# Appendix 7 Construction Traffic Management Plan

**Howpark Solar Farm**

**Eurowind Energy Limited**

SLR Project No.: 428.V64539.00001

# Construction Traffic Management Plan (CTMP)

## Howpark Solar Farm

## Eurowind Energy Limited

Prepared by:

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# Basis of Report

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# Executive Summary

SLR Consulting Limited has been appointed by Eurowind Energy Limited to provide transportation consultancy services in support of a planning application for the construction of a solar photovoltaic (PV) generating station, including ancillary infrastructure at land approximately 2.3km north east of Grantshouse and the A1 in the Scottish Borders.

The report has been structured in such a way that incorporates an assessment of the proposed development into the form of a Construction Traffic Management Plan (CTMP).

The study area for assessment includes the section of the A1 between the A1/ A6112 Junction and the A1/ B6438 Junction south east of the Site. Only seven personal injury accidents were recorded within this area for the five-year period spanning 2017 – 2021 including six slight injury accidents and only one serious injury accident; no fatalities were recorded.

Overall, it is considered from the highway safety review, and due to the temporary nature of the construction of the proposed development, that the highway network within the study area does not exhibit any observable defects which may be exacerbated by the proposed development.

Baseline traffic flow data have been obtained for the surrounding transport network to assess traffic impacts which may arise from the proposed development. The traffic to be generated by the construction phase has been predicted and it has been confirmed that the increase to the base flows on the A1 would be minimal. Strategies to manage and control all traffic activity associated with the construction phase of the development have been outlined. Measures to mitigate the transport impacts of the proposed development and minimise interaction between members of the public and Site traffic have also been outlined.

It is concluded that the proposed development construction traffic, which would be temporary and short term in nature, would lead to an insignificant increase in traffic levels and as such would have no adverse impact on the operation or safety of the surrounding highway network.

# Table of Contents

## Tables in Text



## Figures in Text



## Appendices

# Acronyms and Abbreviations

| | |
|---|---|
| AADF | Annual Average Daily Flow |
| CTMP | Construction Traffic Management Plan |
| DfT | Department for Transport |
| HGV | Heavy Goods Vehicle |
| MW | Mega-watts |
| PIA/PIC | Personal Injury Accident/Collision |
| PV Cells | Photovoltaic Cells |
| SBC | Scottish Borders Council |

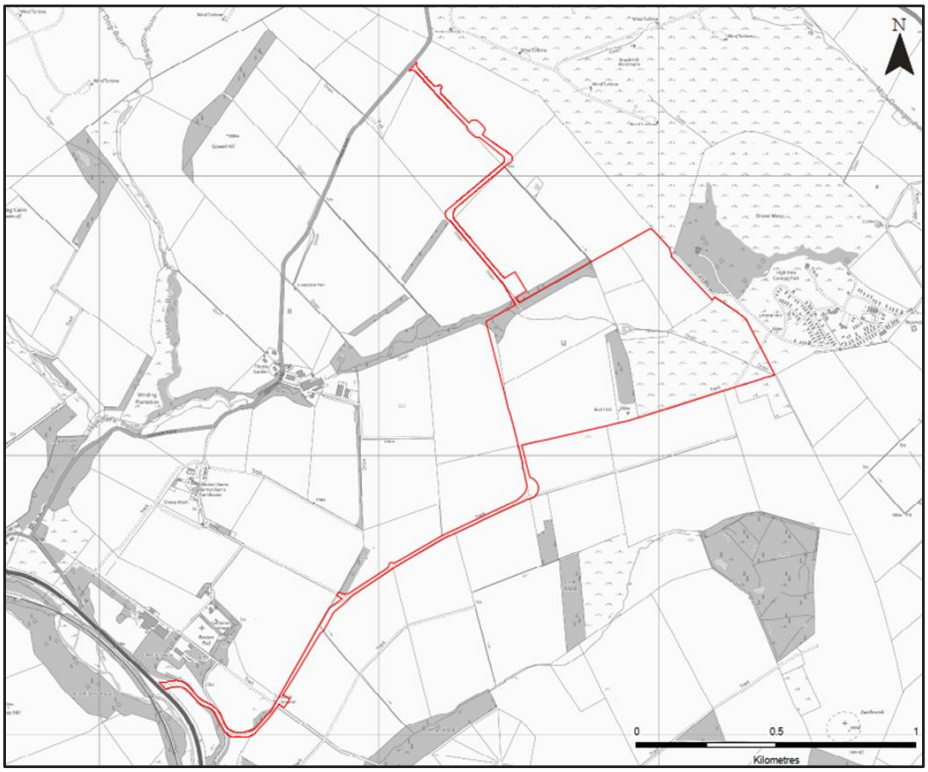


# 1.0 Introduction

SLR Consulting Ltd (SLR) have been instructed to prepare a Construction Traffic Management Plan (CTMP) to support the planning application for the construction of a solar photovoltaic (PV) generating station on land approximately 2.3km north east of Grantshouse and the A1 in the Scottish Borders.

The Site is located on the northeastern fringes of the Scottish Borders Council area, south of the North Sea coast between Eyemouth and Edinburgh, to the south east of the Howpark Wind Farm, as shown on **Figure 1-1**.

**Figure 1-1: Site Location Plan**




## 1.1 Proposed Development

The proposed development Site, hereafter referred to as the 'Site', is situated south east of Howpark Wind Farm.

The proposal is to maximise the existing grid connection for the wind farm by utilising the spare capacity available on the network and connecting the proposed solar array into the existing substation; the development will have an installed capacity of up to 15MW of electricity (Direct Current [DC]). The solar PV development and the operational wind farm would together comprise a hybrid energy park.

The proposed development would also utilise existing and constructed wind farm access tracks, therefore, requiring only minimal new infrastructure and groundworks internally within the Site.

## 1.2 Purpose and Scope

This CTMP report evaluates the potential impacts of the additional traffic generated for the construction of the proposed development by including a Transport Assessment element. It has also been structured to provide a description of the existing conditions including road safety, access arrangements and traffic flow, which form the baseline for the assessment of possible impacts. The assessment also takes into consideration the temporary nature of the construction works to be carried out and the expected minimal construction and operational trips.

This report outlines adequate and commensurate mitigation measures where transport-related impacts resulting from the proposed development are expected, in line with the mitigations measures expected to be included within a CTMP.

This report hereafter contains the following sections:

- **Section 2.0 Baseline Conditions** – the baseline scenario is set out to include a description of the local highway network and a road safety review of the recent Personal Injury Collision (PIC) data. Base traffic flows have been set out for an average weekday and peak hours identified;
- **Section 3.0 Proposed Development** - the development proposals have been described here and the proposed level of Site generated traffic are forecast and the predicted distributions are set out;
- **Section 4.0 Consideration of Impacts** – A review of the possible implications for safety and capacity that the proposed development may have on the receiving environment.
- **Section 5.0 Construction Traffic Management** – the measures and protocols to be implemented on Site for managing the construction-related activities and potential traffic impacts have been described here; and
- **Section 6.0 Complaints and Inquiries Procedure** – the procedure for monitoring the Site traffic and handling complaints and inquiries from the general public with respect to the proposed development are outlined here.
- **Section 7.0 Conclusions** – A summary of assessments and discussions is presented.

# 2.0 Baseline Conditions

A description of the existing local highway network, existing traffic demand and traffic flow pattern has been provided based on available data in order to identify any safety risks or defects in design or existing highway conditions.

## 2.1 Local Highway Network

The Site is located 1.6km south of the A1107 and approximately 2km north of the A1 on moderately high ground, with Howpark Road less than 1km to the west of the Site. Two access options are considered for the Site, with one located to the south west of the Site and the other located to the north west through the Howpark Wind Farm.

The southwestern access will provide access via a short section of minor road which winds north and east towards the Site from the A1. The minor road joins the A1 via a simple priority junction.

The alternative access will provide access to the Site from Howpark Road through the existing wind farm tracks. Howpark Road serves as a north-south link road between the A1 and the A1107. Howpark Road extends southbound to connect to the A1 via two separate priority junctions with the A1 at Grantshouse. To the north Howpark Road connects with the A1107 at a simple priority junction.

### 2.1.1 A1107

The A1107 is a two-lane single carriageway road which extends between the A1 connecting Burnmouth to Cockburnspath via the towns of Eyemouth, Coldingham, Old Cambus and Pease Bay.

At the eastern end the A1107 joins the A1 to the south of Eyemouth via a priority junction. The junction features a slip road from the A1 and a splitter island equipped with reflective bollards.

The majority of the A1107 from the junction with the A1 is subject to the national speed limit (60mph) except where it runs through urban areas such as Coldingham where the speed limit reduces to 30mph.

At the western end the A1107 joins the A1 with a dual carriageway T-junction, with a right turn lane for traffic entering the A1107 from the south and a slip road for vehicles leaving the A1 from the north. Vehicles travelling from the A1107 onto the northbound A1 are required to cross the southbound carriageway and wait to join the north bound lane.

### 2.1.2 Howpark Road

Howpark Road is a rural minor road of single width forming a link between the A1 and A1107, and providing access to Howpark Farm and the Howpark Wind Farm. The road spans about 4.4km from its junction with A1107 to connect with A1 in the south. Close to the two priority junctions with the A1 there are a number of residential properties.

The width along the majority of Howpark Road is narrow with three passing places observed along the route. In addition, the verges appear to be sparse which would further serve to limit the effective width of the road.

### 2.1.3 A1

The A1 trunk road is the strategic route which links Edinburgh to Berwick Upon Tweed. In the vicinity of the site the A1 extends both north west towards Cockburnspath and south east towards Burnmouth. Close to the minor access road which leads into the south east of the Site, the A1 is a single carriageway. Approximately 4km to the north west the dual carriageway section begins; further south east on the approach to Houndwood, the A1 emerges into the dual carriageway section of road then returning to a single carriageway approximately 1.6km from the A1/ B6438 staggered crossroad.

The East Coast railway line runs close to the A1 in the vicinity of the site access junction.

## 2.2 Base Traffic Flows

Data from Department of Transport (DfT)[1] website have been used for this assessment, taken from Count Point number 708 on the A1. The most recent data on the website is the 2021 estimated traffic flows. The most recent traffic count record is in 2018. Due to the effects of the Covid-19 pandemic and a subsisting change in working arrangements, the traffic flow record for 2021 is 16% lower than that of the actual traffic count recorded for 2018; as such use of the 2018 data is considered suitable for the assessment in this report.

**Table 2-1: A1 Annual Average Daily Flow (AADF)**

| All Vehicles | HGVs | % HGVs |
|---|---|---|
| 9,751 | 1,760 | 18% |

**Table 2-1** shows that for the section of the A1 close to Grantshouse west of the junction with the A6221, the proportion of HGVs recorded was 18% of the AADF. This would suggest that the A1 supports a high number of HGVs as a proportion of the AADF, which is to be expected for a trunk road.

The DfT website also provides AADF data at two locations on the A1107, with count point number 80376 located to the west of the junction with Howpark Road and count point number 92128 located to the east of the junction. The data from count point 92128 includes data from a manual count in 2021 while the latest manual count data at the other location was from 2012. As such, the 2021 data have been used.

**Table 2-2 A1107 Annual Average Daily Flow (AADF)**

| All Vehicles | HGVs | % HGVs |
|---|---|---|
| 836 | 14 | 2% |

It can be seen that the traffic flows on the A1107 are much lower than those on the A1 and that the road also accommodates a smaller proportion of HGVs, with less than 2% recorded. It is not anticipated that construction traffic will travel on the A1107.

## 2.3 Existing Road Safety

Accident data review was carried out for the transport network around the Site based on Personal Injury Collisions (PIC) data obtained from Transport Scotland for a period of five (5) years from 2016 to 2021. This was undertaken to gain insight into any existing highway safety concerns or defects in the highway which may be exacerbated by the proposed development. It should be noted that the review does not constitute an audit of the existing road safety.

The PIA data received are attached in **Appendix A**. The study area has been identified as the sections of roads and junctions:

- A1 Road East of the A1/minor road Site access junction

  A1 Road West of the A1/minor road Site access junction
- Howpark Road

For clarification, those accidents recorded which result in slight injury indicate that the victim was likely to suffer from slight shock with occurrences of whiplash, sprains, bruises and minor lacerations from the accident, whereas a serious accident accounts for fractures/breakages, severe lacerations,

[1]https://roadtraffic.dft.gov.uk/#6/55.254/-6.053/basemap-regions-countpoints

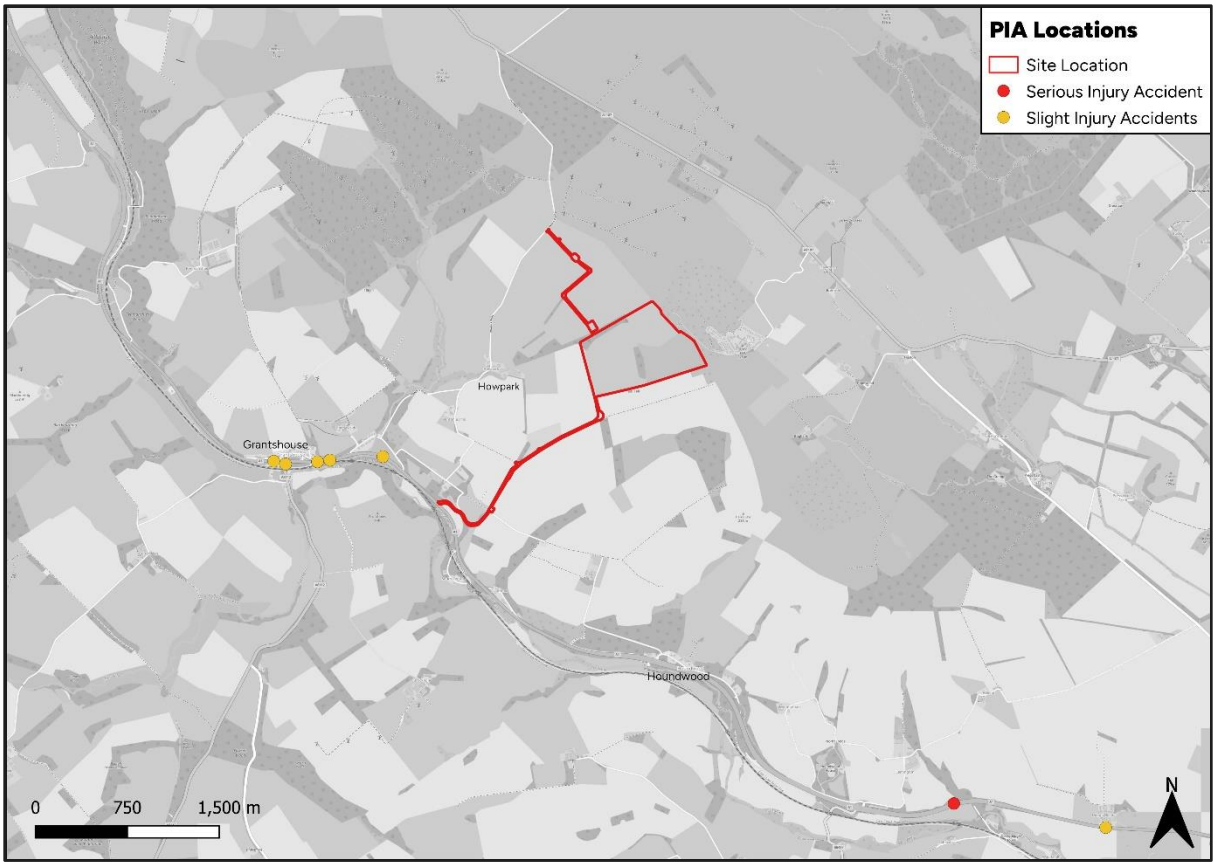
concussion, paralysis or hospital admittance. A fatal accident means there was a resultant death from the injuries sustained.

A total of seven injury accidents were reported for the period reviewed including six slight injury accidents and one classified as "serious" as shown in **Table 2-3** and on **Figure 2-1**.

**Table 2-3: Summary of Collisions Along the A1 Between Grantshouse and Reston**

| Location | | Collision Date | Collision Severity | Number of Vehicles | Number of Casualties |
|---|---|---|---|---|---|
| East | North | | | | |
| 381755 | 665557 | 05/02/2017 | Slight | 1 | 1 |
| 380976 | 665494 | 30/08/2017 | Slight | 2 | 1 |
| 387660 | 662516 | 07/09/2017 | Slight | 3 | 1 |
| 386335 | 662684 | 29/05/2018 | Serious | 1 | 1 |
| 380883 | 665522 | 25/04/2019 | Slight | 1 | 1 |
| 381232 | 665512 | 04/07/2021 | Slight | 3 | 1 |
| 381321 | 665521 | 19/08/2021 | Slight | 2 | 1 |
| **Total** | | | **7** | **13** | **7** |

**Figure 2-1: Personal Injury Accident Locations Within the Study Area**




As evident from **Table 2-3** most of the collisions recorded (86%) were of a slight severity; three of the accidents involved a single vehicle, one accident involved two vehicles and two accidents involved three vehicles. **Figure 2-1** confirms that there have been a group of accidents recorded close to the staggered junction of the A6112 and the crescent at Grantshouse.

No collisions were recorded close to the junction of the A1 with minor road forming the southwestern access of the Site. The closest incident to this Site access junction was recorded at a location more than 600 meters away. No incidents were recorded along Howpark Road.

### 2.3.1 Accident Review Summary

The accident data review identified a total of seven PIAs within the past five years. While this report is not an attempt at a road safety audit, the recorded incidents do not appear to be attributed to any obvious defects in road layout, design or infrastructure.

Six out of all seven injury accidents recorded were of a slight severity with the other incident resulting in a serious injury. In all, there were no collisions observed in the direct vicinity of the Site access nor the access road junction and no obvious collision patterns within the study area which would suggest a road safety concern.

## 2.4 Traffic Flow Data Collection

Traffic data featuring standard vehicle classification has been obtained from Transport Scotland for the section of the A1 between Grantshouse and Reston for the period 24th September 2018 - 30th September 2018, providing data for a neutral month. This data was obtained from the same DfT counter with summarised AADF traffic data available on the DfT website and represents the most recent actual traffic count data available for this section of the A1. The traffic count data is presented in **Appendix B**. The counter is located close to Grantshouse west from the Site access junction. The details of the counter are as follows:

Site Name: 101250

Site ID: 000000101250

Grid: 380649665541

### 2.4.1 Traffic Profile and Peak Times

The data obtained represents typical weekday traffic flow conditions on the local network during a normal period of the year with no holidays. The data shows hourly directional flows for the average weekday, for all vehicles (**Figure 2-2**) and for HGVs (**Figure 2-3**).

**Figure 2-2: Average Weekday Traffic Flows (All Vehicles) – A1**

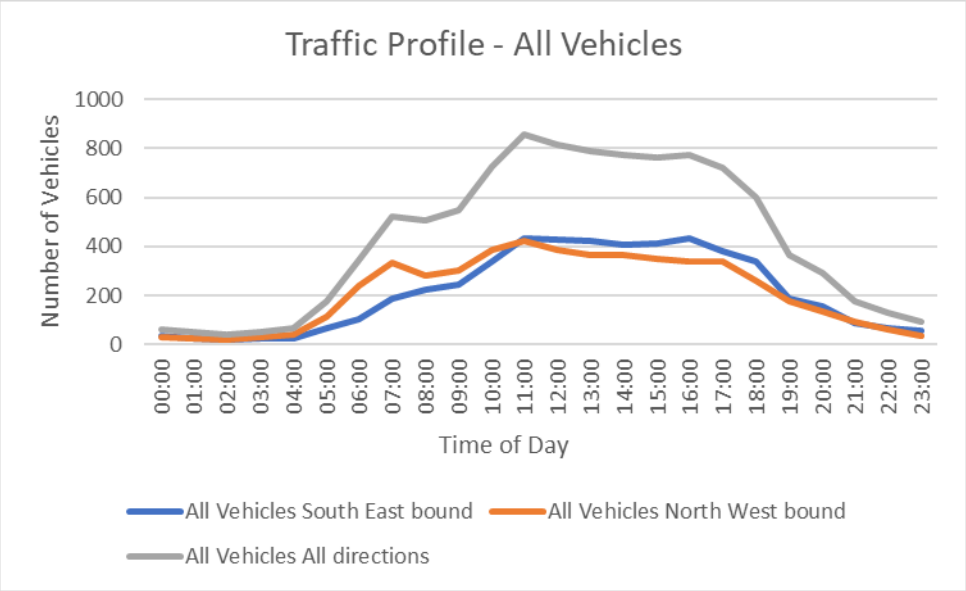
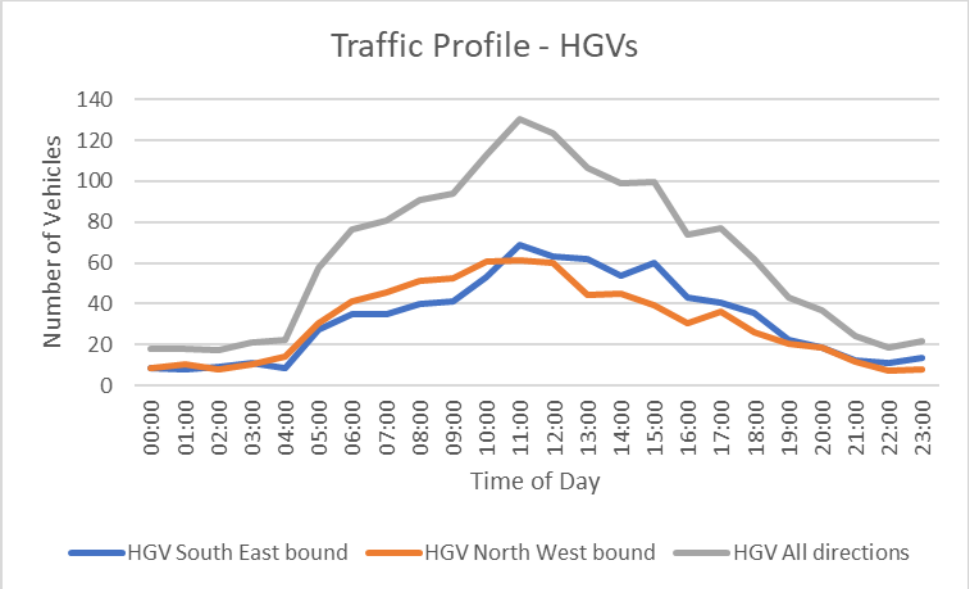


**Figure 2-3: Average Weekday Flows (HGVs) – A1**




As evident from **Figure 2-2** and **Figure 2-3**, traffic levels along the section of the A1 close to the Site access junction peak between the hours of 11:00 and 12:00 hours during the average day (Monday to Sunday) for all vehicles. A similar traffic flow trend was observed for HGVs with an AM peak occurring one hour before noon and the PM peak following immediately after noon between 12:00 to 13:00.

From **Table 2-4**, it can be confirmed that traffic flows appear to be more dominant in the north west bound direction during the AM period and in the south east bound direction during the PM period. **Table 2-4** also shows that 2,225 vehicles were observed in the north west bound stream in the AM period and 3,380 vehicles in the south east bound stream for the PM period comprising of 394 and 437 HGVs respectively for both traffic streams. This trend implies that there may be commuter flows along the A1, with vehicles travelling towards Edinburgh in the morning and returning in the afternoon.

**Table 2-4: Weekly Traffic Flow Pattern for the A1 Road**

| | All Vehicles | | HGV | |
|---|---|---|---|---|
| **Direction** | **AM (00:00 – 11:00)** | **PM (12:00 – 23:00)** | **AM (00:00 – 11:00)** | **PM (12:00 – 23:00)** |
| **South East bound** | 1,726 | 3,380 | 346 | 437 |
| **North West bound** | 2,225 | 2,913 | 394 | 348 |

Traffic flow in the north west bound direction towards Cockburnspath during the AM period is significantly higher by 29% for all vehicles and 14% for HGVs. For the PM period, traffic flow in the south east bound direction towards Reston is higher by 16% for all vehicles and 26% for HGVs as shown in **Table 2-4.**

**Table 2-5** shows the total vehicular flow for all directions during a typical weekday and the percentage HGV composition of the total traffic through this section of the A1.

**Table 2-5: Total Weekday Traffic Flows for the A1 Road**

| Direction | All Vehicles | HGVs | % HGVs |
|---|---|---|---|
| **South East bound** | 5,105 | 783 | 15% |
| **North West bound** | 5,138 | 741 | 14% |
| **Two-Way Directions** | 10,243 | 1,524 | 15% |

The number of vehicles travelling south east bound during an average day totals 5,105 including 783 HGVs (15% of directional traffic flow), whereas the number of vehicles travelling north west bound during an average weekday totals 5,138 vehicles including 741 HGVs (14% of directional traffic flow). Total two-way vehicular flows within an average weekday totals 10,243 vehicles. A review of other counters along A1 shows similar HGV traffic flow volumes consistent with our data.

### 2.4.2 12-Hour Flows

The traffic count data has been used to identify the 12-hour (07:00 – 19:00) two-way traffic flows for an average weekday. **Table 2-6** summarises the recorded flow for all vehicles and for HGVs.

**Table 2-6: 12-Hour Two-Way Traffic Flows (07:00-19:00) – A1 Road**

| All Vehicles | HGVs | % HGVs |
|---|---|---|
| 8,750 | 1,193 | 14% |

**Table 2-6** shows that over a 12-hour average weekday there are 8,750 vehicles travelling in both directions on the A1 Road, with 14% of these being HGVs.

# 3.0 Proposed Development

The proposed development lies in proximity to Howpark Wind Farm and would share the grid connection, forming a hybrid energy park. The proposed development would also utilise existing and constructed wind farm access tracks therefore requiring only minimal new infrastructure and groundworks.

Construction of the proposed development is straightforward as all of the solar array components arrive ready for installation. The only construction works required on Site include:

- Fencing;
- Ground re-profiling works where necessary;
- Improvement of the field entrances;
- Access tracks;
- hardstanding for transformers;
- Pile driven supports for solar array; and
- Trenching for underground cabling.

The existing wind farm substation building will be utilised for the proposed development.

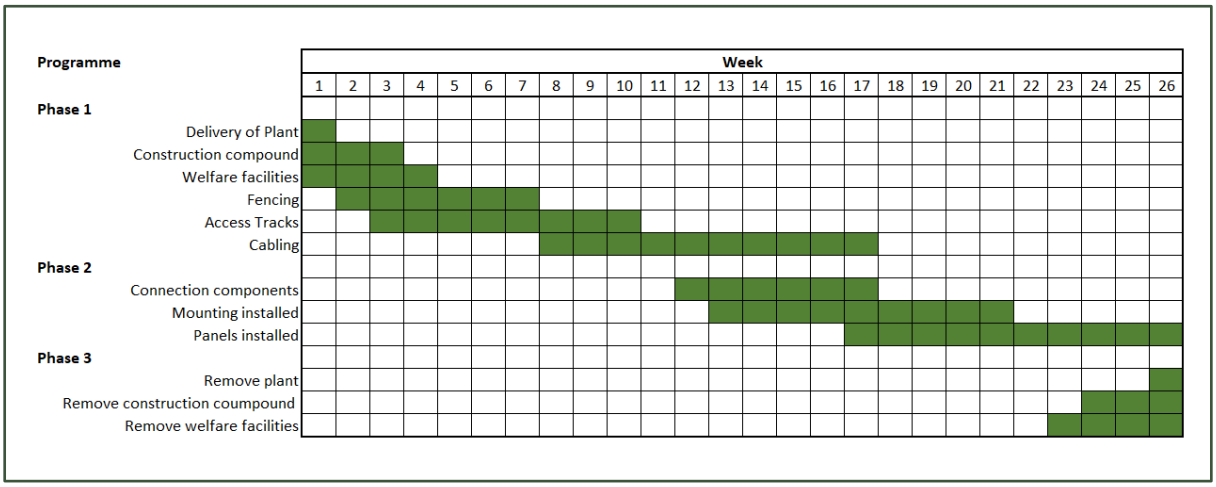
The construction/installation of the proposed development is anticipated to take up to 26 weeks. The access track, plinths, and electrical infrastructure containers would be constructed initially, including the installation of the underground cabling. The various infrastructure and grid connection components will then be delivered for installation and connection once the Site has been fully prepared. Concurrently the component parts of the solar arrays would be delivered and erected.

A temporary construction compound would be located in the same location used for the construction compound for the wind farm for the duration of the construction period. This would include an area for portacabins to be used for Site offices and storage of materials and small components, vehicle parking, and welfare facilities. A designated set-down area, waiting area and turning circle will also be provided for vehicles and plant entering and exiting the Site.

## 3.1 Construction Programme

It is anticipated that the proposed development would be constructed over a period of approximately 26 weeks. An indicative construction programme is provided in **Table 3-1**. The construction of the internal access tracks would be completed within the first four weeks of the construction period.

**Table 3-1: Indicative Construction Programme**



## 3.2 Hours of Working

The construction working hours for the proposed development would be 07:00 to 19:00 Monday to Saturdays. There would be no construction activities undertaken on Sundays or bank holidays. It should be noted that out of necessity some activity may need to occur outside the specified hours stated, although they would not be undertaken without prior approval from The Scottish Borders Council.

## 3.3 Construction Access

As shown in **Figure 1-1** access to the proposed development would be gained from either the southwestern access point along the A1 or the northwestern access from Howpark Road utilising existing tracks for both options.

Regarding the southwestern access, the minor road forms a simple priority junction (**Image 1**) with the A1, which extends to the existing access track. This access track would be utilised by construction traffic which would be routed from the A1 through the priority junction to the Site.

**Image 1: View of Southwestern Access Junction with A1.**

The northwestern access from Howpark Road (**Image 2**) would extend from existing tracks which serve the Howpark Wind Farm which is located on the eastern side of Howpark Road. This access would potentially be utilised for traffic routed from Howpark Road via Grantshouse.

New tracks to be provided around the perimeter of the Site would be unpaved and constructed of a graded local stone with a typical running width of 4m (4.5m laying width, wider on bends and at junctions to accommodate increased running widths).

**Image 2: View of Northwestern Access Junction with Howpark Road**

## 3.4 Construction Movements

The estimated traffic to be generated by the proposed development would include construction deliveries and commuting trips by Site personnel. The construction-related HGV trips would be spread over the period defined in the construction programme. The maximum level of two-way trip generation would likely occur in the first few weeks with the delivery of the welfare facilities and plant, with the final few weeks of the construction programme accommodating the deliveries of the solar PV components including the PV cells, racking system, ancillary equipment deliveries and other elements scheduled for the construction phase.

### 3.4.1 Light Vehicle Trips

Light vehicles are those which consist of smaller vehicles such as cars and vans, which would typically be associated with the workforce.

The number of people employed during the construction period would vary depending on the stage of construction and the activities ongoing on Site. It is anticipated that the maximum workforce requirement during the busiest periods would be 40 construction staff on the Site at any one time. It is expected most of them will be transported to site using a staff bus or via car share arrangements. Consequently, light vehicle trip generation would be a maximum of 25 trips per day (50 two-way movements per day) during the most active stage of construction. This is based on the conservative assumption that 50% of construction staff would car-share or use staff buses, with the remaining 50% travelling as single occupancy car journeys.

### 3.4.2 HGV Trip Distribution

All construction vehicles would access the Site via the access road having travelled from the junction with the A1. It is anticipated that all HGVs and deliveries will travel to the Site via the A1, with only a small percentage of light vehicles travelling via the A6112.

Light vehicle trip generation would see a maximum of 50 two-way trips each day during the worst-case months. All construction vehicles will utilise the proposed routes for accessing and egressing from the Site area.

The specific transport activity generated by the construction of the proposed development is not known at this stage however experience with other solar sites has allowed predictions to be made. The types and volumes of materials required on Site have been estimated and applied to a general programme, with the types and numbers of vehicles used to transport materials, plant and equipment also determined. A description of the different elements is set out below:

- **Solar arrays** – the solar PV panels would be mounted on metal frames, set into the ground by direct piling or screw piling; there are expected to be approximately 25,500 panels required on Site. The panels would be delivered in loads of 780 (30 per pallet and 26 pallets per HGV). This would result in 33 loads. It is assumed that the mounts would be delivered in approximately half the number of loads than required for the PV panels, with 17 loads for the PV frames. As such, there are predicted to be 50 HGV trips for the solar array.

- **Transformers/Inverters** – PV panels generate direct current (DC) electricity which require converting to a usable alternating current (AC) for distribution; the inverters undertake this conversion, with a transformer to increase the AC current. The inverters will be housed in small boxes attached to row ends of the solar array while transformers will be housed in small shipping container-like buildings and there are expected to be three trips in total. The transformers are expected to be delivered separately due to the weight.

- **Aggregate** – aggregate material will be required for the internal Site tracks. With less than 500m of track, an assumed depth of 0.5m, a width of 4.5m and a material density of 2 tonnes per cubic metre there will be a total of 2,000 tonnes of aggregate required on Site. At 16t per HGV load, this will generate 125 trips.

- **Additional** – the welfare facilities and offices will be housed in four portacabins, each to be delivered separately. These will be located within the compound area and with a temporary staff car parking area also provided. There will be 3,000m of fence line around the Site and it is assumed that 30m of fence would be delivered per load. The cabling is expected to be delivered in a similar number of loads to the array frames, with a total of 12 HGV trips.

**Table 3-2** provides a summary of the key deliveries to Site and the predicted number of trips for each.

**Table 3-2 Summary of Construction Generated HGVs**

| Delivery Type | HGV Trips |
|---|---|
| Solar array | 50 |
| Inverters/transformers | 9 |
| Aggregate | 125 |
| Portacabins | 4 |
| Fencing | 100 |
| Cabling | 12 |
| **Total** | **294** |

The information from **Table 3-2** has been applied to the 26-week construction programme, with additional deliveries included for plant and for the construction compound for both construction Site set up and Site clearance. **Table 3-3** presents the weekly, daily and hourly trip numbers for the construction period.

**Table 3-3 Vehicle (HGV) Trip Generation with Construction Programme**

| Programme | Week | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| **Phase 1** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Delivery of plant | 3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Construction compound | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| Welfare facilities | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | | | | | |
| Fencing | | 17 | 17 | 17 | 17 | 17 | 17 | | | | | | | | | | | | | | | | | | | |
| Access tracks | | | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | | | | | | | | | | | | | | | | |
| Cabling | | | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | |
| **Phase 2** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Connection components | | | | | | | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | |
| Mounting installed | | | | | | | | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | |
| Panels Installed | | | | | | | | | | | | | | | | | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| **Phase 3** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Remove plant | | | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| Remove construction compound | | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1 |
| Remove welfare facilities | | | | | | | | | | | | | | | | | | | | | | | 1 | 1 | 1 | 1 |
| Weekly trips | 5 | 19 | 34 | 33 | 32 | 32 | 32 | 17 | 17 | 17 | 1 | 2 | 3 | 3 | 3 | 3 | 8 | 6 | 6 | 6 | 6 | 5 | 6 | 7 | 7 | 10 |
| Daily trips | 1 | 3 | 6 | 6 | 5 | 5 | 5 | 3 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| Hourly trips | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

It can be seen that during week three of the construction period there would be predicted to be 34 HGV trips per week and 33 HGV trips per week during week four; these two weeks would see the maximum number of HGV trips generated and would result in 6 HGV trips per day, or 12 two-way movements. The majority of the remaining construction period would see significantly reduced HGV trips.

### 3.4.3 Construction Traffic Routing

It is proposed that construction traffic would be routed to the Site via the A1 utilising one of two potential access points, with all vehicles travelling north to the Site either along Howpark Road or the minor access road into the southwestern access. It is assumed that the A1107 and the northern section of Howpark Road would not be used, and it is assumed that HGVs will travel to the Site from both directions along the A1.

A 50/50 split has been assumed for vehicles turning left onto the A1 to head south east or right onto the A1 to head west, this will be applied to either access location. All staff movements will access the Site via the A1 however it is likely that a small percentage will travel to the A1 via the A6112; therefore it has been assumed that for the construction staff, 60% will travel to and from the A1 north bound, with 10% of these using the A6112. The distribution of construction traffic can be seen in **Figure 3-1**.

**Figure 3-1: Construction Traffic Distribution (percentage)**


## 3.5 Solar PV Operations

Vehicle movements during the operational period are expected to be very low. After commissioning, there is anticipated to be around one visit every two weeks for monitoring and maintenance, if required. These visits will be made by van or 4x4 type vehicles. The inverters and transformers are generally monitored remotely, using broadband/3G technology.

# 4.0 Consideration of Impacts

This section provides a review of any possible impacts which may arise from the construction of the proposed development, with attention to any capacity issues that the additional trips may cause and the effects of these additional trips may have with regards to highway safety.

## 4.1 Impact on Highway Capacity

**Table 4-1** presents the increase in the AADT flows along the A1 in the vicinity of the Site access which are likely to occur from the additional trips generated by the construction of the proposed development. While the construction traffic is expected to distribute along the A1 as described above, for assessment purposes it has been assumed that the maximum generation (12 HGVs and 50 light vehicles) would all travel along the same section of the A1.

**Table 4-1: Change in Daily Traffic on A1 (12 hours)**

| Vehicles | Base | Development | Base + Development | Increase (%) |
|---|---|---|---|---|
| All Vehicles | 8,750 | 62 | 8,812 | 0.7% |
| HGVs | 1,193 | 12 | 1,205 | 1% |

As anticipated, the nominal increase in traffic associated with the proposals is calculated to increase daily all vehicle flows along the A1 by less than 1%, with a 1% increase expected for HGVs. This is a negligible increase and will not result in any impacts to the capacity and operation of the A1.

## 4.2 Impact on Highway Safety

There are no general thresholds used when determining the significance of increased traffic on highway safety, therefore professional judgement is required to identify the potential road safety effects associated with the construction phase. A review of the highway safety based on safety records obtained from Transport Scotland has been undertaken as presented in Section 2.0.

From **Table 2-3,** it can be deduced that there were 7 recorded incidents within a period of 5 years (2017 – 2021) with one incident recorded to be of a serious nature and the others classified as slight injury accidents. . While any accidents are unwelcome, an average of less than 2 injury accidents along a 13km section of road is not indicative of a road safety problem.

## 4.3 Impacts Conclusion

The construction of the proposed development is predicted to generate a total of 44 additional two-way movements per day as a maximum worst-case scenario. This will result in no more than a 1% increase to the total flows and less than 1% in the numbers of HGVs. In addition, as the construction phase will run for 26 weeks, this limited increase in traffic would be temporary and short term.



# 5.0 Construction Traffic Management

Measures to manage the traffic arising from the construction of the proposed development are presented in this section, as an outline CTMP.

This CTMP sets out the initial structure for the CTMP which will be prepared in advance of construction works on Site. The CTMP will form part of the Site induction which is mandatory for all employees, contractors and visitors attending the Site. All employees and contractors shall familiarise themselves with the contents of the CTMP and abide by the requirements laid out therein.

## 5.1 Delivery Management

All deliveries will be undertaken at appropriate times, to be discussed and agreed with SBC. Deliveries will be scheduled to coincide with off-peak periods of the day. The aim is to minimise the effect of the construction traffic on the local road network. All construction traffic will be routed along the A1. No abnormal loads are expected for this Site which will require more detailed protocols.

## 5.2 Contractors

Contractors with experience of the nature of the construction works proposed and in this type of environment would be appointed following a tendering process.

All contractors would be required to supply detailed method statements which would incorporate all planned mitigation methods. All sub-contractors are required to read, understand and adopt all procedures outlined within this construction traffic management plan.

Sub-contractors who formulate a construction traffic management plan for their work activity must issue it to the Principal Contractor for approval and acceptance prior to Site issue. Any traffic management procedures required to secure a work area or safeguard subcontractor operatives must be co-ordinated with Eurowind Energy Limited (e.g. use of banksmen, operatives carrying out works roadside etc.).

The Principal Contractor Site Manager must be informed of any planned Site activity and movement of Site traffic; the issue of this information must be received within a suitable and agreed timescale to allow co-ordination of other Site activities.

## 5.3 Signage

Any signage required on the public highway would be erected and positioned in accordance with the requirements of the Traffic Signs Manual and Safety at Street Works and Road Works – A Code of Practice, and in consultation with the SBC.

Warning signage on Site must be complied with at all times. The two most important signs are “no entry” and “no unauthorised vehicles”. In order to proceed beyond these signs, vehicle drivers must stop and contact the ganger/foreman in control of the area to be escorted through the local area.

## 5.4 On-Site Management

### 5.4.1 On-Site Safety

All personnel entering the working area would wear hi-visibility vest or jacket, head protection, safety footwear, eye protection and gloves at all times when out with the vehicle.

Everyone required to work within the Site area would be made aware that they have a responsibility for the safety of themselves and others. All Site operatives and visitors have a “duty of care” to themselves and others and need to be conscious of the surroundings and ongoing activities locally. In the event of an emergency, right of way to all emergency services would be given at all times. Emergency services and control of access would be carried out in compliance with the Site emergency procedures.



### 5.4.2 Parking

Parking areas located at the proposed construction compound would have safe and secure barriers to segregate all personnel from Site plant and vehicle routes. All signage within designated car parking areas must be followed, with no vehicles parked in a way which restricts either vision or access. No parking whatsoever would be allowed on public roads; all cars that are directed to the Site car park would be required to reverse park to comply with Eurowind Energy Limited and the Principal Contractors requirements.

### 5.4.3 On-Site Tracks

Access tracks would be monitored on a daily basis to identify any deterioration of the track condition. Non-emergency remedial works to the track would be carried out at times outside peak times of usage and significant emergency repairs would be undertaken immediately and adjacent track sections would be restricted from use as required to safely accommodate works.

All routes would be monitored for dust and control or suppression methods would be deployed as appropriate through the use of dust suppression systems.

### 5.4.4 Site Traffic

All traffic visiting the Site would be required to report to Site security where they would obtain clear instructions before further movement is acceptable. If applicable an induction would be completed, vehicle permits would be issued and the Site rules & emergency procedure would be explained.

All traffic would use the signed Site passing places and all drivers would accommodate other track users in a courteous manner. Reversing (other than to park) within the compound areas is not permitted.

Full time Site traffic (vehicles/plant situated on-Site for majority of construction phase) that requires re-fuelling would follow the instructions supplied at their induction and also the guidelines within their method statement for the works.

Heavy Site traffic would be equipped with audible reversing warning with additional visual aids e.g. reversing cameras, mirrors utilised on all plant. All safety features must be inspected on a daily basis with faults immediately reported to the Foreman Fitter who would assess and repair any damage etc. to the plant. Management would ensure that all loads are covered fully to limit the loss of material in transit.

### 5.4.5 Vehicle Cleaning

A wheel and body wash would be operated within the Site to ensure materials from the Site are not transferred onto the highway, and road cleaning would take place when required to remove any deposits that are carried from the Site.

## 5.5 Driving and Speed Restrictions

All vehicles (cars, LGVs, HGVs and ALs) shall be driven in a safe and defensive driving manner at all times within speed limits. A zero-tolerance policy shall be adopted by all contractors, such that any infringement results in that person not returning to Site.

All cars and drivers of Site operative vehicles used for commuting to and form Site must be road worthy and legally compliant. All commercial vehicles and drivers must be road worthy and legally compliant.



# 6.0 Complaints and Inquiries Procedure

It is important that members of the public or interested parties are able to make valid complaints or inquiries about the transport elements of the construction works. Such complaints and inquiries can provide a valuable feedback mechanism which helps reduce potential impacts on sensitive features and would also allow the construction techniques to be refined and improved.

It is anticipated that the complaints and inquiries procedure can be made either directly to the Site contractor or via SBC, who in turn would provide feedback to the Site contractor. Contact details for the Site contractor and SBC would be made clearly visible at the Site entrance in a form as shown in **Table 6-1**.

**Table 6-1: Contact Details**

| Name of Entity | Position | Contact Numbers | Email |
|---|---|---|---|
| Eurowind Energy Limited | Client | TBC | TBC |
| TBC | Site Contractor | TBC | TBC |
| Scottish Borders Council | Planning Authority | TBC | TBC |

All complaints and inquiries would be logged promptly by the Site contractor, with logs kept on Site for review by SBC upon request.

## 6.1 Checking and Corrective Action

Traffic Monitoring would be undertaken and would feedback into the content of this CTMP. As outlined in Section 1.1, it is intended for the CTMP to be a 'live document' which is updated periodically as and when required.

The Contractor would be responsible for establishing a programme of monitoring, the results of which shall be fed back for inclusion within the CTMP if necessary.

Any checking or corrective action required would also be monitored. This methodology would ensure that the construction activities are being undertaken in accordance with the CTMP and that the Contractors are held to account.

The procedure for addressing non-conformance/compliance and ensuring that corrective actions are undertaken is outlined below:

- Completion of a Non-Conformance Report – this would record any traffic related incident and work that has not been carried out in accordance with the CTMP or Method Statement;
- Completion of a Corrective Action Report – this would record any identified deficiency as a result of monitoring, inspection, surveillance and valid complaint; and
- Action – Any necessary actions identified as a result of the above would be allocated to a responsible person, along with a timescale for the action to be undertaken.

Records of the above would be retained by the Contractor throughout the construction process. The records would be maintained either in hard copy or electronically in such a manner that they are readily identifiable, retrievable and protected against damage, deterioration or loss.

# 7.0 Conclusions

The report has been structured in such a way that incorporates an assessment of the proposed development into the form of a Construction Traffic Management Plan (CTMP).

The study area for assessment includes the section of the A1 between the A1/ A6112 Junction and the A1/ B6438 Junction south east of the Site. Only seven personal injury accidents were recorded within this area for the five-year period spanning 2017 – 2021 including six slight injury accidents and only one serious injury accident; no fatalities were recorded.

Overall, it is considered from the review of safety, and due to the temporary nature of the proposed operations, that the study area does not exhibit any observable defects which may be exacerbated by the proposed development.

Baseline traffic flow data have been obtained for the surrounding transport network to assess traffic impacts of the development. The traffic to be generated by the construction phase has been predicted and it has been confirmed that the increase to the base flows on the A1 would be minimal. Strategies to manage and control all traffic activity associated with the construction phase of the development have been outlined. Measures to mitigate the transport impacts of the proposed development and minimise interaction between members of the public and Site traffic have also been outlined.

It is concluded that the proposed development construction traffic, which will be temporary and short term in nature, would lead to an insignificant increase in traffic levels and as such will have no adverse impact on the operation or safety of the surrounding highway network.



# Appendix A Personal Injury Collision Data

## Construction Traffic Management Plan (CTMP)

Howpark Solar Farm

Eurowind Energy Limited

SLR Project No.: 428.V64539.00001

30 October 2023

**Collisions on the A1 between Grantshouse and Reston**

| Collision severity | Number of casualties | Number of vehicles | EAST | NORTH | YEAR | Collision date |
|---|---|---|---|---|---|---|
| Slight | 1 | 1 | 381755 | 665557 | 2017 | 05/02/2017 |
| Slight | 1 | 2 | 380976 | 665494 | 2017 | 30/08/2017 |
| Slight | 1 | 3 | 387660 | 662516 | 2017 | 07/09/2017 |
| Serious | 1 | 1 | 386335 | 662684 | 2018 | 29/05/2018 |
| Slight | 1 | 1 | 380883 | 665522 | 2019 | 25/04/2019 |
| Slight | 1 | 3 | 381232 | 665512 | 2021 | 04/07/2021 |
| Slight | 1 | 2 | 381321 | 665521 | 2021 | 19/08/2021 |

# Appendix B Traffic Survey Report

## Construction Traffic Management Plan (CTMP)

Howpark Solar Farm

Eurowind Energy Limited

SLR Project No.: 428.V64539.00001

30 October 2023

**Class Report TS_LIVE 00000101250 2018-09-24 to 2018-09-30**

Site Name: 101250

Description: A1 Granthouse (WiM)

**All directions**

| | Average Flow | Mcl | Car | LGV | Car+T | R2X | R3X | R4X | R2+T1/2 | R2+T3 | R3+T2 | R3+T3 | A2+T1 | A2+T2 | A3+T1 | A3+T2 | A2+T3 | A3+T3 | Bus | 7+Axle | UC | %HGV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00:00:00 | 64 | 0 | 35 | 10 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 8 | 6 | 0 | 0 | 0 | 27.6 |
| 01:00:00 | 53 | 0 | 27 | 8 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 5 | 7 | 0 | 0 | 0 | 33.9 |
| 02:00:00 | 40 | 0 | 17 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 4 | 6 | 0 | 0 | 0 | 43 |
| 03:00:00 | 53 | 0 | 21 | 10 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 6 | 6 | 0 | 0 | 0 | 40.3 |
| 04:00:00 | 65 | 0 | 30 | 12 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 6 | 9 | 0 | 0 | 1 | 34 |
| 05:00:00 | 177 | 0 | 95 | 22 | 0 | 10 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 12 | 29 | 1 | 0 | 2 | 32.4 |
| 06:00:00 | 346 | 0 | 212 | 50 | 1 | 13 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 21 | 31 | 3 | 0 | 4 | 22 |
| 07:00:00 | 520 | 0 | 344 | 85 | 2 | 16 | 4 | 3 | 1 | 0 | 1 | 0 | 1 | 6 | 0 | 0 | 20 | 28 | 5 | 1 | 3 | 15.5 |
| 08:00:00 | 506 | 1 | 324 | 81 | 3 | 22 | 5 | 3 | 3 | 0 | 0 | 0 | 1 | 7 | 0 | 0 | 19 | 31 | 3 | 0 | 5 | 17.9 |
| 09:00:00 | 546 | 1 | 358 | 81 | 4 | 23 | 5 | 3 | 3 | 0 | 0 | 0 | 1 | 8 | 0 | 0 | 21 | 29 | 6 | 1 | 2 | 17.2 |
| 10:00:00 | 724 | 1 | 491 | 100 | 10 | 27 | 5 | 2 | 3 | 0 | 0 | 0 | 2 | 11 | 0 | 0 | 27 | 34 | 6 | 1 | 3 | 15.6 |
| 11:00:00 | 856 | 3 | 574 | 120 | 16 | 35 | 5 | 2 | 3 | 0 | 1 | 0 | 3 | 13 | 0 | 0 | 29 | 38 | 7 | 1 | 5 | 15.2 |
| 12:00:00 | 814 | 4 | 549 | 109 | 15 | 29 | 5 | 2 | 4 | 0 | 0 | 0 | 2 | 15 | 0 | 0 | 32 | 34 | 7 | 1 | 5 | 15.2 |
| 13:00:00 | 788 | 2 | 550 | 110 | 9 | 24 | 4 | 3 | 3 | 0 | 0 | 0 | 2 | 8 | 0 | 0 | 27 | 35 | 6 | 1 | 4 | 13.5 |
| 14:00:00 | 773 | 3 | 554 | 104 | 7 | 23 | 5 | 3 | 3 | 0 | 0 | 0 | 1 | 6 | 0 | 0 | 29 | 28 | 3 | 0 | 4 | 12.8 |
| 15:00:00 | 764 | 1 | 548 | 103 | 5 | 25 | 3 | 2 | 3 | 0 | 0 | 0 | 2 | 6 | 0 | 1 | 24 | 33 | 5 | 0 | 3 | 13 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16:00:00 | 771 | 2 | 586 | 96 | 5 | 16 | 2 | 1 | 3 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 19 | 27 | 4 | 0 | 4 | 9.6 |
| 17:00:00 | 721 | 1 | 547 | 87 | 2 | 14 | 2 | 1 | 3 | 0 | 0 | 0 | 1 | 3 | 0 | 1 | 21 | 30 | 5 | 0 | 3 | 10.7 |
| 18:00:00 | 599 | 1 | 456 | 71 | 2 | 11 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 16 | 25 | 4 | 0 | 3 | 10.3 |
| 19:00:00 | 366 | 1 | 274 | 42 | 1 | 8 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 14 | 14 | 3 | 0 | 2 | 11.8 |
| 20:00:00 | 292 | 0 | 217 | 32 | 1 | 7 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 11 | 13 | 2 | 0 | 2 | 12.7 |
| 21:00:00 | 177 | 0 | 130 | 22 | 0 | 5 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 8 | 1 | 0 | 1 | 13.6 |
| 22:00:00 | 131 | 0 | 94 | 15 | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 4 | 7 | 2 | 0 | 0 | 14.2 |
| 23:00:00 | 96 | 0 | 61 | 11 | 0 | 3 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 8 | 7 | 1 | 0 | 0 | 22.7 |
| | | | | | | | | | | | | | | | | | | | | | | |

**Eastbound**

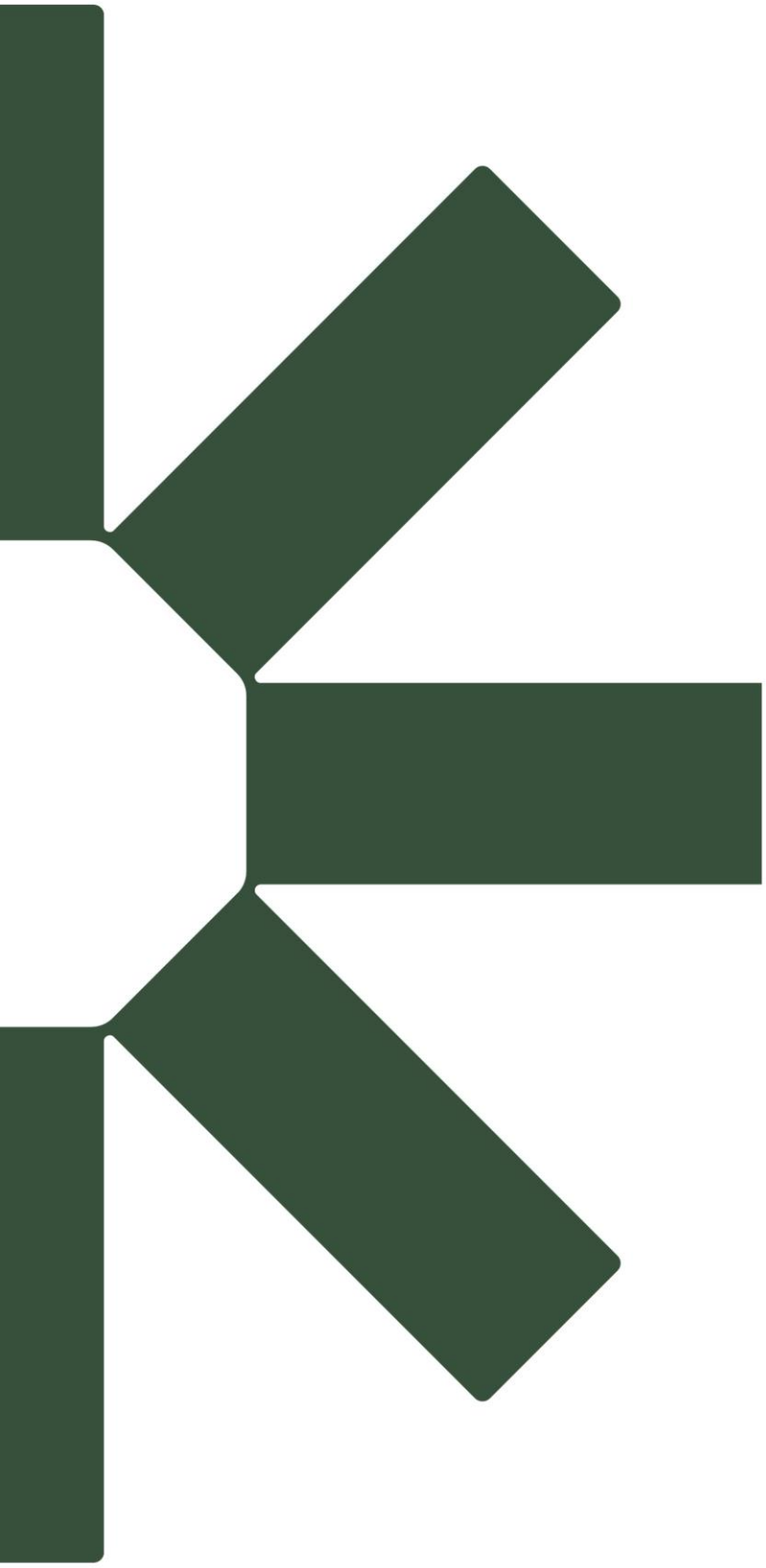
| | Average Flow | Mcl | Car | LGV | Car+T | R2X | R3X | R4X | R2+T1/2 | R2+T3 | R3+T2 | R3+T3 | A2+T1 | A2+T2 | A3+T1 | A3+T2 | A2+T3 | A3+T3 | Bus | 7+Axle | UC | %HGV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00:00:00 | 33 | 0 | 18 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 26.5 |
| 01:00:00 | 28 | 0 | 16 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 29 |
| 02:00:00 | 20 | 0 | 8 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 45.3 |
| 03:00:00 | 25 | 0 | 9 | 4 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 44.8 |
| 04:00:00 | 26 | 0 | 11 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 32.4 |
| 05:00:00 | 65 | 0 | 29 | 8 | 0 | 6 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 6 | 11 | 1 | 0 | 0 | 41.7 |
| 06:00:00 | 104 | 0 | 53 | 14 | 0 | 5 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 9 | 14 | 0 | 0 | 1 | 33.7 |
| 07:00:00 | 186 | 0 | 110 | 39 | 1 | 9 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 8 | 11 | 1 | 0 | 1 | 18.7 |
| 08:00:00 | 223 | 0 | 143 | 35 | 2 | 10 | 2 | 1 | 2 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 8 | 12 | 2 | 0 | 1 | 17.8 |
| 09:00:00 | 244 | 0 | 156 | 40 | 2 | 12 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 9 | 10 | 4 | 0 | 1 | 17 |
| 10:00:00 | 337 | 0 | 223 | 53 | 4 | 14 | 2 | 1 | 2 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 15 | 14 | 3 | 0 | 1 | 15.7 |
| 11:00:00 | 434 | 1 | 289 | 62 | 7 | 19 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 6 | 0 | 0 | 18 | 19 | 4 | 0 | 2 | 15.9 |
| 12:00:00 | 426 | 4 | 283 | 61 | 8 | 14 | 2 | 1 | 2 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 21 | 16 | 4 | 0 | 2 | 14.9 |
| 13:00:00 | 423 | 2 | 287 | 63 | 4 | 13 | 2 | 1 | 2 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 18 | 20 | 3 | 0 | 2 | 14.7 |
| 14:00:00 | 407 | 1 | 287 | 57 | 4 | 12 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 17 | 15 | 2 | 0 | 2 | 13.2 |
| 15:00:00 | 412 | 0 | 286 | 60 | 2 | 14 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 16 | 20 | 2 | 0 | 2 | 14.6 |
| 16:00:00 | 434 | 2 | 329 | 53 | 3 | 9 | 1 | 1 | 2 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 11 | 16 | 2 | 0 | 3 | 9.9 |
| 17:00:00 | 381 | 1 | 293 | 43 | 1 | 7 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 12 | 16 | 1 | 0 | 2 | 10.7 |
| 18:00:00 | 339 | 1 | 257 | 41 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 9 | 13 | 3 | 0 | 2 | 10.5 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19:00:00 | 190 | 0 | 142 | 21 | 1 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 8 | 6 | 2 | 0 | 1 | 11.8 |
| 20:00:00 | 156 | 0 | 121 | 14 | 0 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 6 | 1 | 0 | 1 | 11.9 |
| 21:00:00 | 86 | 0 | 62 | 10 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 5 | 1 | 0 | 0 | 14.3 |
| 22:00:00 | 67 | 0 | 46 | 8 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 2 | 0 | 0 | 16.7 |
| 23:00:00 | 58 | 0 | 37 | 7 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 6 | 5 | 1 | 0 | 0 | 23.7 |
| | | | | | | | | | | | | | | | | | | | | | | |

**Westbound**

| | Average Flow | Mcl | Car | LGV | Car+T | R2X | R3X | R4X | R2+T1/2 | R2+T3 | R3+T2 | R3+T3 | A2+T1 | A2+T2 | A3+T1 | A3+T2 | A2+T3 | A3+T3 | Bus | 7+Axle | UC | %HGV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 00:00:00 | 30 | 0 | 17 | 4 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 28.8 |
| 01:00:00 | 26 | 0 | 11 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 3 | 4 | 0 | 0 | 0 | 39.1 |
| 02:00:00 | 20 | 0 | 8 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 4 | 0 | 0 | 0 | 40.6 |
| 03:00:00 | 29 | 0 | 12 | 6 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 3 | 4 | 0 | 0 | 0 | 36.5 |
| 04:00:00 | 40 | 0 | 18 | 7 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 3 | 6 | 0 | 0 | 0 | 35 |
| 05:00:00 | 112 | 0 | 65 | 14 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 6 | 17 | 0 | 0 | 2 | 27 |
| 06:00:00 | 242 | 0 | 159 | 36 | 0 | 8 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 12 | 17 | 2 | 0 | 2 | 17 |
| 07:00:00 | 334 | 0 | 234 | 46 | 1 | 8 | 2 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 12 | 17 | 4 | 0 | 2 | 13.7 |
| 08:00:00 | 283 | 0 | 180 | 46 | 1 | 12 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 11 | 18 | 1 | 0 | 4 | 18 |
| 09:00:00 | 302 | 0 | 203 | 41 | 2 | 11 | 3 | 1 | 1 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 11 | 19 | 2 | 0 | 1 | 17.3 |
| 10:00:00 | 387 | 1 | 268 | 47 | 6 | 13 | 4 | 1 | 1 | 0 | 0 | 0 | 1 | 7 | 0 | 0 | 12 | 20 | 2 | 0 | 2 | 15.6 |
| 11:00:00 | 421 | 1 | 284 | 58 | 9 | 17 | 3 | 1 | 2 | 0 | 0 | 0 | 2 | 7 | 0 | 0 | 11 | 19 | 3 | 0 | 3 | 14.6 |
| 12:00:00 | 389 | 1 | 266 | 49 | 7 | 15 | 3 | 1 | 2 | 0 | 0 | 0 | 1 | 10 | 0 | 0 | 11 | 17 | 3 | 1 | 2 | 15.5 |
| 13:00:00 | 365 | 1 | 263 | 47 | 5 | 11 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 4 | 0 | 0 | 9 | 15 | 3 | 0 | 2 | 12.1 |
| 14:00:00 | 367 | 1 | 267 | 47 | 3 | 10 | 2 | 2 | 2 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 12 | 13 | 2 | 0 | 2 | 12.3 |
| 15:00:00 | 352 | 1 | 261 | 43 | 3 | 11 | 2 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 9 | 13 | 3 | 0 | 1 | 11.1 |
| 16:00:00 | 337 | 0 | 258 | 43 | 3 | 7 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 8 | 11 | 2 | 0 | 2 | 9.1 |
| 17:00:00 | 340 | 0 | 254 | 44 | 1 | 6 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 9 | 15 | 4 | 0 | 1 | 10.6 |
| 18:00:00 | 260 | 0 | 199 | 30 | 2 | 4 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 7 | 12 | 2 | 0 | 1 | 10.1 |
| 19:00:00 | 176 | 0 | 132 | 21 | 0 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 6 | 8 | 1 | 0 | 1 | 11.8 |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20:00:00 | 135 | 0 | 96 | 18 | 1 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 5 | 7 | 0 | 0 | 1 | 13.6 |
| 21:00:00 | 91 | 0 | 67 | 11 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 3 | 0 | 0 | 0 | 13 |
| 22:00:00 | 63 | 0 | 47 | 7 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 11.5 |
| 23:00:00 | 37 | 0 | 24 | 5 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 21.1 |



Making Sustainability Happen