

# HYBONT GREEN HYDROGEN PROJECT

## Transport Statement

JNY11534-01  
HyBont Green Hydrogen Project  
Transport Statement  
Version 01a  
17 November 2022

## Document Status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
01	Transport Statement	Charlotte Routledge	Emma O'Neill	Emma O'Neill	17 November 2022

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# 1 INTRODUCTION

1.1 RPS have been commissioned by Marubeni (the applicant) to produce a Transport Statement (TS) to accompany a detailed planning application for a new green hydrogen scheme at Bride's Minor, Bryncethin in Bridgend. The development description is as follows:

**“Development of a green hydrogen production facility with electrolysers, hydrogen storage, hydrogen refuelling station, admin building, substation, back-up generator and hydrogen pipeline ‘off-take’; with access, circulation, parking, lighting, security fencing, hard and soft landscaping, and drainage infrastructure on land at Brynmenyn, Bridgend. Together with the installation of a solar photovoltaic electricity generating station (solar farm), comprising ground-mounted solar panels, inverters, transformer units, control and storage building, switch gear and a substation; with access, circulation, parking, lighting, security fencing, hard and soft landscaping, drainage infrastructure and temporary construction compound, on land at Bryncethin, Bridgend. Sites to be connected via an electrical wire (part under and part overground)”.**

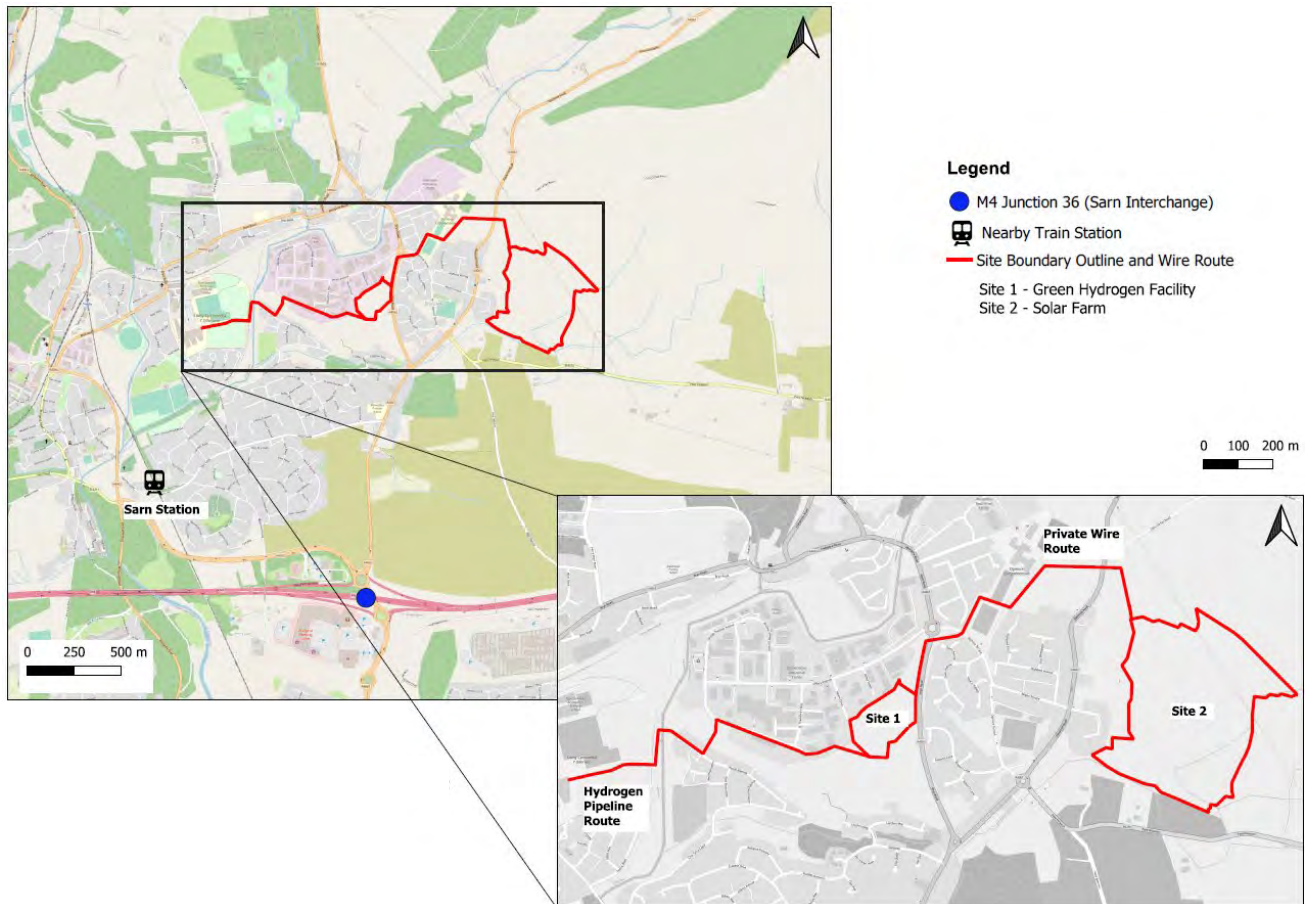
1.2 There are two separate sites associated with this development, the first Site 1 is for a new Hydrogen Production Facility. The second Site 2 is for a small Solar Farm. The energy produced from the Solar Farm will be used to generate hydrogen for the production facility. They will only be linked via an electrical wire, connecting the two sites. Planning permission for both developments is being sought under one application.

1.3 **Site 1- Green Hydrogen Facility** - is approximately one hectare in size, and is located to the south of Brynmenyn, a small village 5km north of Bridgend. The site which is located within approximately 2km north of J36 of the M4, is bound to the south by green fields, the east by the A4065, and the north and west by Brynmenyn Industrial Estate.

1.4 **Site 2- Solar Farm** – is an eight hectare site, located to the east of Bryncethin. The site which is also located approximately 2km north of J36 of the M4, is bound to the north, south and east by open agricultural land, the Bridgend County Borough Council (BCBC) Bryncethin Depot and Trade Centre forms the sites western boundary.

1.5 **Figure 1** below shows the site location of both sites, which are approximately 1km apart. This plan shows the site locations in both a strategic and local context, with J36 of the M4 identified.

**Figure 1 – Site Locations**



- 1.6 The proposed Hydrogen Production Facility will comprise of electrolyzers that generate hydrogen from electrical power by splitting water, hydrogen storage, and a hydrogen refuelling station. The site is one hectare in size, with a large proportion of the site used for roads and paving to allow adequate access for refuelling of heavy vehicles. Access to the facility will be promoted from the Brynmenyn Industrial Estate, via Squire Drive, an internal industrial road, which currently serves other industrial units.
- 1.7 The Solar Farm includes an array of ground-mounted solar panels and ancillary infrastructure including inverters (likely to be mounted behind the panels), transformer units, electrical infrastructure, switch gear and substation, and temporary construction compounds. It is anticipated that the useful life of the proposed development would be 25 - 30 years.
- 1.8 It is predicted that the Solar Farm would have a potential annual yield of approximately 5,700 MWh and will be connected electrically via a private wire to the Hydrogen Production Facility electrolyser located at the Brynmenyn Industrial Estate.
- 1.9 Access to the Solar Farm will be promoted via the BCBC Bryncethin Depot and Trade Centre which is currently accessed from the A4061 Blackmill Road.

- 1.10 Indicative masterplans for both sites are included in **Appendix A** and a full package of all figures is included in **Appendix B**.

## Report Purpose

- 1.11 This Transport Statement considers the transport issues surrounding the proposed developments. It sets out the methodology for assessing the baseline and proposed development tests and provides a summary of the transport implications for both developments with regards to transport.

## Report Structure

- 1.12 This Transport Statement is structured as follows:
- **Section 2: Baseline Conditions** - Describes the existing site and the surrounding areas transport and highway characteristics;
  - **Section 3: Proposed Development** - Analysis of the development proposals in respect of the development itself as well as the access and parking arrangements being promoted;
  - **Section 4: Travel Demand** - Assessment of the number of trips that are likely to be generated by the developments; and
  - **Section 5: Summary and Conclusion** - Summary of the findings of the Transport Statement.

## 2 BASELINE CONDITIONS

### Context

- 2.1 This section provides information on the existing site and the surrounding road network, with a focus on the local highway network and highway safety, given that neither developments will attract significant (if any) pedestrians or cyclist movements when operational.

### Site 1 - Green Hydrogen Facility

#### Local Road Network Infrastructure

##### Squire Drive

- 2.2 The proposed Hydrogen Production Facility will be located to the immediate south of Brynmenyn Industrial Estate, a purpose-built estate which is regularly used by HGV's and serves multiple manufacturing and storage facilities.
- 2.3 The facility will be accessed from Squire Drive, an internal road within the Industrial Estate. Squire Drive has a carriage width of approximately 6m and benefits from footways along both sides of its carriageway. Squire Drive currently serves as access for six industrial units and runs on north to south alignment from Millers Avenue.

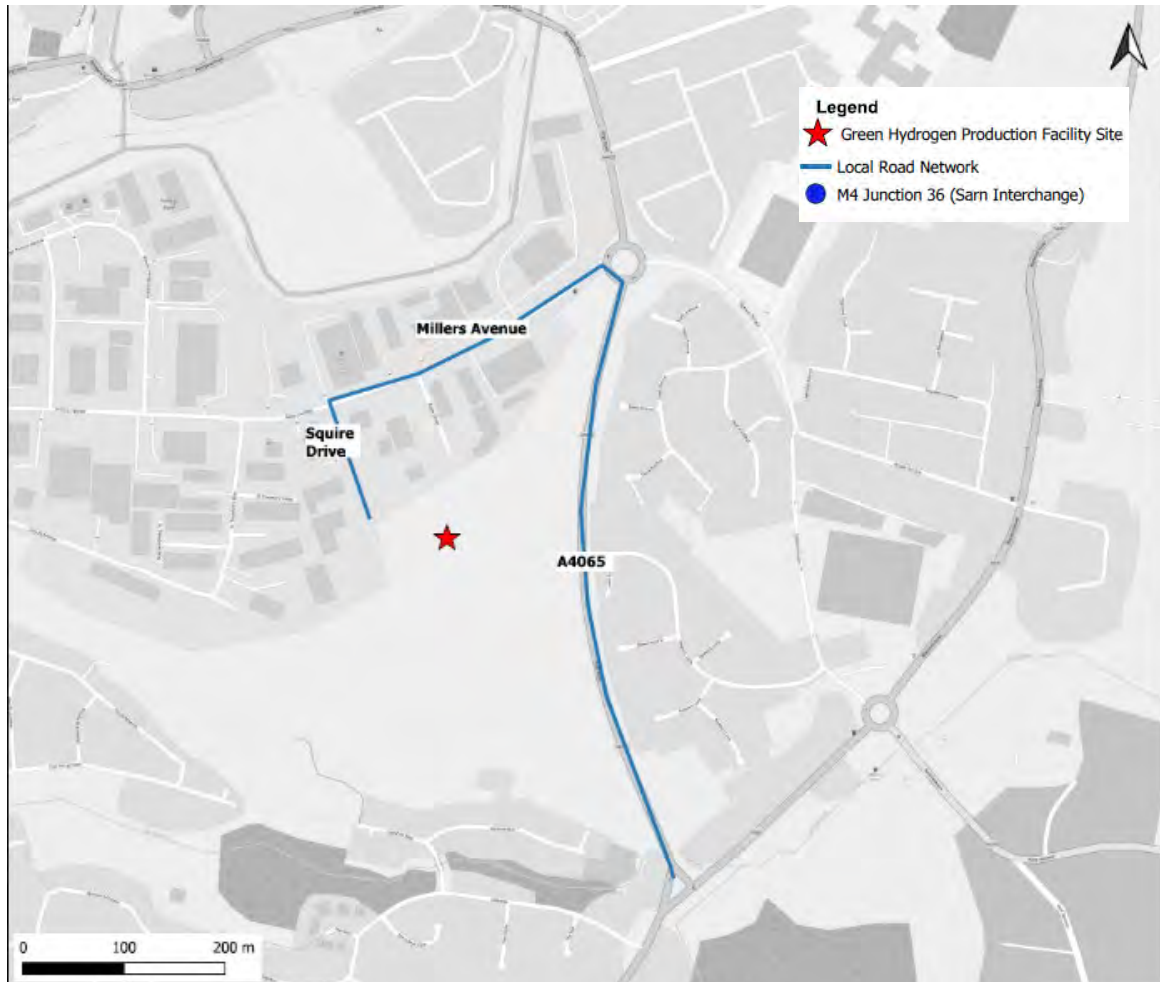
##### Millers Avenue

- 2.4 Squire Drive leads onto Millers Avenue, which is the main access road through Brynmenyn Industrial Estate. Millers Avenue has a carriage width of approximately 7.5m, and wide footways on both sides of its carriageway. It is subject to a 30mph speed limit and runs on an east to west alignment from the A4065 / Millers Avenue / Ogmore Terrace roundabout.

##### The A4065

- 2.5 The A4065 is one of the main routes through the village of Brynmenyn. It runs from its junction with the A061 to Tondy, a small village west of Brynmenyn. The A4065 benefits from a wide 7.5m carriageway and footpath along one side of its carriageway.
- 2.6 **Figure 2** below shows the location of the primary road network in the vicinity of the proposed Hydrogen facility.

**Figure 2 – Local Road Network (Green Hydrogen Facility)**



## Personal Injury Accident History

- 2.7 Collision data in the vicinity of the proposed development site has been obtained by RPS from CrashMap and analysed for the latest complete five-year period (2017 - 2021).
- 2.8 The collision history has been reviewed at key junctions and links identified in the study area shown in **Figure 2**.
- 2.9 The data shows that there was one accident recorded in 2019 along the A4065, this was a slight accident, involving one vehicle and resulting in one casualty. On this basis, it is considered that the adjoining highway network currently operates with no significant highway safety issues which could be exacerbated by the development.



## Site 2 - Solar Farm

### Local Road Network Infrastructure

#### A4061 Blackmill Road

- 2.10 The Solar Farm will be located to the immediate east of the A4061 Blackmill Road with access promoted through the existing BCBC Bryncethin Depot. The new Solar Farm will be accessed from Blackmill Road, which is effectively the village high street with basic amenities, such as a corner shop and small convenience store. Blackmill Road runs on a north to south alignment past the proposed Solar Farm development, has a carriage width of approximately 6.5m and footway along the western side of its carriageway.
- 2.11 The A4061 provides access to J36 of the M4. **Figure 3** shows the location of the A4061 in relation to both the development site and J36.

**Figure 3 – Local Road Network (Solar Farm)**



## Personal Injury Accident History

- 2.12 Collision data in the vicinity of the proposed development site has been obtained by RPS from CrashMap and analysed for the latest complete five-year period (2017 - 2021).
- 2.13 The collision history has been reviewed along the A4061 Blackmill Road, from its junction with Heol Spencer in the south to Cefn Carfan Road in the north.
- 2.14 The data shows that there were six slight accidents recorded during this period, this equates to just over one accident each year.
- 2.15 There were two accidents recorded at the Blackmill Road / Heol Spencer / Ogmores Terrace Roundabout, one in 2018 and one in 2017. One slight accident occurred in 2018 at the Blackmill Road / Dennis Place junction. There were two slight accidents recorded along the Blackmill Road, one in 2020 close to the bus stop, involving two vehicles and resulting in one slight casualty, the other was recorded outside 34 Blackmill Road, involving one vehicle and resulting in one casualty. The final collision occurred at the Cefn Carfan Road / Blackmill Road junction, involving two vehicles and resulting in five casualties.
- 2.16 The data shows that there is no inherent trend on accident locations, and none occurred in the vicinity of the proposed Solar Farm access. On this basis, it is considered that the adjoining highway network currently operates with no significant highway safety issues which could be exacerbated by the development.

## Pedestrian and Cycle Accessibility

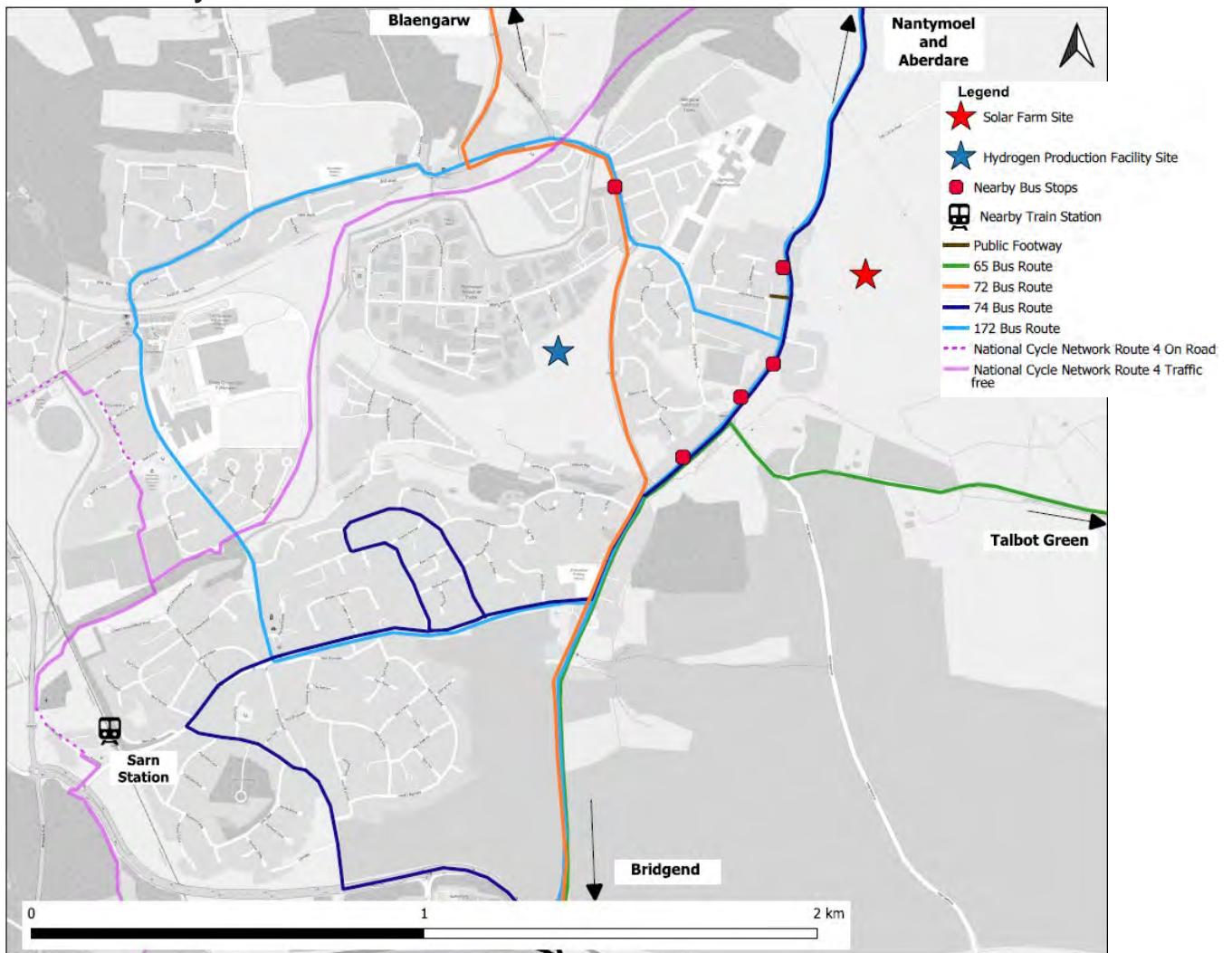
- 2.17 The proposed development sites are located within areas of Bryncethin that can be easily accessed by sustainable modes of travel. Both development sites benefit from existing pedestrian infrastructure within their immediate vicinities, providing continuous links to local residential areas and bus stops.
- 2.18 On the A4061 Blackmill Road approaching the Ogmores Terrace / A4061 Blackmill Road / Heol Spencer / A4061 roundabout, there is a blue shared cycleways / footways sign on the eastern side of the carriageway. This is accompanied by wide pavements, approximately 3.5m in width allowing a safe cycle route separated from the traffic.

## Public Transport

- 2.19 The proposed development sites are also accessible by public transport. The nearest bus stops to the proposed Hydrogen Production Facility are located along the A4065 approximately 600m north of the site. Bus routes 72 and 172 both stop here and provide a half hourly service to Porthcawl, Bridgend, Aberdare and Blaengarw.
- 2.20 There is an existing bus stop also located along Blackmill Road, approximately 100m south of the proposed Solar Farm site. Three buses stop along Blackmill Road, providing a combined peak frequency of four buses per hour to Bridgend, Nantymoel, Porthcawl and Aberdare.
- 2.21 The nearest train station is Sarn railway station, which is located approximately 2.5km from the development sites, equating to approximately 30-minute walk or 10-minute cycle. Travel to Maesteg, Cheltenham Spa and Cardiff Central can be accessed by Sarn railway station.

2.22 **Figure 4** shows the walking, cycling and public transport infrastructure in the vicinity of both development sites.

**Figure 4 – Public Transport Accessibility, and Walking and Cycling Routes in the Vicinity of the Site**



## 3 PROPOSED DEVELOPMENTS AND ACCESS ARRANGEMENTS

### Context

- 3.1 There are two separate sites associated with this development, the first is for a new Hydrogen Production Facility. The second is for a small Solar Farm. The energy produced from the Solar Farm will be used to generate hydrogen for the Production Facility. They will only be linked via an electrical wire, connecting the two sites. Planning permission for both developments is being sought under one application, as such this Transport Statement relates to both sites.

### Site Locations

- 3.2 **Site 1 - Green Hydrogen Facility** - is approximately one hectare in size, and is located to the south of Brynmenyn, a small village 5km north of Bridgend. The site, which is located approximately 2km north of J36 of the M4, is bound to the south by open agricultural land, the east by residential land, and the north and west by Brynmenyn Industrial Estate.
- 3.3 **Site 2 - Solar Farm** – is an eight hectare site, located to the east of Bryncethin. The site which is also located approximately 2km north of J36 of the M4, is bound to the north, south and east by open agricultural land, the Bridgend County Borough Council (BCBC) Bryncethin Depot and Trade Centre forms the sites western boundary.

### Site 1 - Green Hydrogen Facility

- 3.4 The proposed Hydrogen Production Facility will comprise of electrolyzers that generate hydrogen from electrical power by splitting water, hydrogen storage, and a hydrogen refuelling station. The site is 1ha in size, with a large proportion of the site used for roads and paving to allow adequate access for refuelling of heavy vehicles.
- 3.5 Access to the facility will be promoted from the Brynmenyn Industrial Estate, via Squire Drive, an internal industrial road, which currently serves other industrial units. This internal road will be extended into the site where the internal carriage width is 7.4m, this allows for two-way access and egress of heavy vehicles. There will be a controlled access in the form of security gates, restricting access for unauthorised vehicles.
- 3.6 RPS Drawing Number 11534-01 included as **Appendix C** shows an Oil Tanker / Tube Trailer (as the largest vehicle expected on site) accessing and egressing the site and manoeuvring in and out of refuelling stations, located along the site's southern boundary without issue.

## Car Parking

- 3.7 The Bridgend County Borough Council parking standards are based on SPG 17, which was produced in 2008. These standards do not include any guidance on developments such as a Green Hydrogen Facility, the SPG 17, does however suggest that:

**“the local authority reserves the right to treat all planning applications on their merits according to the size, nature, location, density, employment and traffic generation characteristics of the proposed development and its impact on the local and regional highway network”**

- 3.8 The masterplan includes three car parking spaces, these will be used by staff and visiting contractors. The development will result in up to four staff employed on site, with sub-contractors and ancillary staff on site occasionally. This level of parking is therefore sufficient to meet staffing demand. Operational demand from Council vehicles refuelling will be accommodated at the refuelling stations, it is not envisaged that these vehicles would remain onsite for any longer than needed to refuel.

## Site 2 - Solar Farm

- 3.9 The Solar Farm includes an array of ground-mounted solar panels and ancillary infrastructure including inverters (likely to be mounted behind the panels), transformer units, electrical infrastructure, switch gear and substation, and temporary construction compounds. It is anticipated that the useful life of the proposed development would be 25 -30 years.
- 3.10 It is predicted that the Solar Farm would have a potential annual yield of approximately 5,700 MWh and will be connected electrically via a private wire to the Hydrogen Production Facility electrolyser located at the Brynmenyn Industrial Estate.
- 3.11 Access to the Solar Farm will be promoted from the A4061 Blackmill Road through the existing BCBC Bryncethin Depot. Once operational, the Solar Farm will not require significant maintenance, except for occasional visits made by 4x4 vehicles or panel van vehicles. Notwithstanding RPS Drawing Number 11534-02 also included as **Appendix C** shows a van accessing and egressing the site without issue.

## Car Parking

- 3.12 Occasional maintenance vehicles will be on site, this however is expected to be an infrequent occurrence, with maintenance vehicles driving to individual solar panels to address issues, rather than parking their vehicle. On that basis, no formal parking is included at the proposed Solar Farm.

## 4 TRAVEL DEMAND

- 4.1 This section of the Transport Statement outlines the forecast trip generation of the proposed developments in respect of vehicular trips.
- 4.2 Both development sites are low trip generators, with typically more vehicular trips generated during the construction phases than when the sites are operational. On that basis, separate Construction Traffic Management Plans (CTMPs) have been produced for each site. These provide detail on how traffic will be managed through the construction period and how its impacts mitigated. These reports are included as **Appendix D**.

### Green Hydrogen Facility – Trip Generation

- 4.3 The proposed Hydrogen Production Facility would have a rated capacity of up to 5 MW of electrolysis, consisting of three 2.5 MW electrolyser units, and up to 3.8 tonnes of hydrogen storage.
- 4.4 The hydrogen supply of 300 tonnes per year is anticipated to supply 20 Council Vehicles (Buses and Refuse Vehicles), and eight Project Owned Vehicles (HGVs and Tube Trailers) with a daily supply of fuel, the number and types of vehicles refuelling are summarised below:
- Buses \* 15;
  - HGV's \* 6;
  - Refuse Vehicles \* 5; and
  - Tube Trailers \* 2
- 4.5 There will 28 HGV's using the new Hydrogen Facility to recharge. Recharging will be staggered, allowing vehicles to attend the facility at an allotted time, avoiding peak hours and ensuring that the refuelling process is undertaken in a convenient and controlled way, with less disruption on site.
- 4.6 The facility will employ up to four full time staff members, these will be supported by an additional four corporate staff and specialist sub-contractors who will visit the site on an ad hoc basis, for the purpose of this assessment it has been assumed that the site will generate one ad hoc visits each day.
- 4.7 Based on the numbers above, this means that the new facility could generate 66 two-way vehicles movements each day. On the basis that the facility is opened for 12 hours a day, this means that the new Hydrogen Facility could generate six vehicles an hour, or one vehicle every ten minutes. It should also be noted that the vast majority of HGV trips associated with this development will be already on the network as the vehicles recharging are existing Council civic vehicles, with the only 'new' trips associated with staff and tube trailers.

### Traffic Impact

- 4.8 2021 Annual Average Daily Flow (AADF) data for the A4065 has been obtained from DfT (<https://roadtraffic.dft.gov.uk/>). There was only one available count within proximity of the proposed hydrogen facility, this was located to immediate north of the A4065 / Millers Avenue /

Ogmore Terrace Roundabout, and while it is noted this location is not fully applicable to the development, will provide a good representation of traffic flows along the A4065.

4.9 The 2021 AADF data for the A4065 is summarised below in Table 1.

**Table 1 – 2021 AADF for the A4065**

Location	Count ID	Car / LGV's	HGV's	Total
A4065 (NB)	40635	4,318	112	4,430
A4065 (SB)	40635	4,306	105	4,411
Total	40635	8,624	217	8.841

4.10 Estimated trip generation during operations of the proposed development calculates that peak two way movements would equate to 56 HGVs and 10 two way car movements. All traffic has been assigned in a southbound direction towards to the Motorway, against traffic data collected to the north of the A4065 / Millers Avenue / Ogmore Terrace Roundabout. This results in an overly robust assessment, and is summarised below in Table 2

**Table 2 –Traffic Flows**

Location	Count ID	Car / LGV's	HGV's	Total
A4065	40635	10 (0.1%)	56 (25.8%)	(0.7%)

4.11 The above changes in traffic flows along the A4065 represent a negligible change in traffic flows, similarly the A4065 in the vicinity of the Industrial Estate is not located in a specifically sensitive location. On this basis, these predicted increases are well below the 'Guidelines for the Environmental Assessment of Road Traffic' which suggest two broad rules that can be used as a screening process to identify the appropriate extent of the assessment area. These are:

- **Rule 1** – Include highway links where traffic flows would increase by more than 30% (or the number of HGVs would increase by more than 30%); and
- **Rule 2** – Include any other specifically sensitive areas where traffic flows would increase by 10% or more." Therefore, the construction traffic as a result of the development will not create a significant impact on the local highway network.

## Solar Farm – Trip Generation

4.12 Once operational, the proposed development will not require significant maintenance, except for occasional visits made by 4x4 vehicles or panel van vehicles.

4.13 The impact of maintenance vehicles is negligible given the infrequent nature of maintenance visits.

## Summary

4.14 It is evident that both the Solar Farm and Green Hydrogen Facility are (when operational) low trip generators. The Solar Farm will require occasional visits to site to maintain equipment, and the Hydrogen Plant, will be generate approximately one trip every ten minutes. Increases of this

magnitude are well within daily variance. On that basis, no further analysis has been undertaken to determine the impact the proposals have on the local network.



## 5 SUMMARY AND CONCLUSIONS

### Summary

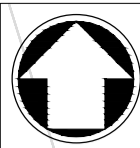
- 5.1 RPS have been commissioned by Marubeni (the applicant) to produce a Transport Statement (TS) to accompany a detailed planning application for a new Green Hydrogen Scheme at Bride's Minor, Bryncethin in Bridgend.
- 5.2 There are two separate sites associated with this development, the first is for a new Hydrogen Production Facility. The second is for a small Solar Farm. The energy produced from the Solar Farm will be used to generate hydrogen for the Production Facility. They will only be linked via an electrical wire, connecting the two sites. Planning permission for both developments is being sought under one application, and this Transport Statement has been prepared to assess the impact of both sites with regards to transport.
- 5.3 The sites are both located in Brynmenyn, a small village 5km north of Bridgend. The Hydrogen Facility will be located in Brynmenyn Industrial Estate, while the Solar Farm is located to the east of the BCBC Bryncethin Depot accessed from the A4061 Blackmill Road. The proposed masterplans for both developments are included as **Appendix A** of this report.
- 5.4 Both development sites are low trip generators, especially during their operational phases. The Solar Farm is likely to only generate sporadic vehicle trips when maintenance is required. The Hydrogen Facility will be primarily used as a refuelling station for Council vehicles and will employ four full time staff members supported by an additional four corporate staff and specialist sub-contractors who will visit the site on an ad hoc basis. These Council vehicles are already on the network and therefore are not considered to be new trips.
- 5.5 The proposed locations of both sites are considered suitable to meet the demands of the proposals, with the Hydrogen Facility located within an existing Industrial Estate, purpose built to accommodate larger HGV's.
- 5.6 Access to the Hydrogen Facility will be promoted from the Brynmenyn Industrial Estate, via Squire Drive, an internal industrial road, which currently serves other industrial units.
- 5.7 The masterplan includes three car parking spaces, these will be used by staff and visiting contractors. The development will result in approximately four staff employed on site, with sub-contractors and ancillary staff on site occasionally. This level of parking is therefore sufficient to meet staffing demand. Operational demand from Council vehicles refuelling will be accommodated at the refuelling stations, it is not envisaged that these vehicles would remain onsite for any longer than needed to refuel.
- 5.8 Access into the Solar Farm is promoted from Blackmill Road via the BCBC Bryncethin Depot, this report has shown that vehicles can access and egress the development site without issue.

### Conclusion

- 5.9 Based on the above it is therefore considered that, in transportation terms, there are no overriding or sustainable reasons why the development proposals should not be approved.

## Appendices

## Appendix A – Masterplans



Sub Sta



- Notes
1. Do not scale from this drawing.
  2. All dimensions are in metres unless otherwise stated.
  3. This drawing is to be read in conjunction with all relevant documents and drawings.
  4. No unauthorised disclosure, storage or copying.
  5. All spatial coordinates relate to the Ordnance Survey, British National Grid (OSGB36).
  6. All levels are in meters and relate to AOD (Ordnance Survey, Newlyn).
  7. Indicative high level site layout areas for hydrogen production, hydrogen storage, hydrogen refueling station and tube trailer loading.
  8. Admin/ security building to include control room and maintenance facilities.
  9. Site boundary depicts the land use case to support lease agreement discussions. Additional land may be required for third party interfaces unknown at this time.

Key to symbols

- SITE BOUNDARY
- EXISTING WATER MAIN
- EXISTING SEWER
- PIPELINE ROUTE
- UNIT OPERATION
- ROAD
- WAITING/ UNLOADING AREA

SITE STATION CONTROL		
Z15	290968.323	184466.498
Z17	290953.470	184521.437
STN01	291038.569	184397.359
STN02	290935.296	184347.653

Reference drawings  
 © Crown copyright and database rights 2022 Ordnance Survey 0100031673

Rev	Date	Drawn	Description	Ch'k'd	App'd
H	17/11/22	TK	Attenuation and earthworks updated	PM	JP
G	04/11/22	TK	Pipeline route included	AH	JP
F	01/11/22	TK	Updated per discipline and client requirements	AH	JP
E	11/10/22	TK	Client comment incorporated	AH	JP
D	10/10/22	TK	Civil requirements incorporated	PM	JP
C	15/07/22	AS	Modified as per client comments	AH	JP
B	14/03/22	AS	Issued for Information	AH	AT
A	08/03/22	AS	Issued for Information	AH	AT
P01	12/02/22	MJ	Preliminary Issue	AH	JP

Status Stamp  
**NOT FOR CONSTRUCTION**

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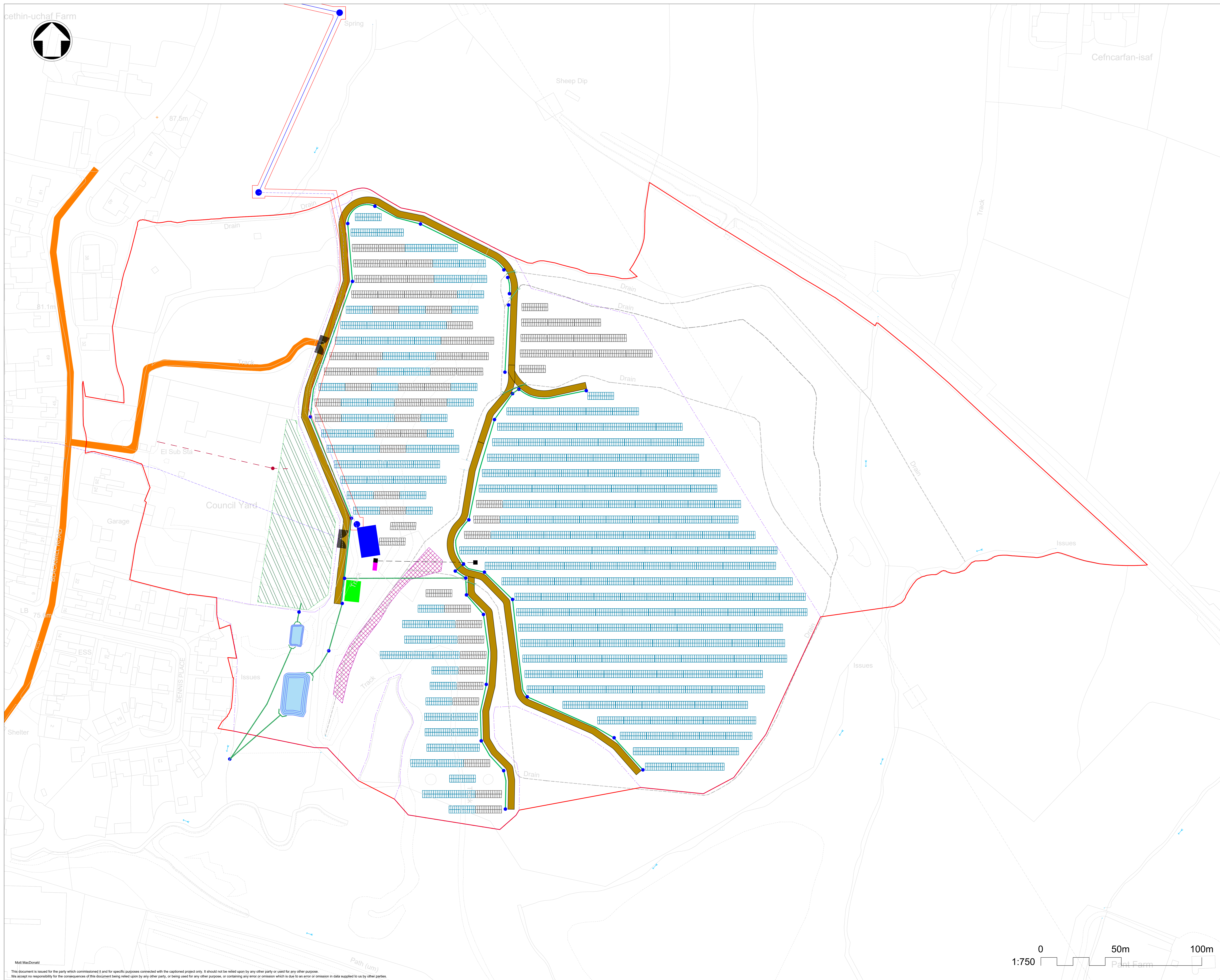
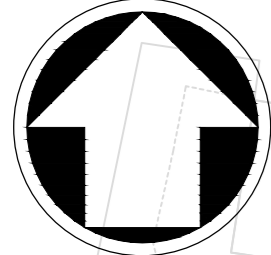
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Title  
**Bridgend Green Hydrogen**

**Site Layout**

**Sheet 01 of 01**

Designed	A.Harris	AH	Eng check	A.Ho	AH
Drawn	T.King	TK	Coordination	T.King	TK
Dwg check	T.King	TK	Approved	J.Paul	JP
MMD Project Number	108939	Scale at A1	1:500	Security	STD
Suitability Description	Suitable for Review & Comment				Suit. Code
Drawing Number	108939-MMD-BRGR-XX-DR-C-0002				Revision
					H



**Notes**

- Do not scale from this drawing.
- All dimensions are in metres/millimetres unless otherwise stated.
- This drawing is to be read in conjunction with all relevant documents and drawings.
- No unauthorised disclosure, storage or copying.
- All spatial coordinates relate to the Ordnance Survey, British National Grid (OSGB36).
- All levels are in metres and relate to AOD (Ordnance Survey, Newlyn).
- Private wire route alignment subject to update by designer; the expected wire route revision to follow the fence line and not pass through the solar panel array.
- Pending results of surveys, the site may be subject to minor grading/preparatory groundworks to level steeper slopes in the panel area.

**Key to symbols**

- Site Boundary
- Fence
- LV OHL Private wire route Option 1
- LV buried Private wire route Option 2
- Drainage plan design
- New internal road
- Existing road
- Switchgear
- 2P14 frame module
- 2P14 frame module above 15% slopes
- Control Building
- Substation
- Gates: northern for maintenance southern for construction
- OHL between the transformers
- LV Transformer
- Small valley with steep sided slopes
- Attenuation pond
- Indicative zone for construction compound and laydown areas

**Design**

- Latitude and longitude: 51°32'53.43"N, 3°33'36.55"W
- Country, location: United Kingdom
- PV module nominal power: 565 Wp
- PV module quantity: 9,744
- PV inverter: 180kVA
- PV inverter quantity: 26
- DC nominal capacity: 5.51 MWp
- AC installed capacity: 4.81MWac
- AC export capacity: 4.81MWac
- Modules' configuration per structure: 2 Portrait
- Module dimensions: 2.384 x 1.134 x 0.35 m
- Azimuth: 0 (due south)
- Tilt Angle: 20°
- Pitch Distance: 9.50 m
- Ground Cover Ratio (GCR): 49.87%
- DC/AC ratio: 1.14
- Fence area: 8.23 Ha
- 2P14 module quantity: 348

**Heights of the buildings and other infrastructure:**

- Control Building: 3 m
- HV board and Substation compound: 3 m
- Solar Switchgear: 3 m
- Transformers: 3 m
- Fence: 2.5 m
- Security camera poles: 4 m

**Reference drawings**

- Solar PV Constraints Map: 106856-MMD-BRGR-XX-DR-Y-0011
- Site Terrain and Slope Map: 106856-MMD-BRGR-XX-DR-Y-0012

PO#	Date	EL	Description	CH'kd	App'd
PO3	15/11/2022	EL	Preliminary PV layout revised	MH	OV
PO2	27/10/2022	EL	Preliminary PV layout revised	MH	OV
PO1	21/09/2022	EL	Preliminary PV layout	MH	OV

**Status Stamp**

**NOT FOR CONSTRUCTION**

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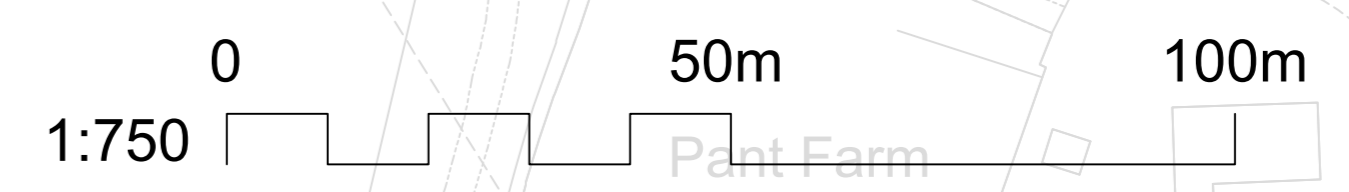
**Title**  
 Bryncethin Solar PV Project  
 General PV layout

**Sheet 01 of 01**

Designed	E. Lici	EL	Eng check	M. Hayward	MH
Drawn	E. Lici	EL	Coordination	M. Hayward	MH
Dwg check	M. Hayward	MH	Approved	O. Velasco	OV
MMD Project Number	108939	Scale at A0	1:750	Security	STD
Suitability Description	PRE	Suit. Code	S3	Revision	P03
Drawing Number	108939-MMD-BRGR-XX-DR-E-0014				




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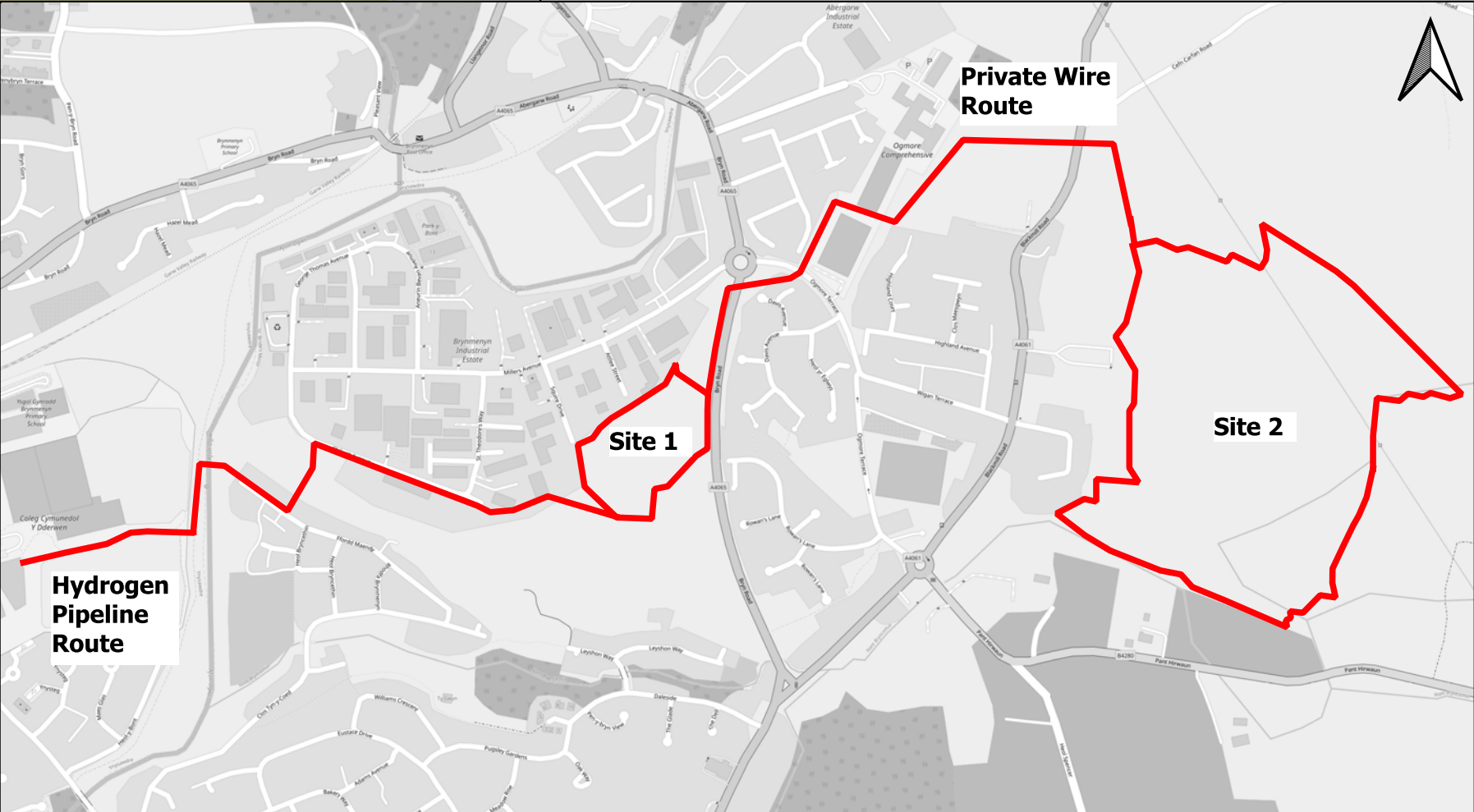
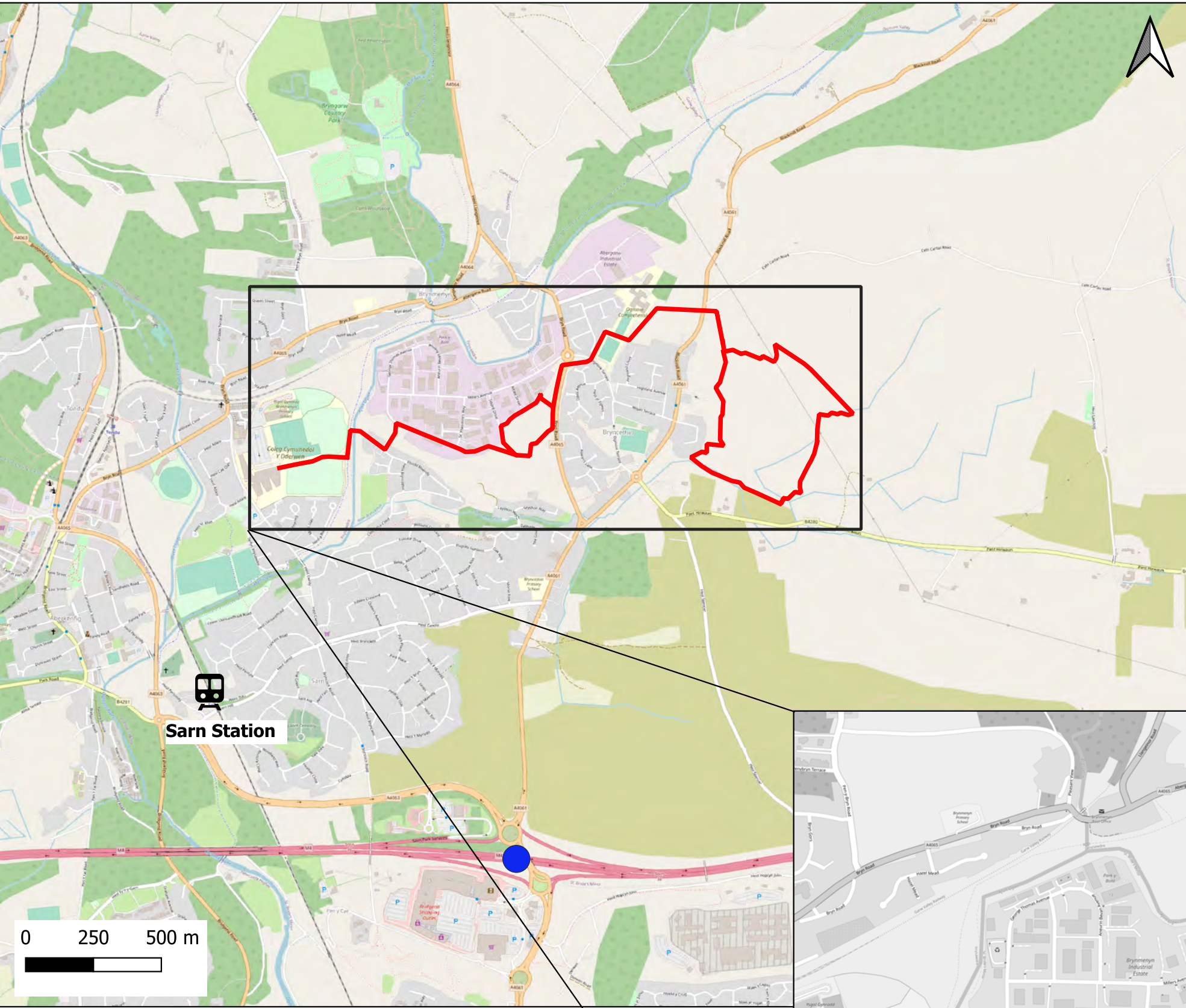
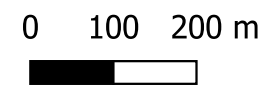
© Mott MacDonald 18177MMD MacDonal&Ochi Macabeni Bridgend Green H2 DE UK - Fin Project - Drawing/WP3 - Solar PV Array1\_3 PV Layout108939-MMD-BRGR-XX-DR-E-0014\_SolarPVLayout\_A0.dwg Nov 17, 2022 - 12:52PM HAY1147



## Appendix B – Figures Package

**Legend**

-  M4 Junction 36 (Sarn Interchange)
-  Nearby Train Station
-  Site Boundary Outline and Wire Route
- Site 1 - Green Hydrogen Facility
- Site 2 - Solar Farm

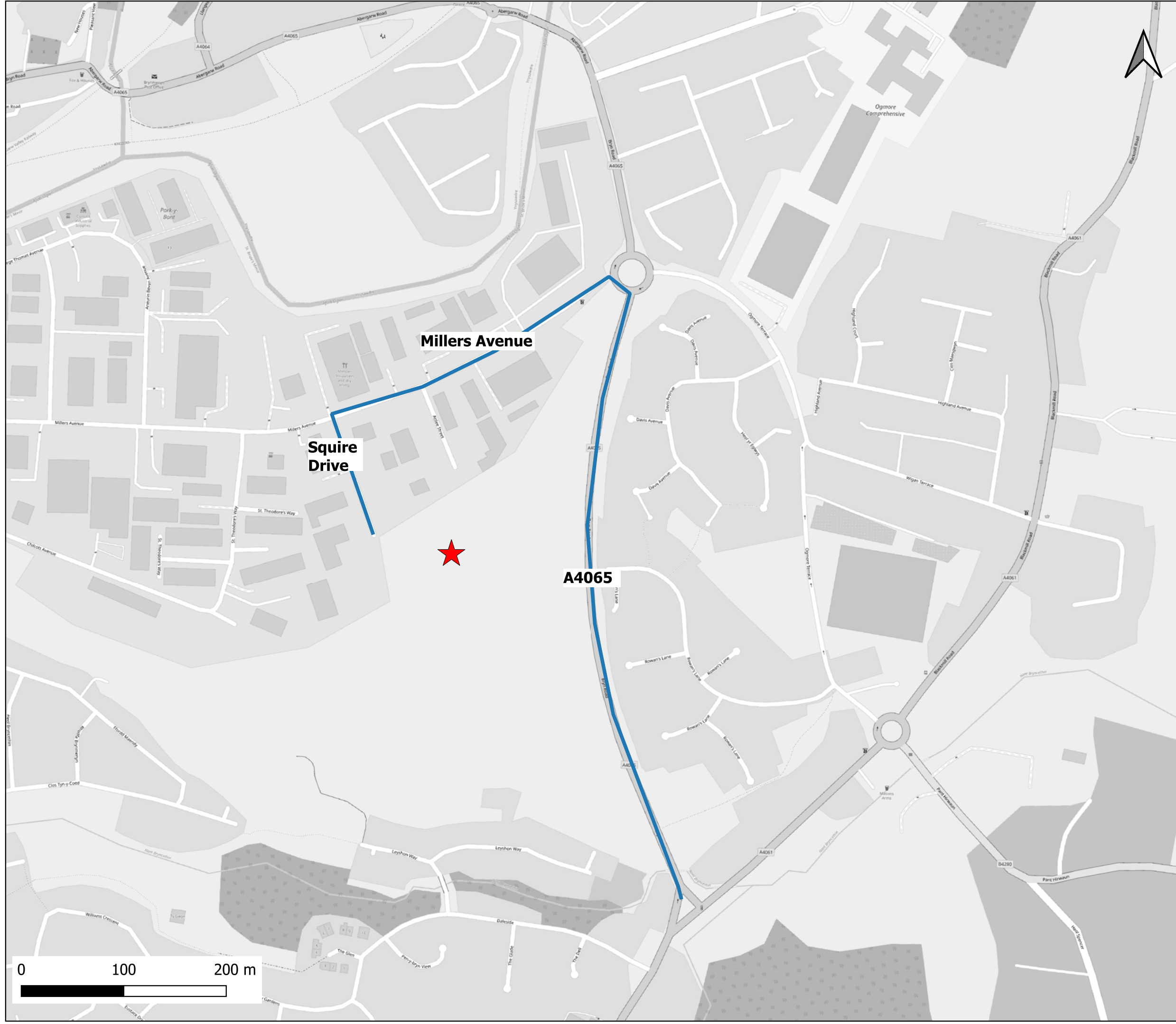


Client: Marubeni  
 Project: JNY11534  
 Title: Site Plan  
 Status: Preliminary



Drawn by: CR  
 Project Number: JNY11534  
 Figure Number: 1

PM/Checked by: EON  
 Scale@A3  
 Rev: 01

Date Created: 07/11/2022



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- Legend**
-  Green Hydrogen Production Facility Site
  -  Local Road Network



Client: Marubeni  
 Project: JNY11534  
 Title: Local Road Network (Green Hydrogen Production Facility)  
 Status: Preliminary  
 Drawn by: CR  
 PM/Checked by: EON  
 Project Number: JNY11534  
 Scale@A3  
 Date Created: 31/10/2022  
 Figure Number: 2  
 Rev: 01

