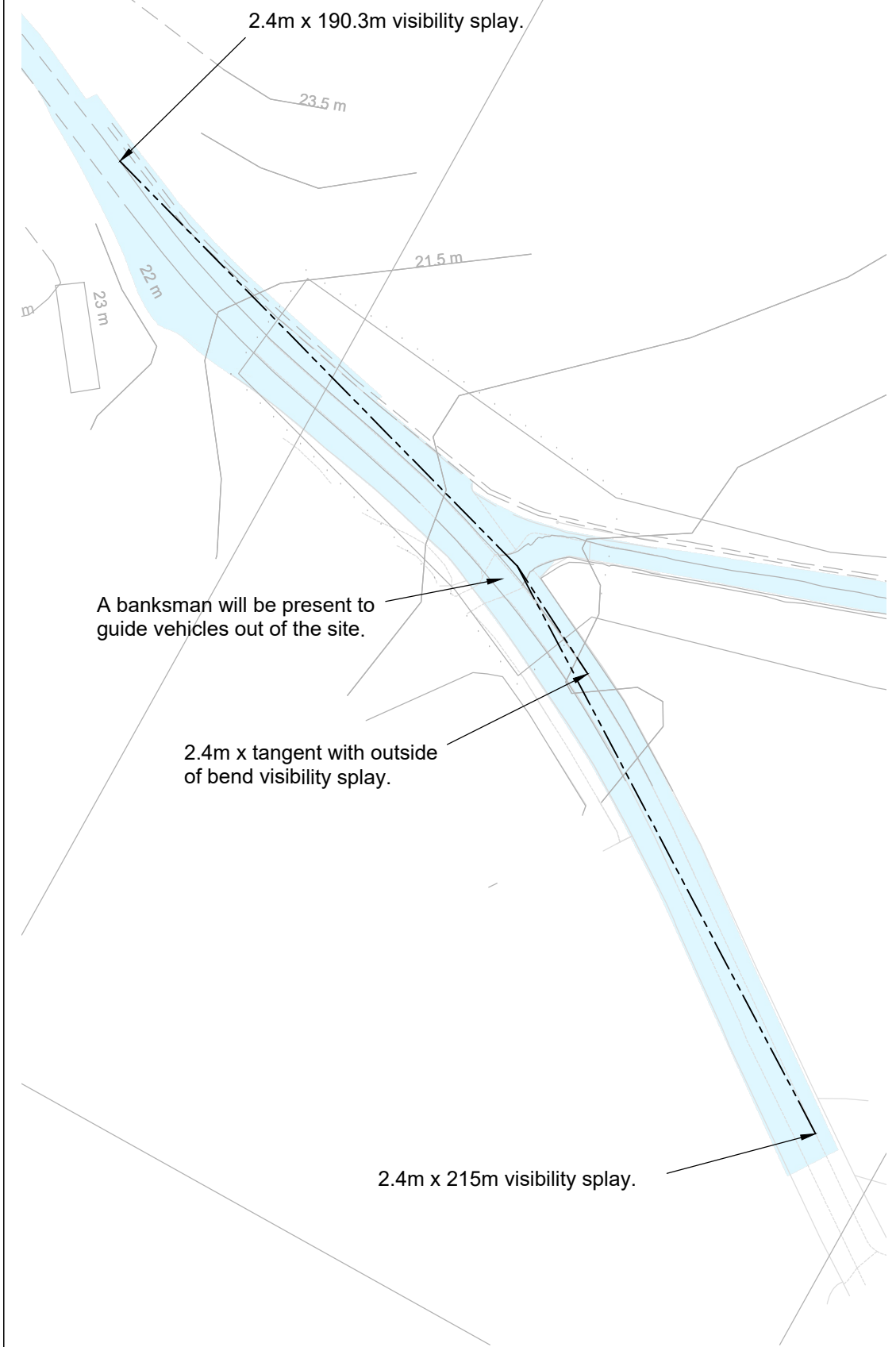
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CHECKED BY :	DATE :		
APPROVED BY :	DATE :		
DRAWING No. : <b>BU2.0</b>			
SHEET SIZE : <b>A0</b>	SHEET : <b>3 OF 3</b>	SCALE : <b>1:2500</b>	REV : <b>08A</b>

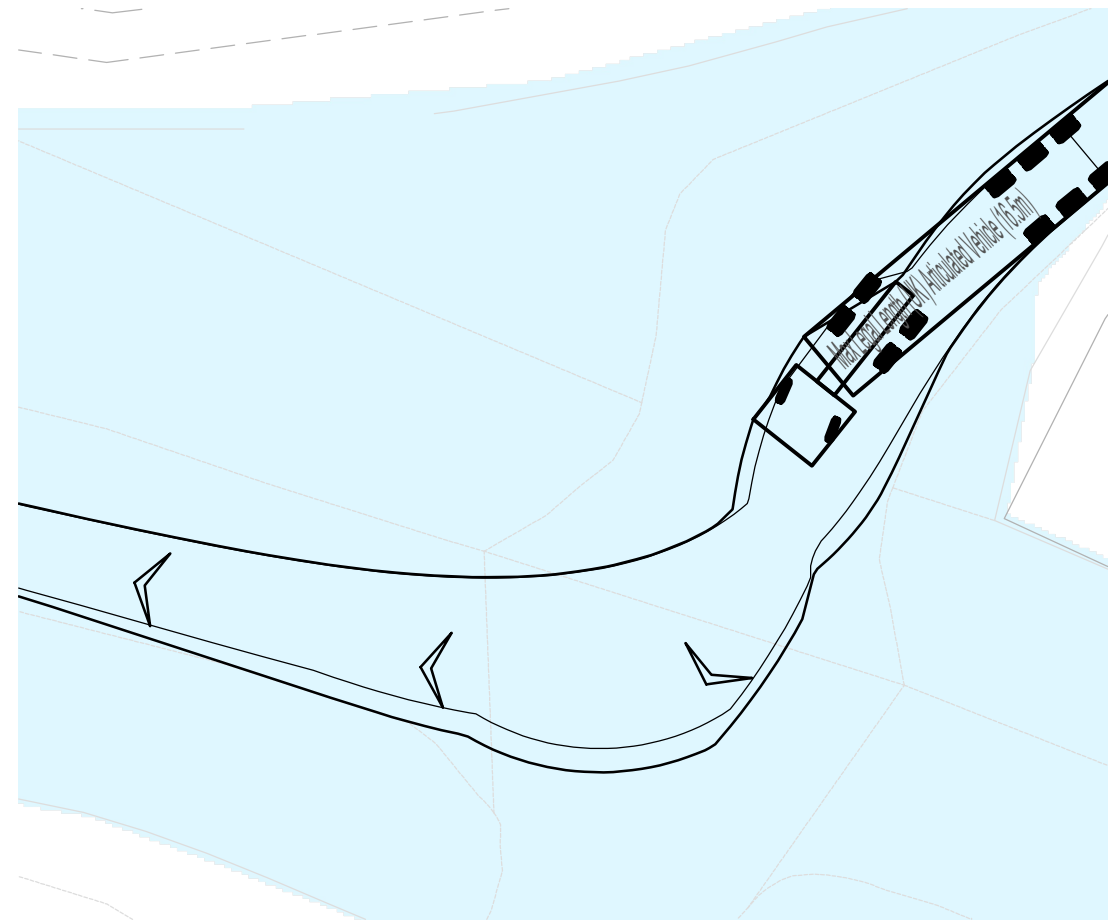
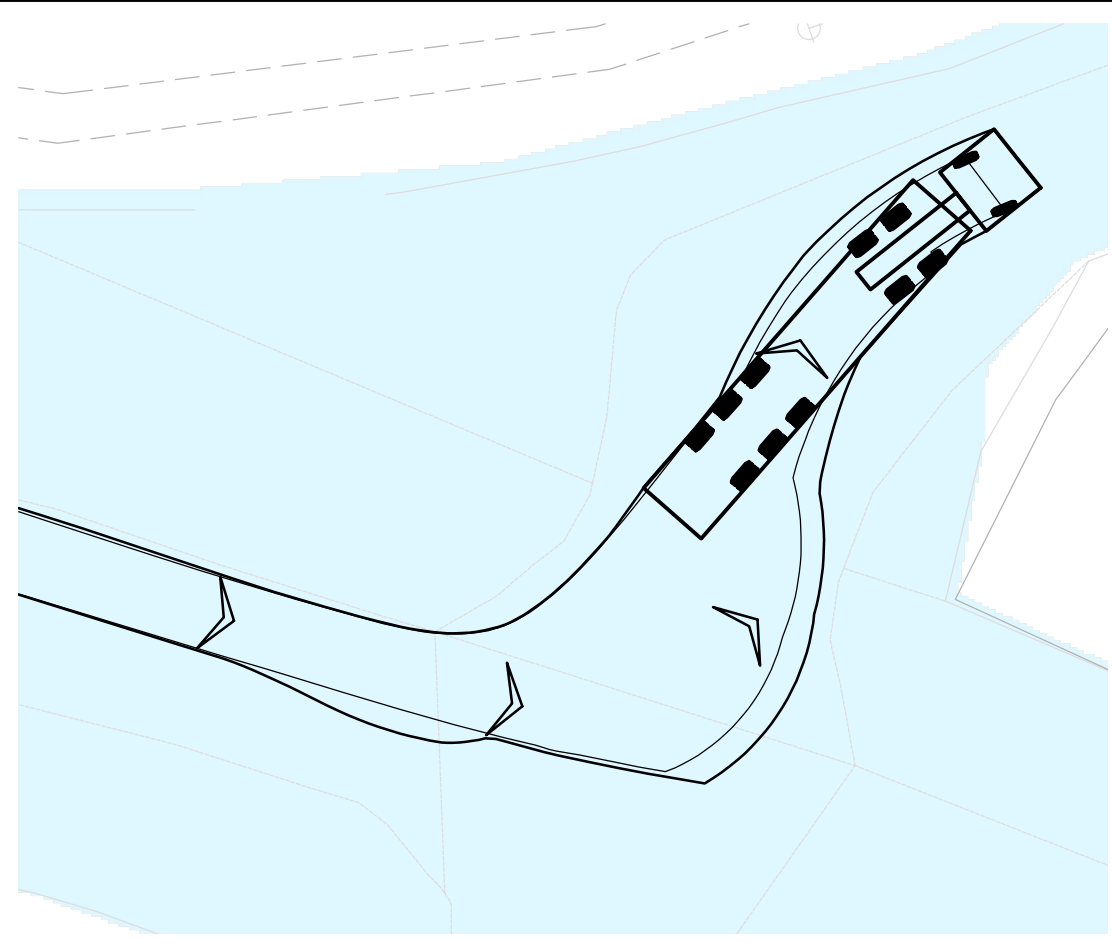
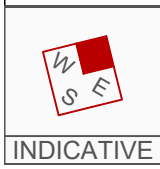


# APPENDIX B

**A3**  
ORIGINAL  
PLOT SIZE



**Site Access Arrangement**  
Scale 1:2,000

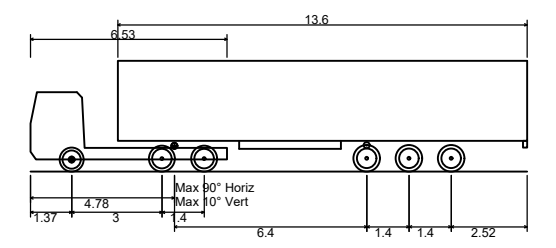


**Swept Paths Of A 16.5m Articulated Vehicle**  
Scale 1:250



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Key:  
Extent of Highway Maintained at Public Expense (replicated from A3 PDF obtained from Essex County Council on 09/12/21)



Max Legal Length (UK) Articulated Vehicle (16.5m)  
Overall Length 16.500m  
Overall Width 2.550m  
Overall Body Height 3.681m  
Min Body Ground Clearance 0.411m  
Max Track Width 2.500m  
Lock to lock time 6.00s  
Kerb to Kerb Turning Radius 6.530m

A	01.03.22	Extent of Adopted Highway Included	SG	RR	JD
Rev	Date	Details	Drawn by	Checked by	Approved by

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PROJECT:  
**BURSTEAD SOLAR FARM**

TITLE:  
**Eastern Parcel Site Access Arrangement**

STATUS:  
**INFORMATION**

SCALE: As shown	DATE: 26.11.21	DRAWN: SG	CHECKED: RR	APPROVED: JD
JOB NO: 2108-006	DRAWING NO: SK02	REVISION: A		

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