



# TRANSPORT STATEMENT

April 2020



**Land to the east of the  
A48 & Land to the south  
west of Tycroes,  
Carmarthenshire**



**Proposed Installation of  
a Ground Mounted  
Photo Voltaic (PV) Solar  
Farm Development**

**PINS DNS Ref: 3227364**



**acstro**

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## Appendicies

*Appendix 1 Area 2 Access*

*Appendix 2 Area 3 Access*

## Revision History

Issue 1	13 <sup>th</sup> January 2020	
Issue 2	15 <sup>th</sup> January 2020	
Issue 3	6 <sup>th</sup> April 2020	
Issue 4	15 <sup>th</sup> April 2020	
Issue 5	16 <sup>th</sup> April 2020	

1342 Tycroes Transport Statement.docx

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The logo for Acstro Limited, featuring the word "acstro" in a bold, blue, lowercase sans-serif font.

## 1 Introduction

1.1 Acstro has been appointed to prepare a Transport Statement in respect to the proposed installation of a ground mounted Photo Voltaic (PV) solar farm development. The development is located approximately 2km to the north of the M4 Pont Abraham Interchange (Junction 49) and comprises of three distinct areas. One is located to the east of the A48 and two are located to the east of the A483. A location plan is provided below.

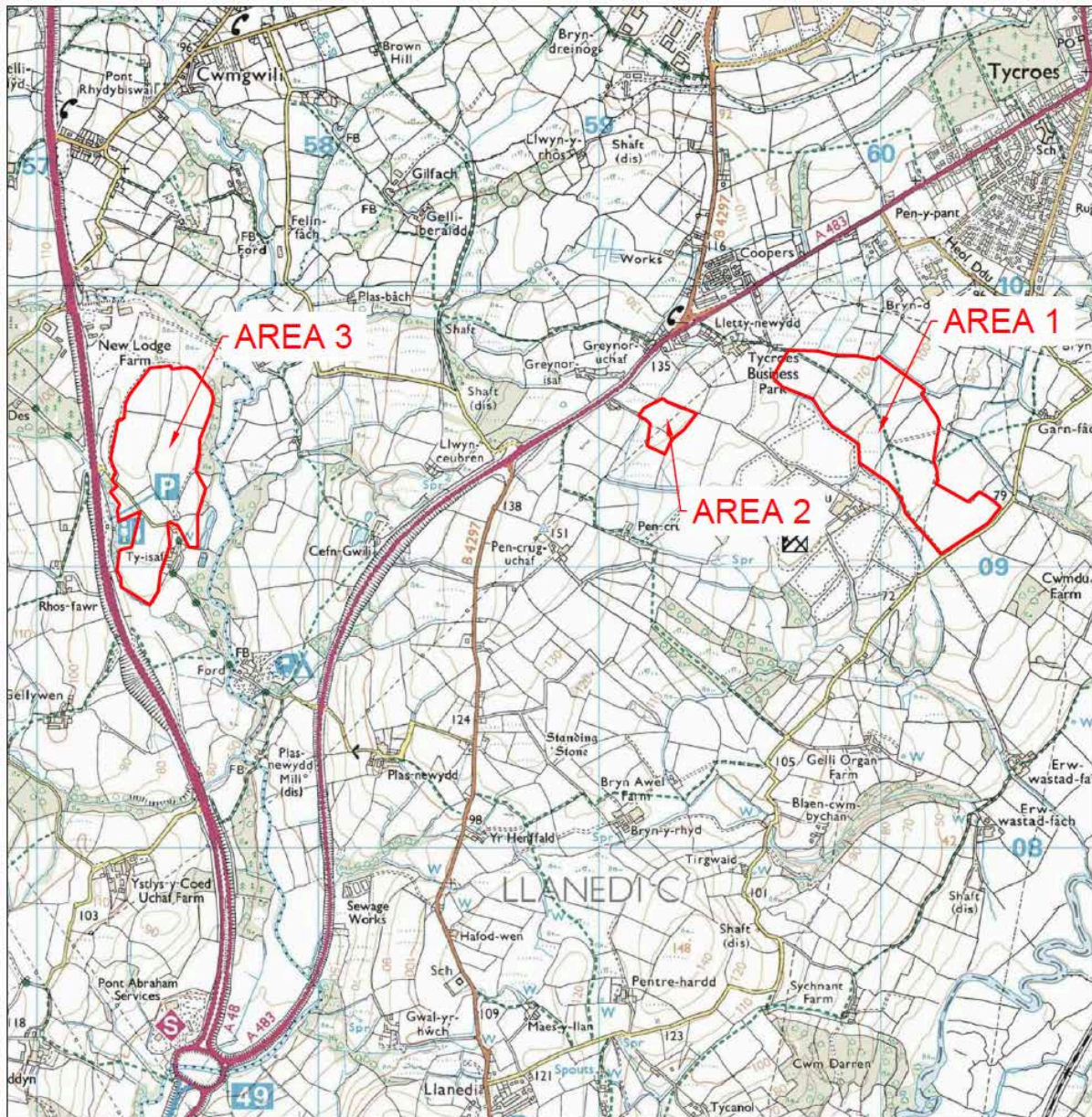
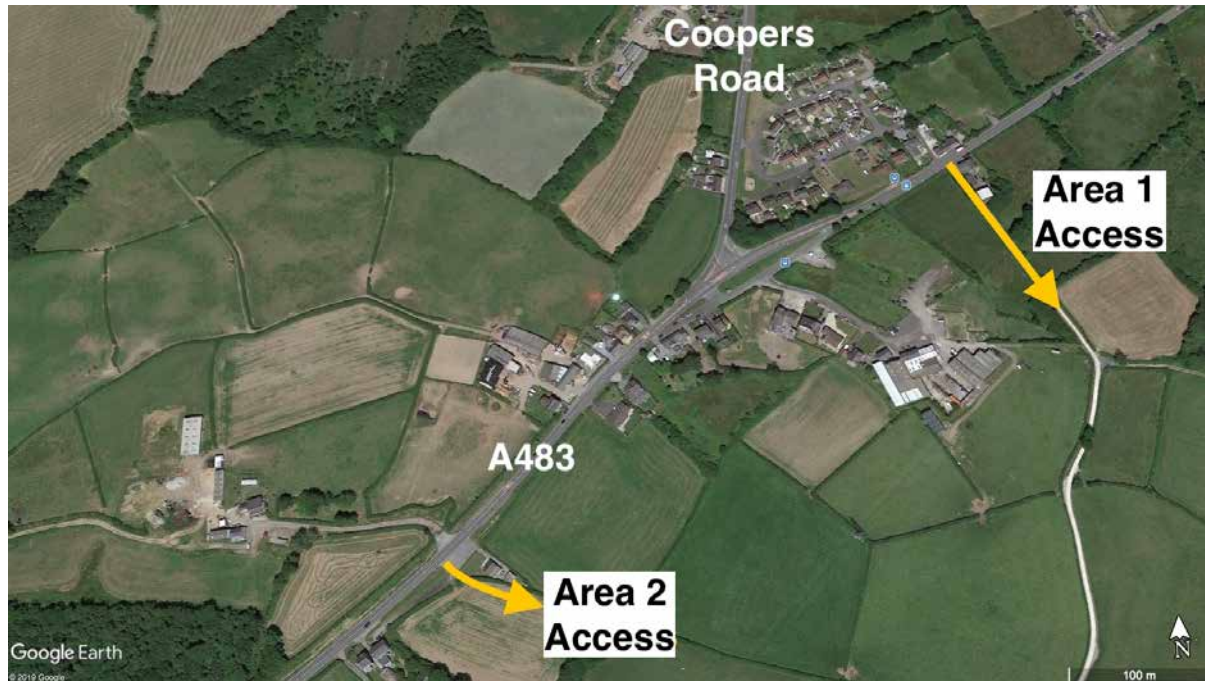


Figure 1 Location Plan

- 1.2 This document considers the transport implications of the proposed development. In particular, this Transport Statement demonstrates that the construction traffic associated with the development will be modest in volume and will have no significant impact on the operation of the surrounding highway network. It will be demonstrated that safe access to the sites will be provided from the public highway.
- 1.3 The Transport Statement has been revised in response to comments received from Welsh Government's and Carmarthenshire County Council's Highways Departments.
- 1.4 The structure of the Transport Statement is as follows:
  - Section 2 describes the site's location and the highway network that provides access to it;
  - Section 3 describes the proposed development;
  - Section 4 describes the development's transport requirements;
  - Section 5 estimates the likely volume of traffic generated during the construction and operational phases of the development;
  - Section 6 describes the proposed mitigation measures that will be employed to minimise the impact of the development's construction traffic; and
  - Section 7 provides a summary and conclusion.

## 2 Existing Conditions

- 2.1 The development is located approximately 2km to the north of the M4 Pont Abraham Interchange (Junction 49) and comprises of three distinct areas.
- 2.2 Areas 1 and 2 are located to the east of the A483, some 3km north east of the Pont Abraham Interchange and 2km south west of Tycroes. Areas 1 and 2 will be accessed separately utilising existing accesses.



**Figure 2 A483 Accesses to Areas 1 and 2**

### Area 1

- 2.3 Access to Area 1 will be via the Clawdd Ddu Farm access, some 250m to the north east of the Coopers Road junction. A 40mph speed limit applies at this location. This access has previously been used during the installation of a previous solar energy development at Clawdd Ddu (S/27987). Use of this access has therefore previously been tried and tested and it is envisaged that the use of the access for the development now proposed will pose no issues.
- 2.4 There are a number of Public Right of Ways (PROW) that cross Area 1. These PROW's will remain open at all times throughout the construction period and thereafter. However, for the safety of the PROW users their routes will be temporarily diverted for the duration of the construction phase. Those PROW diversions will be the subject of a separate application.



Figure 3 A483 Accesses to Area 1

[Area 2](#)

2.5 The access to Area 2 is located approximately 300m to the south west of the A483's junction with Coopers Road. The access currently serves two dwellings and a field. National speed limits apply at this location with the speed limit reducing to 40mph some 60m to the north east. There is good visibility in both directions, with at least 215m visibility available to the west (where national speed limit applies) and 90m visibility available to the east (into the 40mph speed limit area).



Figure 4 A483 Accesses to Area 2

- 2.6 There is an existing field access, which will be widened in order to better accommodate the proposed construction traffic. The area within the access will also be surfaced with a bound material to prevent construction traffic from carrying detritus onto the highway.
- 2.7 Over the latest 5-year period for which data is available (2014-2018 inclusive) there have been six injury accidents recorded on this section of A483. Three of these accidents were of slight severity and three were of serious severity. None of these occurred in the immediate vicinity of the access to Area 2. Two, slight severity, accidents occurred near the Clawdd Ddu access that will serve Area 1.

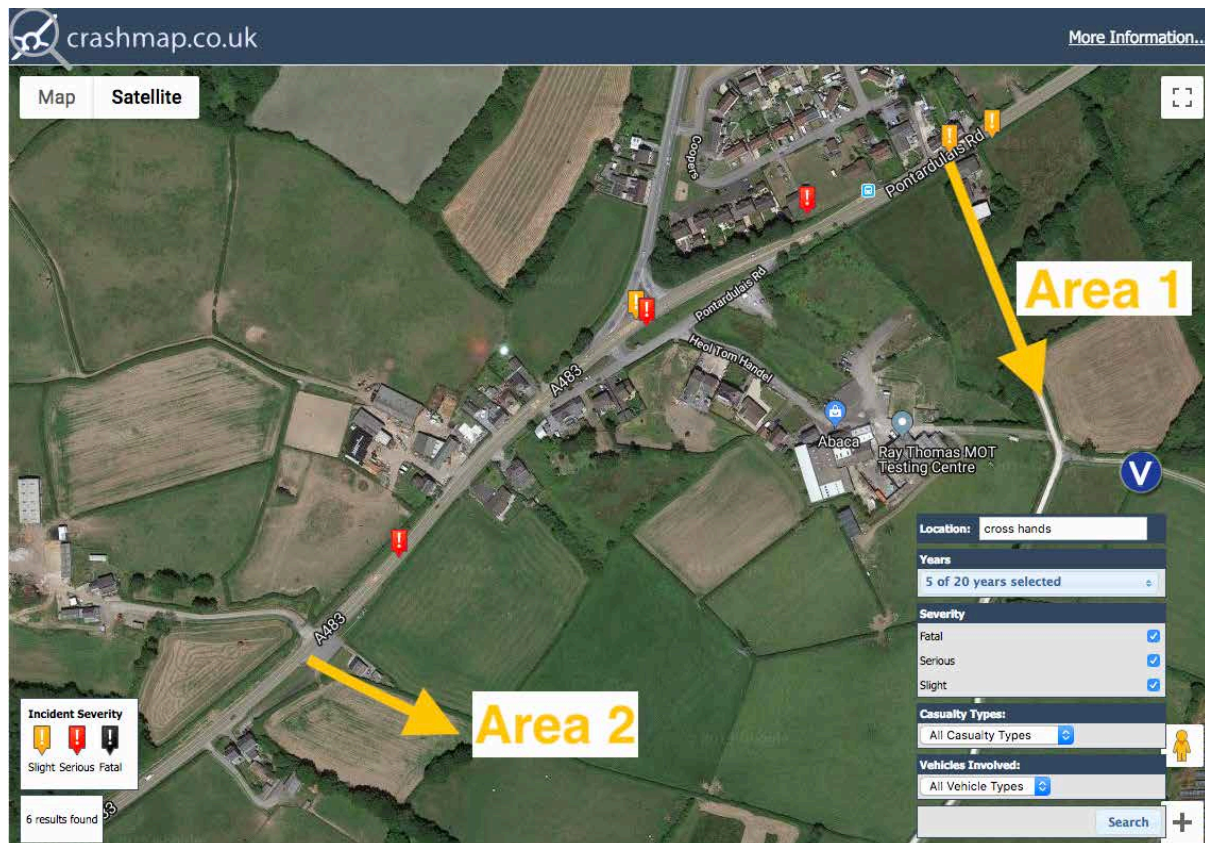
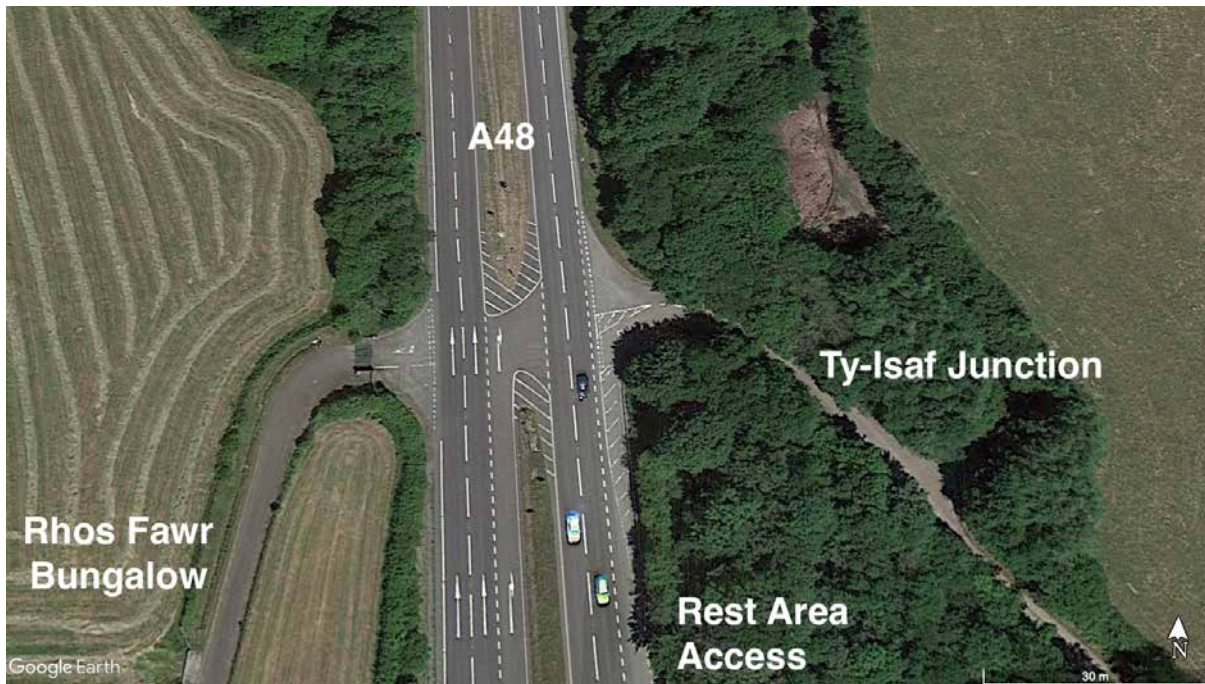


Figure 5 Injury Accident Locations & Severity

### [Area 3](#)

- 2.8 Area 3 is located to the east of the A48 and will be accessed via the current junction that serves Ty-Isaf. The road leading to Ty-Isaf is a no through road.
- 2.9 The junction is located at the northern end of the diverge lane that provides access to a rest area.
- 2.10 Traffic turning into the Ty-Isaf junction can do so from both the southbound and northbound carriageways, with right-turns from the south having to cross the southbound carriageway. Departing traffic must turn left and join the southbound carriageway as right-turns onto the northbound carriageway are prohibited. Drivers wishing to travel north must first travel south and U-turn at the Pont Abraham Interchange.

- 2.11 During the construction phase of the development, construction traffic will not be permitted to turn right at this junction. Traffic approaching from the south east will instead continue north for some 5km and U-turn at the Cross Hands Business Park grade-separated junction.
- 2.12 Opposite the Ty-Isaf junction is another junction that serves Rhos Fawr Bungalow. Traffic can only turn into this access from the northbound carriageway as right-turns from the southbound carriageway are prohibited. Departing traffic can turn north or south.



**Figure 6 A48 / Ty-Isaf Junction**

- 2.13 The A48 dual carriageway is subject to national speed limits at this location. The combined junctions serving Ty-Isaf, the rest area and Rhos Fawr have a good safety record with no recorded injury accidents in the latest five-year period<sup>1</sup>.

<sup>1</sup> Source: Crashmap.co.uk; 2014 to 2018 inclusive



### 3 Proposed Development

- 3.1 The planning application is for a solar farm, which proposes the installation of photovoltaic (PV) panels which will produce electrical energy from sunlight.
- 3.2 The PV panels are mounted on metal frames to form arrays which are fixed to posts set into the ground. The frames will be fabricated off site and then bolted together in-situ. The arrays are arranged in east-west rows. The panels and frames will be completely removed when the site ceases operation.
- 3.3 PV panels generate direct current (DC) electricity, which must be converted to usable alternating current (AC) power for the electricity distribution network. This is done by inverters. The proposal design incorporates string inverters (800mm x 1000m x 500m) affixed beneath the PV panels to the PV mounting system. Also located at site are transformers to increase the AC current from low voltage to high voltage for efficient transportation around the site and to the point of grid connection
- 3.4 Temporary storage, construction compounds and parking areas will be provided on each of the three areas.
- 3.5 The total construction period for a solar farm is estimated to be 18 weeks.
- 3.6 It is anticipated that there will be between 60 to 120 workers on site at peak times during the construction period. Areas within each of the three sites' temporary construction compounds will be reserved for staff parking. There will be no parking on the public highway. Whilst it is not known where the site staff will travel from, it is likely that those from far afield will be staying at accommodation locally and will likely use a minibus to get to the site.
- 3.7 The PV panels and frames will be shipped in 40ft/12m containers and will be carried to the site by articulated vehicles. The prefabricated frames that support the arrays (groups of PV panels), will need to be transported by suitable commercial vehicles (max length 16.8m) to the site.
- 3.8 For the adjacent areas 1 and 2 it is intended that deliveries be taken to the main site compound within area 1 for unloading. Components for area 2 will then be transported from the compound in smaller flat-bed / hiab lorries.
- 3.9 The maximum individual load carried to the site will be the transformers which weigh approximately 5 tonnes each.
- 3.10 Crushed stone material required for the onsite access tracks and hardstandings is likely to be sourced locally and will typically be delivered in 15 tonne lorry loads. A mobile crane will be required to off-load the larger equipment, such as the transformers.

#### 4 Traffic Generation & Access Arrangements

4.1 After commissioning, there is anticipated to be around 3 visits to the site a year for maintenance and these would be made by van or 4x4 type vehicles. This volume of traffic is insignificant.

4.2 The following sections detail the anticipated level of traffic that is anticipated for each of the three development areas together with the proposed access arrangements for each site.

##### Area 1

4.3 The anticipated programme for construction and a week by week breakdown of anticipated HGV deliveries is provided in the table below.

4.4 It can be seen that the peak activity is anticipated to occur in weeks 4 and 5 when 10 to 11 deliveries per day (20 to 22 HGV movements) are expected. This activity is mostly related to earthwork movements and the beginning of deliveries for the mounting systems. Assuming that the deliveries arrive at a relatively uniform rate throughout the day it is estimated that the 22 HGV movements per day would result in around 2 to 3 HGV movements per hour.

4.5 After week 5, when the earthworks are complete, there is a significant drop in the number of HGV deliveries, falling to 6 per day by week 8 and no more than 2 per day after week 11.

	Week																		Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
	<b>Per Day</b>																		
<b>Earthworks</b>	7	7	7	7	7													1	36
<b>Mounting Systems</b>				2	3	3	3												11
<b>Modules</b>						5	5	5	5	4									24
<b>Sub Total per Day</b>	7	7	7	9	10	8	8	5	5	4	0	0	0	0	0	0	0	1	71
	<b>Per Week</b>																		
<b>Inverter / Substation</b>				2	2	1		1						2					8
<b>Fencing / Cables / Others</b>	2	3	2	2	2	2	2	1	1			2		3					22
<b>Sub Total per Week</b>	2	3	2	4	4	3	2	2	1	0	0	2	0	5	0	0	0	0	30
<b>Sub Total per Day</b>	0	1	0	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	5
<b>Total Per Day</b>	7	8	7	10	11	9	8	5	5	4	0	0	0	1	0	0	0	1	

**Table 1 Anticipated No. of HGV Deliveries – Area 1**

4.6 The access to Area 1 was used during the installation of a previous solar farm development at Clawdd Ddu (S/27987). Use of this access has therefore previously been tried and tested and is evidently suitable for the development now proposed.

4.7 Traffic management measures that were adopted during the previous development will be implemented again. These include the introduction of a contra-flow system, managed and controlled by the Principal Contractor, with vehicles arriving at the site having priority on those exiting the site, to ensure that vehicles leaving the A483 can turn from the highway without obstruction.

4.8 Delivery drivers approaching the site will telephone / radio the site to provide 5 minutes warning of their arrival at which point vehicles will be prevented from leaving the site, and the access kept clear of traffic, until the approaching vehicle has arrived.

4.9 All suppliers delivering to the site will be advised of, and be required to adhere to, the traffic management measures to ensure that there are no conflicts on the access track and that all deliveries are carried out in a safe and efficient manner.

Area 2

4.10 It is programmed that activity on Area 2 will take place over 5 weeks from weeks 14 to 18, inclusive. Area 2 is a small parcel of land and construction activities will be serviced from the main site compound located at the nearby Area 1. In the main, component deliveries will be made to the Area 1 compound for unloading and temporary storage and then transported to Area 2 as required.

4.11 There will be an estimated overall total of only 11 deliveries to the site over the course of those 5 weeks. The largest vehicles that will enter the site will be a 10m rigid lorry for delivering panels and mounting systems and 9m long Hiab lorry for delivering transformer / inverter.

4.12 The volume of traffic during the construction period will be modest therefore and comparable to the volume of traffic that could be generated by the current agricultural use of the land during harvesting of silage or hay, for example.

	Week																		Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
	Per Day																		
Earthworks														2	2				4
Mounting Systems																	1		1
Modules																	2		2
Sub Total per Day	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	3	0	7
	Per Week																		
Inverter / Substation																1			1
Fencing / Cables / Others																1	1	1	3
Sub Total per Week	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	4

**Table 2 Anticipated No. of HGV Deliveries – Area 2**

4.13 It is proposed that the existing field gate be improved in order to better accommodate the construction traffic. Details are shown in Appendix 1.

*Appendix 1 Area 2 Access*

4.14 The gateway and access will be widened to 6m and at least the initial 20m will be surfaced with aluminium or reinforced plastic temporary roadways to prevent damage to the field and prevent construction vehicles from carrying detritus onto the highway. This will be complemented with wheel washing facilities and also temporary reinforcement matting where needed within the site to limit damage and prevent vehicles from rutting the surface and transporting mud on their wheels.

4.15 The gateway will be re-set a distance of 10m from the public highway allowing vehicles to pull completely off the highway in the event that the driver needs to park to open the gate.

4.16 There is ample space within the site for vehicles to turn, ensuring that there will be no reversing out onto the highway.

Area 3

- 4.17 The anticipated programme for construction and a week by week breakdown of anticipated HGV deliveries is provided in the table below. It can be seen that the peak activity is anticipated to occur in weeks 4 and 5 when 10 to 11 deliveries per day (20 to 22 HGV movements) are expected. This activity is mostly related to earthwork movements and the beginning of deliveries for the mounting systems. Assuming that the deliveries arrive at a relatively uniform rate throughout the day it is estimated that the 22 HGV movements per day would result in around 2 to 3 HGV movements per hour.
- 4.18 After week 5, when the earthworks are complete, there is a significant drop in the number of HGV deliveries, falling to 6 per day by week 8 and no more than 2 per day after week 11.

	Week																		Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
	<b>Per Day</b>																		
<b>Earthworks</b>	7	7	7	7	7											2	2	1	40
<b>Mounting Systems</b>				2	3	2	2	1											10
<b>Modules</b>						5	5	5	5	5									25
<b>Sub Total per Day</b>	7	7	7	9	10	7	7	6	5	5	0	0	0	0	0	2	2	1	75
	<b>Per Week</b>																		
<b>Inverter / Substation</b>				2	2	2		1						2					9
<b>Fencing / Cables / Others</b>	2	3	2	2	2	2	2	1	1			2		3				3	25
<b>Sub Total per Week</b>	2	3	2	4	4	4	2	2	1	0	0	2	0	5	0	0	0	3	34
<b>Sub Total per Day</b>	0	1	0	1	1	1	0	0	0	0	0	0	0	1	0	0	0	1	5
<b>Total Per Day</b>	7	8	7	10	11	8	7	6	5	5	0	0	0	1	0	2	2	2	

**Table 3 Anticipated No. of HGV Deliveries – Area 3**

- 4.19 Delivery movements to and from Area 3 will follow a strict left-in and left-out arrangement at the A48 / Ty-Isaf junction. Deliveries arriving from the south-east will not turn right across the A48’s southbound carriageway and will instead continue north for some 5km to U-turn at the A48 / Cross Hands Business Park grade-separated junction. This will be a contractual requirement for suppliers.
- 4.20 The access arrangements for Area 3 are shown in Appendix 2.
- Appendix 2 Area 3 Access*
- 4.21 The junction between the Ty Isaf Road and the A48 is generously proportioned and is sufficiently wide that entry to the side road is not obstructed if another vehicle is waiting at the give-way line. The swept path analysis provided within Appendix 3 shows an articulated lorry turning into the side road as a refuse lorry waits at the give-way line.
- 4.22 Ty Isaf Road then narrows to become a single track road although there is an access that provides a passing opportunity some 60m from the A48 junction.
- 4.23 During construction it is proposed that a contra-flow system be adopted, similar to that described and previously adopted for the Area 1 Clawdd Ddu Farm access. Delivery drivers will be instructed to radio / phone the site when they are some 5 minutes from arrival, at which point traffic will be prevented from leaving the site thus leaving Ty Isaf Road clear of traffic.

4.24 The site compound is located near Ty Isaf and is accessed via an existing field access.



**Figure 7 Area 3 Site Compound Access**

4.25 For traffic departing from these accesses visibility is restricted by the adjoining hedges. To avoid having to remove these hedges to accommodate this temporary traffic, banksmen will be deployed assist drivers and ensure that movements to and from the access are undertaken when it is safe to do so.

## 5 Construction Traffic Management Plan

5.1 A Construction Traffic Management Plan (CTMP) will be developed and adopted by the Principal Contractor. Its measures will be communicated to all construction workers, sub-contractors and suppliers. The CTMP will detail the following measures as a minimum:

### Area 1

- Contra-flow system to be implemented
- Wheel wash facilities to be provided for departing vehicles
- Banksman to be located at the A483 junction
- Temporary signage (compliant with Chapter 8) provided on approaches to the site access

### Area 2

- Wheel wash facilities to be provided for departing vehicles
- Banksman to be located at the A483 junction
- Temporary signage (compliant with Chapter 8) provided on approaches to the site access

### Area 3

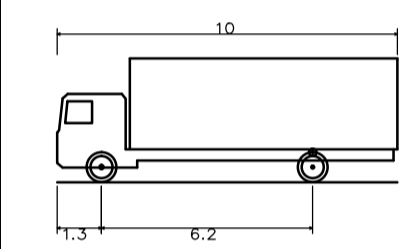
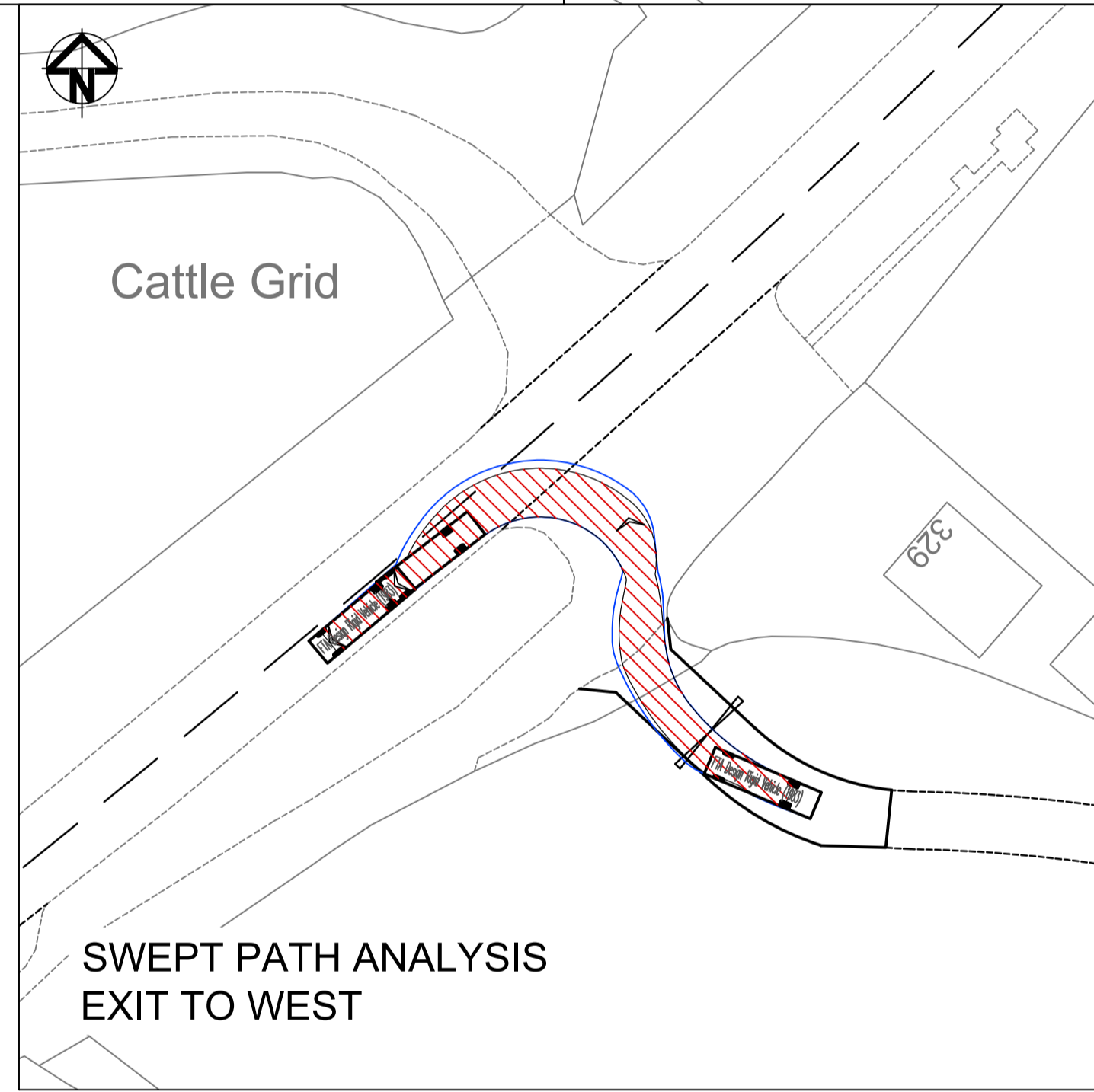
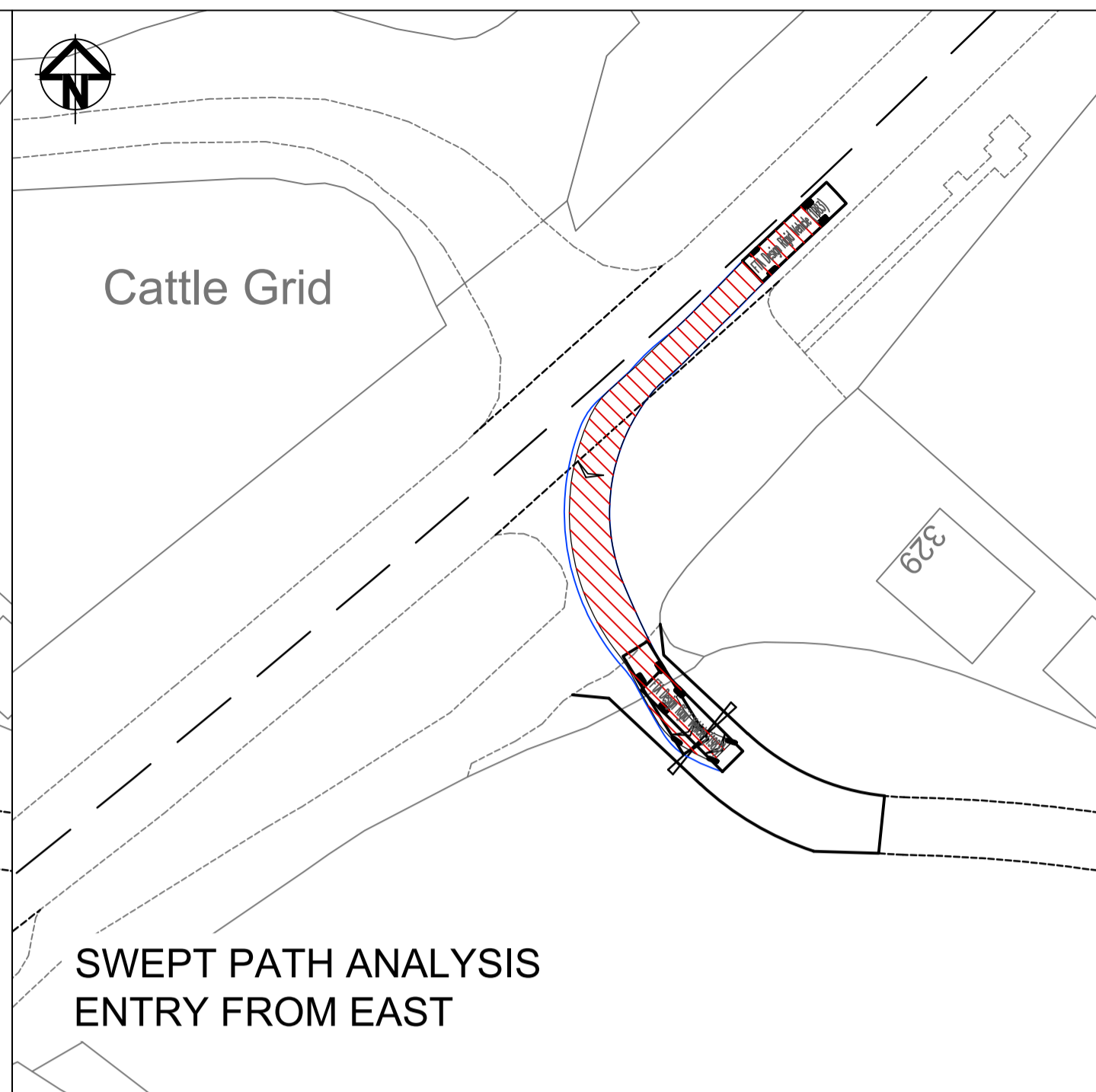
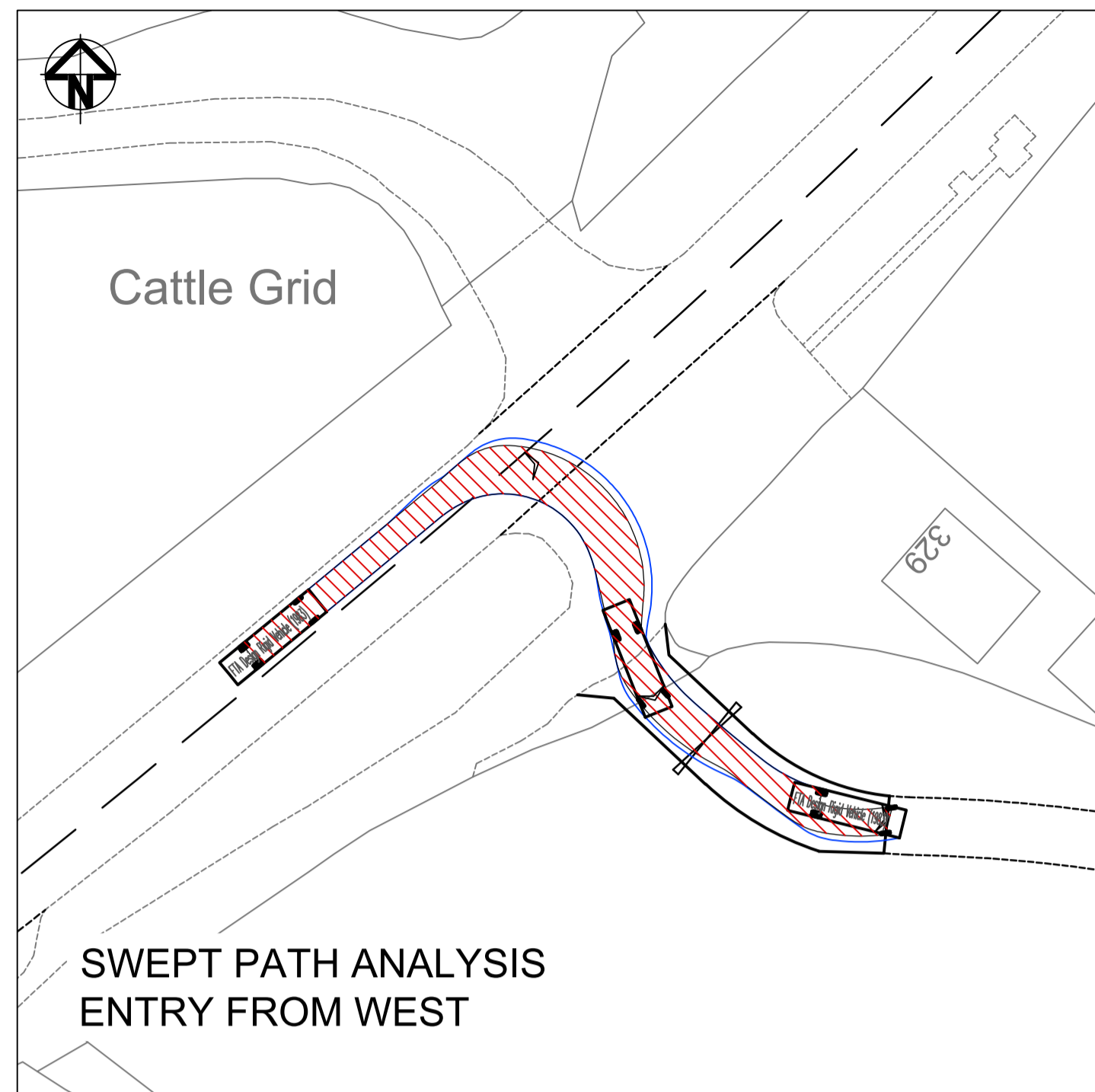
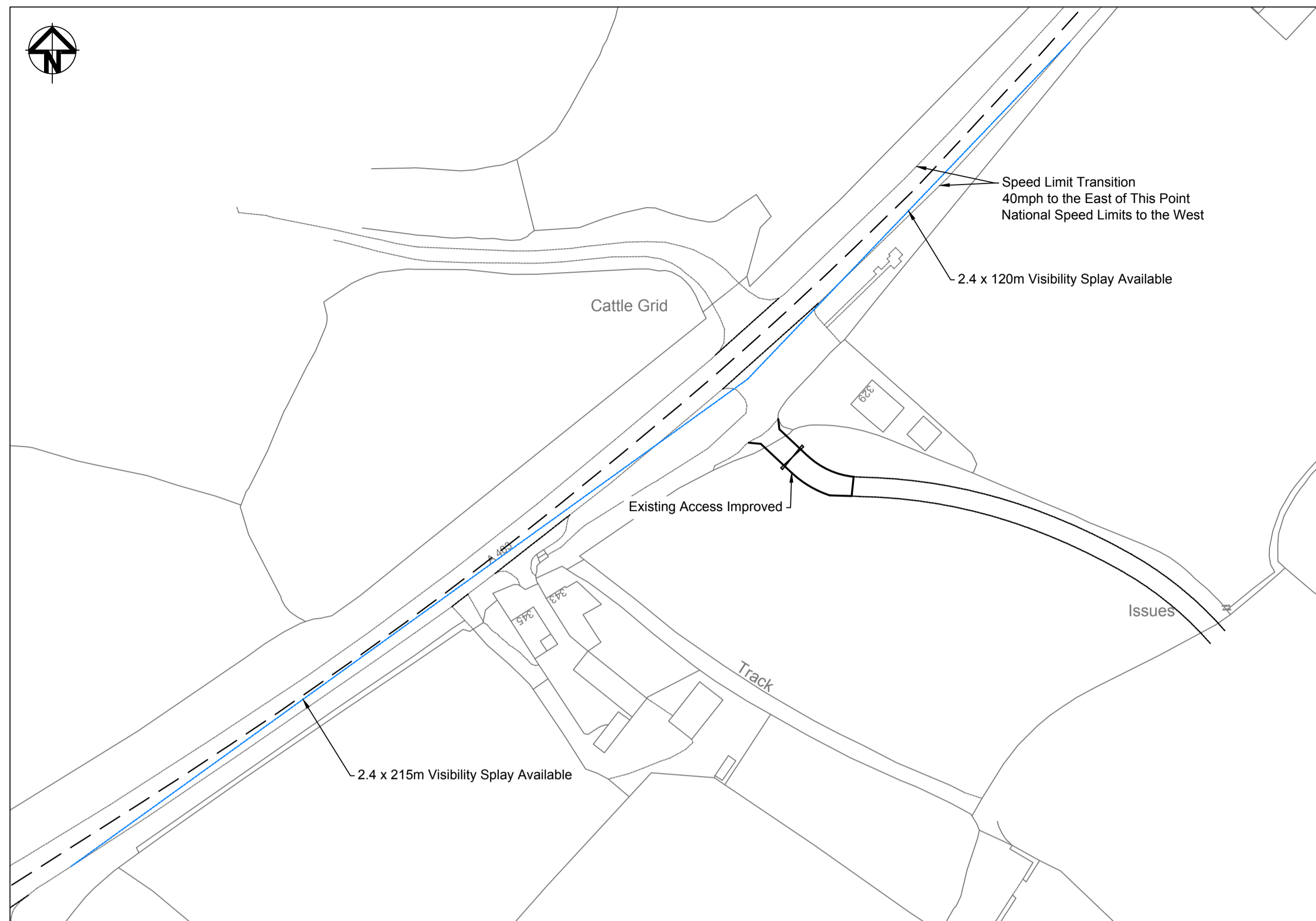
- Contra-flow system to be implemented
- Left-in / Left-out system to be implemented at the A48 junction
- Wheel wash facilities to be provided at each site access for departing vehicles
- Banksman to be located at each site access
- Temporary signage (compliant with Chapter 8) provided on approaches to the site access

## 6 Summary & Conclusion

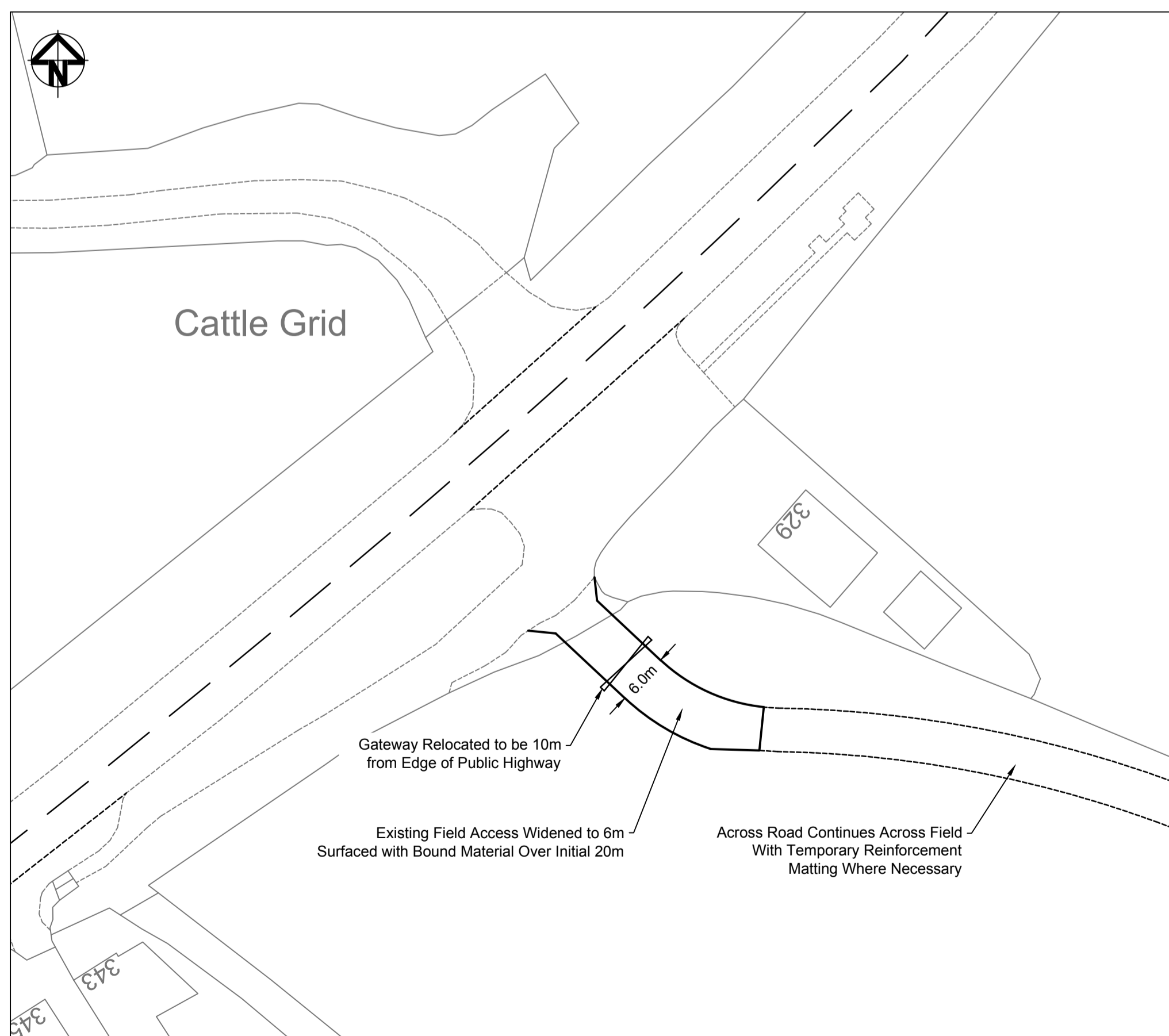
- 6.1 The main points and issues considered in this Transport Statement are as follows.
- 6.2 The proposal is to create a solar farm on three areas of land to the east of the A48 and south west of Tycroes. Area 1 and 2 are to the south west of Tycroes and east of the A483 from which they will be accessed. Area 3 is to the east of and will be accessed from the A48.
- 6.3 It is anticipated that the construction of the solar farm will take some 18 weeks. Peak traffic generation will occur during the initial weeks when crushed stone will be brought onto site to construct the compound area and access roads. It is anticipated that at its peak the construction works will generate some 10 to 11 HGV deliveries per day (40 movements) or some 2 to 3 HGV movements per hour on the A48 and a similar volume of traffic on the A483.
- 6.4 Traffic management will be in place during the construction period. At the A48 access to area 3 arriving construction traffic will not be permitted to turn right and cross the southbound carriageway. Instead traffic will continue north for some 5km and U-turn at the Cross Hands Business Park grade-separated junction. Appropriate temporary signage will be deployed during the construction period.
- 6.5 After commissioning, the site will only experience very infrequent visits for maintenance, by van/4x4-type vehicle.
- 6.6 In conclusion it is considered that the proposed mitigation measures will ensure that construction traffic can safely access the site and that there will be no significant permanent impact on the operation and safety of the surrounding highway network. As such it is considered that the proposed development is acceptable in terms of its Transport impacts.

## Appendix 1 Area 2 Access



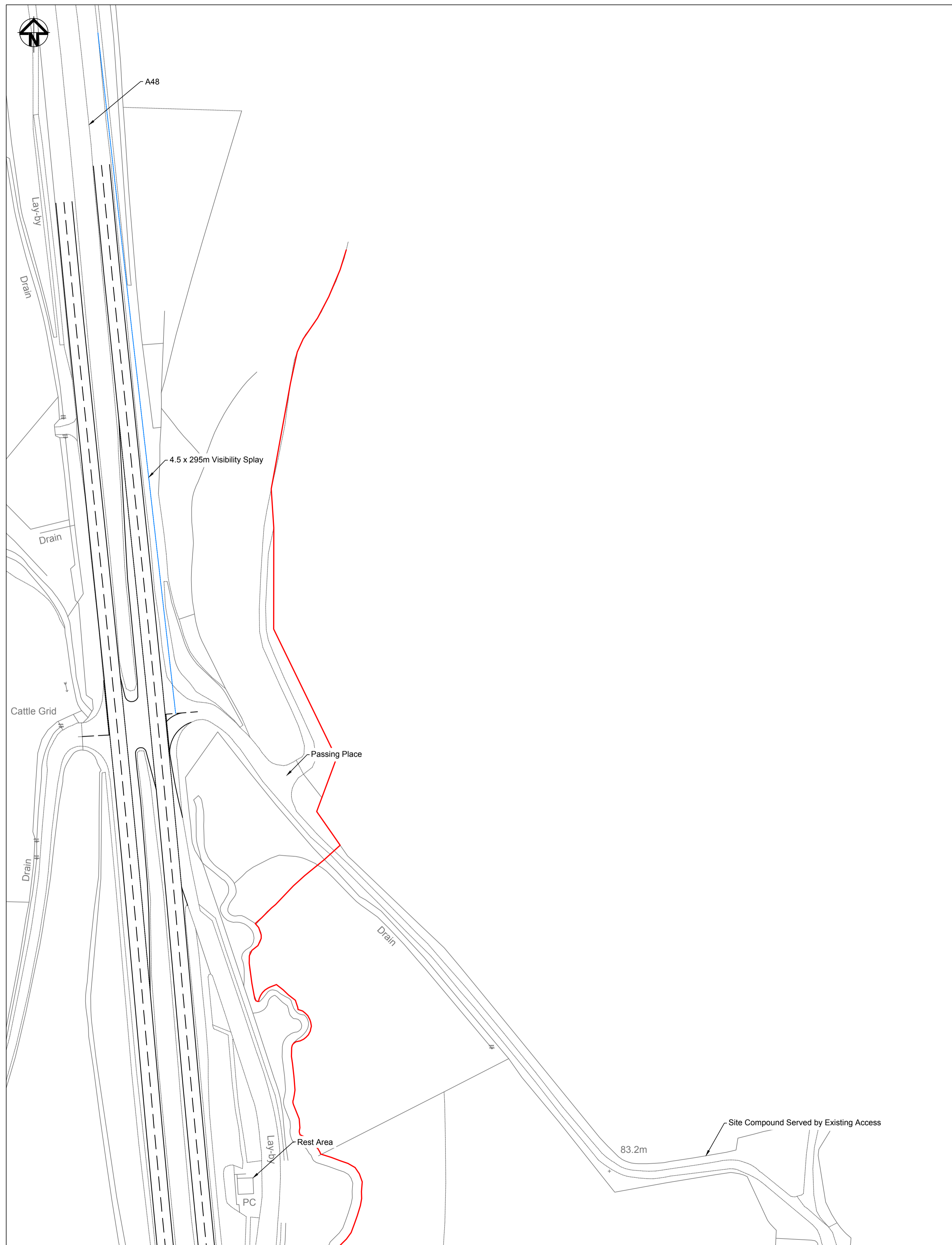



FTA Design Rigid Vehicle (1983)	10,000m
Overall Length	2,500m
Overall Width	3,632m
Overall Body Height	0,427m
Min. Body Ground Clearance	2,500m
Track Width	4,000
Lock to Lock Time	12,000m
Kerb to Kerb Turning Radius	

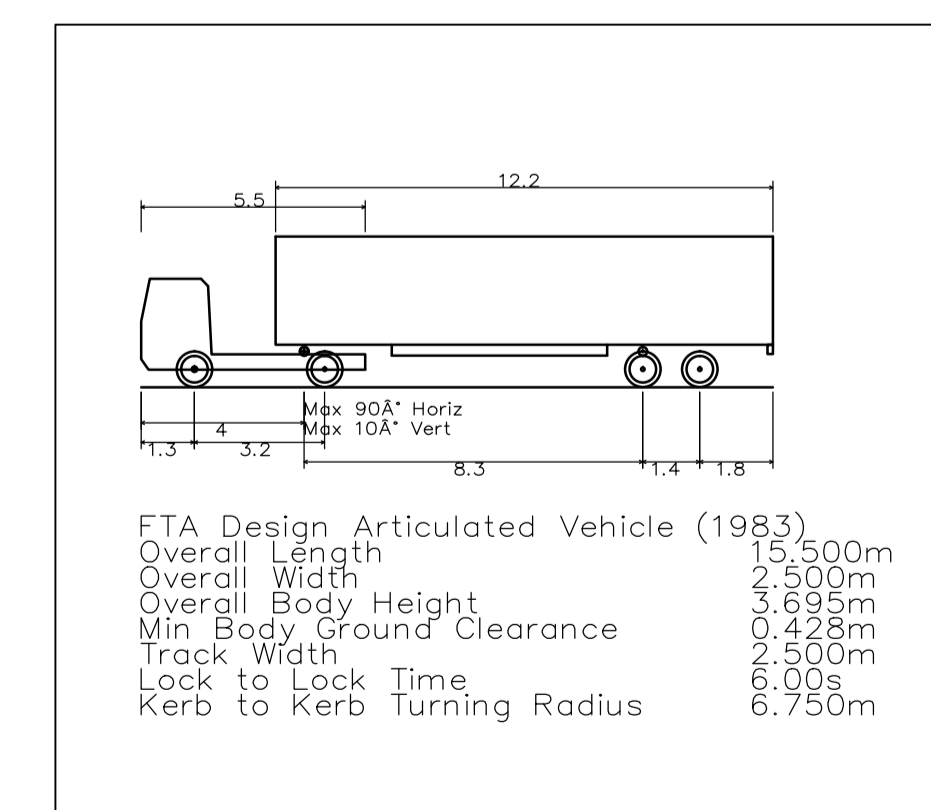
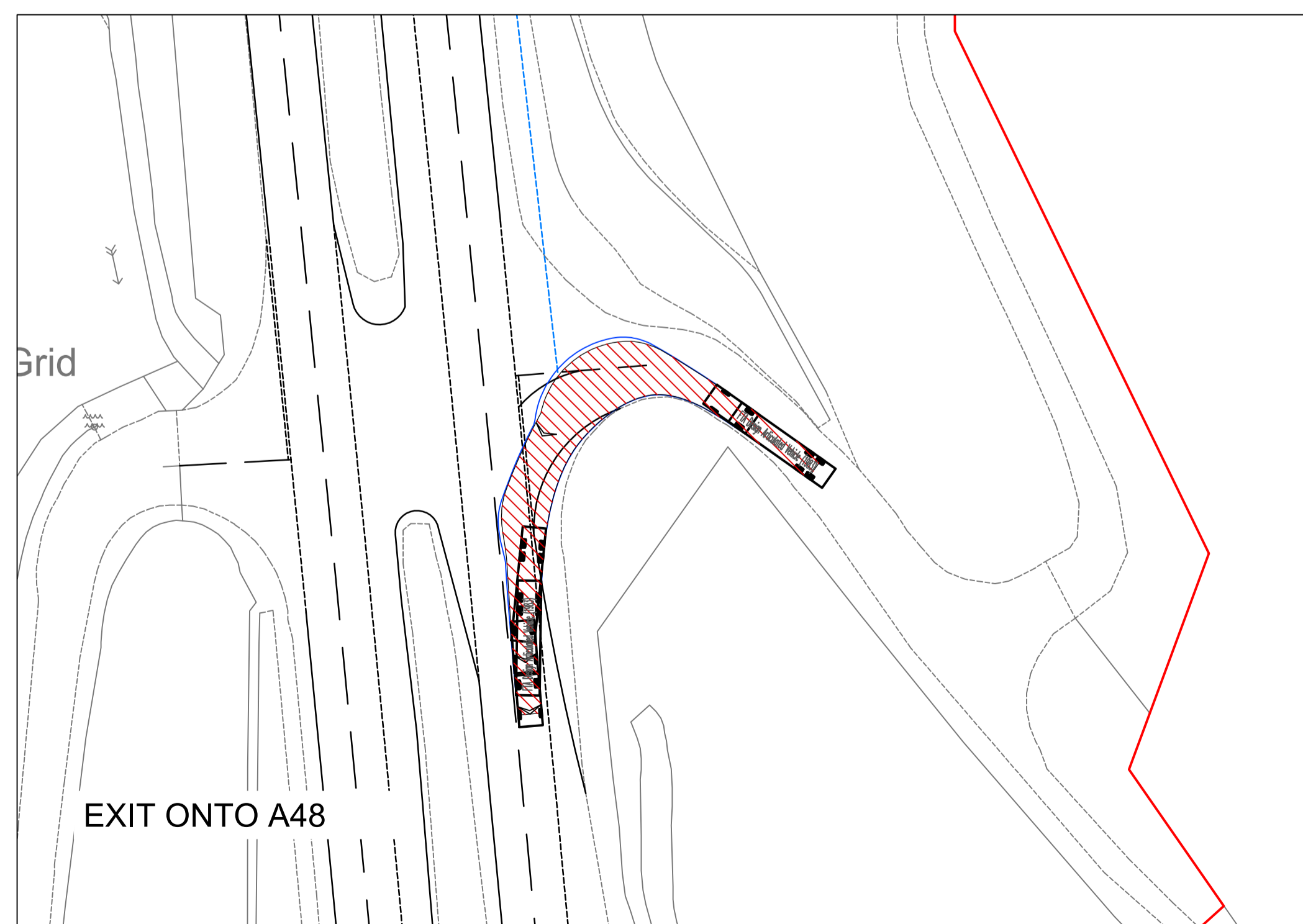
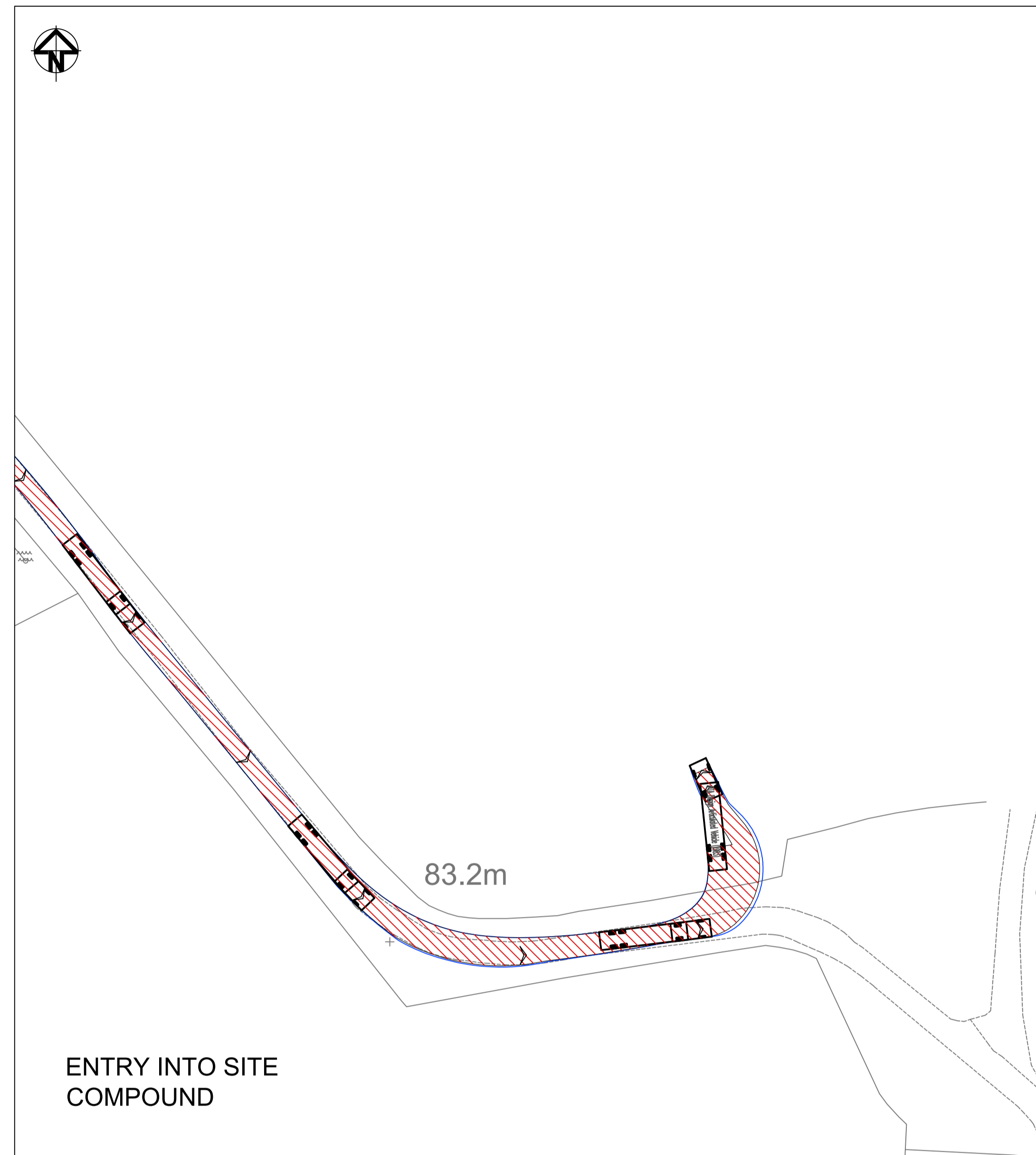
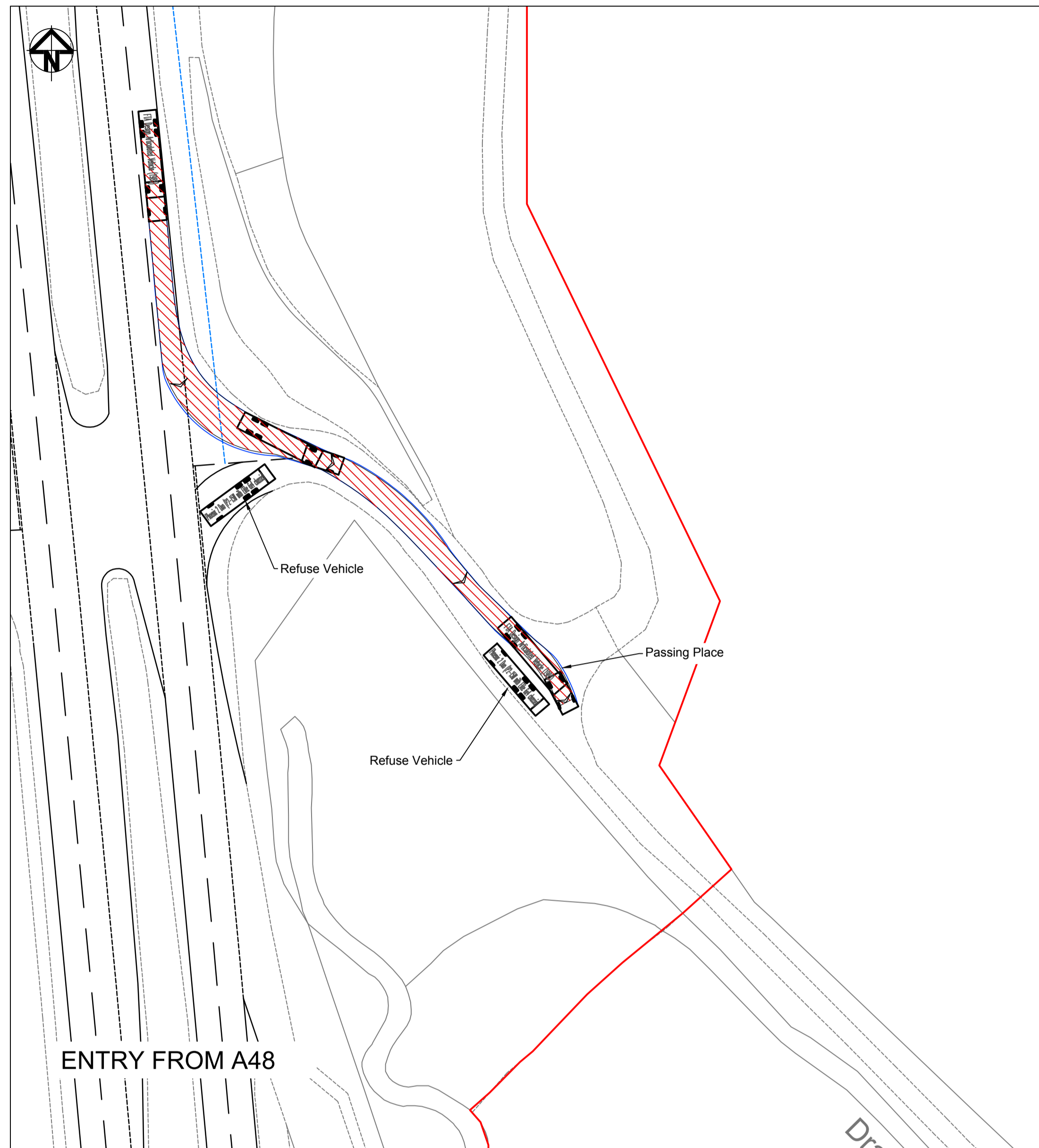


A	First Issue	06-04-20
<p>Prifffyrdd a Thrafnidiaeth Highways &amp; Transportation Ty Penryn, Salem, Llanidloes, SA19 7LT E-mail: mail@acstro.com www.acstro.com Tel: 01558 824021</p>		
<b>LAND SOUTH OF A483 TYCROES</b>		
<b>AREA 2 ACCESS</b>		
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## Appendix 2 Area 3 Access



B	Site Access Amended	15-04-20
A	First Issue	06-04-20
 Prifffyrdd a Thrafnidiaeth Highways & Transportation Ty Penbryn, Salem, Llandello, SA19 7LT E-mail: mail@acstro.com www.acstro.com Tel: 01558 824021		
<b>LAND EAST OF A48</b>		
<b>AREA 3 ACCESS ARRANGEMENT</b>		
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B	Compound Area	15-04-20
A	First Issue	06-04-20

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LAND EAST OF A48

AREA 3 ACCESS ARRANGEMENT  
 SWEPT PATH ANALYSIS

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