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#### Highways | Traffic | Transportation | Water

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## Prepared on behalf of

**Sirius Planning Ltd** 

**Oaklands Solar Farm and BESS** South of Bonvilston, Vale of Glamorgan

**Transport Statement** 

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# **Control Sheet**

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	Vale of Glamorgan
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Sirius Planning Ltd drawings have been used in the preparation of this report.

ATCs were carried out by Nationwide Data Collection Ltd.

Extent of highway adoption information has been obtained from Vale of Glamorgan Council.

A record of personal injury collisions to have occurred in the study area has been obtained from <u>www.crashmap.co.uk</u>



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## 1 Introduction

- 1.1 Sanderson Associates (Consulting Engineers) Ltd has been appointed by Sirius Planning Ltd to prepare this Transport Statement, to support the planning application for a solar farm and Battery Energy Storage System (BESS) on land to the south of the village of Bonvilston, Vale of Glamorgan. The proposed development is known as Oaklands Solar Farm and BESS.
- 1.2 This Transport Statement has been prepared in order to set out the predicted transport impact of the proposed development, including its likely trip generating potential, the likely vehicles needing access to the site and how the site will be accessed. The application is also supported by a Construction Traffic Method Statement which includes additional information for the construction phase of the development and should be read in conjunction with this report. The submitted Construction Traffic Method Statement is included at **Appendix A**.

### 1.3 Development Overview

- 1.3.1 It is proposed to construct and operate a solar farm and BESS across three areas with a total area of approximately 127Ha located approximately 12km west of Cardiff.
- 1.3.2 The three areas are located within a rural context with Areas 1 and 3 (Pancross and Oaklands) located to the west of the A4226, whilst Area 2 (Redlands) is located to the east. The site location and extent of area boundaries are presented in Figure 1, overleaf.





Figure 1 – Site location – Extract of Sirius Planning Ltd drawing SRE1113/02/02 0

### 1.4 Policy Overview

- 1.4.1 National Policy for Wales is contained in the document Planning Policy Wales (PPW) (Edition 11, February 2021). Future Wales The National Plan 2040 sets out the framework for planning the change and development of Wales up to 2040. Policy 18 of the National Plan is specifically related to Renewable and Low Carbon Energy Developments of National Significance. This Transport Statement aims to demonstrate that the impact of the scheme in highways terms is negligible and the net benefits of the scheme outweigh any negative impacts, in line with the requirements of Policy 17 and Policy 18 of the National Plan.
- 1.4.2 National planning policy on highway and transport matters is provided throughout PPW as well as in Technical Advice Note (TAN) 18: Transport (2007). The latter provides guidance to Local Authorities about integrating land use and transport planning and explains how transport impacts should be assessed and mitigated. It provides advice on:-



- Integration between land use planning and transport
- Location of development
- Parking
- Design of development
- Walking and cycling
- Public transport
- Planning for transport infrastructure
- Assessing impacts and managing implementation
- 1.4.3 This Transport Statement considers the following aspects:
  - The local highway network and its traffic collision record;
  - The access arrangements to the proposed development;
  - The proposed development and its operational characteristics;
  - The impact of the development on the local highway network in terms of highway safety; and
  - The predicted trip generation of the development and its impact on the local highway network in capacity terms
- 1.4.4 This Transport Statement demonstrates that there would not be an unacceptable impact on highway safety associated with the development and that the residual cumulative impacts of the development are not severe. As such, there are no transport reasons why planning permission should not be granted.



## 2 **Existing Situation**

### 2.1 Site Location

2.1.1 The application site is spread over three development areas (DAs) that will be connected into the existing overhead powerlines. The site and surrounding areas are rural in nature, characterised by open countryside, farmland, rough scrubland, and waterbodies. Bonvilston and St Nicholas are the closest villages to the site, located at a distance of approximately 0.7 and 1.0km, respectively.

### 2.2 Local Highway Network

- 2.2.1 Access to the site is from the M4 motorway at Junction 33. From here, the A4232 runs southeast to the western extent of Cardiff and joins the A48 at a roundabout junction. The A48 runs west in the direction of Bonvilston however, prior to reaching the village, the A4226 can be joined at a signalised junction. Each of the DAs has a separate existing access from the A4226 Five Mile Lane. One set down area is proposed to serve the two DAs to the west of the A4226 (Pancross and Oaklands) and one for that to the east (Redlands). Access between Pancross and Oaklands will be provided without the use of the adopted highway.
- 2.2.2 An audit of the local highway network and the proposed vehicle routes for construction vehicles has been undertaken as part of the Construction Traffic Method Statement submitted as part of this application. This includes a package of measures which will be put in place to ensure the safety of other highway users and delivery vehicles.

### 2.3 Baseline Traffic Data

2.3.1 In order to understand the existing traffic volume and speed on the A4226, two Automatic Traffic Counts (ATCs) were undertaken for a 7-day period from the 6<sup>th</sup>-12<sup>th</sup> September 2021. The ATCs were positioned in the approximate locations shown in **Figure 2**, overleaf.





Figure 2 – Approximate location of ATC installations

2.3.2 The recorded 85<sup>th</sup> percentile speeds and volumes are shown in **Table 1**, below, whilst the full dataset is included at **Appendix B**.

	Direction of	Nu	mber of vehi	85 <sup>th</sup>			
	travel	Total	5-day average	7-day average	percentile speed (mph)		
ATC 1	North	36137	5429	5162	57.9		
	South	35834	5410	5119	60.7		
ATC 2	North	36522	5511	5217	59.9		
	South	35702	2387	5100	63.9		
Table 1 - ATC data - Volume and speeds							

Table 1 – ATC data – Volume and speeds

2.3.3 **Table 2** shows the vehicle composition of the total number of vehicles recorded.

	Direction of	Nu			
	travel	Total	HGV %		
ATC 1	North	36137	35428	709	2.0
	South	35834	35270	564	1.6
ATC 2	North	36522	35903	619	1.7
	South	35702	35119	583	1.6

Table 2 – ATC data – Vehicle composition



2.3.4 The recorded vehicle speeds equate to the required visibility splays shown in Table3.

	Direction of travel	85 <sup>th</sup> percentile speed (mph)	Visibility requirement (m)
	North	57.9	215
AICT	South	60.7	215
ATC 2	North	59.9	215
	South	63.9	295
Table 2	Vicibility onlay ro	quiromonto	

Table 3 – Visibility splay requirements

2.3.5 Extent of highway adoption records have been obtained from Vale of Glamorgan Council and are included at **Appendix C**. Visibility splays are shown on **Drawing 300372-002**, also at **Appendix C**. It is noted that the available visibility to the north of the Pancross access is below the 215m required in accordance with the recorded vehicle speeds. However, visibility in this direction is in the "non-critical" direction as vehicles leaving the site will be travelling north and therefore not pulling out into southbound traffic. The improvements to the accesses are such that all vehicles are able to complete their manoeuvre without the need to cross into an opposing traffic lane. Appropriate signage will also be provided to warn road users of the presence of construction vehicles. Therefore, it is considered that highway safety will not be compromised as a result

### 2.4 National Cycle Network

2.4.1 There are no National Cycle Network routes in the vicinity of the site that would require mitigation measures to protect cyclists. However, a shared cycle/footway is present on the western flank of the A4226. Appropriate signage is to be provided to warn cyclists of the presence of construction vehicles.

### 2.5 Public Rights of Way

2.5.1 There are no Public Rights of Way in the vicinity of the site that would require mitigation measures to protect users. However, a shared cycle/footway is present on the western flank of the A4226. Appropriate signage is to be provided to warn pedestrians of the presence of construction vehicles.



### 2.6 Personal Injury Collision Analysis

2.6.1 Crashmap.co.uk has been used to obtain information on personal injury collisions on the local highway network in the vicinity of the application site, which would be used by development traffic, over the most recent 5 year period available. Figure 3, overleaf, shows the extent of the search and results.



Figure 3 – Crashmap extract

- 2.6.2 The full records of the three 'slight' collisions that have been recorded are included at **Appendix D** with a summary given below.
- 2.6.3 One incident has been recorded in the vicinity of the site frontages on the 9<sup>th</sup> April 2018 at 5:01pm. The road surface was wet with rain falling when two cars collided head-on. It is not clear why this might have occurred as the road has a straight alignment in this area and there is no suggestion of an overtaking/passing manoeuvre being undertaken.



- 2.6.4 Two incidents have been recorded at the junction of the A4226 and the A48.
  - One incident occurred on the 10<sup>th</sup> January 2017 at 12:30pm in fine and dry conditions. A goods vehicle turning left from the A4226 collided with another goods vehicle proceeding along the A48 from east to west.
  - One incident occurred on the 30<sup>th</sup> April 2018 at 12:48pm in fine and dry conditions. It is not entirely clear what happened however two cars were involved, one of which was turning left from the A4226 and the other proceeding along the A48 from east to west. The latter is reported to have collided with a lamp post.
- 2.6.5 As the junction of the A4226 and the A48 is signalised, and has been since 2013, it is considered that the incidents recorded in this location are likely due to driver error.
- 2.6.6 It is concluded that there are no highway safety concerns that are likely to be exacerbated by the expected vehicular traffic associated with the proposed development.
- 2.6.7 Notwithstanding the above, it is recognised that the construction phase of the development will increase the total number of vehicles on the local highway network and in particular the number of HGVs. With this in mind, a detailed Highway Safety Signage Strategy will be provided as part of the detailed CTMS. This will include a Temporary Signage Strategy which will be implemented along the routes to the DAs, warning other road users of the presence of construction vehicles. This will be agreed in consultation with the Local Planning and Highway Authority.
- 2.6.8 In addition to the proposed signage strategies, drivers bringing materials to the DAs will be given specific instructions as to which routes they are to use, in accordance with the agreed vehicle routing plans. Any deviation away from these agreed routes will be dealt with by the contractor.



### 2.7 Access to the site by Sustainable Modes

- 2.7.1 Given the rural nature of the site in question, it is not expected that a high proportion of trips to the site will be undertaken by sustainable modes. Where possible, a number of the contractors will be sourced locally and, where achievable, they will vehicle share to access the proposal site to reduce the impact of vehicular traffic on the surrounding highway network. However, a significant proportion of the contractors are likely to come from outside the area due to the nature of the development and how solar farms tend to be constructed across the UK.
- 2.7.2 It is expected that many of the contractors working during the construction phase will be residing in temporary accommodation close-by and will be transported to the site each day in minibuses, with a minimum of 6 persons per vehicle. Given this, there will not be a situation where all workers arrive on site in their own private vehicle.



## 3 Development Proposals and Impact

### 3.1 Development Overview

- 3.1.1 The proposed installation and operation of a solar farm and BESS, across three Development Areas (DAs), on land to the south of Bonvilston will comprise of the following, with a site layout plan included at **Appendix E**:
  - Photovoltaic (PV) panels;
  - Battery Energy Storage System;
  - Mounting frames;
  - Scheme of landscaping and biodiversity enhancement;
  - Inverters, transformers, substations (DNO and customer) and associated cabling (below ground);
  - Stock fencing;
  - Infra-red CCTV (cameras would operate using motion sensors and would be positioned inward only to ensure privacy to neighbouring land and property);
  - Temporary set down areas;
  - Internal service roads; and
  - Site access for the construction and operational phases.
- 3.1.2 The proposed point of connection is located at an existing tower pylon located within DA1. DA2 and DA3 will be connected to the main customer substation at DA1 by underground cabling which will be located within the adopted highway or within land where a lease agreement is in place with the landowner.
- 3.1.3 The panels will be arranged in rows in an east-west alignment across the site and orientated south for maximum efficiency. All panels will be mounted on frames and have a maximum height of 3m above ground level with the lowest part of the panel standing approximately 1m above ground level. The scheme will be operational for 40 years after which all equipment is anticipated to be removed and the site returned to its previous use.
- 3.1.4 The site will be secured by a 2m high stock fence or similar with wire and wooden posts, or an alternative to suit ecological requirements.



### 3.2 Temporary Works

- 3.2.1 Two temporary set down areas will be created within the site during the construction phase of the development to allow for equipment to be loaded/unloaded.
- 3.2.2 A plan showing the temporary set down areas is included at **Appendix E**, which indicates the areas which will be designated for material loading/unloading and those areas which will be dedicated for parking operatives' vehicles. It demonstrates that there is adequate parking provided to accommodate the expected number of vehicles requiring parking each day, so that there will not be an overspill of parking onto the adjacent highway network.
- 3.2.3 The existing field accesses that will be used to access the DAs are to be improved, as shown on the site access details plan included at **Appendix E**, to facilitate the required vehicles. Appropriate signage will be provided to warn road users, cyclists and pedestrians of the presence of construction vehicles.
- 3.2.4 **Drawing 300372-003**, included at **Appendix F**, demonstrates that a 16.5m articulated vehicle and 10m rigid vehicle are able to access the setting down areas, manoeuvre and leave the site in a forward gear, whilst not needing to cross into an opposing traffic lane. Smaller vehicles will be used to move materials within the DAs. A temporary access is to be provided to prevent the need for vehicles to utilise the A4226 when moving between the set down area in Pancross DA and Oaklands DA.

### 3.3 Hours of Operation

3.3.1 It is proposed that during the construction phase of the development, when there is likely to be the most impact on the surrounding highway network, the site would have the following hours of operation:

Monday to Friday	08:00 to 18:00
Saturdays	08:00 to 16:00



3.3.2 Deliveries will be carried out within the hours above. Under exceptional circumstances, both working and deliveries outside of these hours may be required. In these cases, prior permission will be sought from Vale of Glamorgan Council.

### 3.4 Staff Movements

- 3.4.1 At a maximum, up to an estimated 80 staff will be on site during the construction period, depending on the phases of the construction schedule. It is envisaged that staff will be from both local and regional contractors who will use shared transport such as crew cab transit vans. The plan attached at **Appendix E**, shows the set down and parking areas.
- 3.4.2 The anticipated number of staff movements per day is set out in further detail in this section. Parking will be provided to ensure that all vehicles required can park within the site.
- 3.4.3 The contractor will aim to manage staff movements at the start/end of shifts to ensure that all vehicles associated with the site are not released onto the local highway network at the same time. This could involve releasing a small number of vehicles in five minute intervals and asking for vehicles to arrive in five minute intervals at the start of the day.

### 3.5 Parking and Servicing Strategy

3.5.1 Parking standards applicable in the area are contained within the Vale of Glamorgan Local Development Plan 2011-2026 'Parking Standards; document dated March 2019, with the site falling within Zone E 'Deep rural'. However, no standards are provided for a site of this nature. As such, the requirements for the site have been considered on an individual basis. 40 car/van parking spaces are to be provided, with 20 in each set down area. Based on 80 staff members and the expected levels of vehicle sharing this is considered to be appropriate provision.



3.5.2 All vehicle parking will be provided within the temporary construction compound within the site, there will be no parking on the local highway network.

### 3.6 Proposed Vehicle Routing

- 3.6.1 The Construction Traffic Method Statement which supports the planning application includes more detailed information and an assessment of each of the routes vehicles are likely to take to access the site. Drawing 300372-004 at Appendix G sets out the proposed vehicle routes to the site.
- 3.6.2 It is expected that the majority of the trip generation associated with the site will be take place during the construction phase, detailed within the Construction Traffic Method Statement. Once the site is operational, limited trips will be generated each year as much of the monitoring of the equipment can be undertaken remotely. It is likely that the site will need to be visited for maintenance purposes only amounting to a single vehicle every other day on average.

### 3.7 Proposed Vehicle Movements

- 3.7.1 The construction of the solar farm is expected to last around 6 months and is expected to be the time when the highest level of trip generation will occur at the site. Following construction, as set out previously, it is expected that the only vehicle movements will be concerned with maintenance of the site.
- 3.7.2 Initial movements in months 1 and 2 would result from deliveries of site security measures: security fencing, internal service road, compound construction materials and temporary site welfare cabins. There would also be deliveries of items such as panels, transformers, control room and the solar panel support frame in months 1 to 4 as well as cabling, equipment/infrastructure in months 2 and 3.
- 3.7.3 Approximately 280 deliveries (560 movements) to the site would be required to deliver the panels and 90 deliveries (180 movements) of the frames and associated infrastructure will be needed. Additional HGV movements will also be generated through the import of fencing, cabling, crushed stone for access tracks, plant, transformers and control cabins.



3.7.4 **Table 4**, below, provides a breakdown of the total expected deliveries to the site during the indicative construction programme. Expected HGV volumes and timings are based on best estimates at this stage and will be dependent on a number of factors, such as shipping schedules and the appointed contractor.

		Мо	nth			
1	2	3	4	5	6	Total
60	60	40	30	15	15	220
45	10					55
	13	7				20
		15	15			30
50	40					90
70	70	70	70			280
					45	45
225	193	132	115	15	60	740
	1 60 45 50 70 <b>225</b>	1     2       60     60       45     10       13     13       50     40       70     70       225     193	Mo           1         2         3           60         60         40           45         10         13         7           13         7         15           50         40         70         70           225         193         132	Month           1         2         3         4           60         60         40         30           45         10         -         -           13         7         -         -           50         40         -         -           50         40         -         -           70         70         70         70           225         193         132         115	Month         5           1         2         3         4         5           60         60         40         30         15           45         10         -         -         -           13         7         -         -         -           50         40         -         -         -           50         70         70         70         -           225         193         132         115         15	Month         5         6           1         2         3         4         5         6           60         60         40         30         15         15           45         10         -         -         -         -           13         7         -         -         -         -           50         40         -         -         -         -           50         40         -         -         -         -           70         70         70         70         -         -         45           225         193         132         115         15         60

Table 4 – Indicative Vehicle Deliveries during Construction Phase - Total

- 3.7.5 It is anticipated that the construction phase will generate approximately 740 deliveries to site, or 1,480 individual movements (in and out). The first month will see the highest deliveries to site at 225.
- 3.7.6 The trip generation set out above will be split between the two set down areas as shown in **Tables 5a and 5b**, below and overleaf.

		Мо	nth			
1	2	3	4	5	6	Total
40	40	30	20	10	10	150
30	10					40
	10	5				15
		10	10			20
35	25					60
40	40	40	40			160
					30	30
145	125	85	70	10	40	475
	1 40 30 35 40 <b>145</b>	1     2       40     40       30     10       30     10       35     25       40     40       11     10       12     10	Mo           1         2         3           40         40         30           30         10         5           30         10         5           30         25         10           35         25         40           40         40         85	Nombolic         Month           1         2         3         4           40         40         30         20           30         10         5         1           10         5         10         10           35         25         1         4           40         40         40         40           11         125         85         70	1         2         3         4         5           40         40         30         20         10           30         10         -         -         -           30         10         5         -         -           10         5         -         10         -           35         25         -         -         -           40         40         40         40         -           145         125         85         70         10	1         2         3         4         5         6           40         40         30         20         10         10           30         10         20         10         10         10           30         10         5         5         5           40         5         10         10         10           30         10         5         5         5           10         5         5         5         5           35         25         5         5         5           40         40         40         40         5           40         40         40         5         30           145         125         85         70         10         40

 Table 5a – Indicative Vehicle Deliveries
 Pancross/Oaklands



Construction Activity			Мо	nth			
(indicative delivery vehicle)	1	2	3	4	5	6	Total
Delivery of plant, equipment and materials (both 16.5m artic and 10m rigid)	20	20	10	10	5	5	70
Erection of security fencing and construction compound (10m rigid)	15						15
Cabling on site (16.5m artic)		3	2				5
Delivery of transformer & control equipment (10m rigid)			5	5			10
Delivery of frames & support posts (16.5m artic)	15	15					30
Delivery of PV panels (16.5m artic)	30	30	30	30			120
Removal of plant and equipment (both 16.5m artic and 10m rigid)						15	15
Total	80	68	47	45	5	20	265

Table 5b – Indicative Vehicle Deliveries– Redlands

- 3.7.7 Notwithstanding this, based on the proposed days of operation and the hours of work each day, a breakdown of expected HGV movements on a typical day is provided below. This has been based on the expected trip generation for Month 1, which is expected to be the period with the most intense period of deliveries.
- 3.7.8 Based on a 6-day working week during the construction phase (Monday-Saturday), there could be up to 25 working days per month. In order to consider each working day similarly, the calculations to follow consider a 9 hour working day (Monday to Friday 10 hours and Saturday 8 hours).
  - 225 deliveries, 450 two-way movements in month 1
  - 25 working days in a month (Monday-Saturday) = 18 two-way movements per day approximately
  - 9 hour day each working day = 1 movement every 60 minutes approximately.
- 3.7.9 Notwithstanding this, an appropriate highway safety signage strategy will be prepared as part of the detailed CTMS to be submitted at a later date, which will mitigate the risks associated with the HGV movements on the surrounding highway network.
- 3.7.10 Given that Month 1 is the most intense period for deliveries, it is expected that across the remaining 5 months the number of deliveries will be fewer.



- 3.7.11 In addition to the expected number of HGVs, there will be staff working on the site, who will most likely arrive before the operating hours of the site (before 08:00) and depart after the site closes each day (after 18:00). As set out previously, there is expected to be up 80 staff on site (~26 per DA) at the peak of construction. Staff will arrive and depart the DAs in transit vans with a 'crew cab' with an expected minimum capacity of 6 persons.
- 3.7.12 Given the above, there could be up to 14 vehicles arriving to the DAs in a morning and 14 vehicles departing the DAs in an evening. However, ~4 of these would access Redlands and ~10 would access Pancross/Oaklands. Parking areas are provided within the set down areas to accommodate these vehicles.
- 3.7.13 Therefore, it is estimated that in the hour preceding the opening of the site each day there would be approximately 14 transit vans arriving at the site. There would be corresponding departure trips in the hour following the closure of each DA each day. Given the highly trafficked nature of the A4226 and A48, the contribution to existing traffic flows from the proposal will be negligible.
- 3.7.14 It is recognised that the construction phase of the development will increase the total number of vehicles on the local highway network and in particular the number of HGVs. With this in mind, a detailed Highway Safety Signage Strategy will be provided as part of the detailed CTMS. This will include a Temporary Signage Strategy which will be implemented along the routes to the DAs, warning other road users of the presence of construction vehicles. This will be agreed in consultation with the Local Planning and Highway Authority.



### 3.8 On Site Vehicle Movements

- 3.8.1 Internal access within the site will be provided by service tracks. The tracks will be 4m wide and constructed from crushed compacted stone. The tracks will be one of the first tasks to be completed on site as this will improve vehicle accessibility through the site and will minimise mud and debris being carried onto the local highway network. Furthermore, temporary trackway will be utilised across the site where necessary.
- 3.8.2 Temporary access will be provided between Pancross and Oaklands. Implementation of the access will result in the temporary loss of a short section of hedgerow which will be reinstated on completion of the construction phase.

### 3.9 Operational Phase

- 3.9.1 Once operational, the solar farm and BESS will be unmanned and managed by remote access. Access will be required for occasional maintenance and inspections which will be typically made by light goods vehicles, e.g. vans or 4x4 vehicles but expected not to be larger than a 7.5t vehicle. It is expected that these visits to the sites for maintenance will be sporadic and will amount to no more than one every other day on average.
- 3.9.2 Once on site there will be sufficient space for manoeuvring to allow the visiting vehicle to leave in a forward gear. This is a non-material increase in traffic and is not, therefore, considered to be an intensification of use of the local highway network.
- 3.9.3 There will be no public access into the site.
- 3.9.4 Permanent 4m wide internal access roads will be maintained throughout the life of the solar farm.



## 4 Summary and Conclusions

- 4.1 Sanderson Associates (Consulting Engineers) Ltd has been appointed by Sirius Planning Ltd to prepare this Transport Statement to support the planning application for a solar farm on land south of Bonvilston, Vale of Glamorgan.
- 4.2 This Transport Statement has been provided in order that the Local Highway Authority is able to consider the predicted transport impact of the proposed development, including the likely trip generating potential of the site, the likely vehicles needing access to the site and how this will be achieved.
- 4.3 The existing field accesses that will be used to access the DAs are to be improved to facilitate the required vehicles. Appropriate signage will be provided to warn road users, cyclists and pedestrians of the presence of construction vehicles.
- 4.4 It has been demonstrated that there are no collision trends, clusters of collision or collisions with common causality on the highway network surrounding the site which would give rise to any highway safety concerns. It can therefore be concluded that this section of the highway is operating safely and there are no highway safety concerns which are likely to be exacerbated by the proposed development and the development generated vehicular traffic.
- 4.5 It is recognised that the site is located in a rural area and therefore the opportunity to access the site by sustainable modes is limited. Where possible, contractors needing access to the site will travel in as few vehicles as possible.



Oaklands Solar Farm and BESS, South of Bonvilston, Vale of Glamorgan

## APPENDIX A

**Construction Traffic Method Statement** 



#### Highways | Traffic | Transportation | Water

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## Prepared on behalf of

**Sirius Planning Ltd** 

**Oaklands Solar Farm and BESS** South of Bonvilston, Vale of Glamorgan

**Construction Traffic Method Statement** 

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# **Control Sheet**

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PROJECT TITLE:	Oaklands Solar Farm and BESS, South of Bonvilston,
	Vale of Glamorgan
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# Acknowledgements:

Sirius Planning Ltd drawings have been used in the preparation of this report.

Vale of Glamorgan online mapping has been used to view PROW in the area.

A record of personal injury collisions to have occurred in the study area has been obtained from <u>www.crashmap.co.uk</u>



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# **Appendices**

## APPENDIX A

Site Layout Plan Proposed set down and parking areas Site Access Details Plan

### **APPENDIX B**

Drawing 300372-003 Swept Path Analysis

### APPENDIX C

Drawing 300372-004 Vehicle Routes

### APPENDIX D

Highway Adoption Records Drawing 300372-002 Site Access Visibility Splays



## 1 Introduction

- 1.1 Sanderson Associates (Consulting Engineers) Ltd has been appointed by Sirius Planning Ltd to prepare this Construction Traffic Method Statement (CTMS), to support the planning application for a solar farm and Battery Energy Storage System (BESS) on land to the south of the village of Bonvilston, Vale of Glamorgan. The proposed development is known as Oaklands Solar Farm and BESS.
- 1.2 This CTMS has been produced to set out the current and proposed access arrangements to the application site, the anticipated construction programme, construction vehicle numbers and routing of deliveries, construction worker numbers and the proposed construction hours.
- 1.3 This CTMS should be read in conjunction with the Transport Statement prepared by Sanderson Associates (Consulting Engineers) Ltd and the Environmental Statement Transport Chapter which Sanderson Associates (Consulting Engineers) Ltd have also prepared.
- 1.4 It should be noted that a more detailed CTMS will be submitted following the granting of planning permission, with specific details to be addressed in the detailed submission, which have only been outlined in this document at this stage.

### 1.5 Development Overview

- 1.5.1 It is proposed to construct and operate a solar farm and BESS across three areas with a total area of approximately 127Ha located approximately 12km west of Cardiff.
- 1.5.2 The solar farm will generate enough electricity to power over 20,400 homes per year and offset approximately 20,200 tonnes of CO2 every year, the equivalent of taking over 5,000 petrol and diesel cars off the road <sup>[1]</sup>.



1.5.3 The BESS will deliver significant environmental benefits, enabling technology for the renewable generation, replacing the requirement for gas fired power generation and providing rapid response power to satisfy peak demand. In performing these roles the development has the ability to reduce carbon dioxide emissions by over 20,600 metric tonnes annually whilst also providing electricity storage equivalent to supplying over 20,800 homes <sup>[1]</sup>.

<sup>[1]</sup> Internal calculations using OFGEM Typical Domestic Consumption Values and BEIS Carbon Conversion Factors.



# 2 The Site and Surroundings

### 2.1 Introduction

2.1.1 The site is located approximately 0.7km south of the village on Bonvilston and comprises three areas covering a total of approximately 127 Ha. The three areas are located within a rural context with Areas 1 and 3 (Pancross and Oaklands) located to the west of the A4226, whilst Area 2 (Redlands) is located to the east. The site location and extent area boundaries are presented in **Figure 1**, below.



Figure 1 – Site location – Extract of Sirius Planning Ltd drawing SRE1113/02/02 0

- 2.1.2 The site and surrounding areas are rural in nature, characterised by open countryside, farmland, rough scrubland and waterbodies. Bonvilston and St Nicholas are the closest villages to the site, located at a distance of approximately 0.7 and 1.0km, respectively.
- 2.1.3 The three areas will be connected into existing overhead powerlines to an existing tower pylon (point of connection to the local distribution network).



### 2.2 Designations

2.2.1 **Figure 2**, below, is an extract from the Vale of Glamorgan online mapping. No public rights of way are shown as being present within the site.



Figure 2 – Extract of Vale of Glamorgan online mapping

### 2.3 Local Highway Network

- 2.3.1 Access to the site is from either:
  - the east via the M4 motorway at Junction 33. From here, the A4232 runs southeast to the western extent of Cardiff and joins the A48 at a roundabout junction.
  - the west via the A48 which connects to Bridgend and the M4 motorway



2.3.2 The A48 provides access to the A4226 at a signalised junction. The different areas of the site can be accessed via existing field gates on the A4226 approximately 1km south of the junction

### 2.4 Local Highway Safety

2.4.1 Crashmap.co.uk has been used to obtain information on personal injury accidents on the local highway network in the vicinity of the application site, which would be used by construction traffic, over the most recent five year period available. Figure 3, below, shows the extent of the search and results. A detailed review of the recorded personal injury accidents is provided within the accompanying Transport Statement.



Figure 3 – Crashmap extract



- 2.4.2 Notwithstanding the outcome of the personal injury accident analysis within the accompanying Transport Statement, it is recognised that the construction phase of the development will increase the total number of vehicles on the local highway network and in particular the number of HGVs. With this in mind, a detailed Highway Safety Signage Strategy will be provided as part of the detailed CTMS. This will include a Temporary Signage Strategy which will be implemented along the routes to the development areas, warning other road users, cyclists and pedestrians of the presence of construction vehicles. This will be agreed in consultation with the Local Planning and Highway Authority.
- 2.4.3 In addition to the proposed signage strategies, drivers bringing materials to the site will be given specific instructions on which routes they are to use, in accordance with the agreed vehicle routing plans. Any deviation away from these agreed routes will be dealt with by the contractor.



## 3 The Proposed Development

### 3.1 Outline of the Proposal

- 3.1.1 The proposed installation and operation of a solar farm and BESS, across three Development Areas (DAs) on land to the south of Bonvilston will comprise of the following, with a site layout plan included at **Appendix A**:
  - Photovoltaic (PV) panels;
  - Battery Energy Storage System;
  - Mounting frames;
  - Scheme of landscaping and biodiversity enhancement;
  - Inverters, transformers, substations (DNO and customer) and associated cabling (below ground);
  - Stock fencing;
  - Infra-red CCTV (cameras would operate using motion sensors and would be positioned inward only to ensure privacy to neighbouring land and property);
  - Temporary set down areas;
  - Internal service roads; and
  - Site access for the construction and operational phases.
- 3.1.2 The proposed point of connection is located at an existing tower pylon located within DA1. DA2 and DA3 will be connected to the main customer substation at DA1 by underground cabling which will be located within the adopted highway or within land where a lease agreement is in place with the landowner.
- 3.1.3 The panels will be arranged in rows in an east-west alignment across the site and orientated south for maximum efficiency. All panels will be mounted on frames and have a maximum height of 3m above ground level with the lowest part of the panel standing approximately 1m above ground level. The scheme will be operational for 40 years after which all equipment is anticipated to be removed and the site returned to its previous use.
- 3.1.4 The site will be secured by a 2m high stock fence or similar with wire and wooden posts, or an alternative to suit ecological requirements.



### 3.2 Temporary Works

- 3.2.1 Two temporary set down areas will be created within the site during the construction phase of the development to allow for equipment to be loaded/unloaded.
- 3.2.2 A plan showing the temporary set down areas is included at **Appendix A**, which indicates the areas which will be designated for material loading/unloading and those areas which will be dedicated for parking operatives' vehicles. It demonstrates that there is adequate parking provided to accommodate the expected number of vehicles requiring parking each day, so that there will not be an overspill of parking onto the adjacent highway network.
- 3.2.3 The existing field accesses that will be used to access the DAs are to be improved, as shown on the site access details plan included at **Appendix A**, to facilitate the required vehicles. Appropriate signage will be provided to warn road users, cyclists and pedestrians of the presence of construction vehicles.
- 3.2.4 **Drawing 300372-003**, included at **Appendix B**, demonstrates that a 16.5m articulated vehicle and 10m rigid vehicle are able to access the setting down areas, manoeuvre and leave the site in a forward gear, whilst not needing to cross into an opposing traffic lane. Smaller vehicles will be used to move materials within the DAs. A temporary access is to be provided to prevent the need for vehicles to utilise the A4226 when moving between the set down area in Pancross DA and Oaklands DA.
- 3.2.5 The set down areas will be secured and will have temporary security lighting which will be sympathetically designed to suit the rural context of the site.
- 3.2.6 The set down compounds will incorporate the storage of equipment and materials. Temporary portacabins are required for welfare facilities such as offices, toilets, canteen and storage and each will be between 6-8.5m in length and up to 3m in height. There will also be a temporary area reserved for parking directly adjacent to the compound, together with an area for construction delivery vehicles to turn around.



### 3.3 **Proposed Vehicle Routing and Access to the Site**

- 3.3.1 Vehicles making deliveries will gain access from either:
  - the east via the M4 motorway at Junction 33. From here, the A4232 runs southeast to the western extent of Cardiff and joins the A48 at a roundabout junction.
  - the west via the A48 which connects to Bridgend and the M4 motorway
- 3.3.2 The A48 provides access to the A4226 at a signalised junction. The different areas of the site can be accessed via existing field gates on the A4226 approximately 1km south of the junction.
- 3.3.3 **Drawing 300372-004**, attached at **Appendix C**, shows the proposed vehicle routes.
- 3.3.4 The A4226 is a single carriageway road that connects the A48 to the north with Barry to the south. The carriageway has a width of approximately 7.0m and a combined cycle/footway is present on the western flank. A 60mph speed limit is in place and street lighting is not provided for the majority of its length.
- 3.3.5 The A4226 joins the A48 at a signalised staggered crossroads junction. Toucan crossings are present on the A4226, A48 west and northern (unnamed road) arms. The A48 is a major single carriageway that runs east-west between Cardiff and Bridgend.
- 3.3.6 The A48 and the sections of the routes beyond are considered to be major regional and national roads whereby traffic flows already contain a significant proportion of large goods vehicles.



## 4 **Construction Operations**

### 4.1 Introduction

4.1.1 The main traffic and transport related effects will be associated with the movement of HGVs to and from the site during the construction phase of the development. This section of the CTMS sets out the predicted impacts resulting from construction traffic related to the proposed development.

### 4.2 Access Arrangements

- 4.2.1 Access to the site during the construction phase is to be as throughout the lifetime of the solar farm and as detailed in section 3.3. Swept path analysis presented in Drawing 300372-003, included at Appendix B, demonstrates that a 16.5m articulated vehicle and 10m rigid vehicle are able to access the setting down areas, manoeuvre and leave the site in a forward gear, whilst not needing to cross into an opposing traffic lane.
- 4.2.2 Within the site, set down areas will be constructed from compacted crushed stone.Top and subsoils will be removed prior to creation of the set down areas. Internal service roads will be similarly constructed to allow vehicular access within the site.
- 4.2.3 The majority of equipment and materials required for the construction of a solar farm is modular. However, some items are delivered to site pre-assembled such as transformers, substations and switchgear cabins. These items can be delivered singularly on a 10m rigid HGV. If larger lifting equipment is required to unload these items, then temporary modular crane towers can be constructed on site.
- 4.2.4 The existing field accesses that will be used to access the DAs are to be improved, as shown on the site access details plan included at **Appendix A**, to facilitate the required vehicles. Appropriate signage will be provided to warn road users, cyclists and pedestrians of the presence of construction vehicles.



4.2.5 Egress is on to the A4226 which is subject to a speed limit of 60mph. Automatic Traffic Counts (ATCs) were undertaken in September 2021 with the recorded vehicle speeds requiring visibility of 2.4x215m in both directions. Extent of highway adoption records have been obtained from Vale of Glamorgan Council and are included at Appendix D. Visibility splays are shown on Drawing 300372-002, also at Appendix D. It is noted that the available visibility to the north of the Pancross access is below the 215m required in accordance with the recorded vehicle speeds. However, visibility in this direction is in the "non-critical" direction as vehicles leaving the site will be travelling north and therefore not pulling out into southbound traffic. The improvements to the accesses are such that all vehicles are able to complete their manoeuvre without the need to cross into an opposing traffic lane. Appropriate signage will also be provided to warn road users of the presence of construction vehicles. Therefore, it is considered that highway safety will not be compromised as a result.

#### 4.3 Hours of Operation

4.3.1 It is proposed that during the construction phase of the development, when there is likely to be the most impact on the surrounding highway network, the site would have the following hours of operation:

Monday to Friday	08:00 to 18:00
Saturdays	08:00 to 16:00

4.3.2 Deliveries will be carried out within the hours above. Under exceptional circumstances, both working and deliveries outside of these hours may be required. In these cases, prior permission will be sought from Vale of Glamorgan Council.

#### 4.4 Staff Movements

4.4.1 At a maximum, up to an estimated 80 staff will be on site during the construction period, depending on the phases of the construction schedule. It is envisaged that staff will be from both local and regional contractors who will use shared transport



such as crew cab transit vans. The plan attached at **Appendix A**, demonstrates the set down and parking areas.

- 4.4.2 The anticipated number of staff movements per day is set out in further detail in this section. Parking will be provided to ensure that all vehicles required can park within the site.
- 4.4.3 The contractor will aim to manage staff movements at the start/end of shifts to ensure that all vehicles associated with the site are not released onto the local highway network at the same time. This could involve releasing a small number of vehicles in five minute intervals and asking for vehicles to arrive in five minute intervals at the start of the day.

#### 4.5 Proposed Vehicle Movements

- 4.5.1 The construction of the solar farm is expected to last around 6 months and is expected to be the time when the highest level of trip generation will occur at the site. Following construction, as set out previously, it is expected that the only vehicle movements will be concerned with maintenance of the site.
- 4.5.2 Initial movements in months 1 and 2 would result from deliveries of site security measures: security fencing, internal service road, compound construction materials and temporary site welfare cabins. There would also be deliveries of items such as panels, transformers, control room and the solar panel support frame in months 1 to 4 as well as cabling, equipment/infrastructure in months 2 and 3.
- 4.5.3 Approximately 280 deliveries (560 movements) to the site would be required to deliver the panels and 90 deliveries (180 movements) of the frames and associated infrastructure will be needed. Additional HGV movements will also be generated through the import of fencing, cabling, crushed stone for access tracks, plant, transformers and control cabins.





4.5.4 **Table 1**, below, provides a breakdown of the total expected deliveries to the site during the indicative construction programme. Expected HGV volumes and timings are based on best estimates at this stage and will be dependent on a number of factors, such as shipping schedules and the appointed contractor.

Construction Activity	Month						
(indicative delivery vehicle)	1	2	3	4	5	6	Total
Delivery of plant, equipment and materials (both 16.5m artic and 10m rigid)	60	60	40	30	15	15	220
Erection of security fencing and construction compound (10m rigid)	45	10					55
Cabling on site (16.5m artic)		13	7				20
Delivery of transformer & control equipment (10m rigid)			15	15			30
Delivery of frames & support posts (16.5m artic)	50	40					90
Delivery of PV panels (16.5m artic)	70	70	70	70			280
Removal of plant and equipment (both 16.5m artic and 10m rigid)						45	45
Total	225	193	132	115	15	60	740
Table 4 Indianting Vahiala Dalinguia a dum			ation I		Tata	1	

Table 1 – Indicative Vehicle Deliveries during Construction Phase - Total

- 4.5.5 It is anticipated that the construction phase will generate approximately 740 deliveries to site, or 1,480 individual movements (in and out). The first month will see the highest deliveries to site at 225.
- 4.5.6 The trip generation set out above will be split between the two set down areas as shown in **Tables 2a and 2b**, below and overleaf.

Month						
1	2	3	4	5	6	Total
40	40	30	20	10	10	150
30	10					40
	10	5				15
		10	10			20
35	25					60
40	40	40	40			160
					30	30
145	125	85	70	10	40	475
	1 40 30 35 40 145	1     2       40     40       30     10       30     10       35     25       40     40       10     10       11     10       12     10       135     25       40     40       145     125	Mo           1         2         3           40         40         30           30         10         5           30         10         5           30         25         10           35         25         40           40         40         85	Nombolic         Month           1         2         3         4           40         40         30         20           30         10         5         1           10         5         10         10           35         25         1         4           40         40         40         40           11         125         85         70	Month         5           1         2         3         4         5           40         40         30         20         10           30         10         -         -         -           10         5         -         -         -           35         25         -         -         -           40         40         40         40         -           11         125         85         70         10	1         2         3         4         5         6           40         40         30         20         10         10           30         10         20         10         10         10           30         10         5         5         5           40         5         10         10         10           30         10         5         5         5           40         5         10         10         5           35         25         5         5         5           40         40         40         40         5         30           145         125         85         70         10         40

 Table 2a – Indicative Vehicle Deliveries
 Pancross/Oaklands



Construction Activity			Мо	nth			
(indicative delivery vehicle)	1	2	3	4	5	6	Total
Delivery of plant, equipment and materials (both 16.5m artic and 10m rigid)	20	20	10	10	5	5	70
Erection of security fencing and construction compound (10m rigid)	15						15
Cabling on site (16.5m artic)		3	2				5
Delivery of transformer & control equipment (10m rigid)			5	5			10
Delivery of frames & support posts (16.5m artic)	15	15					30
Delivery of PV panels (16.5m artic)	30	30	30	30			120
Removal of plant and equipment (both 16.5m artic and 10m rigid)						15	15
Total	80	68	47	45	5	20	265

Table 2b – Indicative Vehicle Deliveries– Redlands

- 4.5.7 Notwithstanding this, based on the proposed days of operation and the hours of work each day, a breakdown of expected HGV movements on a typical day is provided below. This has been based on the expected trip generation for Month 1, which is expected to be the period with the most intense period of deliveries.
- 4.5.8 Based on a 6-day working week during the construction phase (Monday-Saturday), there could be up to 25 working days per month. In order to consider each working day similarly, the calculations to follow consider a 9 hour working day (Monday to Friday 10 hours and Saturday 8 hours).
  - 225 deliveries, 450 two-way movements in month 1
  - 25 working days in a month (Monday-Saturday) = 18 two-way movements per day approximately
  - 9 hour day each working day = 1 movement every 60 minutes approximately.
- 4.5.9 Notwithstanding this, an appropriate highway safety signage strategy will be prepared as part of the detailed CTMS to be submitted at a later date, which will mitigate the risks associated with the HGV movements on the surrounding highway network.
- 4.5.10 Given that Month 1 is the most intense period for deliveries, it is expected that across the remaining 5 months the number of deliveries will be fewer.





- 4.5.11 In addition to the expected number of HGVs, there will be staff working on the site, who will most likely arrive before the operating hours of the site (before 08:00) and depart after the site closes each day (after 18:00). As set out previously, there is expected to be up 80 staff on site (~26 per plot) at the peak of construction. Staff will arrive and depart the DAs in transit vans with a 'crew cab' with an expected minimum capacity of 6 persons.
- 4.5.12 Given the above, there could be up to 14 vehicles arriving to the DAs in a morning and 14 vehicles departing the DAs in an evening. However, ~4 of these would access Redlands and ~10 would access Pancross/Oaklands. Parking areas are provided within the set down areas to accommodate these vehicles.
- 4.5.13 Therefore, it is estimated that in the hour preceding the opening of the site each day there would be approximately 14 transit vans arriving at the site. There would be corresponding departure trips in the hour following the closure of each DA each day. Given the highly trafficked nature of the A4226 and A48, the contribution to existing traffic flows from the proposal will be negligible.
- 4.5.14 It is recognised that the construction phase of the development will increase the total number of vehicles on the local highway network and in particular the number of HGVs. With this in mind, a detailed Highway Safety Signage Strategy will be provided as part of the detailed CTMS. This will include a Temporary Signage Strategy which will be implemented along the routes to the DAs, warning other road users, cyclists and pedestrians of the presence of construction vehicles. This will be agreed in consultation with the Local Planning and Highway Authority.

### 4.6 On Site Movements

4.6.1 Temporary access will be provided between Pancross and Oaklands.Implementation of the access will result in the temporary loss of a short section of hedgerow which will be reinstated on completion of the construction phase.



### 4.7 Proposed Mitigation Measures

- 4.7.1 The extent of proposed mitigation measures will be dependent on the appointed contractor for the construction of the facility. However, below are several broad measures that could be readily implemented:
  - The use of a banksman to help guide deliveries into sites;
  - Advisory temporary signage on the highway for works in the area;
  - Temporary signage along the proposed routes to ensure deliveries follow agreed routes;
  - Provide sufficient parking areas within the plots and adjacent to the temporary construction compound so there is no parking on the highway or potential blockage to access tracks;
  - Vehicles carrying loose material shall be sheeted;
  - The use of bowsers/sprays as necessary during dry conditions to prevent dust and the use of wheel cleaning facilities to prevent transfer on to the highway as required;
  - Secure the site to prevent unauthorised access;
  - Regularly monitor the condition of the highway for spoil transfer or damage and rectify as required;
  - Contact local residents prior to construction works commencing advising of anticipated duration and a contact number to advise of any issues/concerns; and
  - Turning engines off when not in use.
- 4.7.2 The entrances and exits from all sites will have the following measures in place in order to ensure the minimum possible impact on the surrounding highway network:
  - Hard standing entrances.
  - Wheel washing facilities
  - Brushes and water supply to clean vehicles before they enter the leave site and enter onto the highway.
  - Mud on road warning signs in case of an incident.



- Site Safety reminder signs on each exit to remind drivers clean their vehicles and ensure that mud is not deposited on the highway.
- Appoint a Local Sweeper Company that can attend site in sufficient time in order to deal with incidents.
- The site contractor identify a site operative that will take responsibility for mud on road issues that the public and the Authority can contact immediately if or when there are issues.
- The site contractor will clean all loose stones from the highway each time a vehicle exits
- 4.7.3 A package of minimum mitigation measures that shall be implemented across the development areas, shall be agreed as part of the final/detailed CTMS, which is to be agreed before the construction phase commences.
- 4.7.4 A full highway safety signage strategy will be agreed with the Local Authority and implemented by a competent and professional Traffic Management Company.
- 4.7.5 The detailed CTMS will include a communication plan, detailing how the applicant intends to consult, liaise and take on board the views and concerns of the affected Communities, Community Councils and Local Members.

### 4.8 Engagement with the Council

- 4.8.1 It is agreed that a series of meetings will be held between the developer, contractors, haulage contractors and the Council as Highway Authority to discuss progress and any issues which arise during the construction phase. We can confirm, that as a minimum, the following meetings will take place:
  - Initial introductory meeting approximately 2 weeks before work commences on site
  - Second meeting two weeks after works have commenced to discuss progress, concerns and any ongoing issues.



- Follow up meetings on the first of every month whilst works are ongoing on site.
- Final meeting within 2 weeks of the works being completed.

### 4.9 Haulage Contractor

- 4.9.1 At this point, a haulage contractor has yet to be appointed. Details of the appointed contractor will be provided in the detailed CTMS to be submitted at a later date. Notwithstanding this, the appointed haulage contractor will be made of the committed provisions as follows:
  - The developer must ensure that the Haulage Contractor provides clear and detailed instruction to each and every driver on the route that they are expected to take to reach their destination.
  - The developer must ensure the Haulage Company provides clear and detailed instruction to each and every driver not to follow Satellite Navigation devices onto backroads which do not form part of the pre agreed official transportation routes.
  - The developer must ensure that the Haulage Company provides clear and detailed instruction to each and every haulage driver to advise the developer if they cause damage to highway verges, ditches, signs or if they cause mud or debris to spill onto the highway. The developer must take immediate action to rectify any issues.
  - The developer must provide the name and contact details of an onsite operative that the Authority and / or the public can telephone whenever there is an incident involving the haulage contractor on the highway.

### 4.10 Highway Management and Private Boundary Plan

4.10.1 The detailed CTMS will include details of the areas of land managed by the Highway Authority and areas of land which fall within private ownership, including confirming the following:



- Details of how all roads will be kept mud free at all times, assurances on what methods they intend to employ to clean vehicles before they leave site and enter the highway.
- Details of how they intend to maintain the highway verges if they are damaged by site or delivery vehicles,
- Assurances that potholes will be filled and carry out temporary repairs to the carriageway as a result of their activities.
- Details of how boundary walls will not be damaged and if they are how they will be rebuilt.



## **5** Operational and Decommissioning Phases

### 5.1 Post-Construction

5.1.1 It is anticipated that on completion of the solar farm and ancillary infrastructure, all temporary works and construction compound will be removed off site. It is anticipated that this may take up to one month.

### 5.2 Operational Phase

- 5.2.1 Once operational, the solar farm and BESS will be unmanned and managed by remote access. Access for a low number of trips required for occasional maintenance and inspections will be typically made by light goods vehicles, e.g. vans or 4x4 vehicles but expected not to be larger than a 7.5t vehicle. It is expected that these visits to the sites for maintenance will be sporadic and will amount to no more than one every other day on average.
- 5.2.2 Once on site there will be sufficient space for manoeuvring to allow the visiting vehicle to leave the plot in a forward gear. This is a non-material increase in traffic and is not therefore considered to be an intensification of use of the local highway network.
- 5.2.3 There will be no public access into the site.
- 5.2.4 Permanent 4m wide internal access roads will be maintained throughout the life of the solar farm.

### 5.3 Decommissioning

- 5.3.1 After 40 years of operational life the solar farm will be decommissioned and returned to its former agricultural use. It is anticipated that a similar amount of time and type of vehicle will be required to decommission the facility as that to construct it. Furthermore, the level of vehicle movements to decommission the site will be similar to the number of deliveries to site for the construction phase.
- 5.3.2 Prior to the decommissioning phase a detailed assessment will be undertaken to confirm the most suitable routes for vehicles accessing the site.



## 6 Summary and Conclusions

- 6.1 Sirius Planning Ltd is seeking to construct and operate a solar farm across a total area of approximately 127 Ha on land to the south of the village of Bonvilston in the Vale of Glamorgan.
- 6.2 Deliveries will be made to the set down areas each individual of DA. Over the 6month construction phase it is estimated that 740 deliveries or 1480 vehicle movements will be made to the site. This figure does not include the vehicle movements associated with construction site staff.
- 6.3 Although the construction phase will be temporary, a package of measures will be put in place to ensure the safety of highway users and delivery vehicles. On the basis of the trip generation outlined above, when viewed against recorded vehicle flows on the A4226, and given the temporary nature of the construction works, it is expected that the construction of the proposed solar farm will have minimal impact on the local highway network and is therefore suitable.
- 6.4 After commissioning, the site will only be visited during routine maintenance checks as required on an ad hoc basis.



## APPENDIX A

Site Layout Plan Proposed set down and parking areas Site Access Details Plan









Oaklands Solar Farm and BESS South of Bonvilston, Vale of Glamorgan

APPENDIX B

Drawing 300372-003 Swept Path Analysis

