S|C|P

Transportation Planning : Infrastructure Design

# Transport Statement

## Proposed Residential Development,
## Land Near Pont Glan Beuno, Bontnewydd

**Kingscrown Land & Commercial Ltd**

**January 2023**

**Doc Ref: CT/220728/TS/00**

| | |
|---|---|
| Prepared by: | Craig Thomson |
| | |
| Checked by: | Peter Todd |

## Document Revision Control

| Revision | Date | Status | Prepared By | Approved By |
|---|---|---|---|---|
| 00 | 25.01.23 | Issue | CT | PT |

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## APPENDICES

# 1.0 INTRODUCTION

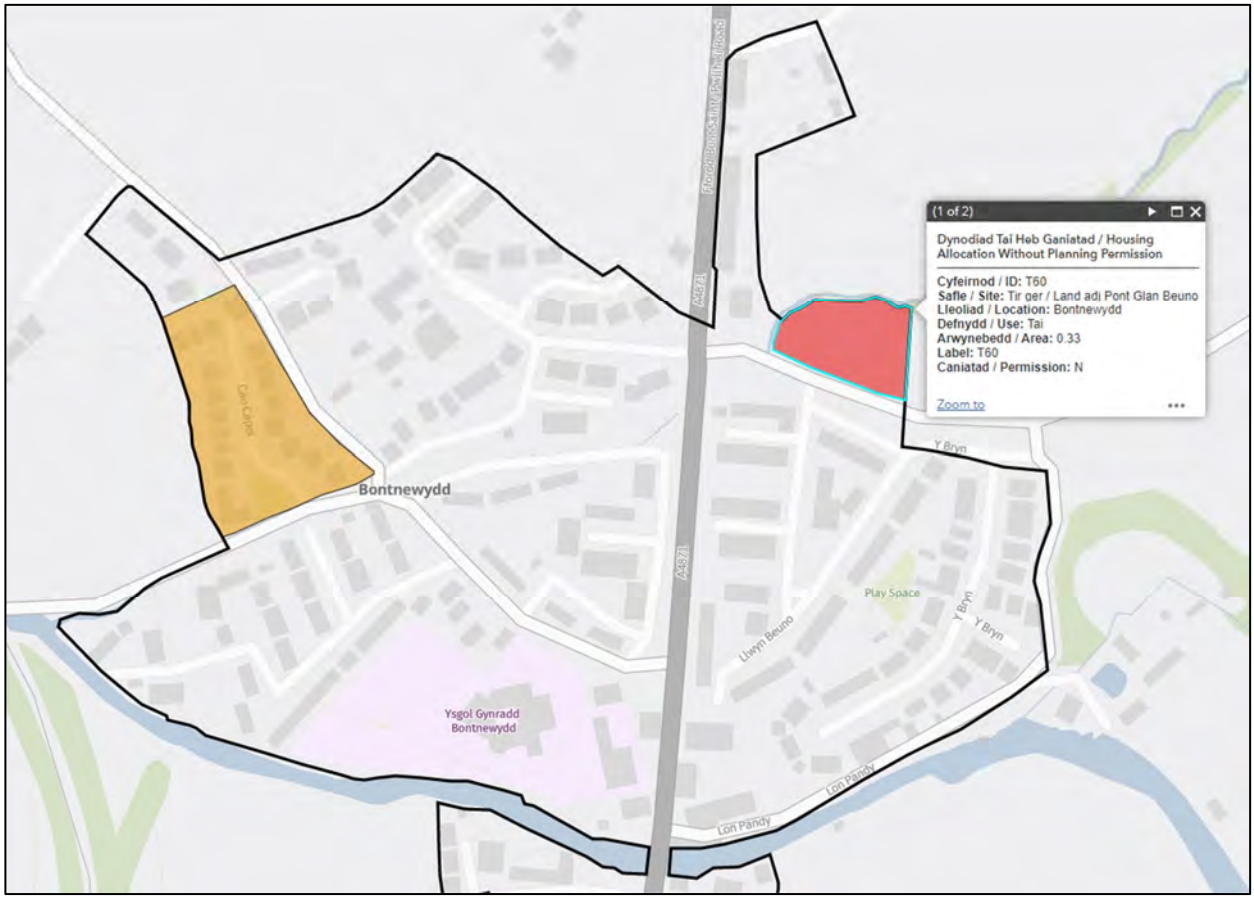
## General

1.1 SCP have been instructed by Kingscrown Land & Commercial Ltd to produce a Transport Statement (TS) in support of a planning application for a residential development, comprising 24 dwellings, on land located to the north-east of Bontnewydd.

## Background

1.2 The application site is allocated for housing under policy TAI 3 (Site Ref: T60) of the Anglesey and Gwynedd Joint Local Development Plan 2011 - 2026, adopted in July 2017, as shown on **Figure 1.1** below. The principle of residential development on the application site is therefore well established and deemed acceptable to Gwynedd Council (GC).

**Figure 1.1 – Allocation Site Ref T60 (Policy TAI 3)**




1.3 This TS has been prepared to provide an assessment of the traffic and transport implications associated with the development proposals to inform GC, as the local highway and planning authority, regarding the nature and magnitude of their impact.

1.4 This report concludes that the proposed development of this site can be accommodated without detriment to the operational capacity or safety of the local highway network.

### Structure of This Report

1.5 The structure of this report is as follows:-

- Chapter 2 - describes in detail the site location, existing use of the site, local transport network and road safety record;
- Chapter 3 - defines the development proposals including the proposed access, servicing arrangements and parking;
- Chapter 4 – considers the location of the site with regard to the existing local sustainable transport infrastructure;
- Chapter 5 – presents estimates of the trip-generating potential of the site along with a summary of the impact of the development on the local highway network; and,
- Chapter 6 – provides the summary and conclusions to the above chapters.

# 2.0 EXISTING CONDITIONS

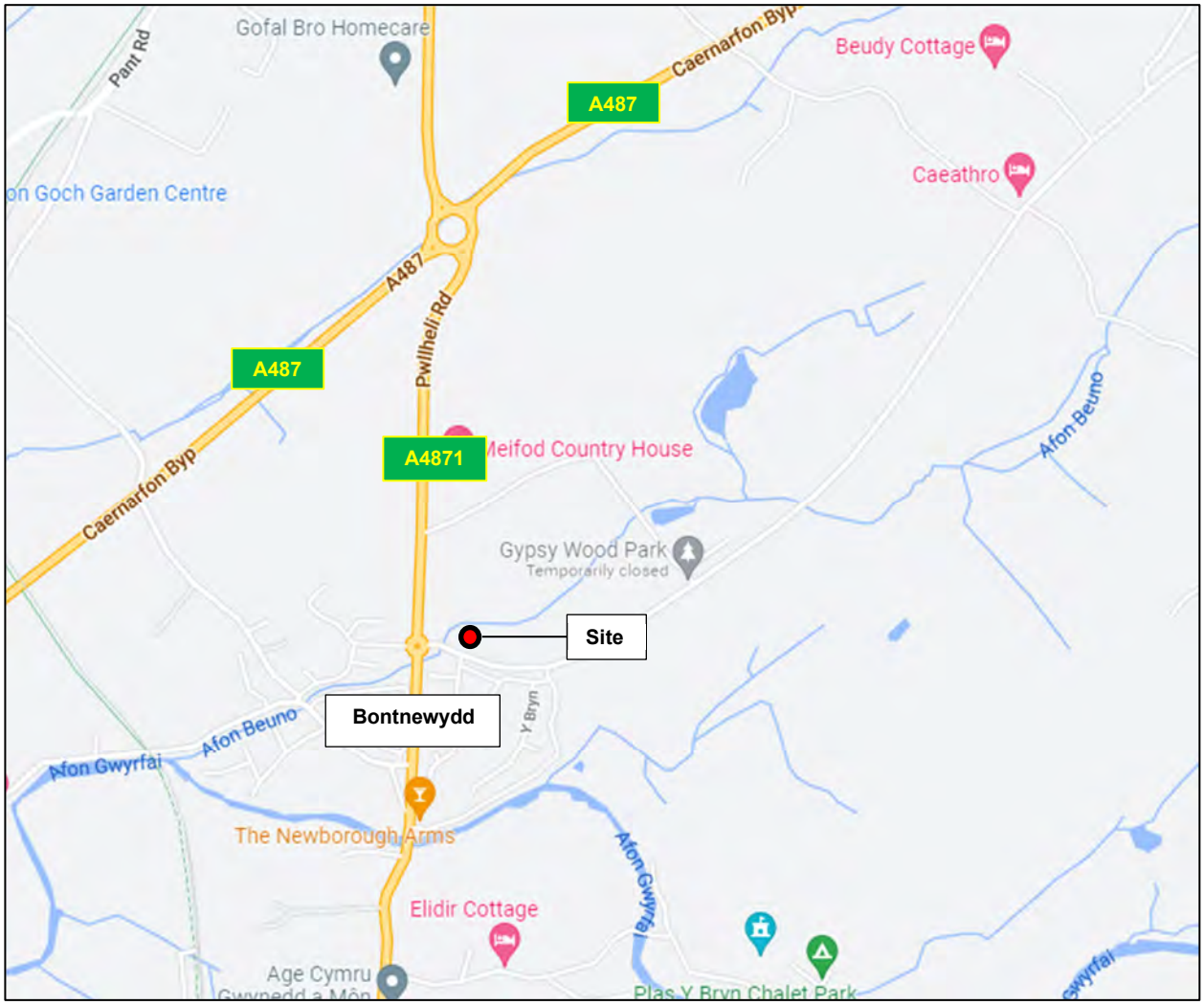
## General

2.1 This Chapter provides a detailed description of the location of the site, the local highway network and the road safety record.

## Site Location

2.2 The application site comprises an area of undeveloped land located opposite Llwyn Beuno and lies to the north of an unnamed road, referred to as Cae Stanley in this report, on the north-eastern edge of the village of Bontnewydd. **Figure 2.1** below shows the site location in relation to the wider highway network.

### Figure 2.1 – Site Location Plan – Wider View




2.3 The approximate application site boundary is shown in relation to the local highway network in red on **Figure 2.2** below.

**Figure 2.2 – Site Location Plan – Local View**


## Local Highway Network

2.4 The application sites southern boundary fronts Cae Stanley which connects the Bontnewydd Roundabout, to the west, with Caeathro and the A4086 Llanberis Road to the north-east. Cae Stanley is subject to a 30mph speed limit in the vicinity of the site which changes to the national speed limit approximately 500m north-east of the site.

2.5 Pedestrian footways are provided on both sides of all approaches to the Bontnewydd Roundabout and there is a dropped kerb crossing with tactile paving across the eastern and western approach to the roundabout to assist pedestrians across. There is a footway on both sides of Cae Stanley, between the Bontnewydd Roundabout and Llwyn Beuno, although there are two lay-bys on the northern side of the road, with space for circa 6 cars, preventing the footway on the northern side of the road from continuing, as shown on **Figure 2.3** below. A dropped kerb crossing with tactile paving is provided across Cae Stanley, between the two lay-bys, as well as across Llwyn Beuno, as shown on **Figure 2.3** below, to assist pedestrians across.

**Figure 2.3 – Existing Pedestrian Infrastructure**

## Existing Road Safety Record

2.6 In order to identify critical locations on the network with a poor accident record, a review of accident data covering the most recently available five-year period (2017-2021) has been undertaken using the Department for Transport (DfT) data. The location and severity of any accidents within the study area during this period, are shown in **Figure 2.4** below and a full accident screening report can be found in **Appendix A**.

**Figure 2.4 – Road Safety Record**


2.7 The analysis shows that two accidents (equating to an average of 0.4 accidents per year) were recorded in the study area during the 5-year study period, of which, one resulted in serious severity injuries and one resulted in slight severity injuries. The serious severity accident took place approximately 25m west of Llwyn Beuno and the slight severity accident occurred at the Bontnewydd Roundabout.

2.8 The evidence presented above and illustrated in **Figure 2.4** suggests that the area in the vicinity of the site does not have any recurring highway safety problems that could be affected by the development proposals, particularly when considering the lack of any specific accident cluster spots.

# 3.0 PROPOSED DEVELOPMENT

## General

3.1 The development proposals consist of the construction of a residential development, comprising 24 dwellings, on land located to the north-east of Bontnewydd.

3.2 The proposed site layout plan is presented in **Appendix B** and the development mix consists of 16 no. 1-bed flats and 8 no. 2-bed flats.

## Proposed Access Arrangements

3.3 Vehicular access to the development will be provided off Cae Stanley to the south of the site, as shown on drawing number SCP/220728/D01 Rev A, presented in **Appendix C**. The access has been designed to typical residential standards, providing a 5.5m wide carriageway with 2m footways on both sides, and a dropped kerb crossing with tactile paving is proposed to assist pedestrians across the access.

3.4 The proposed access arrangement results in the loss of the existing eastern lay-by, which has capacity for circa 4 cars, although the western lay-by is proposed to be extended slightly with the existing pedestrian crossing relocated to the east, resulting in a net loss of just 3 parking spaces. A site visit was undertaken on Saturday 21st January at midday which confirmed 3 of the 6 lay-by spaces were occupied. On this basis and given that 3 lay-by spaces will still be available with the proposed development in place, the removal of the eastern lay-by is considered acceptable in this instance, particularly given that there is ample off-street parking in the surrounding area which has evidently not resulted in any highway-safety concerns.

3.5 As shown on drawing number SCP/220728/D01 Rev A, presented in **Appendix C**, 2.4m x 43m visibility, in accordance with the visibility requirements set out in TAN 18 for a 30mph road, is achievable in both directions from the proposed site access.

3.6 Whilst it is acknowledged that the visibility splay to the west goes through the lay-by which may be subject to parked cars, guidance in MfS2 states that parking in visibility splays does not appear to create significant problems in practice. In practice, vehicles are able to safely edge out into the carriageway because of the centralised position of oncoming vehicles within the highway.

3.7 As detailed earlier, the application site is allocated for housing in the Anglesey and Gwynedd Joint Local Development Plan 2011 - 2026, and therefore, the principle of residential development and access in this location has already been deemed acceptable to GC.

3.8 Pedestrian and cycle access to the site will be provided at the same location as the vehicular access and an additional pedestrian link is provided to the west of the site access.

### Servicing

3.9 The access and internal road network have been designed to ensure the movements of a refuse vehicle can be accommodated without allowing their requirements to dominate the layout. Swept path analysis has been undertaken of the site access and internal road layout, as shown on drawing SCP/220728/ATR01, presented in **Appendix D**, which demonstrates that a refuse vehicle can access the site, turn at the proposed turning head and exit the site in a forward gear.

### Parking

3.10 Gwynedd Council do not currently have their own local parking standards, however, their parking requirements are currently assessed against the CSS Wales Parking Standards which outlines a requirement for a maximum of 1 space per bedroom (maximum of 3 spaces) as well as 1 visitor parking space per 5 dwellings.

3.11 As shown on the site layout plan contained in **Appendix B**, a total of 28 parking spaces are provided within the development, which allows for 1 space per flat and 4 visitor parking spaces which is broadly in accordance with the maximum parking standards currently adopted by the Council.

# 4.0 ACCESSIBILITY

## General

4.1 As detailed earlier, the application site is allocated for housing in the Anglesey and Gwynedd Joint Local Development Plan 2011 - 2026, and the acceptability of residential development on this site has therefore already been deemed acceptable to GC.

4.2 The accessibility of the site by non-car modes has been assessed by comparison with the following threshold distances, as set out by Andrew Davies AM 'Minister for Economic Development and Transport' in his foreword to the 2003 *"Walking and Cycling Strategy for Wales"* document:

**Table 4.1 – Walk / Cycle Distance Thresholds**

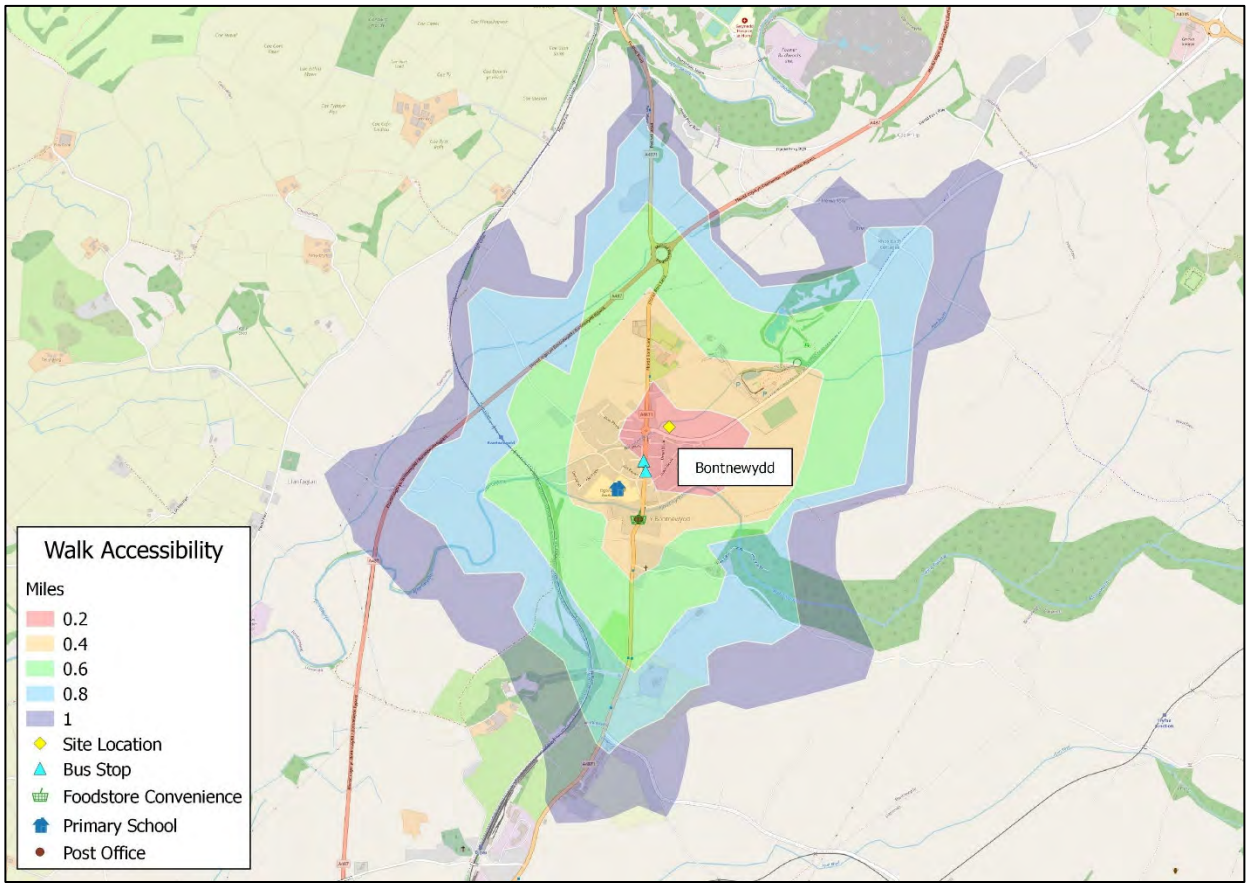
| Threshold Distance | Significance | Reference |
|---|---|---|
| 1 mile | Walking can offer viable and attractive alternatives [to car trips] | Walking and Cycling Strategy for Wales |
| 5 miles | Cycling can offer viable and attractive alternatives [to car trips] | Walking and Cycling Strategy for Wales |

## Pedestrian Accessibility

4.3 Pedestrian and cycle access to the site will be provided at the same location as the vehicular access and an additional pedestrian link is provided to the west of the site access.

4.4 The pedestrian accessibility of the development has been modelled using the Geographical Information System (GIS) software TRACC to produce isochrone mapping figures. The purpose of the isochrones is to demonstrate the areas within an acceptable walking distance of 1 mile of the site. The areas located within 1-mile walking distance of the site are shown below on **Figure 4.1.**

**Figure 4.1 – Walk Accessibility**




4.5 **Figure 4.1** demonstrates that the site is within an acceptable walking distance of the nearby village of Bontnewydd and the local facilities on offer in the village including education, food and transport connections. Facilities located within an acceptable 1-mile walking distance are shown in **Table 4.2** below.

**Table 4.2 – Local Facilities**

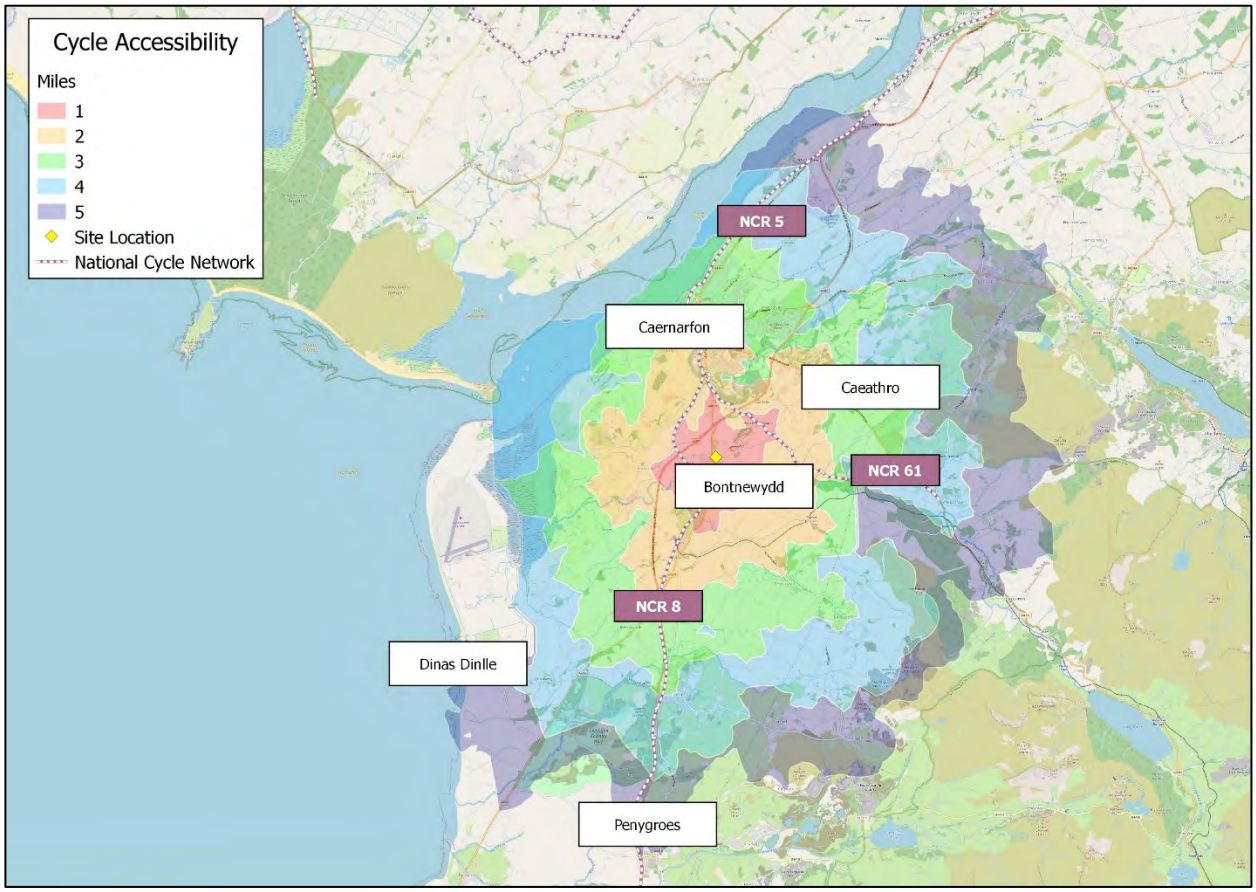
| Facility | Description | Distance from the Site |
|---|---|---|
| Bus Stop | Bus Stop, A4871 | 0.1 miles |
| Primary School | Ysgol Bontnewydd Primary School | 0.2 Miles |
| Take-Away | Golden Cod Fish and Chips | 0.2 Miles |
| Public House | The Newborough Arms | 0.2 Miles |
| Convenience | Morrisons Daily Convenience Store | 0.3 miles |
| Post Office | Bontnewydd Post Office | 0.3 miles |

## Cycle Accessibility

4.6 The Walking and Cycling Strategy for Wales identifies that "*Cycling can offer viable and attractive alternatives*" for short trips and as a substitute for shorter car journeys.

4.7 TRACC software has been used to assess the accessibility of the development by bicycle from the site. Isochrones illustrating the areas which lie within 5 miles of the site can be seen on the **Figure 4.2** below.

### Figure 4.2 – Cycle Accessibility




4.8 The plan demonstrates that Bontnewydd, Caernarfon, Caeathro and Penygroes, amongst others, are all located within an acceptable 5-mile cycle distance from the site.

4.9 **Figure 4.2** also shows the sites close proximity to National Cycle Route 8 which is located to the west of the site and provides a local link to the town of Caernarfon to the north and Penygroes to the south.

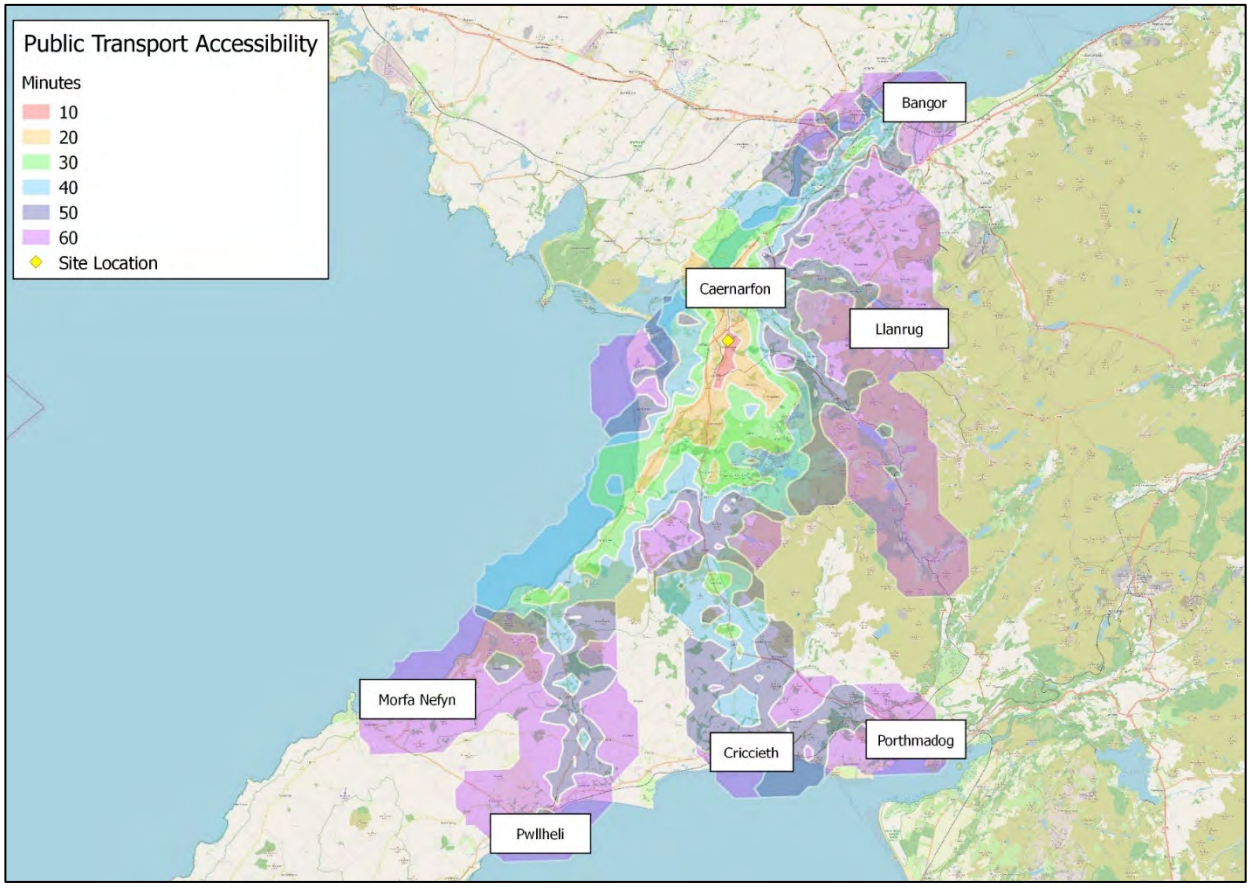
4.10 As the application site is within an acceptable cycle distance of a range of areas and associated facilities, cycling is considered to be a viable alternative to private car use for prospective residents of site.

### Public Transport

4.11 There is a bus stop located on both sides of the A4871, less than 250m south-west of the site and is therefore within an acceptable walking and cycling distance. These bus stops are served by the number 1, 1F, 1N, 1S, 5A, 12 and T2 buses which provide regular services, 7 days per week (in combination), to numerous locations including Aberystwyth, Dolgellau, Minffordd, Porthmadog, Caernarfon, and Bangor, amongst others. Therefore, prospective residents of the site will have access to bus services stopping close to the site which provide access to key destinations at a reasonable combined frequency.

4.12 The level of accessibility by public transport has been analysed using GIS TRACC software to assess the accessibility of the site and is shown on **Figure 4.3** below. The figure illustrates the distance that can be travelled within 60 minutes by public transport to and from the site, which includes the time taken to walk to the bus stops.

### Figure 4.3 – 60 minute Public Transport Accessibility




4.13 **Figure 4.3** demonstrates that Porthmadog, Caernarfon, and Bangor, amongst others, are in an acceptable 60-minute commute time.

### Summary

4.14 Overall, the site is considered to be reasonably well located in terms of its accessibility by all the major non-car modes of transport. These findings demonstrate that future residents will not be wholly reliant on the private car to travel for employment, education, leisure and retail purposes. Furthermore, given that the site is accolated for housing in the Anglesey and Gwynedd Joint Local Development Plan 2011 - 2026, the principle of residential development on the application site has already been deemed acceptable to GC.

## 5.0 TRIP GENERATION

5.1 This Chapter provides an estimate of the trips generated by the proposed development during the weekday AM and PM peak hours.

### Proposed Residential Development – Trip Generation

5.2 In order to estimate the trip generating potential of the proposed development, average trip rates from the industry-standard TRICS Database have been obtained. The selection criteria for the TRICS based trip rates is as follows:-

- Residential;
- Flats Privately Owned;
- Multi modal surveys;
- Sites in Greater London, Ireland excluded;
- Selection by number of dwellings (6-50);
- Weekday surveys only; and
- Only sites in 'Neighbourhood Centre' locations have been selected.

5.3 The multi modal TRICS outputs for the proposed residential development are presented in **Appendix E** and are summarised in **Table 5.1** below:-

**Table 5.1 - Estimated Trip Rates (Per Dwelling) Associated with the Proposed Development**

| Mode | Weekday AM Peak Hour | | Weekday PM Peak Hour | |
|---|---|---|---|---|
| | Arrivals | Departures | Arrivals | Departures |
| Vehicles | 0.147 | 0.353 | 0.324 | 0.059 |
| Cycles | 0.000 | 0.029 | 0.059 | 0.000 |
| Pedestrians | 0.088 | 0.382 | 0.118 | 0.088 |
| Pub. Trans. | 0.000 | 0.029 | 0.029 | 0.000 |

5.4 The estimated trip generation associated with the proposed 24 flats is therefore as summarised in **Table 5.2** below:-

| Table 5.2 – Estimated Trip Generation – 24 Flats | | | | |
|---|---|---|---|---|
| **Mode** | **Weekday AM Peak Hour** | | **Weekday PM Peak Hour** | |
| | **Arrivals** | **Departures** | **Arrivals** | **Departures** |
| **Vehicles** | 4 | 8 | 8 | 1 |
| **Cycles** | 0 | 1 | 1 | 0 |
| **Pedestrians** | 2 | 9 | 3 | 2 |
| **Pub. Trans.** | 0 | 1 | 1 | 0 |

5.5 As detailed above, it is estimated that the scheme will generate a total of 12 two-way vehicle movements in the AM peak hour and 9 two-way vehicle movements in the PM peak hour. Volumetrically, this equates to around 1 additional two-way vehicle movement every 5 minutes in the AM peak hour and every 6-7 minutes in the PM peak hour. The effect of this additional traffic on the local highway network will be barely perceptible during the peak hours and less so outside of the peak periods.

5.6 Having regard to the above, it is therefore considered that no further detailed assessment of the local highway network is required and that the traffic impact of the scheme is acceptable in planning terms.

## 6.0 SUMMARY AND CONCLUSIONS

6.1 SCP have been instructed by Kingscrown Land & Commercial Ltd to produce a Transport Statement (TS) in support of a planning application for a residential development, comprising 24 dwellings, on land located to the north-east of Bontnewydd.

6.2 The personal injury accident data for the most recently available five-year period has been reviewed and does not represent a material concern in the context of the proposed development.

6.3 The accessibility of the site has been assessed. Overall, the site is considered to be reasonably well located in terms of its accessibility by all the major non-car modes of transport. These findings demonstrate that future residents will not be wholly reliant on the private car to travel for employment, education, leisure and retail purposes. Furthermore, given that the site is accolated for housing in the Anglesey and Gwynedd Joint Local Development Plan 2011 - 2026, the principle of residential development on the application site has already been deemed acceptable to GC.

6.4 Vehicular access to the development will be provided off Cae Stanley to the south of the site. The access has been designed to typical residential standards, providing a 5.5m wide carriageway with 2m footways on both sides, and a dropped kerb crossing with tactile paving is proposed to assist pedestrians across the access. Pedestrian and cycle access to the site will be provided at the same location as the vehicular access and an additional pedestrian link is provided to the west of the site access.

6.5 The volume of traffic generated by the proposed development will not have a material impact on the operation of the local highway network and the effect of the additional traffic will be barely perceptible during the highway peak hours.

6.6 Having regard to the analysis presented in this TS, it is considered that there should be no highway related reason to withhold planning permission and the scheme is therefore commended to GC for approval.

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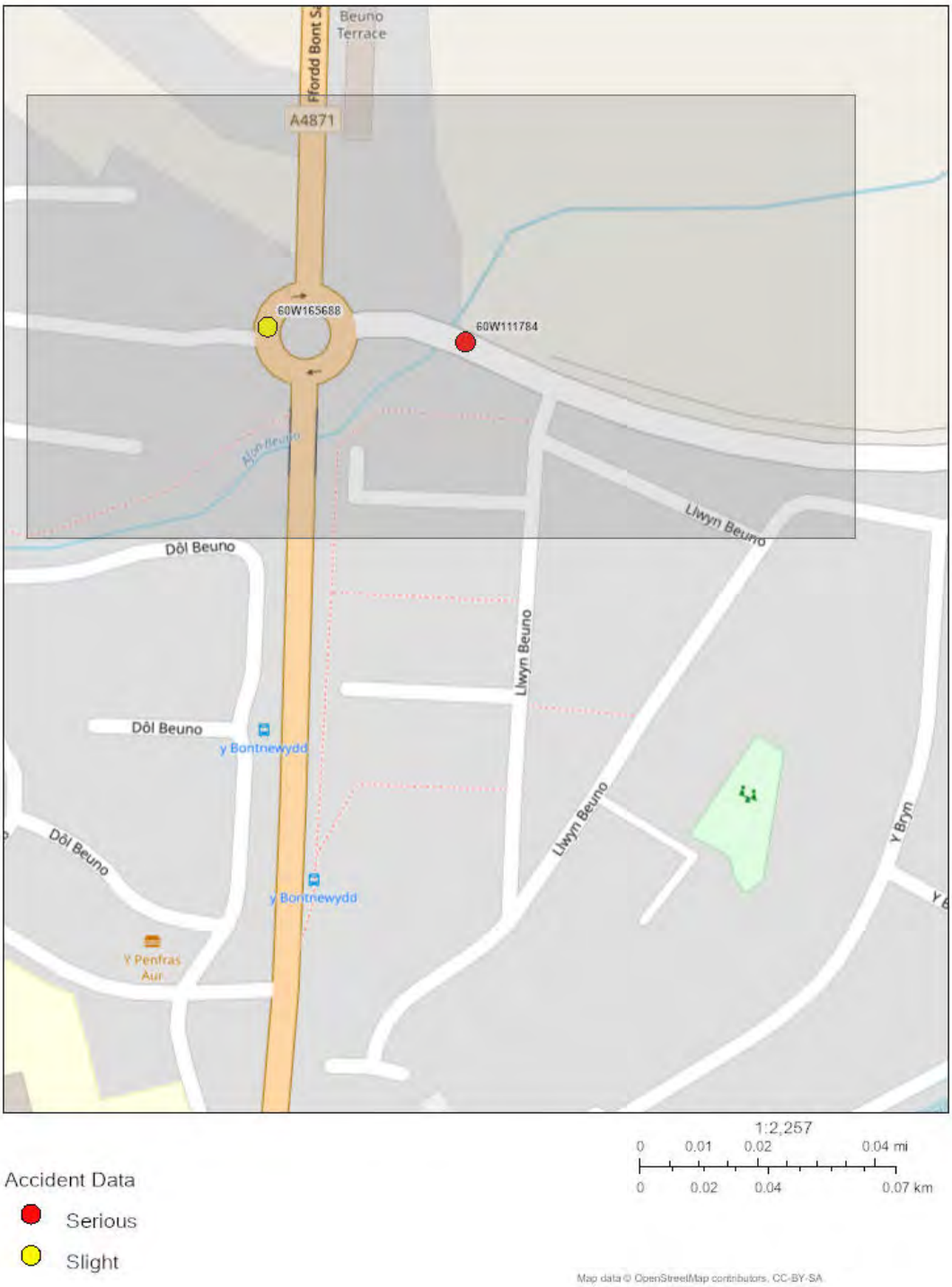
# APPENDIX A

# Screening Report

## Area of Interest (AOI) Information

Area : 27,261.29 m²

Jan 17 2023 14:09:24 Greenwich Mean Time



## Summary

| Name | Count | Area(m²) | Length(m) |
|---|---|---|---|
| Accident Data | 2 | N/A | N/A |
| Vehicle Data | 3 | N/A | N/A |
| Casualty Data | 3 | N/A | N/A |

## Accident Data

| # | Easting | Northing | Year | Accident Severity | Number of Vehicles |
|---|---|---|---|---|---|
| 1 | 248347 | 360154 | 2018 | Serious | 1 |
| 2 | 248293 | 360160 | 2018 | Slight | 2 |

| # | Number of Casualties | Date | Day of Week | Time | Local Authority Highway |
|---|---|---|---|---|---|
| 1 | 1 | 08/08/2018 | Wednesday | 4:45 PM | Gwynedd |
| 2 | 2 | 20/11/2018 | Tuesday | 9:20 AM | Gwynedd |

| # | Road Class | Road_Number | Road Type | Speed limit | Junction Detail |
|---|---|---|---|---|---|
| 1 | Unclassified | 0 | Single carriageway | 30 | Not at junction or within 20 metres |
| 2 | A | 487 | Single carriageway | 30 | Roundabout |

| # | Junction Control | Light Conditions | Weather Conditions | Road Surface Conditions | Special Conditions at Site |
|---|---|---|---|---|---|
| 1 | Data missing or out of range | Daylight | Fine no high winds | Dry | None |
| 2 | Give way or uncontrolled | Daylight | Fine no high winds | Dry | None |

| # | Carriageway Hazards | Urban or Rural Area | Pedestrian Crossing - Human Control | Pedestrian Crossing - Physical Facilities | Did Police Officer Attend Scene of Accident |
|---|---|---|---|---|---|
| 1 | None | Rural | None within 50 metres | No physical crossing facilities within 50 metres | Yes |
| 2 | None | Rural | None within 50 metres | No physical crossing facilities within 50 metres | No |

| # | Accident Reference | Category | Count |
|---|---|---|---|
| 1 | 60W111784 | Accident | 1 |
| 2 | 60W165688 | Accident | 1 |

## Vehicle Data

| # | Year | Category | Vehicle Reference | Vehicle Type | Towing and Articulation |
|---|---|---|---|---|---|
| 1 | 2,018 | Vehicle | 1 | Car | No tow/articulation |
| 2 | 2,018 | Vehicle | 1 | Car | No tow/articulation |
| 3 | 2,018 | Vehicle | 2 | Car | No tow/articulation |

| # | Vehicle Manoeuvre | Vehicle Location - Restricted Lane | Junction Location | Skidding and Overturning | Hit Object in Carriageway |
|---|---|---|---|---|---|
| 1 | Going ahead other | On main c'way - not in restricted lane | Not at or within 20 metres of junction | None | None |
| 2 | Going ahead right-hand bend | On main c'way - not in restricted lane | Entering roundabout | None | None |
| 3 | Going ahead other | On main c'way - not in restricted lane | Mid Junction - on roundabout or on main road | None | None |

| # | 1st Point of Impact | Journey Purpose of Driver | Sex of Driver | Age Band of Driver | Age of Vehicle |
|---|---|---|---|---|---|
| 1 | Front | Commuting to/from work | Male | 26 - 35 | -1 |
| 2 | Front | Commuting to/from work | Male | 46 - 55 | -1 |
| 3 | Nearside | Commuting to/from work | Male | 16 - 20 | -1 |

| # | Driver Home Area Type | Accident Reference | Count |
|---|---|---|---|
| 1 | Data missing or out of range | 60W111784 | 1 |
| 2 | Data missing or out of range | 60W165688 | 1 |
| 3 | Data missing or out of range | 60W165688 | 1 |

## Casualty Data

| # | Year | Category | Vehicle Reference | Casualty Reference | Casualty Class |
|---|---|---|---|---|---|
| 1 | 2,018 | Casualty | 1 | 1 | Pedestrian |
| 2 | 2,018 | Casualty | 2 | 1 | Driver or rider |
| 3 | 2,018 | Casualty | 2 | 2 | Passenger |

| # | Sex of Casualty | Age Band of Casualty | Casualty Severity | Pedestrian Location | Pedestrian Movement |
|---|---|---|---|---|---|
| 1 | Male | 06-Oct | Serious | In carriageway, crossing elsewhere | Crossing from driver's offside |
| 2 | Male | 16 - 20 | Slight | Not a Pedestrian | Not a Pedestrian |
| 3 | Male | 16 - 20 | Slight | Not a Pedestrian | Not a Pedestrian |

| # | Car Passenger | Bus or Coach Passenger | Pedestrian Road Maintenance Worker | Casualty Type | Accident_Reference | Count |
|---|---|---|---|---|---|---|
| 1 | Not car passenger | Not a bus or coach passenger | No / Not applicable | Pedestrian | 60W111784 | 1 |
| 2 | Not car passenger | Not a bus or coach passenger | No / Not applicable | Car occupant | 60W165688 | 1 |
| 3 | Front seat passenger | Not a bus or coach passenger | No / Not applicable | Car occupant | 60W165688 | 1 |

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# APPENDIX B

NORTH
Indicative

AFON BEUNO

Approx position of Afon Beuno (not surveyed)

RETAINING WALL

Afon Beuno

Flood Basin

STOCK PROOF FENCE

N 360,175.000 m
E 248,350.000 m

1-2
3-4
5-6
7-8
9-10
11-12
13-14
15-16
17-18
19-20
21-22
23-24

Planted Edge
Planted Strip
Hedge

OVERHEAD POWERLINE TAKEN UNDERGROUND

NEW FOOTPATH

3 PARKING BAYS

NEW SITE ENTRANCE

LÔN CAEATHRO

LLWYN BEUNO

Llwyn Beuno

46
50
51

| REV | DESCRIPTION | DATE | BY |
|---|---|---|---|
| A | RETAINING WALL ADDED, PLOT 7-16 RAISED, BIN STORE ALTERED, SHEET CHANGED TO A1, FRONT FOOTPATH ALTERED, ROAD NAME ADDED, CANOPY TRELLIS ADDED AND FLOOD BASIN UPDATED | 16/01/23 | IO |



PROJECT

SITE AT BONTNEWYDD for KINGSCROWN PROPERTIES

DRAWING TITLE

SITE PLAN - LEVELS

| SCALE | DATE | DRAWN | CHECKED |
|---|---|---|---|
| 1 : 200 @A1 | 06/01/23 | IO | SV |

DRAWING STATUS: PRELIMINARY

| JOB No | DRAWING No | REVISION |
|---|---|---|
| C1104 | 007 | A |

AINSLEY GOMMON ARCHITECTS
THE OLD POLICE STATION, 15 GLYNNE WAY, HAWARDEN, CH5 3NS
Tel: 01244 537 100 | wales@agarchitects.co.uk | www.agarchitects.co.uk
Ainsley Gommon Architects Ltd. Registered in England & Wales No.4187948
Registered Office: 1 Price Street, Hamilton Square, Birkenhead CH41 6JN

PRINTED: 16/01/2023 14:41:21

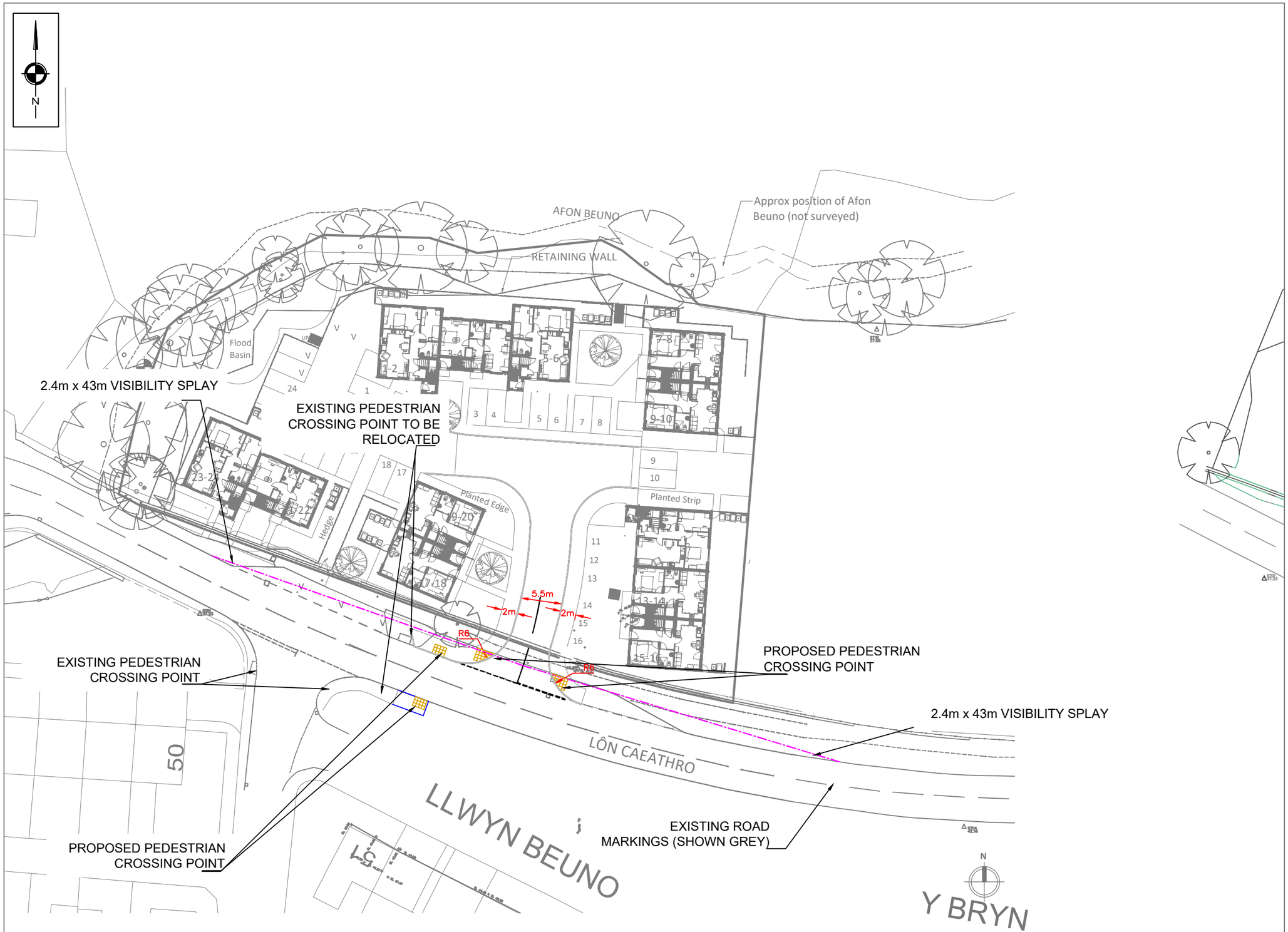
A1

1 | SITE - GROUND FLOOR - LEVELS
SCALE: 1 : 200

0m 4m 8m 12m 16m 20m
VISUAL SCALE 1:200 @ A1

S|C|P

# APPENDIX C






NOTES

REVISIONS

| REV | DESCRIPTION | DATE | BY |
|---|---|---|---|
| A | UPDATED SITE PLAN<br>– | 24.01.23 | AM |

S|C|P
Transportation Planning : Infrastructure Design
Colwyn Chambers, 19 York Street, Manchester, M2 3BA, Tel 0161 832 4400, www.scptransport.co.uk, Email info@scptransport.co.uk

Client Name:
KINGSCROWN LAND & COMMERCIAL LTD

Project Title:
CAE STANLEY, BONTNEWYDD

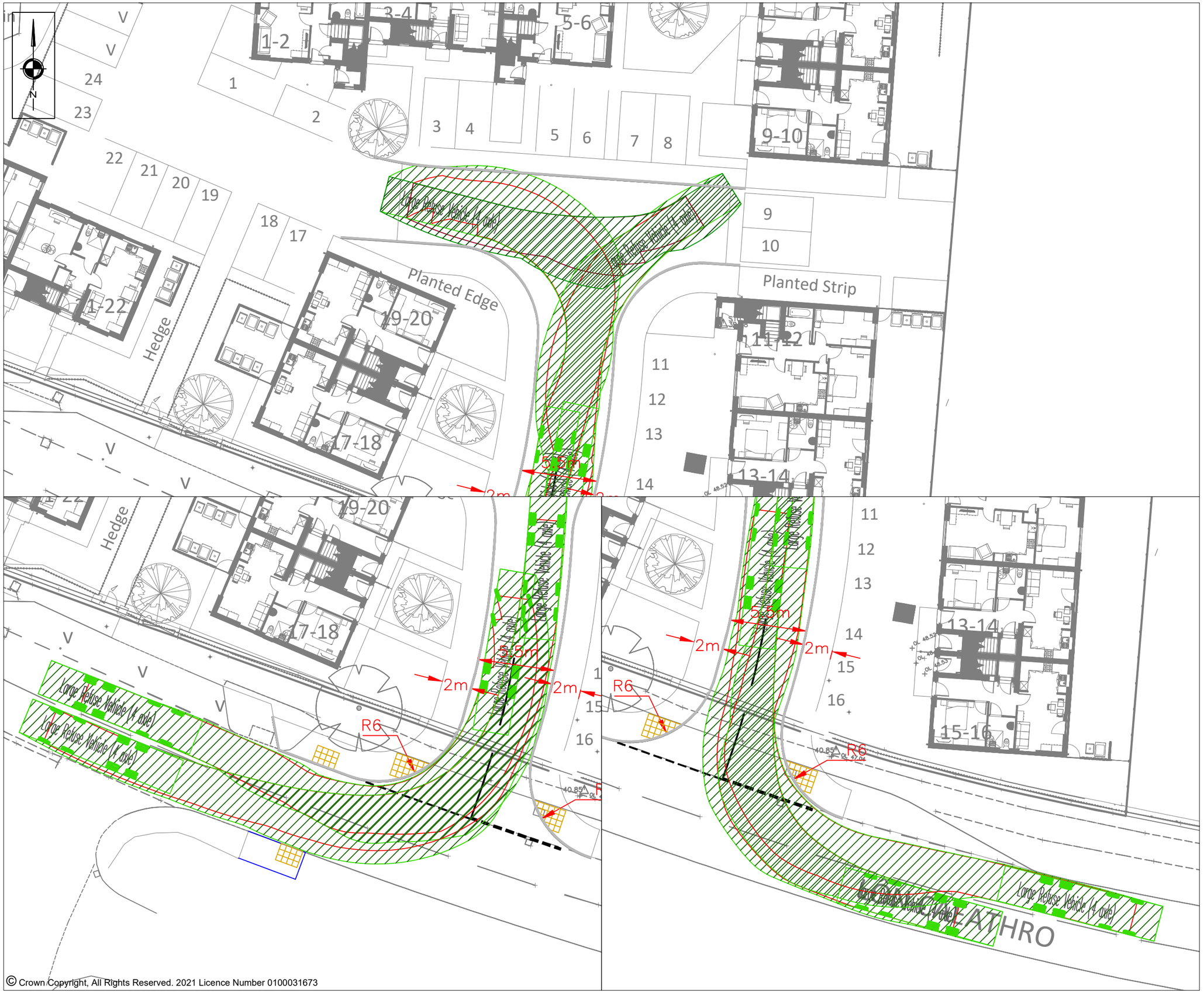
Drawing Title:
PROPOSED SITE ACCESS ARRANGEMENT

| Drawn By: | Date: |
|---|---|
| BA | 01.11.2022 |
| Checked: | Scale: |
| PT | 1:500 @ A3 |
| Status: | Approved/Unapproved: |
| PLANNING | - |

| Drawing No. | Rev. |
|---|---|
| SCP/220728/D01 | A |

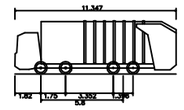
S|C|P

# APPENDIX D






## NOTES



Large Refuse Vehicle (4 axle)

| | |
|---|---|
| Overall Length | 11.347m |
| Overall Width | 2.500m |
| Overall Body Height | 3.751m |
| Min Body Ground Clearance | 0.504m |
| Track Width | 2.500m |
| Lock to lock time | 6.00s |
| Wall to Wall Turning Radius | 11.330m |

## REVISIONS

| REV | DESCRIPTION | DATE | BY |
|---|---|---|---|
| - | - | - | - |

S|C|P
Transportation Planning : Infrastructure Design
Colwyn Chambers, 19 York Street, Manchester, M2 3BA, Tel 0161 832 4400, www.scptransport.co.uk, Email info@scptransport.co.uk

Client Name:
KINGSCROWN LAND & COMMERCIAL LTD

Project Title:
CAE STANLEY, BONTNEWYDD

Drawing Title:
SWEPT PATH ANALYSIS

| Drawn By: | Date: |
|---|---|
| AM | 17.01.2022 |
| Checked: | Scale: |
| CT | 1:250 @ A3 |
| Status: | Approved/Unapproved: |
| PLANNING | - |

Drawing No.: SCP/220728/ATR01
Rev.: -

S|C|P

# APPENDIX E

Calculation Reference: AUDIT-726001-230117-0141

**TRIP RATE CALCULATION SELECTION PARAMETERS:**

Land Use : 03 - RESIDENTIAL
Category : C - FLATS PRIVATELY OWNED
**MULTI-MODAL TOTAL VEHICLES**

*Selected regions and areas:*

| | | | |
|---|---|---|---|
| **02** | **SOUTH EAST** | | |
| | WS | WEST SUSSEX | 1 days |
| **10** | **WALES** | | |
| | DB | DENBIGHSHIRE | 1 days |

*This section displays the number of survey days per TRICS® sub-region in the selected set*

**Primary Filtering selection:**

*This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.*

Parameter: No of Dwellings
Actual Range: 16 to 18 (units: )
Range Selected by User: 6 to 50 (units: )

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/03 to 11/05/22

*This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.*

*Selected survey days:*

| | |
|---|---|
| Wednesday | 1 days |
| Friday | 1 days |

*This data displays the number of selected surveys by day of the week.*

*Selected survey types:*

| | |
|---|---|
| Manual count | 2 days |
| Directional ATC Count | 0 days |

*This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.*

*Selected Locations:*

| | |
|---|---|
| Neighbourhood Centre (PPS6 Local Centre) | 2 |

*This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.*

*Selected Location Sub Categories:*

| | |
|---|---|
| Residential Zone | 2 |

*This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.*

*Inclusion of Servicing Vehicles Counts:*

| | |
|---|---|
| Servicing vehicles Included | 1 days - Selected |
| Servicing vehicles Excluded | 1 days - Selected |

**Secondary Filtering selection:**

*Use Class:*

| | |
|---|---|
| C3 | 2 days |

*This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.*

*Population within 500m Range:*

All Surveys Included

*Population within 1 mile:*

| | |
|---|---|
| 1,001 to 5,000 | 1 days |
| 20,001 to 25,000 | 1 days |

*This data displays the number of selected surveys within stated 1-mile radii of population.*

*Population within 5 miles:*

| | |
|---|---|
| 50,001 to 75,000 | 1 days |
| 125,001 to 250,000 | 1 days |

*This data displays the number of selected surveys within stated 5-mile radii of population.*

*Car ownership within 5 miles:*

| | |
|---|---|
| 0.6 to 1.0 | 1 days |
| 1.1 to 1.5 | 1 days |

*This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.*

*Travel Plan:*

| | |
|---|---|
| No | 2 days |

*This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.*

*PTAL Rating:*

| | |
|---|---|
| No PTAL Present | 2 days |

*This data displays the number of selected surveys with PTAL Ratings.*

*LIST OF SITES relevant to selection parameters*

**1** **DB-03-C-01** **FLATS IN HOUSES** **DENBIGHSHIRE**
RHYL ROAD
RHUDDLAN

Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total No of Dwellings: 16
*Survey date: FRIDAY* *07/10/11* *Survey Type: MANUAL*

**2** **WS-03-C-01** **BLOCKS OF FLATS** **WEST SUSSEX**
GORING ROAD
WORTHING
GORING-BY-SEA
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total No of Dwellings: 18
*Survey date: WEDNESDAY* *11/05/22* *Survey Type: MANUAL*

*This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.*

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
## MULTI-MODAL TOTAL VEHICLES
## Calculation factor: 1 DWELLS
**BOLD print indicates peak (busiest) period**
Total People to Total Vehicles ratio (all time periods and directions): 2.20

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 2 | 17 | 0.059 | 2 | 17 | 0.176 | 2 | 17 | 0.235 |
| 08:00 - 09:00 | 2 | 17 | 0.147 | **2** | **17** | **0.353** | **2** | **17** | **0.500** |
| 09:00 - 10:00 | 2 | 17 | 0.118 | 2 | 17 | 0.147 | 2 | 17 | 0.265 |
| 10:00 - 11:00 | 2 | 17 | 0.029 | 2 | 17 | 0.206 | 2 | 17 | 0.235 |
| 11:00 - 12:00 | 2 | 17 | 0.147 | 2 | 17 | 0.029 | 2 | 17 | 0.176 |
| 12:00 - 13:00 | 2 | 17 | 0.147 | 2 | 17 | 0.147 | 2 | 17 | 0.294 |
| 13:00 - 14:00 | 2 | 17 | 0.118 | 2 | 17 | 0.206 | 2 | 17 | 0.324 |
| 14:00 - 15:00 | 2 | 17 | 0.147 | 2 | 17 | 0.088 | 2 | 17 | 0.235 |
| 15:00 - 16:00 | 2 | 17 | 0.118 | 2 | 17 | 0.176 | 2 | 17 | 0.294 |
| 16:00 - 17:00 | 2 | 17 | 0.176 | 2 | 17 | 0.059 | 2 | 17 | 0.235 |
| 17:00 - 18:00 | **2** | **17** | **0.324** | 2 | 17 | 0.059 | 2 | 17 | 0.383 |
| 18:00 - 19:00 | 2 | 17 | 0.235 | 2 | 17 | 0.088 | 2 | 17 | 0.323 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 1.765 | | | 1.734 | | | 3.499 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*



**Parameter summary**

| | |
|---|---|
| Trip rate parameter range selected: | 16 - 18 (units: ) |
| Survey date date range: | 01/01/03 - 11/05/22 |
| Number of weekdays (Monday-Friday): | 2 |
| Number of Saturdays: | 0 |
| Number of Sundays: | 0 |
| Surveys automatically removed from selection: | 0 |
| Surveys manually removed from selection: | 0 |

*This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.*

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

## MULTI-MODAL CYCLISTS

## Calculation factor: 1 DWELLS

**BOLD print indicates peak (busiest) period**

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 2 | 17 | 0.000 | **2** | **17** | **0.029** | 2 | 17 | 0.029 |
| 08:00 - 09:00 | 2 | 17 | 0.000 | 2 | 17 | 0.029 | 2 | 17 | 0.029 |
| 09:00 - 10:00 | 2 | 17 | 0.000 | 2 | 17 | 0.000 | 2 | 17 | 0.000 |
| 10:00 - 11:00 | 2 | 17 | 0.000 | 2 | 17 | 0.000 | 2 | 17 | 0.000 |
| 11:00 - 12:00 | 2 | 17 | 0.000 | 2 | 17 | 0.000 | 2 | 17 | 0.000 |
| 12:00 - 13:00 | 2 | 17 | 0.000 | 2 | 17 | 0.000 | 2 | 17 | 0.000 |
| 13:00 - 14:00 | 2 | 17 | 0.000 | 2 | 17 | 0.000 | 2 | 17 | 0.000 |
| 14:00 - 15:00 | 2 | 17 | 0.029 | 2 | 17 | 0.000 | 2 | 17 | 0.029 |
| 15:00 - 16:00 | 2 | 17 | 0.000 | 2 | 17 | 0.029 | 2 | 17 | 0.029 |
| 16:00 - 17:00 | 2 | 17 | 0.000 | 2 | 17 | 0.000 | 2 | 17 | 0.000 |
| 17:00 - 18:00 | **2** | **17** | **0.059** | 2 | 17 | 0.000 | **2** | **17** | **0.059** |
| 18:00 - 19:00 | 2 | 17 | 0.029 | 2 | 17 | 0.029 | 2 | 17 | 0.058 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.117 | | | 0.116 | | | 0.233 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
## MULTI-MODAL PEDESTRIANS
## Calculation factor: 1 DWELLS
**BOLD print indicates peak (busiest) period**

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 2 | 17 | 0.029 | 2 | 17 | 0.059 | 2 | 17 | 0.088 |
| 08:00 - 09:00 | 2 | 17 | 0.088 | **2** | **17** | **0.382** | **2** | **17** | **0.470** |
| 09:00 - 10:00 | 2 | 17 | 0.118 | 2 | 17 | 0.118 | 2 | 17 | 0.236 |
| 10:00 - 11:00 | 2 | 17 | 0.000 | 2 | 17 | 0.029 | 2 | 17 | 0.029 |
| 11:00 - 12:00 | **2** | **17** | **0.176** | 2 | 17 | 0.059 | 2 | 17 | 0.235 |
| 12:00 - 13:00 | 2 | 17 | 0.000 | 2 | 17 | 0.000 | 2 | 17 | 0.000 |
| 13:00 - 14:00 | 2 | 17 | 0.118 | 2 | 17 | 0.118 | 2 | 17 | 0.236 |
| 14:00 - 15:00 | 2 | 17 | 0.147 | 2 | 17 | 0.059 | 2 | 17 | 0.206 |
| 15:00 - 16:00 | 2 | 17 | 0.118 | 2 | 17 | 0.000 | 2 | 17 | 0.118 |
| 16:00 - 17:00 | 2 | 17 | 0.059 | 2 | 17 | 0.029 | 2 | 17 | 0.088 |
| 17:00 - 18:00 | 2 | 17 | 0.118 | 2 | 17 | 0.088 | 2 | 17 | 0.206 |
| 18:00 - 19:00 | 2 | 17 | 0.147 | 2 | 17 | 0.088 | 2 | 17 | 0.235 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 1.118 | | | 1.029 | | | 2.147 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
## MULTI-MODAL PUBLIC TRANSPORT USERS
## Calculation factor: 1 DWELLS
**BOLD print indicates peak (busiest) period**

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate | No. Days | Ave. DWELLS | Trip Rate |
| 00:00 - 01:00 | | | | | | | | | |
| 01:00 - 02:00 | | | | | | | | | |
| 02:00 - 03:00 | | | | | | | | | |
| 03:00 - 04:00 | | | | | | | | | |
| 04:00 - 05:00 | | | | | | | | | |
| 05:00 - 06:00 | | | | | | | | | |
| 06:00 - 07:00 | | | | | | | | | |
| 07:00 - 08:00 | 2 | 17 | 0.000 | 2 | 17 | 0.000 | 2 | 17 | 0.000 |
| 08:00 - 09:00 | 2 | 17 | 0.000 | 2 | 17 | 0.029 | 2 | 17 | 0.029 |
| 09:00 - 10:00 | 2 | 17 | 0.000 | 2 | 17 | 0.029 | 2 | 17 | 0.029 |
| 10:00 - 11:00 | **2** | **17** | **0.029** | 2 | 17 | 0.000 | 2 | 17 | 0.029 |
| 11:00 - 12:00 | 2 | 17 | 0.000 | 2 | 17 | 0.000 | 2 | 17 | 0.000 |
| 12:00 - 13:00 | 2 | 17 | 0.000 | 2 | 17 | 0.000 | 2 | 17 | 0.000 |
| 13:00 - 14:00 | 2 | 17 | 0.000 | 2 | 17 | 0.000 | 2 | 17 | 0.000 |
| 14:00 - 15:00 | 2 | 17 | 0.000 | **2** | **17** | **0.059** | **2** | **17** | **0.059** |
| 15:00 - 16:00 | 2 | 17 | 0.000 | 2 | 17 | 0.000 | 2 | 17 | 0.000 |
| 16:00 - 17:00 | 2 | 17 | 0.029 | 2 | 17 | 0.000 | 2 | 17 | 0.029 |
| 17:00 - 18:00 | 2 | 17 | 0.029 | 2 | 17 | 0.000 | 2 | 17 | 0.029 |
| 18:00 - 19:00 | 2 | 17 | 0.000 | 2 | 17 | 0.000 | 2 | 17 | 0.000 |
| 19:00 - 20:00 | | | | | | | | | |
| 20:00 - 21:00 | | | | | | | | | |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.087 | | | 0.117 | | | 0.204 |

*This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.*

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*