Proposed Solar Farm,
on land at Cwm Environmental
Waste Management Facility
Nantycaws
Carmarthenshire

Construction Traffic Management Plan

July 2024

Applicant:	**Cwm Environmental**
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CONTENTS

1 Introduction 4

2 site location & Existing Situation 6

3 Proposed Site Access Arrangements 7

4 Construction Traffic Generation 9

5 Traffic noise & environmental impact mitigation 15

6 Summary of Mitigation Measures 17

Figures

Figure 1.1 Site Location
Figure 2.1 Site Location and Extent
Figure 3.1 Site Compound – Indicative traffic movements
Figure 3.2 Construction Traffic Route

Appendices

Appendix A Proposed Site Layout

1 INTRODUCTION

1.1 Background

1.1.1 Asbri Transport Limited has been appointed by Cwm Environmental Ltd. to produce Construction Traffic Management Plan (CTMP) in support of an application for permission for the proposed development of 2.07 MW solar park on an area of land to the south of the A48 trunk road in Nantycaws, Carmarthenshire.

1.1.2 The site layout masterplan is shown in **Appendix A**.

1.1.3 This CTMP aims to ensure that the impacts of construction traffic movements associated with the development are managed in a manner that minimises negative impacts on local highway users, existing highway infrastructure and the wider environment.

1.1.4 The construction traffic will access the site directly from the A48 trunk road on the Strategic Road Network (SRN). It is recognised that the temporary construction phase of the development needs to be carefully managed.

1.1.5 The purpose of a CTMP is to identify suitable and safe routes that can accommodate the movements associated with construction material during the construction phase, and to establish measures to reduce any interruption and/or delay to existing vehicle traffic to ensure that the impacts of construction traffic in the vicinity of the site and on the surrounding highway network are kept to a minimum.

1.1.6 The primary considerations for the routing strategy are as follows:

- To use the shortest route from the access point of the site to the Strategic Road Network (SRN);
- As far as possible use 'A' roads as a first priority followed by 'B' roads, 'C' roads and then 'unclassified roads';
- To avoid settlements and sensitive receptors to minimise impact on villages and towns and sensitive road users.

1.1.7 The location of the proposed development site is shown in **Figure 1.1**.

Figure 1.1 Site Location

1.1.8 The site of the solar farm is currently capped landfill land, located immediately south of the Cwm Environmental waste management facility which is located to the south of the A48 trunk road approximately 6km east of Carmarthen

1.1.9 This appraisal considers the principal traffic impacts associated with the construction of the site, as follows:

- The existing highway network, including the existing access to the site from the A48 trunk road;
- The proposed access arrangements; and,
- The likely volume of construction traffic, including vehicle type, for the most intensive phase of the construction.

1.1.10 Traffic associated with the operation of solar parks is minimal with only the occasional maintenance vehicle requiring access. Therefore, the effect of the site on the highway network following commissioning is only briefly considered in this appraisal.

2 SITE LOCATION & EXISTING SITUATION

2.1 Introduction

2.1.1 As outlined in section 1 above, it is proposed to construct a 2.07MW solar farm on land to the south of the A48 trunk road in Nantycaws, Carmarthenshire. The extent of the proposed development site location is shown in **Figure 2.1**.

Figure 2.1 Site Location and Extent

2.1.2 The irregular parcel of land is within the site of the existing waste facility, on land formed from waste deposits.

2.1.3 Within the immediate vicinity of the proposed site, there are several unnamed single-track roads which provide access to several small settlements, fields and individual properties in this area of Carmarthenshire.

2.1.4 These minor roads connect the settlements of Llanddarog and Cwmisfael to the east connecting with the B4306 to the south which in turn connects to the A484 providing access to Carmarthen.

3 PROPOSED SITE ACCESS ARRANGEMENTS

3.1.1 The primary access into the site and to the construction compound will be via the A48 trunk road.

3.1.2 All construction vehicles at associated with the proposed solar farm will access the site via Cwm Environmental existing site access junction on the A48**.** The site is accessed via an all-movement priority junction with the A48 which allows traffic to ingress and egress the site from both carriageways of the A48, although signage is in place advising large vehicles to only turn left on exiting the site.

3.1.3 All construction materials will be offloaded and stored within the site compound and thereafter distributed to the relevant construction areas in smaller vehicles.

3.1.4 Construction vehicles will travel along temporary roads within the site. Temporary surface material will be applied to the road in the form of crushed gravel, below which subgrade should be free of depression and be at a grade to provide effective drainage. Any topsoil stripped from the site will be stored or spread on site with potential to be reused when reinstating the pre-construction state of the route.

3.1.5 As the construction of the temporary access roads will require the use of heavy machinery, it will take place during the normal working hours prescribed in this document.

3.1.6 Delivery vehicles, including 16.5m articulated vehicles, 10m rigid vehicles and a mobile crane will be able to enter and exit the compound area in a forward gear.

3.1.7 Once construction of the solar farm is complete, access to the site will be retained for maintenance purposes. However, as this will only require the use of light goods vehicles these will utilise the site access tracks, with the construction access removed.

3.2 Construction Traffic Route and Survey

3.2.1 Construction and delivery vehicles accessing the site will be required to follow a construction routeing strategy using the route identified in **Figure 3.2,** to minimise impacts on the surrounding highway network, specifically avoiding vehicles using less

suitable routes. The contractor will be notified of the agreed construction routeing strategy and all suppliers and sub-contractors will be expected to comply.

3.2.2 Construction vehicles will access the site from the M4 motorway (to the east) and will travel west along the A48 for approximately 16 km before turning left at the priority junction serving the waste facility.

3.2.3 The A48 is a designated trunk road that forms part of the Strategic Road Network (SRN) in Wales being for the most part wide single carriageways and suitable for large and heavy vehicles. The section between the end of the M4 and Carmarthen is dual-carriageway.

3.2.4 All suppliers and contractors will be formally advised as part of their contractual agreement / subcontract order, to approach the site from east via the A48. Analysis for a 16.5m articulated vehicle has been undertaken at the site access junction with the A48.

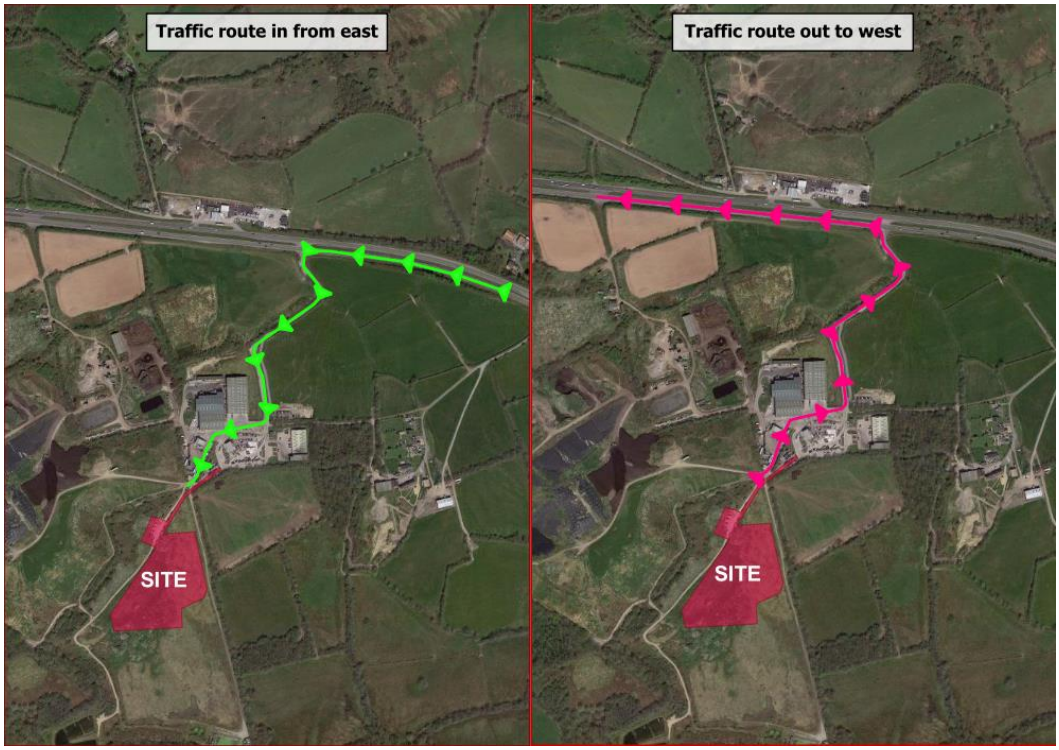

Figure 3.1 Construction Traffic Route

3.3 Keeping the Highway clean

Wheel-washing facilities and suitable drainage will be provided at the site. All dirty vehicles will be cleaned before being allowed to exit onto the public highway. All local roads including the immediate surrounding areas will be maintained in a clean and tidy condition using a road sweeper where required for the duration of the site works.

4 CONSTRUCTION TRAFFIC GENERATION

4.1 Introduction

4.1.1 This section of the report details the trips associated with staff and deliveries of components and construction materials. It considers the type and anticipated number of vehicles accessing the site, and any mitigation measures that may be required.

4.2 Construction Programme

4.2.1 The construction programme is anticipated to be conducted over a single phase of development over approximately 3-6, including site preparation, delivery of materials and construction of the panels themselves.

4.2.2 The delivery of materials will therefore likely be spread throughout these phases of construction dependent on both their availability, the availability of storage and the requirement for materials to support construction on site.

4.2.3 It is envisaged that larger vehicles delivering to the site will arrive and depart from the site at times when background movements are at their lowest to reduce the impact on the A48 trunk road,

4.3 Construction Traffic Hours

4.3.1 To minimise the disruption to general traffic movements along the surrounding road network during the AM and PM peak hours, restrictions on times and days when construction traffic vehicles can access the site are proposed.

4.3.2 Hours of construction will be from 0700 to 1800 Monday to Friday and between 0700 to 1700 on Saturdays. Deliveries would be scheduled to avoid the highway network peak hours between 0800 to 0900 in the morning and 1700 to 1800 in the afternoon.

4.3.3 Except in case of emergency, any work required to be undertaken outside of the core working hours (not including repairs or maintenance) will be agreed with the local highway authority prior to undertaking the works.

4.4 Staff Numbers

4.4.1 It is anticipated that there will be up to around 50 construction staff on site at any one time, with the exact number depending on each phase of construction. Access arrangements will look to be arranged for staff wherever possible however some staff will require equipment on site which will need to be available as and when required.

4.4.2 Once construction is complete and the site is operational, there will be no full-time staff employed at the facility. It is anticipated that between 10 to 20 visits will be made to site per year for maintenance purposes.

4.4.3 Staff trips will be made primarily by car or van. A temporary parking area will be provided for construction staff within the main site construction compound. No specific routeing will be imposed on staff travel to site unless driving a goods vehicle in which case the designated route must be followed. It is anticipated that staff will arrive at site during the morning peak period and depart in the evening peak period.

4.4.4 It is anticipated that construction operations will be undertaken between 0730 and 1800 Monday to Friday and 0730 to 1300 on Saturday, with the majority of staff entering and leaving the site before and after the peak traffic flow periods on the surrounding road network.

4.5 Construction Vehicles

4.5.1 The components required to construct solar parks are generally shipped from overseas. Solar panels, inverters, mounting systems and cabling are usually shipped in 40ft containers and delivered by 16.5m (44 tonnes) articulated vehicles.

4.5.2 The proposals require deliveries associated with the following:

- Installation of solar panels. These may be delivered by 10m rigid curtain sided vehicles or articulated service vehicle;
- Erection of the frames that support the arrays. These are usually shipped in 40ft containers and transferred to site by 16.5m (44 tonnes) articulated vehicles;
- Inverters, which will be transported to site by an articulated vehicle;

- In-field transformers/substations weigh about 4 tonnes and measure approximately 6m x 3m and will be transported to site by either a 10m rigid vehicle or articulated vehicle;

- A secure compound including porta cabins for office, site welfare and storage facilities will be delivered to site by articulated vehicles;

- Site set up and enabling works including general building materials and aggregates. These materials are likely to be sourced locally and will typically be delivered in 10 tonne lorry loads.

4.5.3 It is intended that all deliveries will be carried out by vehicles that fall within the current UK limits for weight (maximum 44 tonnes), height (maximum 10m for a rigid and 16.5 for an articulated vehicle) and width (maximum 2.55m excluding wing mirrors). No deliveries of abnormal loads are expected for the construction of the solar park.

4.5.4 Based on approximated values it is considered that the construction of the solar park could experience the vehicular movements as set out in Table 4.1. This forecast total of 110 two-way construction vehicle movements will be spread along the whole construction period with no more than a handful of vehicles expected on site during any given day.

4.5.5 Once the various equipment and materials have been delivered to the main site compound the majority of movements would be within the boundaries of the site.

Activity	Vehicle Type	Total No. of Deliveries	2 Way Movements	Daily 2 Way Movements*
Solar Farm Components	16.5m Articulated	20	40	1
Sub-Station		1	2	0
Contractors Compound		6	12	0
Access Tracks	10m Tipper Trucks	10	20	1
Inverters	10m Rigid	16	32	1
General	Front end JCB	2	4	0
Total		**55**	**110**	**3**

*Average daily movements assuming three-month construction period working Mon-Fri

Table 4.1 Estimated type and anticipated number of construction vehicles

4.6 Mitigation Measures

4.6.1 Construction and delivery vehicles accessing the site will be required to follow a construction routeing strategy using the routes identified above in section 3.5, in order to minimise impacts on the surrounding highway network. These routes will be agreed as part of a traffic management plan with the South Wales Trunk Road Agency. All suppliers and contractors will be notified of the agreed construction routeing strategy and expected to comply.

4.6.2 A Temporary Speed Limit will be put in place on the westbound side of the A48 for approximately 500m either side of the site access in order to improve safety while there are large vehicles turning into and out of the site.

4.6.3 A site delivery system will be in operation in order to control the time of arrival of deliveries. This can be utilised to focus deliveries during periods where the site is closed to the public (currently Tuesday).

4.6.4 No vehicle parking, loading or unloading will take place from the public highway and suitable wheel washing facilities will be installed, to ensure no mud or debris is deposited on the public highway during the construction period.

4.6.5 A construction signage strategy will be agreed with the local and strategic Highway Authority and implemented prior to construction on site. This signage strategy will be in place along the A48 to direct vehicles to the site and to provide other road users with advance warning of the location of the site access and the construction activity.

4.6.6 Access signage and signage along the route will be in accordance with Chapter 8 Traffic Signs Manual Part 2: Traffic safety measures and signs for road works and temporary situations.

4.7 Monitoring

4.7.1 The measures detailed within this report will be monitored by the contractor to ensure they are adhered to, with delivery routes and timings recorded, in order to ensure that access arrangements operate in a manageable way and any adverse impacts avoided.

4.8 Operation Post Construction

4.8.1 Following commissioning, minimal maintenance is expected in relation to the PV panels and other fixed elements of the site. Once operational there will be no staff based permanently on site. Visits for maintenance, cleaning and monitoring are likely to be infrequent, approximately 10 to 20 a year. These trips will typically be made by small vans or 4x4 vehicles. There will be sufficient space on site for these vehicles to enter, park and manoeuvre before exiting the site in forward gear.

4.8.2 Due to this very low number of vehicle movements, traffic associated with the ongoing operation of this site will have an indiscernible impact on the local highway network.

4.9 Access Control Measures

4.9.1 A site delivery system will be in operation, with time slots allocated to deliveries outside of the peak times of the local highway network. All vehicle arrivals and departures will be recorded by the contractor. The site management will ensure that delivery timescales are communicated to suppliers to ensure compliance.

4.9.2 No vehicle parking, loading or unloading will take place outside of the construction compound and suitable wheel washing facilities will be installed to ensure no mud or debris is deposited on the public highway during the construction period.

4.9.3 As set out within Health and Safety Executive (HSE) guidance, the Banksman directing vehicle movements (signallers) will be trained and authorised to do so. On the rare occasions when reversing is required and in addition to a competent Banksman directing vehicle movements consistent with HSE guidance, consideration will be given to:

- Aids for drivers - mirrors, CCTV cameras or reversing alarms that can help drivers see movement all-round the vehicle
- Lighting - so that drivers and pedestrians on shared routes can see each other easily. Lighting may be needed after sunset or in bad weather
- Clothing - pedestrians on site should wear high-visibility clothing

4.9.4 To avoid construction traffic congestion and nuisance to the surrounding area, all supplies and contractors will be made aware of the prescribed construction routes and time slot allocated within the booking system.

4.9.5 Access to the site will be appropriately signed to avoid congestion or queuing onto the highway. The site entrance will also be maintained and kept clean and clear.

4.10 Monitoring

The measures detailed within this report will be monitored by the contractor to ensure they are adhered to, with delivery routes and timings recorded, to ensure that access arrangements operate in a manageable way and that any adverse impacts are avoided.

4.11 Remediation and Clean-up

4.11.1 After construction activities on site have concluded, areas of work will be remediated, and no permanent structures will remain, and then returned to their pre-construction condition.

4.11.2 This will reference a condition survey which will be carried out of the unnamed approach road prior to commencement of construction.

4.11.3 Unused equipment, residual debris and materials will be disposed of off-site.

5 TRAFFIC NOISE & ENVIRONMENTAL IMPACT MITIGATION

5.1 Introduction

5.1.1 This section sets out specific measures to be adopted to mitigate construction impacts in pursuance of the Environmental Code of Construction Practice.

5.2 Construction Traffic Noise

5.2.1 The Environmental Protection Authority released the "Environmental Criteria for Road Traffic Noise" in May 1999. The policy sets out noise criteria applicable to different road classifications for the purpose of defining traffic noise impacts. The following will be applied during construction to minimise the traffic noise impacts:

- Apply and strictly adhere to low-speed limits within the site and within the vicinity of the site
- As far as possible, ensure all contractor vehicles are fitted with adequate noise control equipment in good working order
- Large vehicles will not arrive or leave the site at noise sensitive times
- Ensure no parking or queuing of construction traffic on surrounding roads.

5.3 Environmental Conditions

5.3.1 The potential exists for mud to be spread onto the surrounding highway network. As such, measures will be implemented to minimise this as far as possible. Measures will include (but are not limited to):

- Use of an approved mechanical water-assisted road sweeper to clean the site of any mud or debris deposited by site vehicles within the vicinity of the site. The road sweeper is to be available whenever needed and will be properly used and maintained
- The avoidance of dry sweeping large areas

- Provision of wheel washing on all site exits and lorry jet washing facilities (to include rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practical)

- Adequate sheeting of vehicles carrying waste materials

- A water bowser will be present on site to aid in dust control, should this be a likely issue - this may well depend on the time of year in which construction takes place

- Measures will be taken to ensure that mud and debris is not swept into gullies

5.3.2 Dust control will be best achieved at source, and if possible, activities will be carried out in a manner so as to preclude dust generation.

5.3.3 If dust is generated, steps will be taken to protect workers in the vicinity who shall, as a minimum, be issued with dust masks. Dust will, if possible, be contained in the location in which it is generated, and be controlled and managed therein.

6 SUMMARY OF MITIGATION MEASURES

6.1 Summary

6.1.1 Asbri Transport have been instructed by CWM environmental Ltd. to produce a Construction Traffic Management Plan for a proposed solar energy park land at Nantycaws.

6.2 Mitigation Measures

6.2.1 In order to minimise any transport impacts on the public highway due to construction and delivery vehicles, the following mitigation measures are proposed:

- Measures to reduce construction debris on the public highway including road-sweeping, and the installation of wheel washing facilities at the site access;
- Implementation of a construction routeing strategy to ensure all construction and delivery vehicles use the most appropriate route on the wider highway network;
- Introduction of a Temporary TRO to reduce the speeds on the westbound A48;
- A site delivery system will be in operation to control the timing of arrival of deliveries and departures; and
- Introduction of a temporary traffic management protocol with appropriate signage for the duration of the construction works.

6.3 Conclusions

6.3.1 Based on this review of the proposed access to the site, it is considered that construction vehicles can be accommodated without undue adverse impact on the public highway.

Appendix A

HEALTH AND SAFETY INFORMATION

ALL WORKS SHALL BE CARRIED OUT BY COMPETENT PEOPLE.
IN ADDITION TO THE HAZARDS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING. THE DESIGNERS HAVE REVIEWED THE H&S RISKS AND DEVELOPED A DESIGNERS RISK ASSESSMENT.
THE CONTRACTOR SHALL REFER TO THE CONSTRUCTION PHASE PLAN AND ADOPT THE H&S AND DESIGNERS RISK ASSESSMENT FINDINGS IN THE DEVELOPMENT OF THEIR RAMS, BEFORE UNDERTAKING ANY WORKS.
PLEASE ALSO NOTE THE FOLLOWING :-

DIFFICULT TO MANAGE

THESE MAY BE COMMON RISKS BUT BE IN AWKWARD LOCATIONS, EG. SCAFFOLDING, DELIVERIES, PROXIMITY OF GAS MAINS OR POWER LINES, WORKING IN CLOSE PROXIMITY TO THE PUBLIC ETC.

UNUSUAL

THESE MAY BE COMMON RISKS OCCURRING IN UNUSUAL CIRCUMSTANCES. THEY MIGHT ALSO BE UNUSUAL BECAUSE OF THE NATURE OF THE CONSTRUCTION METHOD OR SITE CONDITIONS, EG. UNSTABLE OR CONTAMINATED GROUND, ASBESTOS, LEAD PAINT, SILICA DUST ETC

NOT LIKELY TO BE OBVIOUS TO A CONTRACTOR OR DESIGNER .

THE CONTRACTOR, AT THE PRICING STAGE, AS WELL AS DURING THE DESIGN CYCLE MAY NOT BE AWARE OF SOME OF THE LESS OBVIOUS RISKS EG. STRUCTURAL ISSUES ASSOCIATED WITH WORKING AROUND EXISTING FOUNDATIONS, FRAGILE ROOFS OR FRAGILE SURFACES ETC.

OPERATIONAL ACCESS - HORIZONTAL, VERTICAL, PEDESTRIAN, VEHICLE / PLANT

ARE THERE SIGNIFICANT ISSUES REGARDING ACCESS ? IF YES OUTLINE BELOW OR REFER TO APPROPRIATE DOCUMENT ETC.

OPERATIONAL HANDLING / LIFTING STRATEGY

HAVE YOU IN SO FAR AS REASONABLY PRACTICABLE REDUCED MANUAL LIFTING? IDENTIFY ANY ITEMS THAT MAY REQUIRE EXCESSIVE LIFTING ARRANGEMENTS TO BE PUT IN PLACE AS WELL AS IDENTIFY ANY UNUSUAL RISKS ASSOCIATED WITH HANDLING AND LIFTING.

HEALTH AND SAFETY FILE INCLUSIONS

IDENTIFY ANY HAZARDS / SIGNIFICANT RISKS ASSOCIATED WITH MAINTENANCE OR REMOVAL / DEMOLITION OF THE CONTENTS OF THIS DRAWING AT A LATER DATE.

KEY:

- PV PANEL TABLE
- SITE ACCESS TRACK
- SITE COMPOUND
- RED LINE BOUNDARY
- LV/HV SUBSTATION
- HV PRIVATE WIRE

ISSUED FOR INFORMATION

REV	DATE	DESCRIPTION	DRN	CHK	APP	CAD QA
P1	25.07.24	ISSUED FOR INFORMATION (PLANNING)	MAI	JG	BP	

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Project: NANT Y CAWS HWRC SOLAR
Title: SOLAR GROUND MOUNT GENERAL ARRANGEMENT

DATE	25.07.2024	SCALE	N.T.S	SHEET	A1
INFORMATION		Status: S2		Stage: 2	
Drg-No: 20335-VE-SW-XX-DR-Y-5001				Rev: P1	