

TRANSPORT STATEMENT

Cardiff Council

New Penn Public House
Llanedeyrn

May 2023

Transport Statement
Version 2

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1 Introduction

Overview

- 1.1 Vectos, part of SLR, has been appointed to provide transport and highways advice in relation to a proposed residential development on land presently occupied by the former New Penn public house and associated parking area, located within Llanedeyrn, Cardiff.

Site Location

- 1.2 The site is currently occupied by the vacant New Penn public house and associated car parking, located within the residential area of Llanedeyrn. The site is bound by Circle Way West to the west, Brynfedw to the north, an existing turning head and parking bays to the east and a public footpath to the south. Vehicular access is provided from both Circle Way West, while servicing historically took place from the turning head to the south east accessed from Brynfedw.
- 1.3 Local bus stops are provided approximately 200 metres to the south of the site on Circle Way West and 300 metres to the north of the site on Glyn Coed Road. The local centre of Llanedeyrn is located approximately 700 metres to the south east of the site.

Development Proposals

- 1.4 The proposals seek to provide 11 dwellings comprising a mix of flats and houses. All of the dwellings will be affordable and managed by Cardiff Council.

Report Structure

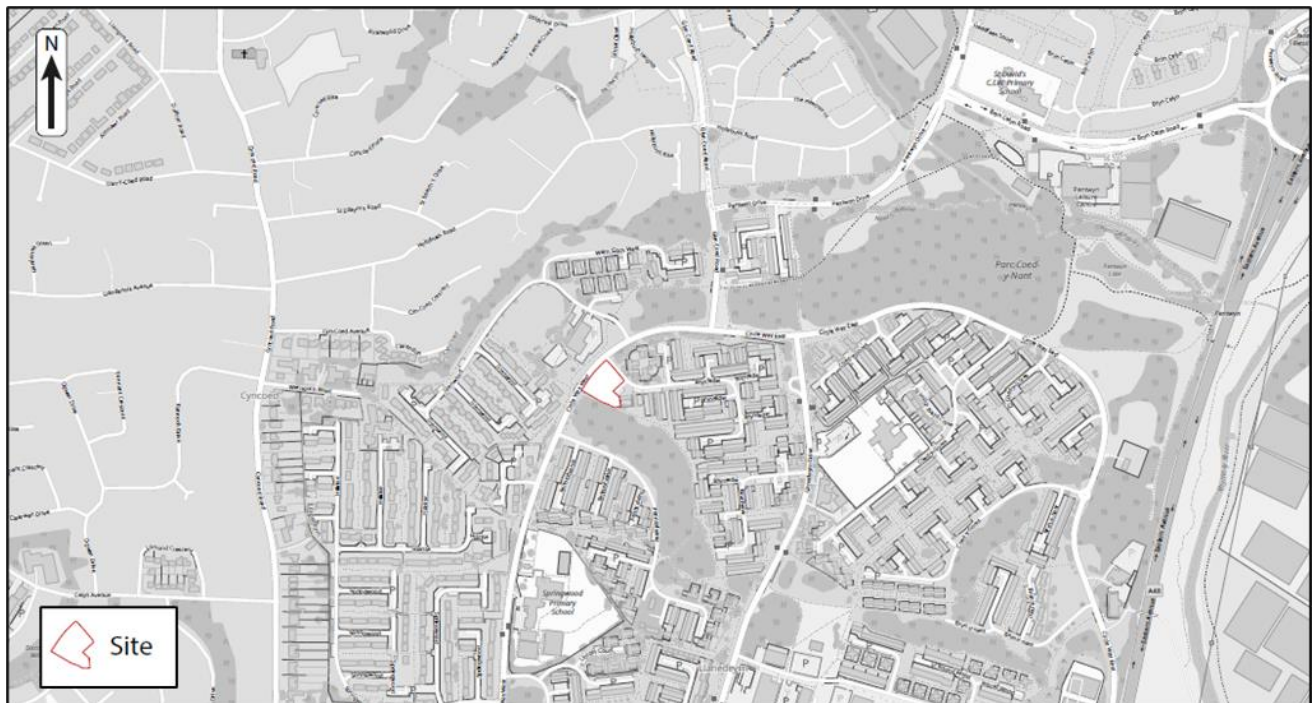
- 1.5 Following this introduction, the remainder of this report is structured as follows:
- **Section 2** summarises the accessibility of the site by a range of transport modes;
 - **Section 3** provides an overview of the policy against which the proposals will be considered;
 - **Section 4** provides an overview of the development proposals;
 - **Section 5** analyses the effect of the development on the local transport network; and,
 - **Section 6** summarises and concludes this report.

2 Baseline Conditions

Overview

- 2.1 The site is located within the residential area of Llanedeyrn, approximately 4.3km north east of Cardiff City Centre.
- 2.2 The site is located to the east of Circle Way West and south west of Brynfedw, both of which provide vehicular access to the site. Local bus stops are provided approximately 200 metres to the south of the site on Circle Way West and 300 metres to the north of the site on Glyn Coed Road. The site location in relation to the surrounding area is shown in **Figure 2.1**.

Figure 2.1 – Site Location Plan



Active Travel Network

- 2.3 The site is located in an area with an established network of walking and cycling routes.
- 2.4 It is generally accepted that walking and cycling provide important alternatives to the private car and should also be encouraged to form part of longer journeys via public transport. For example, research undertaken by the Chartered Institution of Highways and Transportation (CIHT) outlines that most people would walk to a destination within one mile, whilst cycling is a potential mode for a journey of up to 5 miles.
- 2.5 Manual for Streets (MfS) identifies 'walkable neighbourhoods' as being:

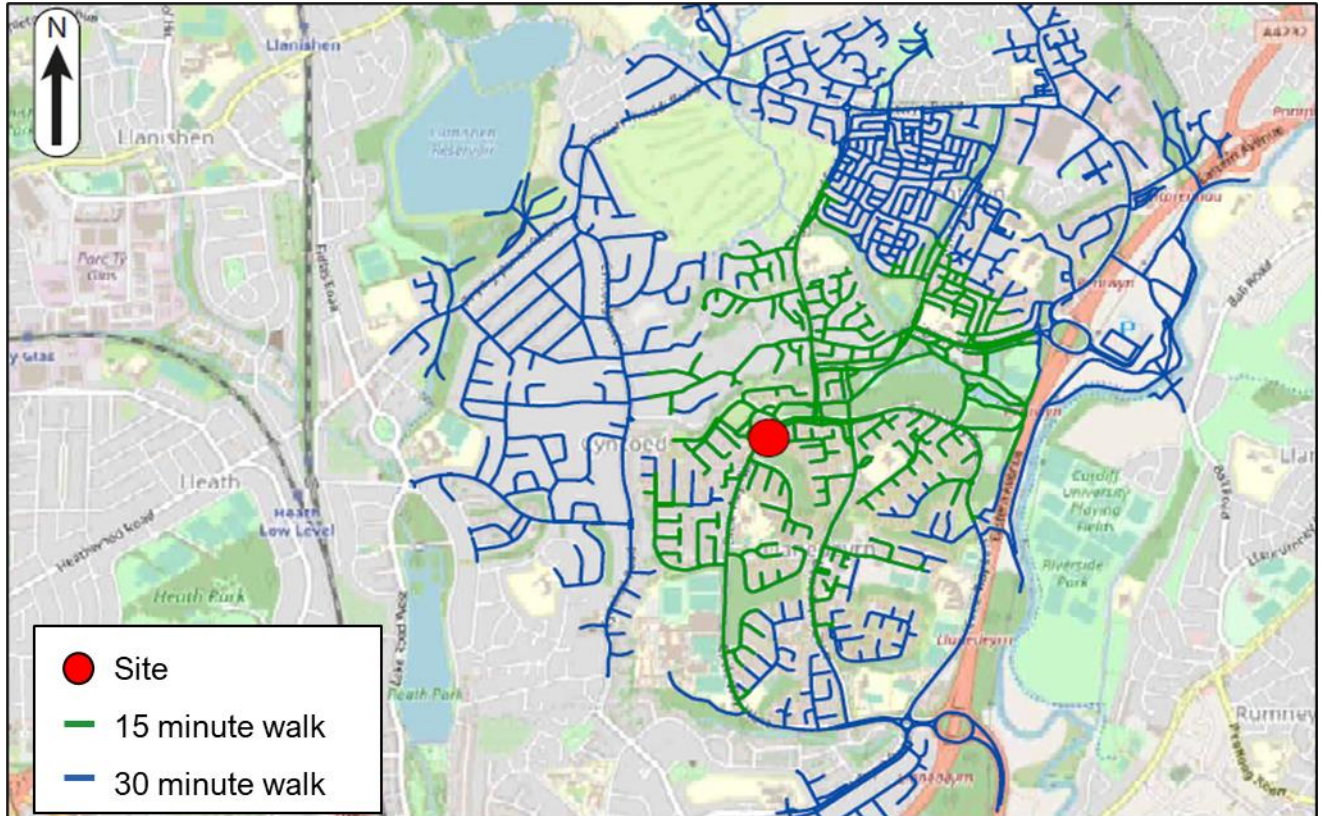
“characterised by having a range of facilities within 10 minutes (up to about 800m) walking distance of residential areas which residents may access comfortably on foot.”

- 2.6 However, it is important to recognise that MfS does not consider 800 metres to be a maximum walking distance. Indeed, MfS contends that walking can be used to access a variety of destinations within a range of up to 2 kilometres.
- 2.7 The site is located within 300m of a bus stop, while the closest post box is located at the junction of Wern Goch and Glenwood, a 200m walking distance north of the site. To the south east, the Llanedeyrn Health Centre is located an 850m (10 minute) walk from the site.

Pedestrian Network

- 2.8 The site is closely located to a range of traffic-free pedestrian connections, including a segregated link located adjacent to Circle Way West to the north west of the site. Further traffic-free routes are located to the south, east and west connecting to Llanedeyrn village centre and Pentwyn as well as the wider pedestrian network.
- 2.9 To the west of the site, nearby traffic-free connections can be used to access footways on both sides of Wern Goch Road and Rannoch Drive forming a section of a pedestrian link to Heath High Level and Heath Low Level stations.
- 2.10 To the north of the site the nearby pedestrian routes provide access to local bus stops on Glyn Coed Road with a signalised pedestrian crossing provided at the junction of Glyn Coed Road / Circle Way West creating a safe and convenient link.
- 2.11 Consideration has been made as to the areas that are reachable within 15 minute and 30 minute walking times, this is shown in **Figure 2.2**.

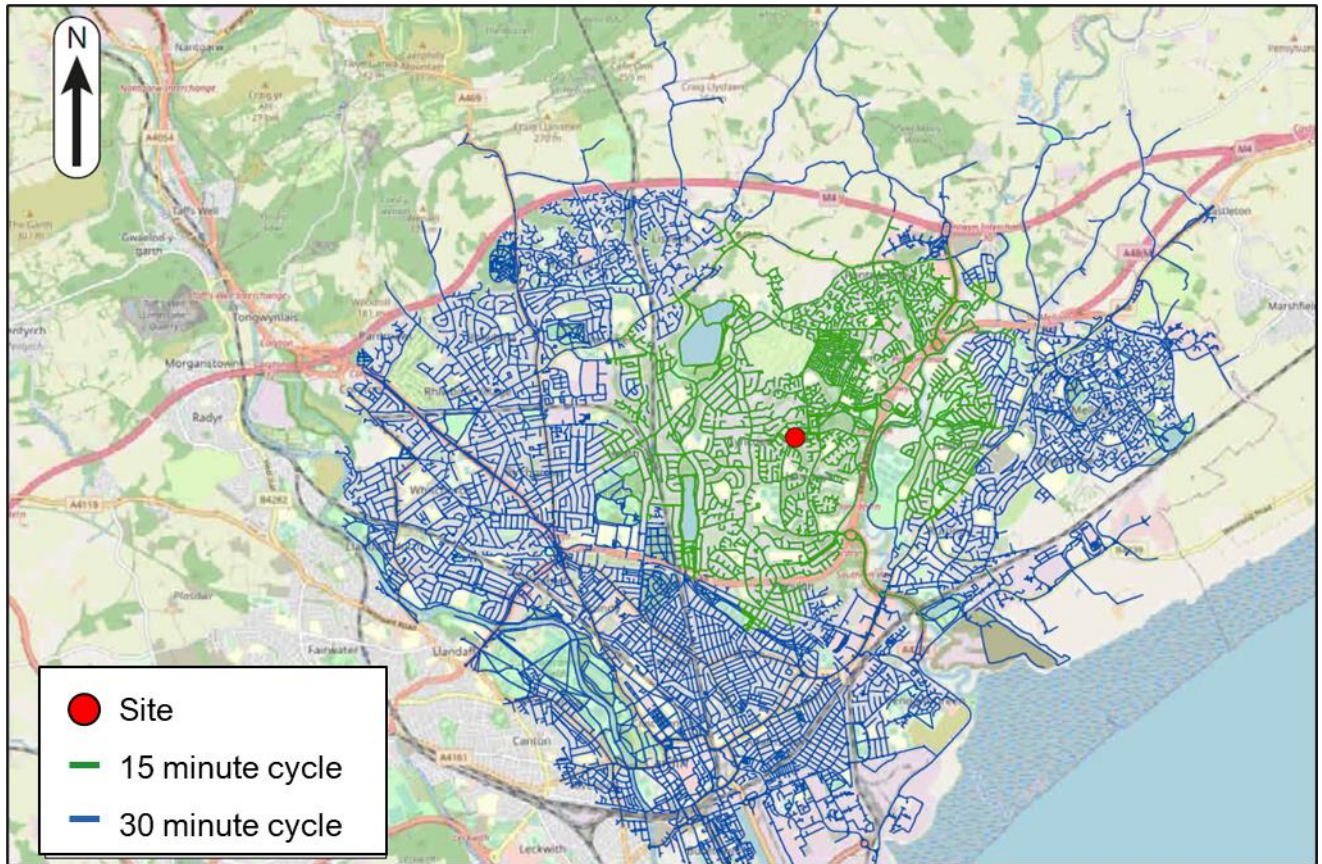
Figure 2.2 – Walking Isochrones



Cycle Network

- 2.12 The local cycle network centres around the traffic free connections in the vicinity of the site. As outlined above, these provides links to wider Cardiff including local stations, the city centre and leisure routes such as the Taff Trail.
- 2.13 The site will benefit from the delivery of future cycle links including Cycleway 1 which, once complete, will connect Cardiff city centre to Cathays, University Hospital Wales, Heath High Level and Heath Low Level Rail Stations, and the North East Cardiff Strategic Development Site. The closest section of route to the site will be Llandennis Road, located an approximate 8 minute (1.7km) cycle from the site.
- 2.14 A copy of the Cardiff Cycle Routes map is provided in **Appendix A**.

Figure 2.3 Local Cycle Network

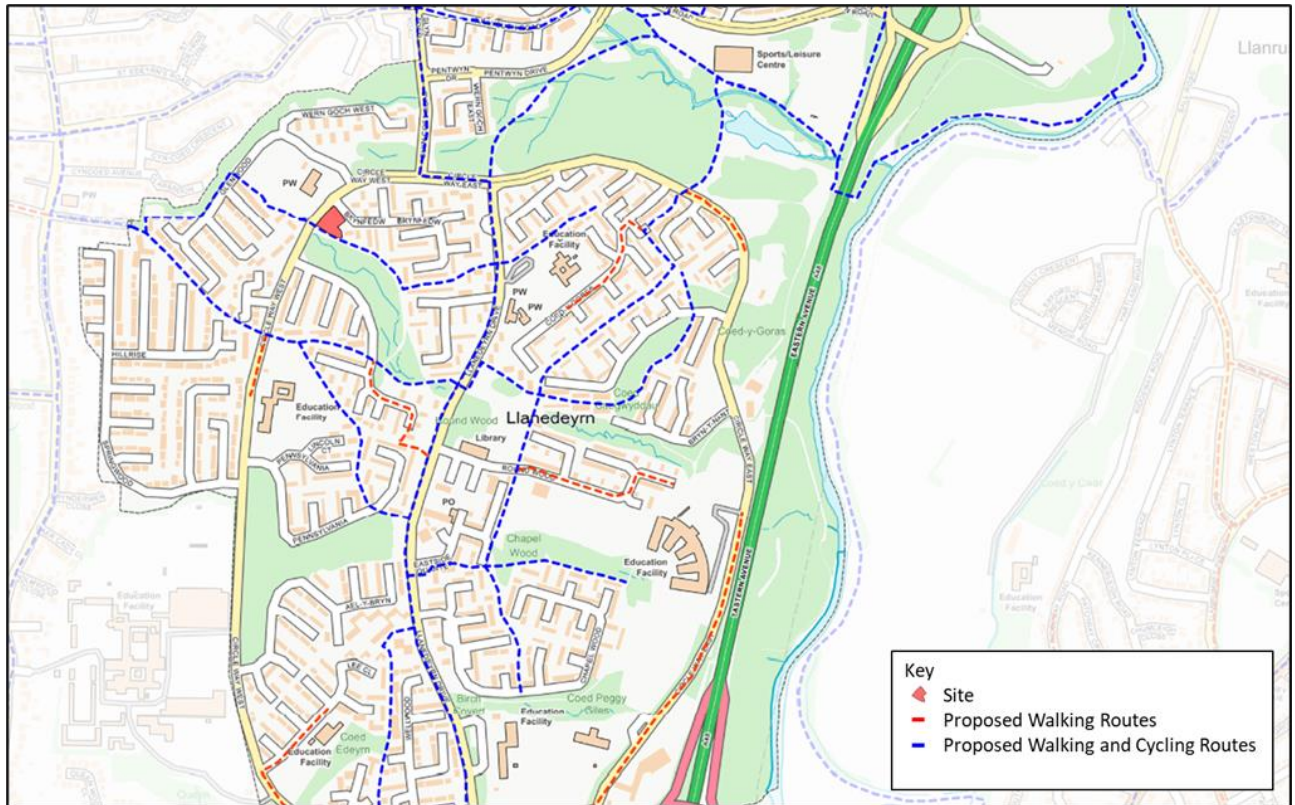


2.15 A summary of the local cycling catchment is provided in **Figure 2.3**, including isochrones to illustrate the areas reachable within a 15 minute and 30 minute cycle time.

Active Travel Improvements

2.16 As part of the legal requirements of the Active Travel (Wales) Act 2013, all Welsh Councils must plan and submit suitable Active Travel routes within their county, to identify future expansion of the active travel network over a 15-year period. It should be noted that there are a range of walking and cycling routes proposed in the local area, these are shown below at **Figure 2.4**.

Figure 2.4 Active Travel Improvements



Local Amenities

2.17 The site is well located with regard to local amenities with the shops and services of the Llanedeyrn local centre approximately 700 metres to the south east of the site, accessed predominantly via traffic-free links. As outlined previously, there has been a recent emergence of the 15-minute neighbourhood concept with a greater level of importance placed on the level of and range of amenities accessed within a 15-minute walk or cycle.

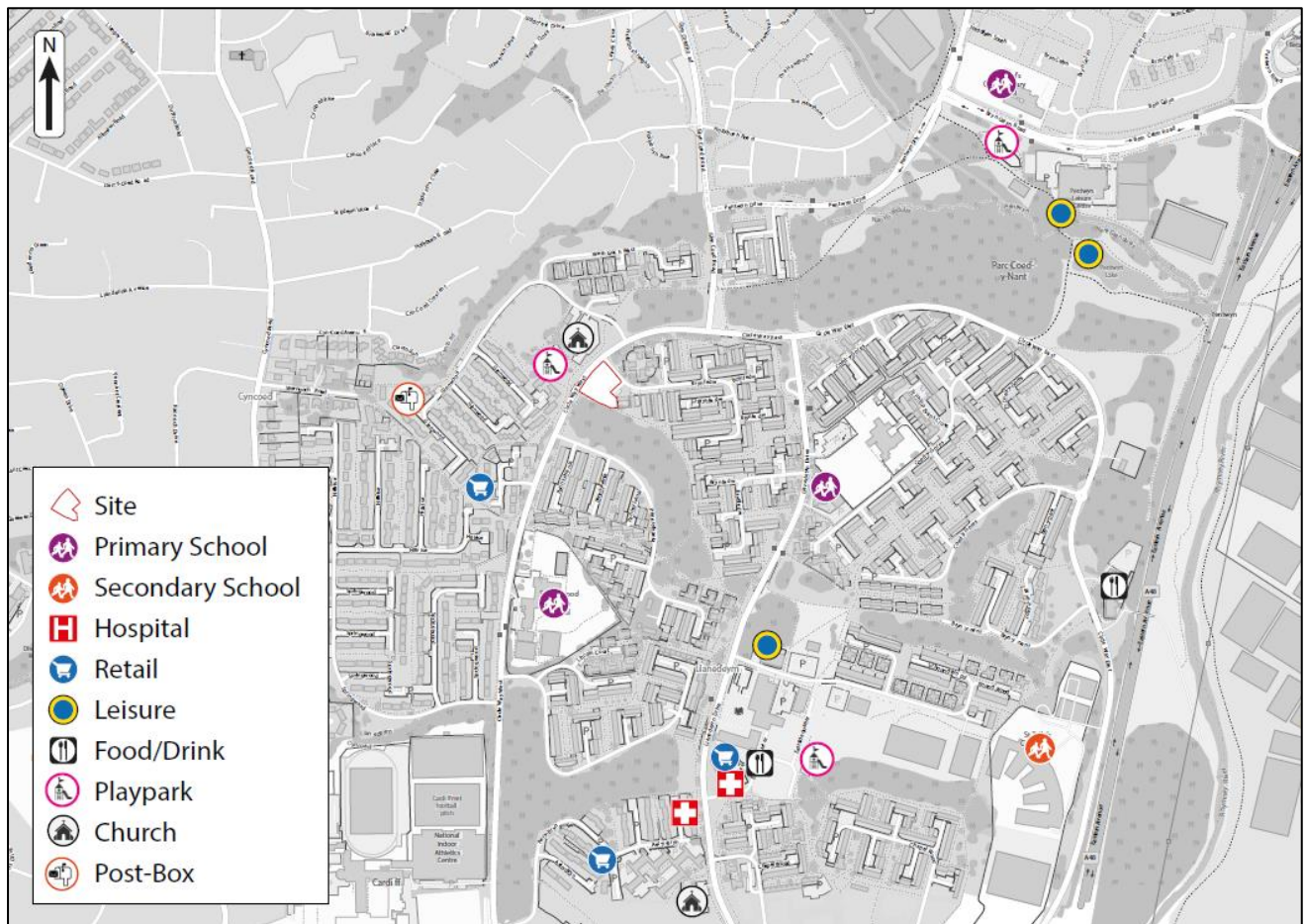
2.18 **Table 2.1** provides a summary of a range of local amenities whilst the location of these relative to the site are shown in **Figure 2.5**.

Table 2.1 - Local Amenities

Education	Distance	Walk Time	Cycle Time
Springwood Primary School	500 metres	6 minutes	2 minutes
St Phillip Evans RC Primary School	800 metres	10 minutes	3 minutes
St Teilo’s Church in Wales High School	1100 metres	13 minutes	4 minutes
Red Balwn Day Nursery	1600 metres	19 minutes	6 minutes
Healthcare	Distance	Walk Time	Cycle Time
Hopwoods Pharmacy	800 metres	10 minutes	3 minutes
Bateman Opticians	800 metres	10 minutes	3 minutes
Llanedeyrn Dental Practice	800 metres	10 minutes	3 minutes
Llanedeyrn Health Centre	950 metres	11 minutes	4 minutes

Retail	Distance	Walk Time	Cycle Time
Nisa Local	800 metres	10 minutes	3 minutes
Lewis Court Shopping Centre	800 metres	10 minutes	3 minutes
Premier	1100 metres	13 minutes	4 minutes
Tesco Express	1600 metres	19 minutes	6 minutes
Leisure	Distance	Walk Time	Cycle Time
Powerhouse Hub Community Centre	800 metres	10 minutes	3 minutes
Parc Coed y Nant	800 metres	10 minutes	3 minutes
Pentwyn Leisure Centre	1100 metres	13 minutes	4 minutes
National Indoor Athletics Centre	1950 metres	23 minutes	8 minutes
Employment	Distance	Walk Time	Cycle Time
Capital Business Park	3550 metres	42 minutes	14 minutes
Cardiff Gate Business Park	4000 metres	48 minutes	16 minutes
Cwrt Cowork	4150 metres	49 minutes	16 minutes

Figure 2.5 – Local Amenities



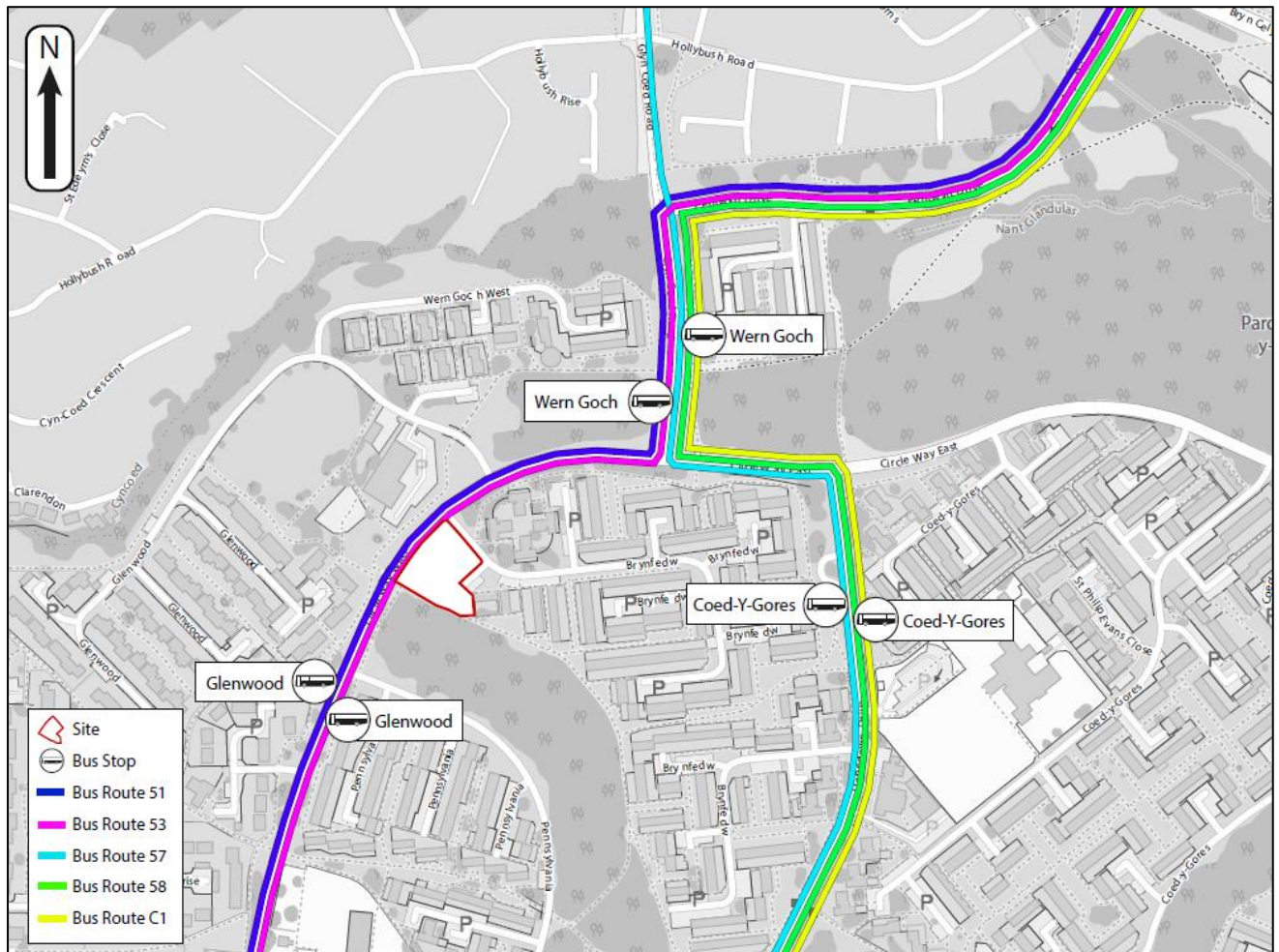
Public Transport Network

2.19 Local bus stops are provided approximately 200 metres to the south of the site on Circle Way West and 300 metres to the north of the site on Glyn Coed Road, whilst the nearest railway station is approximately 2.1 kilometres to the west.

Local Bus Services

2.20 Local bus stops are provided approximately 200 metres to the south of the site on Circle Way West and 300 metres to the north of the site on Glyn Coed Road. These stops provide connections to Cardiff city centre, Pontprennau and Birchgrove among other destinations with the local routes summarised in **Figure 2.6**.

Figure 2.6 Local Bus Routes



2.21 **Table 2.1** summarises the local bus services.

Table 2.1 Local Bus Services

No.	Route	Frequency		
		Mon-Fri	Saturday	Sunday
51/53	Greyfriars Road – Cyncoed Village – Birchgrove – Park Place	45 minutes	N/A	N/A
57/58	Cardiff City Centre – Albany Road – Pentwyn Interchange – Pontprennau	10 minutes	10 minutes	15 minutes
C1	Culverhouse Cross – Cowbridge Road West – Cardiff City Centre – Pontprennau	15 minutes	15 minutes	20 minutes

2.22 In addition to the above, the site is located approximately 2 kilometres to the west of Cardiff East Park & Ride. This provides a Park & Ride service to University Hospital Wales. The X59 service operates every 30 minutes to Cardiff city centre via Pentwyn and Pontprennau, whilst the H59 service operates every 20 minutes to Heath Hospital.

Local Rail Services

2.23 The site is located approximately 2.1 kilometres to the east of Heath High Level and Heath Low Level stations. Both can be accessed in around 8 minutes by bicycle, 25 minutes on foot or via the 51 bus service in 25 minutes.

2.24 Heath High Level serves stations such as Penarth (via Cardiff Central), Rhymney and Bargoed, whilst Heath Low Level connects to Radyr, Coryton and Cardiff Central. **Table 2.2** summarises the local rail services.

Table 2.2 Local Rail Services

Station	Route	Frequency		
		Mon-Fri	Sat.	Sun.
Heath High Level	Penarth via Cardiff Central, Grangetown and Dingle Road	30	30	60
	Rhymney via Caerphilly, Hengoed and Pontlottyn	30	30	60
	Bargoed via Llanbradach, Penham and Gilfach Fargoed	30	30	60
	Ystrad Mynach via Llanishen, Aber and Llanbradach	30	30	60
	Route	Frequency		
		Mon-Fri	Sat.	Sun.
Heath Low Level	Radyr via Ninian Park, Fairwater and Danescourt	30	60	N/A
	Coryton via Ty Glas, Birchgrove and Whitchurch	30	30	N/A
	Cardiff Central via Cardiff Queen Street	30	30	N/A

Transport Improvement Schemes

2.25 As part of the Llanrumney High School development it is proposed to provide a new bridge over the River Rhymney connecting to the Llanrumney Park & Ride as well as the A48. It would therefore provide a convenient connection to the east for future users at the site.

South Wales Metro

2.26 Heath High Level and Heath Low Level stations are located on one of the Core Valley Lines and subsequently is set to benefit from a package of improvements as part of the South Wales Metro project. These improvements include electrifying the lines enabling improved journey times and increased service frequency in the future, it is expected that four trains per hour will operate along the Cardiff to Rhymney route serving both stations.

Local Highway Network

2.27 The local highway network is centred around Circle Way, a two-way carriageway subject to a 30mph speed limit. Circle Way is divided into western and eastern sections operating, as a ring road around Llanedeyrn, and connect at the A48 / A4232 roundabout to the south and at the Circle Way / Glyn Coed Road signals to the north.

2.28 The site is therefore well connected to the wider strategic highway network, particularly to the A48 which provides an onward connection to the M4 to the north east whilst to the west it can be used to access the city centre as well as the A4232 at Culverhouse Cross. The M4 provides a motorway connection linking Cardiff to Bridgend and Swansea to the west whilst serving Bristol, Reading and London to the east.

Personal Injury Collision Review

2.29 A review of Personal Injury Collision (PIC) data for the site has been undertaken using Stats19 data, an online government database of PIC records. The records relate to PICs on public roads that are reported to the police and subsequently recorded, using the STATS19 collision reporting form. The most recently available five-year period has been analysed between 30/6/2017 and 30/6/2022.

2.30 A summary of collisions by year is provided in **Table 2.3**.

Table 2.3 – Collision Summary

Year	Slight	Serious	Fatal	Total
2017	0	0	0	0
2018	0	0	0	0
2019	0	0	0	0
2020	1	0	0	0
2021	2	0	0	0
2022	0	0	0	0
Total	3	0	0	3

2.31 A total of 3 collisions occurred within the area over the last 5-years. No collisions have been recorded within the first half of 2022.

2.32 A summary of the registered collisions within the locality is provided at **Figure 2.7**.

Figure 2.7 - PIC Overview



2.33 It is highlighted that, during the most recent period, a total of 3 collisions occurred in the study area resulting in 3 slight severity injuries. There were no serious or fatal collisions within the study area over the last 5-years. Some incidents occurred in the vicinity of local junctions and are likely to be attributed to vehicles manoeuvring and changing speed.

2.34 No collisions are associated with access to the site.

2.35 All 3 of the incidents involved vulnerable road users with 1 incident involving a pedestrian and 2 incidents involving cyclists. The incident involving a pedestrian casualty occurred in low light and wet road conditions. Furthermore, all of these incidents are considered isolated and do not form a cluster of incidents which could indicate that there is any existing highway design-based safety concern.

2.36 On the basis of the above, it is considered that there are no inherent safety issues associated with the existing highway network and junction arrangement in the vicinity of the site.

Summary

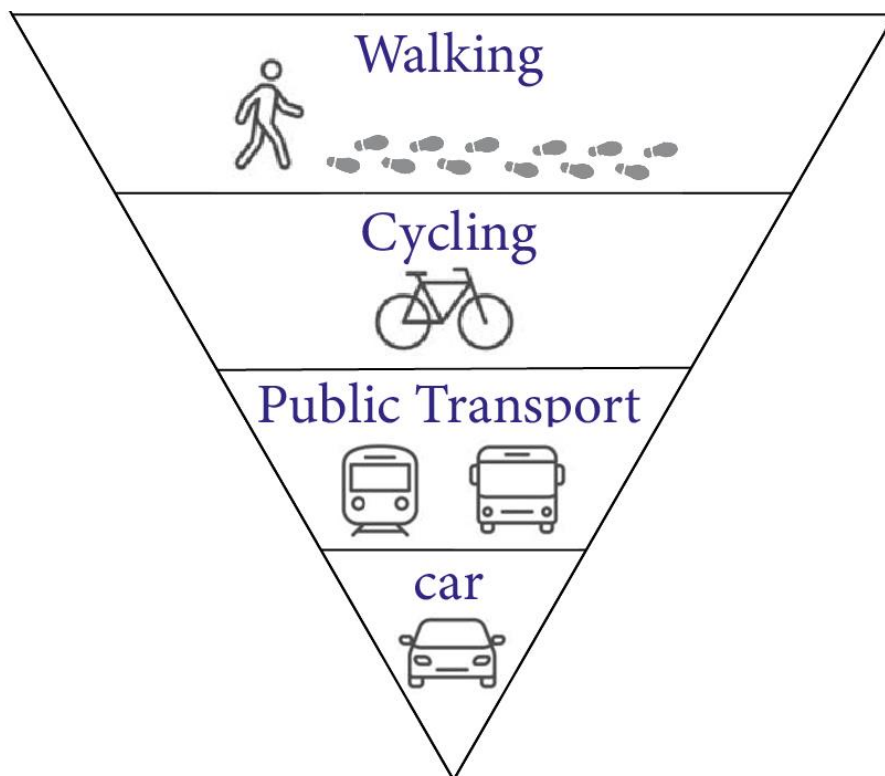
- 2.37 It is evident from the above review that the site is well located with regard to a range of local amenities, including schools, shops and healthcare facilities which can be accessed in a convenient walk or cycle time.
- 2.38 In addition, local bus services can be accessed within 300 metres of the site and are served by frequent connections to Cardiff City Centre, Pontprennau and Culverhouse Cross, among other destinations. These services would provide residents with suitable alternatives to the private car for purposes including commuting and leisure trips.
- 2.39 The site is located approximately 2.1 kilometres to the east of Heath High Level and Heath Low Level stations. Both can be accessed in around 8 minutes by bicycle, 25 minutes on foot or via the 51 bus service in 25 minutes. These stations are served by half-hourly trains connecting to destinations such as Cardiff Central, Penarth and Radyr providing a convenient and regular connection to the wider Cardiff area.
- 2.40 It has therefore been demonstrated that the site is suitably located for future residents to benefit from the opportunity to travel via more sustainable travel modes than the private car.

3 Policy Context

Overview

3.1 This section of the report outlines relevant policies for development and transport in Wales, which are cognisant of one another and follow a common theme; moving towards carbon reduction in the promotion of communities, virtual and active mobility, followed by public transport with private vehicle trips at the bottom of the hierarchy. This hierarchy is demonstrated in **Figure 3.1**.

Figure 3.1 – Transport Hierarchy



Planning Policy Wales (Edition 11) (February 2021)

3.2 Planning Policy Wales Edition 11 (PPW11) sets out the land use planning policies of the Welsh Government. The primary objective of PPW11 is to;

“Ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales.”

3.3 Section 4 of PPW11 concerns Active and Social places. It asserts that Active and Social Places are those which provide well-connected cohesive communities and further state that a ‘Resilient Wales’ is supported by protecting existing communities and natural environments whilst providing well-connected infrastructure and facilities closer to where people live.

3.4 Furthermore, with regards to sustainable transport, PPW11 advises that, in the context of active and social places, developments should encourage modal shift and be easily accessible by walking, cycling

and public transport, by virtue of their location, design and provision of on and off-site sustainable transport infrastructure.

- 3.5 A key theme throughout PPW is the aim of reducing reliance on travel by private car, and the adverse impacts of motorised transport on the environment and people’s health, by prioritising and increasing active travel and public transport. Additionally, it states that development proposals must seek to maximise accessibility by walking, cycling and public transport, by prioritising the provision of appropriate on-site infrastructure and, where necessary, mitigating transport impacts through the provision of off-site measures, such as the development of active travel routes, bus priority infrastructure and financial support for public transport services.
- 3.6 It is Welsh Government policy to require the use of a sustainable transport hierarchy in relation to new development, which is; walking, cycling, ultra-low emission vehicles and public transport. To this extent, paragraph 4.19 relates specifically to sustainable transport and states:

“The Welsh Government is committed to reducing reliance on the private car and supporting a modal shift to walking, cycling and public transport. Delivering this objective will make an important contribution to decarbonisation, improving air quality, increasing physical activity, improving the health of the nation and realising the goals of the Well-being of Future Generations Act.”

Llwybr Newydd – The Wales Transport Strategy (May 2021)

- 3.7 The new Transport Strategy for Wales sets out the ‘new path’ that will shape the transport system over the next 20 years. It is a “new way of thinking that places people and climate change at the front and centre of our transport system”. This document crucially defines the climate emergency as one of the biggest defining issues of our time, and the need to achieve net zero by 2050.
- 3.8 This seeks to improve the social, economic, environmental and cultural well-being of Wales. It contains seven well-being goals which local authorities as well as other public bodies must seek to achieve in order to improve well-being both now and in the future several of which support this strategy’s promotion of sustainable travel.
- 3.9 The strategy sets out three urgent priorities which are illustrated in **Figure 3.2**.

Figure 3.2 Wales Transport Strategy Priorities

Priority 1	Priority 2	Priority 3
Bring services to people in order to reduce the need to travel.	Allow people and goods to move easily from door to door by accessible, sustainable transport.	Encourage people to make the change to more sustainable transport.

- 3.10 Priority 1 seeks to reduce the need for people to use their cars on a daily basis by:
- Supporting remote working in line with Welsh Government target of 30% remote working;
 - Locate new public services close to where people live and to existing public transport routes;
 - Design new developments to be walk and cycle friendly from the outset;
 - Maximise the use of land close to transport hubs;
 - Improve access to fast and reliable broadband; and
 - Set aside land for multi-modal hubs to transfer freight to smaller vans or e-cargo bikes for last mile deliveries.
- 3.11 Priority 2 aims to achieve a shift away from private car use to more sustainable transport modes, enabling more people to walk, cycle, and use public transport, as well as low-emissions vehicles.
- 3.12 Priority 3 seeks to encourage people to change their travel behaviour to use low carbon, sustainable transport. This will be done through (but not limited to):
- Developing a range of behaviour-change projects;
 - Move from individual vehicle ownership to shared solutions;
 - Reduce the cost of sustainable travel; and
 - Support digital innovation.
- 3.13 The development will be designed where possible to reduce reliance on the private car and encourage future residents to undertake trips on foot or by cycle. This includes provision of active travel connections to the wider area accounting for expected desire lines.

Future Wales – The National Plan 2040 (February 2021)

- 3.14 ‘Future Wales – the National Plan 2040’ (Future Wales) is the national development framework, setting the direction for development in Wales to 2040. Future Wales strongly considers the Well-Being of Future Generations (Wales) Act 2015, which gives a legally-binding common purpose – the seven well-being goals – for national government, local government, local health boards and other specified public bodies. It details the ways in which these bodies must work, and work together, to improve the well-being of Wales.
- 3.15 Future Wales recognises that Placemaking is at the heart of the planning system in Wales, and that this policy establishes a strategic placemaking approach and principles to support planning authorities to shape urban growth and regeneration.
- 3.16 Within its Strategic Placemaking Principles, Future Wales considers mix of uses, variety of housing, walkable scale, density, street network, plot-based development and green infrastructure.

3.17 Of vital importance to new developments such as the proposed site is the concept of the ‘walkable scale’. This strategic placemaking principle states that to enable active and healthy lives, people should be able to easily walk to local facilities and public transport.

Active Travel Act Guidance (July 2021)




3.18 The act requires local authorities in Wales to produce maps of walking and cycling networks, and to deliver year on year active travel improvements along the mapped routes and their related facilities. These routes should be coherent, direct, safe, comfortable and attractive. The maps shall now be known as Active Travel Network Maps (ATNM) – showing existing routes and future routes which shall combine the Existing Routes Map and the Integrated Network Map required by the act.

3.19 As well as creating the infrastructure, the act includes provision for making people aware of the existing and future routes through the publication of the maps and for the promotion of active travel as a means of transport.

3.20 The active travel network is designed to serve everyday journeys. These are also known as utility journeys – trips with a purpose rather than purely for leisure. Examples of destinations which can be considered to form an everyday or utility journey include; school or other educational establishments, local shops, employment sites, healthcare facilities, and other destinations people travel to for a purpose.

3.21 **Figure 3.3** is an extract of Table 4.1 within the guidance which provides a guide for network development in relation to reasonable distances that would be travelled by each respective mode for everyday journeys.

Figure 3.3 - Active Travel Guidance Table 4.1

	Less than 1km	Up to 3km	Up to 5km	Up to 8km	Up to 12km	Up to 24km
	Many Users	Many Users	Some Users	Few Users	Few Users	Few Users
	Many Users	Many Users	Many Users	Many Users	Some Users	Few Users
	Many Users	Many Users	Many Users	Many Users	Many Users	Some Users

3.22 Two out of every three journeys are less than five miles in length – an achievable distance to cycle for most people, with many shorter journeys also suitable for walking. For school children the opportunities

are even greater: three quarters of children live within a 15-minute cycle ride of a secondary school, while more than 90% live within a 15-minute walk of a primary school.

3.23 The guidance further states that developments that do not adequately make provision for walking and cycling should not be approved. This may include adequate off-site improvements for pedestrians and cyclists using existing highways that are affected by the development. The site has the potential to provide excellent pedestrian links allowing for residents of the site to connect with the local area.

Well-being of Future Generations (Wales) Act (April 2015)

3.24 Wales faces a number of challenges now and in the future, such as climate change, poverty, health inequalities and jobs and growth.

3.25 The Well-being of Future Generations Act puts in place seven well-being goals that will help to tackle these challenges. The Act makes it clear the listed public bodies must work to achieve all of the goals, not just one or two.

3.26 In terms of the impact of the goals on develop and travel, the first goal of ‘A Prosperous Wales’ recognises the need for an innovative, productive and low carbon society and is somewhat all-encompassing of the other goals and the need for sustainable travel options and low carbon communities.



Cardiff Local Development Plan (LDP)

3.27 The adopted Cardiff Local Development Plan (LDP) provides the statutory framework for the development and use of land within Cardiff during the plan period of 2006 to 2026, in conjunction with Supplementary Planning Guidance (SPG).

3.28 A number of development principles are included within the LDP, of particular relevance these include:

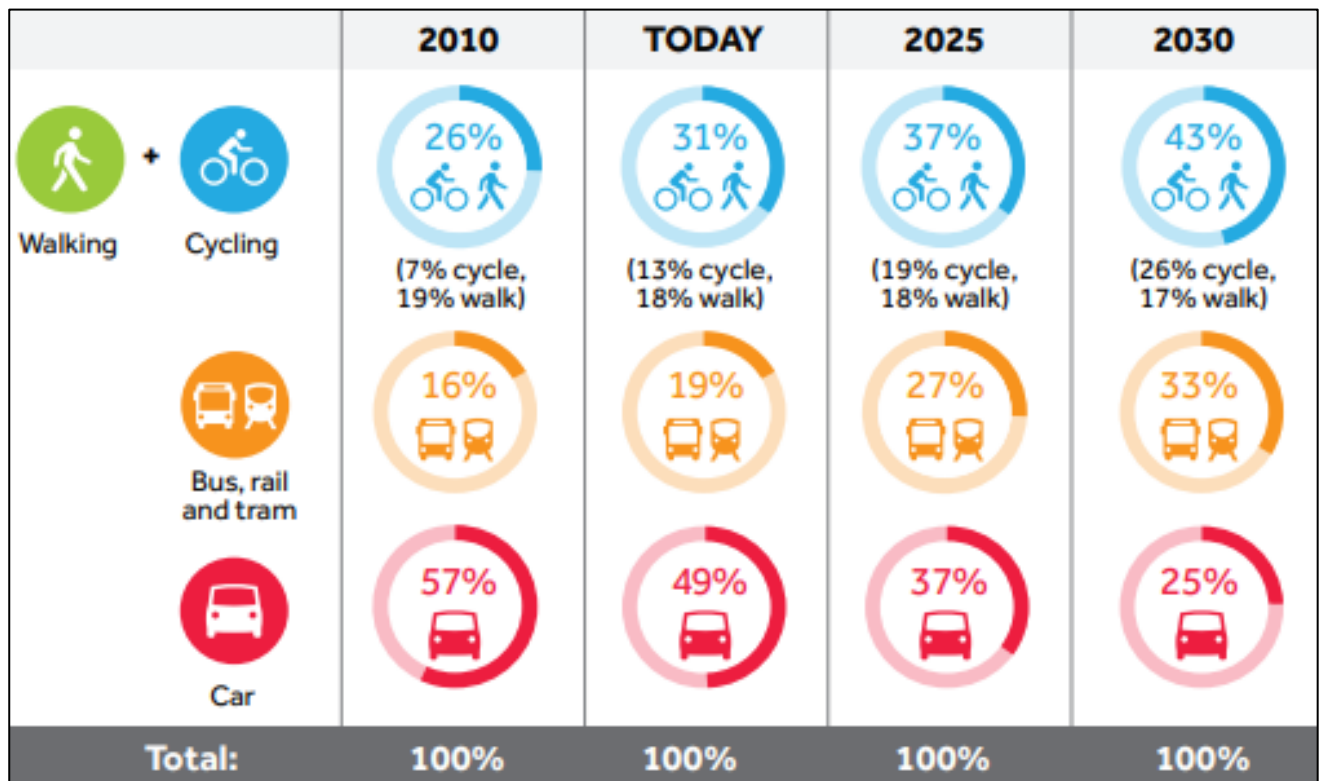
- Minimise car travel, maximise sustainable transport use and decrease air pollution by creating accessible, permeable and legible places, preventing predominantly car-based developments and focusing new development in accessible locations which are linked to the strategic cycle network and can be served mainly by effective networks of sustainable transport - walking and cycling and fast and frequent public transport around and beyond the city.
- Maximise the principles of good design - to create places that look good, are of an appropriate and efficient density, fully respect their local context and are successfully integrated with adjoining areas. To design buildings that are resilient and can easily adapt to changing future needs. To design clean and attractive areas where people feel safe and have a sense of ownership.

3.29 Policy TC1 considers walking and cycling with an overarching principle to support development which incorporates:

- Permeable and legible active travel networks.
- Measures to minimise vehicle speeds and prioritise pedestrians and cyclists.
- Safe and convenient connections to the wider neighbourhood.

3.30 Policy KP8 relates to sustainable transport. The policy states that any new developments in Cardiff will be integrated with transport infrastructure and services in order to achieve a wide range of outcomes. This includes reducing travel demand and dependence on the car, maintaining and improving the efficiency and reliability of the transport network and managing freight movements by road and minimise their impacts.

Figure 3.4 - Current and Future Ambitions for Cardiff Modal Split



3.31 The policy also notes the intention of the council to achieve a 50/50 modal split between journeys by car and journeys by walking, cycling and public transport. **Figure 3.4**, as shown within the Cardiff Transport White Paper, published in 2020, shows the progress Cardiff has already achieved in meeting this policy. It also indicates the ambition of the council to go further in reducing car usage through a mixture of public transport and active travel.

3.32 The development, in acknowledgement of these aspirations, will ensure that continued compliance with policy.

Managing Transportation Impacts (Incorporating Parking Standards)

- 3.33 Local parking standards are provided within the Managing Transportation Impacts (Incorporating Parking Standards) supplementary planning guidance (July 2018).
- 3.34 The standards differ for central and non-central areas with the site located within the latter. The car parking standards within the SPG are a maximum level of provision with cycle parking a minimum requirement. **Table 3.1** summarises the parking standards to be applied to the site.

Table 3.1 Cardiff Council Parking Standards

Dwelling Size	Maximum Vehicle Parking	Minimum Cycle Parking
1 bedroom	1 space per unit	1 space per bedroom
2+ bedroom	2 spaces per unit	1 space per bedroom

Summary

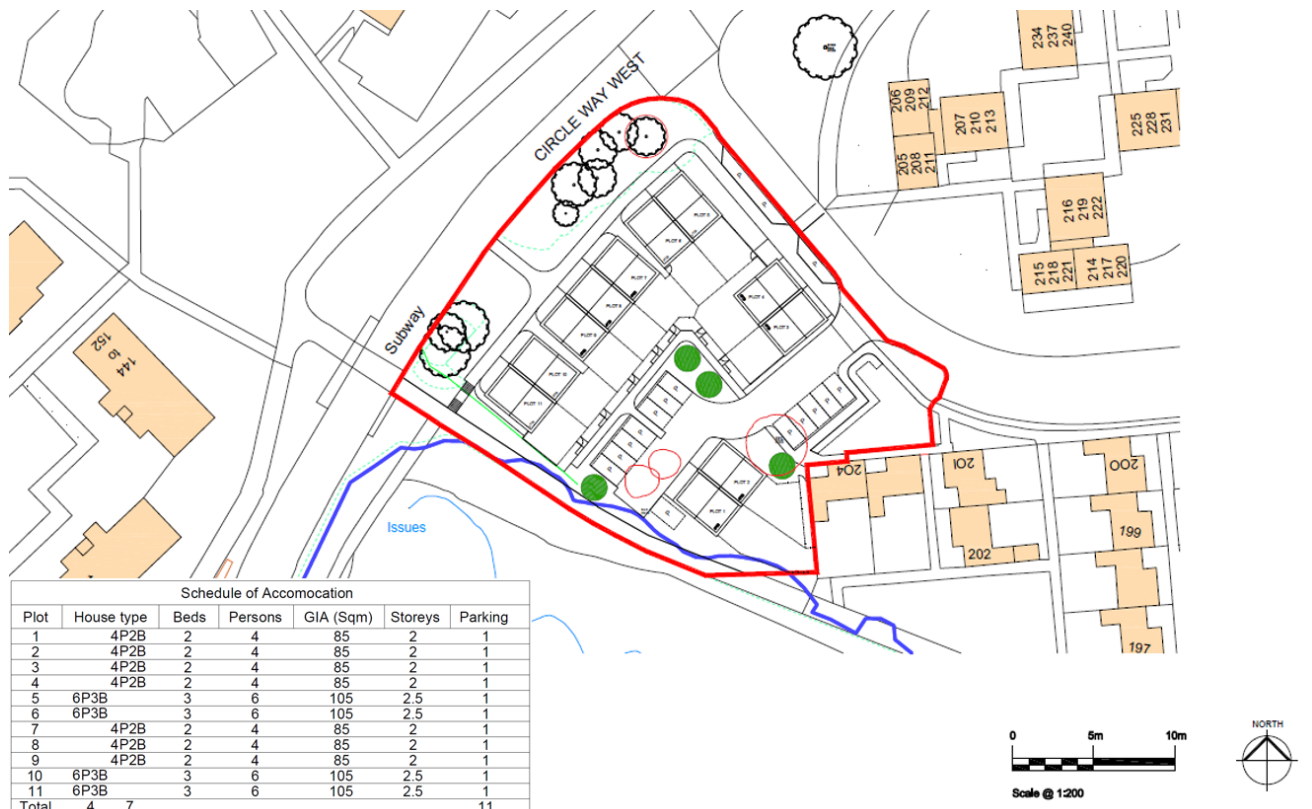
- 3.35 It is evident that national policy including PPW11, Llwybr Newydd and Future Wales, are focused on encouraging trips via foot and cycle ahead of other modes. As demonstrated in Section 2, the site is well located to take advantage of the existing active travel network in accordance with these policy aims. Furthermore, it is intended to improve the pedestrian environment through the provision of a new zebra crossing, additional details are provided in Section 4.
- 3.36 More locally, the Cardiff LDP aims for development to be located close to pedestrian, cycle and public transport networks. As noted above, the site has been demonstrated to be accessible by foot, cycle and frequent bus services. The LDP additionally considers the design of development with an aim to integrate new development within the existing street scene. It is considered that, giving the residential nature of the surrounding area, the development is suitably located to achieve these principles.
- 3.37 The LDP additionally aims to achieve a 50/50 modal split between journeys by car and those by walking, cycling and public transport. It is clear from Section 2 that the site is well located to encourage sustainable travel in accordance with these mode split aims.
- 3.38 It is therefore demonstrated that the principles of the development proposals comply with the transport related planning policies discussed within this chapter. The site will seek to reduce the need to travel in the first instance with more sustainable modes of transport promoted for journeys beyond the site. This will be aided through design and continued promotion of the transport hierarchy placing pedestrian and cycle movements at the forefront of all development.

4 Development Proposals

Overview

- 4.1 The proposals seek to provide in the region of 11 affordable dwellings, comprising a mix of flats and houses, on land presently occupied by the New Penn Public House. The site masterplan is illustrated in **Figure 4.1** and the scheme drawings are provided in **Appendix B**.

Figure 4.1 – Site Layout



Access Strategy

- 4.2 The access strategy for the development considers how safe and suitable access can be achieved by all users across a range of transport modes.

Vehicle Access

- 4.3 It is proposed that the existing access from Brynfedw is retained to serve as the vehicular access for the development. This route provides access to on-site parking bays as well as facilitating access for servicing and delivery vehicles.
- 4.4 It is proposed that the existing vehicle access taken from Circle Way West and serving the existing car park at the western boundary of the site would be stopped up and a kerb and footway reinstated.

Pedestrian and Cycle Access

- 4.5 The access from Brynfedw will include provision for pedestrians with consideration for key desire lines including the existing dropped kerb crossing to the north of the site access.
- 4.6 At the west of the site a pedestrian links will be provided to a new zebra crossing which will connect to the existing routes to the north west of the site along Circle Way West as well as improving connection to local bus stops. Further opportunities to connect the site with the existing pedestrian and cycle infrastructure in the vicinity of the site will be explored.

Parking Strategy

- 4.7 It is intended that parking is provided at a ratio of 1 space per dwelling and therefore 11 spaces will be provided. It is considered that this level of provision is suitable given the accessibility of the site by alternative transport modes. Furthermore, the proposed level aligns with the aims of national and local planning policy, as summarised in Section 3, which aims to reduce car use.
- 4.8 In addition, it is proposed to provide 3 new parallel parking bays on Brynfedw which will partially mitigate the loss of parking currently associated with the public house.
- 4.9 It is intended that cycle parking is provided in accordance with the standards presented in Section 3. Cycle parking will be located in rear gardens in the form of sheds, the dimensions of these will be agreed with transport officers at Cardiff Council.
- 4.10 The final level of car and cycle parking provided across the site will be calculated on the basis of the final development mix and the Cardiff Council parking standards in place at the time of the reserved matters process.

Delivery and Servicing Strategy

- 4.11 The dwellings located to the west of the site will be serviced on-street with a bin store suitably located such that resident carry distance does not exceed 30 metres and operative trolley distance does not exceed 25 metres. Dwellings to the east of the site will be serviced via the eastern access adjoining Brynfedw with bin stores provided where appropriate.
- 4.12 It is intended that all other servicing and delivery vehicles serve the site from the eastern access adjoining Brynfedw and serving the car park.
- 4.13 Swept path analysis has been undertaken to demonstrate how a refuse vehicle would service the site and is included at **Appendix C**.

Off Site Infrastructure

- 4.14 Adjacent to the site on Circle Way West, a Zebra crossing is proposed to provide an improved connection between the site and the surrounding area. The zebra crossing is proposed as a raised table feature. The location and design of the crossing has been discussed with Cardiff Council highway officers as part of the Pre App discussions.

4.15 The Zebra crossing will provide a direct route for pedestrians avoiding the need to divert via an existing underpass. The crossing will provide improved connections to the play area, Glenwood Church Centre and playing fields to the north west of Circle Way West. It also provides a more direct route for pedestrians to and from the 'Glenwood' bus stop located on the western side of Circle Way West.

4.16 The concept design is provided in **Vectos Drawing: 226773_PD01**, a copy of which is provided in **Appendix D**.

Mitigation

4.17 To ensure that the impacts associated with the construction phase, such as increases in traffic, noise and dust, are minimised, a Construction Environmental Management Plan (CEMP) will be prepared.

4.18 The construction programme and phasing will depend on a number of factors including safety, environmental considerations, economics, access and practicalities. In this regard, the type and number of vehicle movements generated during the construction period will be dependent on the type and intensity of work being undertaken at any one stage. Similarly, the phasing of the construction programme will be dependent upon how the contractor appointed to carry out the works decides to manage the construction period.

4.19 It is expected that the provision of a CEMP would be secured by way of a suitably worded planning condition.

5 Trip Generation

Overview

5.1 This section provides a summary of the expected trip generation of the existing and proposed land uses at the site so as to determine the likely net change in trips as a result of the development.

Existing Trips

5.2 The site is presently occupied by a public house, whilst currently not operating it could lawfully be reoccupied and reopened at any time. As such, an assessment of the likely trip generation associated with the public house, should it become operational again, has been undertaken.

5.3 Trip rates have been obtained from the TRICS database associated with public houses in similar locations. The full output reports are attached at **Appendix E**, whilst **Table 5.1** provides a summary of the trip rates and resulting vehicle trips.

Table 5.1 Vehicle Trip Rates and Resulting Trips – Public House

Time	Vehicle Trip Rate (per sqm)			Vehicle Trips (595sqm)		
	Arr.	Dep.	Total	Arr.	Dep.	Total
AM Peak 0800-0900	0.000	0.000	0.000	0	0	0
PM Peak 1700-1800	2.531	1.470	4.001	15	9	24
Daily 1000-2400	22.624	22.215	44.839	135	132	267

Proposed Trips

5.4 The proposals seek to provide in the 15 dwellings comprising a mix of flats and houses, it is intended that all dwellings are affordable.

5.5 Trip rates have been obtained from the TRICS database associated with similar affordable housing developments in similar locations. The full output reports are attached at **Appendix F**, whilst **Table 5.2** provides a summary of the trip rates and resulting person trips.

Table 5.2 Person Trip Rates and Resulting Trips – Residential

Time	Person Trip Rate (per dwelling)			Person Trips (11 dwellings)		
	Arr.	Dep.	Total	Arr.	Dep.	Total
AM Peak 08:00-09:00	0.383	0.702	1.085	4	8	12
PM Peak 17:00-18:00	0.404	0.447	0.851	4	5	9
Daily 0700-1900	4.915	4.959	9.874	54	55	109

5.6 **Table 5.2** demonstrates that the proposed development could be expected to generate 12 person trips during the morning peak hour and 9 person trips during the evening peak hour. Across the average weekday it is expected that the site could generate 109 two-way person trips.

- 5.7 To determine the likely trips by mode, reference has been made to the 2011 Census with method of travel to work data obtained for the Cardiff 017A and 017C output areas, across which the site is located.
- 5.8 It should be noted that while parts of the 2021 Census dataset have been released, Covid-19 restrictions and furlough may have distorted movement and mode share patterns and hence at this stage, whilst very much worst case in terms of not accounting for new hybrid working/reduced car use, the 2011 Census is still considered to be the most appropriate method of forecasting.
- 5.9 The mode share has then been applied to the person trips presented in **Table 5.2**.

Table 5.3 Person Trips by Mode

Mode	Share	AM Peak (0800-0900)		PM Peak (1700-1800)		Daily (0700-1900)	
		Arr.	Dep.	Arr.	Dep.	Arr.	Dep.
Train	1%	0	0	0	0	0	0
Bus	17%	1	1	1	1	9	9
Taxi	0%	0	0	0	0	0	0
Motorcycle	0%	0	0	0	0	0	0
Car Driver	66%	3	5	3	3	36	36
Car Passenger	8%	0	1	0	0	4	4
Bicycle	1%	0	0	0	0	0	0
Foot	6%	0	0	0	0	3	3
Total	100%	4	8	4	5	54	55

- 5.10 **Table 5.3** demonstrates that the proposed development could be expected to generate 11 two-way vehicle trips during the morning peak hour with 3 trips undertaken via public transport and 1 via active travel modes. During the evening peak hour, it is expected that the proposals would generate 8 two-way vehicle trips during the morning peak hour with 2 trips undertaken via public transport. Across an average weekday it is expected that the development could generate 97 two-way vehicle trips with 27 trips via public transport and 10 trips via active travel modes.

Net Trip Generation

- 5.11 Consideration has been made as to the expected net trip generation of the proposals when compared with the extant use of the site. **Table 5.4** summarises the anticipated net change in vehicle trips.

Table 5.4 Net Change in Vehicle Trips

	AM Peak		PM Peak		Daily	
	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.
Existing (Public House)	0	0	15	9	135	132
Proposed (Residential)	3	5	3	3	36	36
Net Change	+3	+5	-12	-6	-99	-96

5.12 **Table 5.4** demonstrates that the proposed development could be expected to generate 8 additional vehicle trips during the morning peak hour when compared with the existing use. During the evening peak hour, it is expected that the proposals would result in a net reduction of 18 vehicle trips. Across the average weekday it could be expected that there would be a reduction of 195 two-way vehicle trips.

Summary

5.13 The above review demonstrates that the site could be expected to result in an overall reduction in the number of vehicle trips generated when compared with the extant lawful use with circa 170 fewer vehicle trips across the average weekday.

5.14 It is further considered that the provision of various sustainable transport measures, as highlighted in Section 4, would encourage future residents to travel via more sustainable modes including active travel which could further reduce the level of vehicle trips generated by the development.

6 Summary & Conclusion

Summary

- 6.1 Vectos, part of SLR, has been appointed to provide highways and transportation advice in relation to development proposals on land presently occupied by the New Penn public house, located within Llanedeyrn, Cardiff.
- 6.2 The site is currently occupied by the New Penn public house and associated car parking, located within the residential area of Llanedeyrn. The site is located to the east of Circle Way West and south west of Brynfedw, both of which currently provide vehicular access to the site.
- 6.3 It is proposed to redevelop the site to provide 11 affordable dwellings on land presently occupied by the New Penn Public House.
- 6.4 This Transport Statement has demonstrated the following:
- The site is well located to take advantage of local facilities, and benefits from a good surrounding active travel network in accordance with national planning policy. There are good public transport connections provided via existing bus stops located within a short walking distance of the site.
 - Safe and suitable access for vehicles can be achieved via the existing access from Brynfedw whilst it is proposed that the existing turning head at the Brynfedw access is maintained to allow safe and convenient access for servicing and delivery vehicles. In addition, a range of active travel links will be provided connecting the site to the wider area.
 - The site is supported by the delivery of a new pedestrian crossing in the form of a Zebra crossing on Circle Way West.
 - The proposed development could be expected to generate 8 additional vehicle trips during the morning peak hour when compared with the existing use. During the evening peak hour, it is expected that the proposals would result in a net reduction in vehicle trips of 18 fewer vehicles whilst across the average weekday it could be expected that there would be a reduction of 195 two-way vehicle trips.

Conclusion

- 6.5 On the basis of the above, it is concluded that the proposals accord with Planning Policy Wales (Feb 2021), The Wales Transport Strategy (May 2021) and Cardiff's Adopted LDP regarding to access to sustainable transport opportunities. It has further been demonstrated that the proposals would result in a net decrease in vehicle trips and therefore would not have a detrimental impact on the operation of the local highway network.

Appendix A

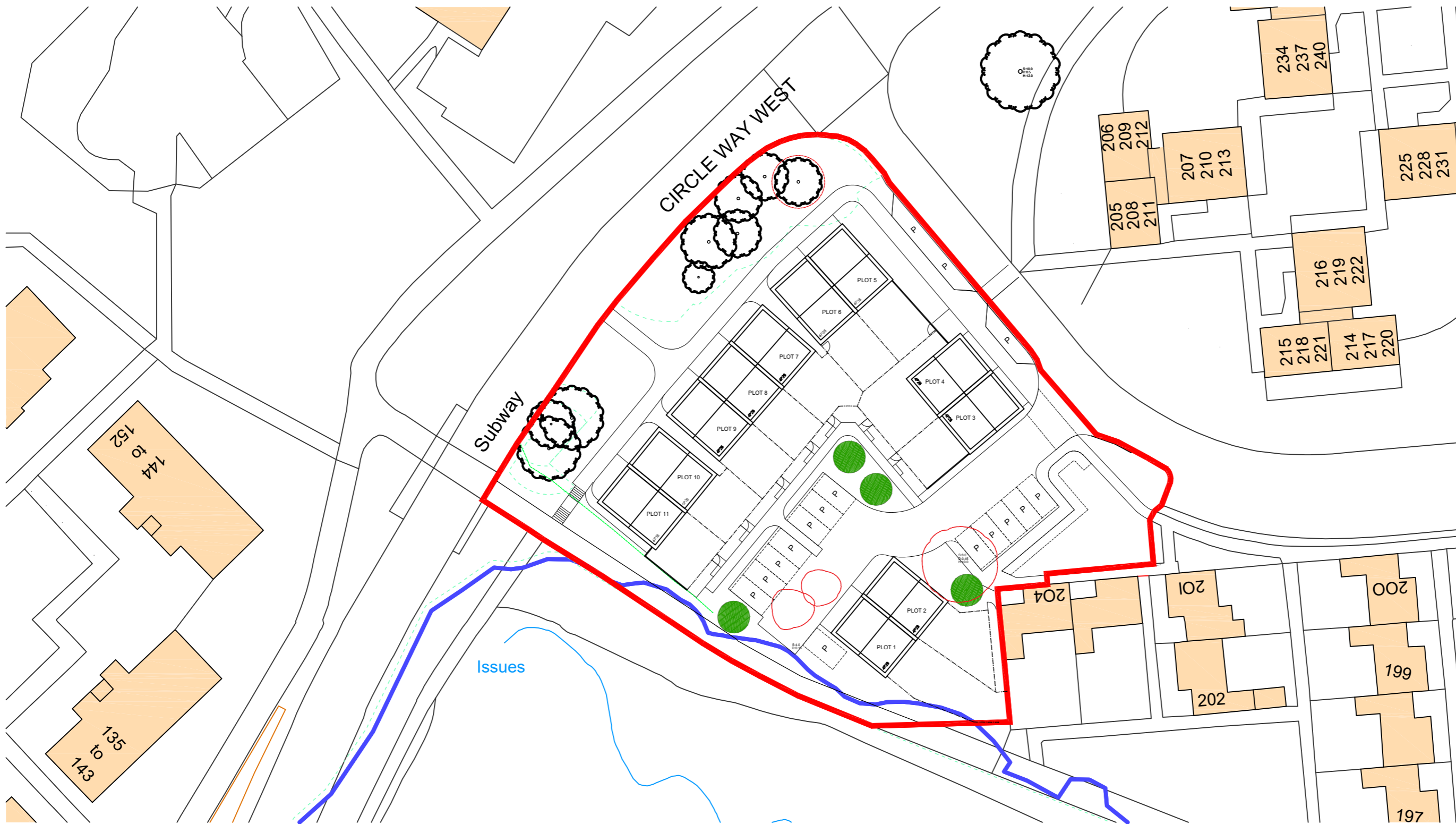
Cardiff Cycle Route Map

Cycleways Beicffyrdd

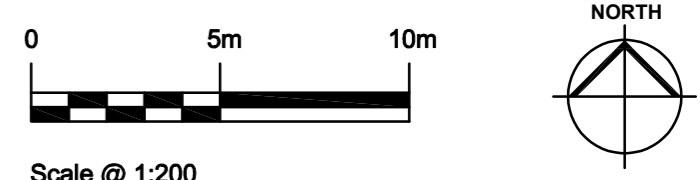


Appendix B

Site Masterplan



Schedule of Accommodation						
Plot	House type	Beds	Persons	GIA (Sqm)	Storeys	Parking
1	4P2B	2	4	85	2	1
2	4P2B	2	4	85	2	1
3	4P2B	2	4	85	2	1
4	4P2B	2	4	85	2	1
5	6P3B	3	6	105	2.5	1
6	6P3B	3	6	105	2.5	1
7	4P2B	2	4	85	2	1
8	4P2B	2	4	85	2	1
9	4P2B	2	4	85	2	1
10	6P3B	3	6	105	2.5	1
11	6P3B	3	6	105	2.5	1
Total	4	7				11



Scale @ 1:200

Figured dimensions and levels to be used. Any inaccuracies must be notified to the architect. Detail drawings and large scale drawings take precedence over smaller drawings.

Rev:	Description	Date
A	Plan revised to adhere to 3m easement from sewer line.	KP 27.01.2023
B	Plan revised to respond to pre-app comments and changes made to sizes of footprint at Plots 5, 6, 10 & 11.	KP 08.03.2023
C	Plan revised to revert back to 6P3B at Plots 5, 6, 10 & 11.	KP 16.03.2023

Rev:	Description	Date
D	Plan revised to show zebra crossing	KP 24.03.2023
E	Plan revised to exclude zebra crossing	KP 27.04.2023

Rev:	Description	Date

PRELIMINARY	
PLANNING	✓
DESIGN	
TENDER	
CONSTRUCTION	

powelldobson
ARCHITECTS

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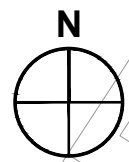
Contract: Cardiff Council, Cardiff 3 Sites
New Pennsylvania
Title: Proposed Site Layout

Drawing No. 22007 (05) 101 Rev. E

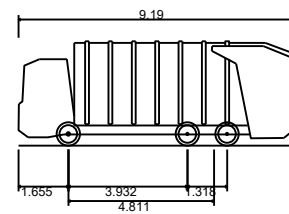
Scale: 1: 200 @ A3
Date: January 2023
Drawn: KP
Checked: SI

Appendix C

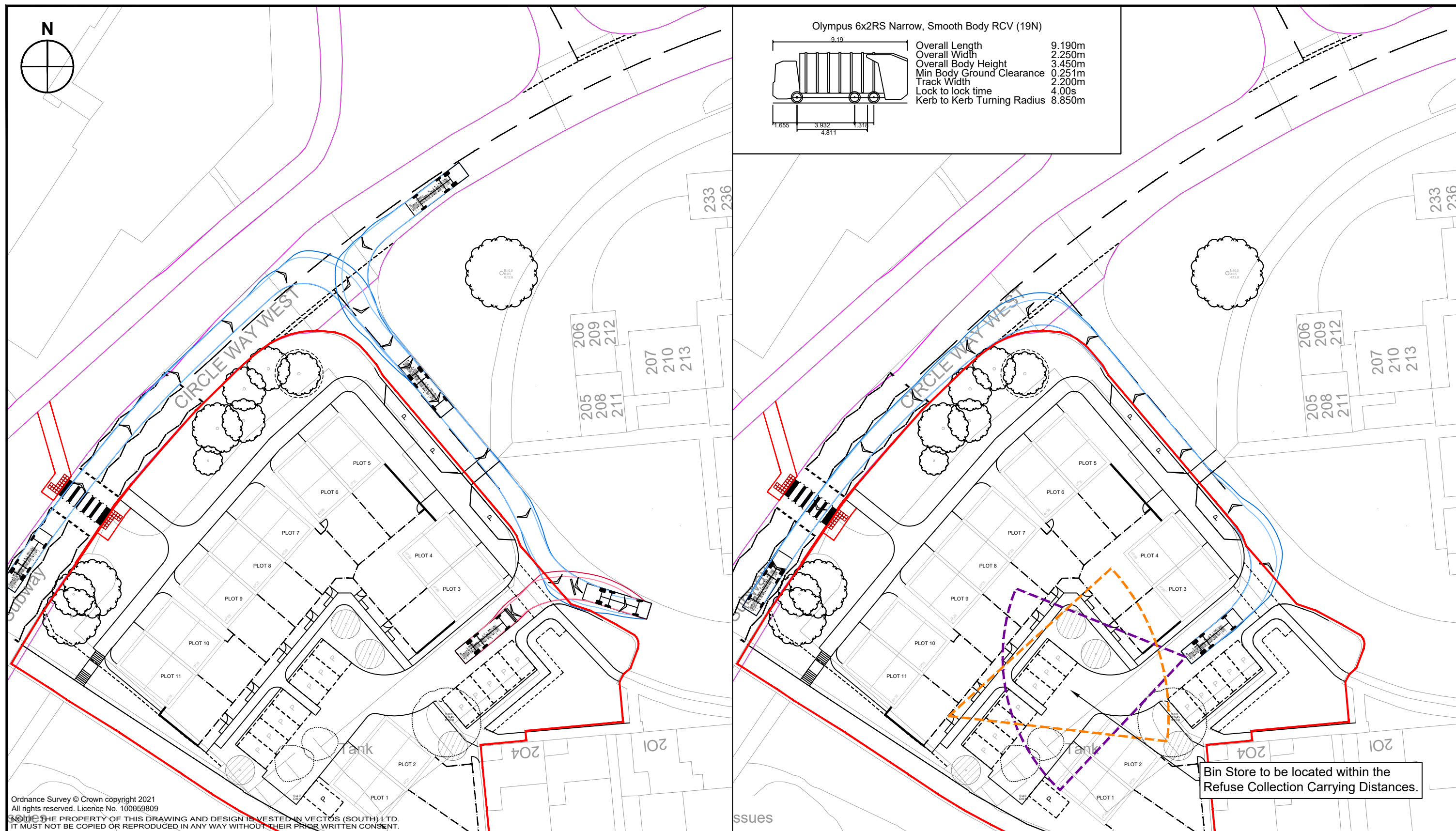
Swept Path Analysis



Olympus 6x2RS Narrow, Smooth Body RCV (19N)



Overall Length 9.190m
 Overall Width 2.250m
 Overall Body Height 3.450m
 Min Body Ground Clearance 0.251m
 Track Width 2.200m
 Lock to lock time 4.00s
 Kerb to Kerb Turning Radius 8.850m



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REV.	DETAILS	DRAWN	CHECKED	DATE
A	Updated layout	PP	EW	23.12.22
B	Amended Plan	KR	EW	27.01.23
C	Olympus Vehicle Added	KR	KD	08.02.23
D	New Masterplan Update	RJ	EW	31.03.23
E	New Masterplan Update	RJ	EW	05.05.23
F	Collection Distances Amended	KR	EW	12.05.23

Notes:
 1. This is not a construction drawing and is intended for illustrative purposes only.
 2. White lining is indicative only.

Legend:
 - - - - - 25m Operator Drag Distance
 - - - - - 30m Resident Drag Distance

INFORMATION ONLY

New Penn, Llanederyn

**Swept Path Analysis
 Olympus Refuse Vehicle
 Servicing**

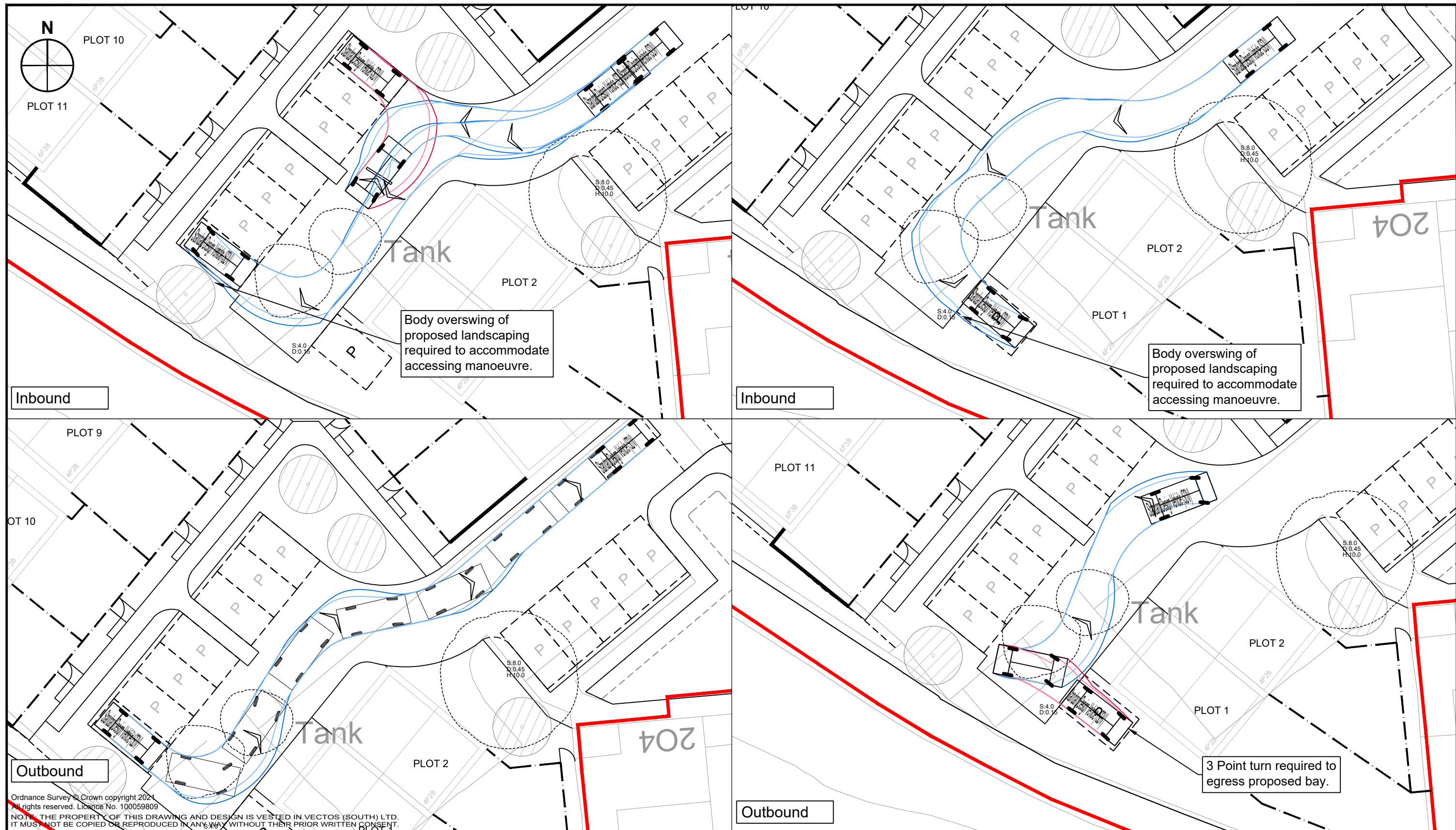
Cardiff Council



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 t: 02920 720 860 e: vectos@vectos.co.uk

DRAWN: KR	CHECKED: EW	DATE: 10.11.22	SCALES: 1:500 at A3
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DRAWING NUMBER: 226773_AT_A01	REVISION: F
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REV.	DETAILS	DRAWN	CHECKED	DATE
A	Updated layout, tracking to suit	PP	EW	23.12.22
B	Updated layout, tracking to suit	RJ	EW	09.05.23

Notes:
 1. This is not a construction drawing and is intended for illustrative purposes only.
 2. White lining is indicative only.

Standard Design Vehicle (SDV)	
	Overall Length 4.800m
	Overall Width 2.000m
	Overall Body Height 1.950m
	Min Body Ground Clearance 0.100m
	Track Width 2.000m
	Lock to lock time 4.00s
	Wall to Wall Turning Radius 6.000m

INFORMATION ONLY

New Penn, Llanederyn

**Swept Path Analysis
 Standard Design Vehicle
 Parking Assessment**

DRAWN: KR CHECKED: EW DATE: 10.11.22 SCALES: 1:500 at A3

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Glenwood Church

Tree Canopy to be trimmed to accommodate visibility.

Play Area

CIRCLEWAY WEST

Subway

Issues

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REV.	DETAILS	DRAWN	CHECKED	DATE
A	Updated layout, changes to suit	PP	EW	23.12.22
B	New Masterplan Update	RJ	EW	31.03.23
C	New Masterplan Update	RJ	EW	05.05.23

Notes:

- This is not a construction drawing and is intended for illustrative purposes only.
- White lining is indicative only.

Legend:

- 2.4m x 43m Visibility Splay (Based on 30mph MFS)
- 2.4m x 25m Visibility Splay (Based on 20mph MFS)

INFORMATION ONLY

New Penn, Llanederyn

**Site Appraisal
Option B**

DRAWN: KR	CHECKED: EW	DATE: 10.11.22	SCALES: 1:500 at A3
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Cardiff Council

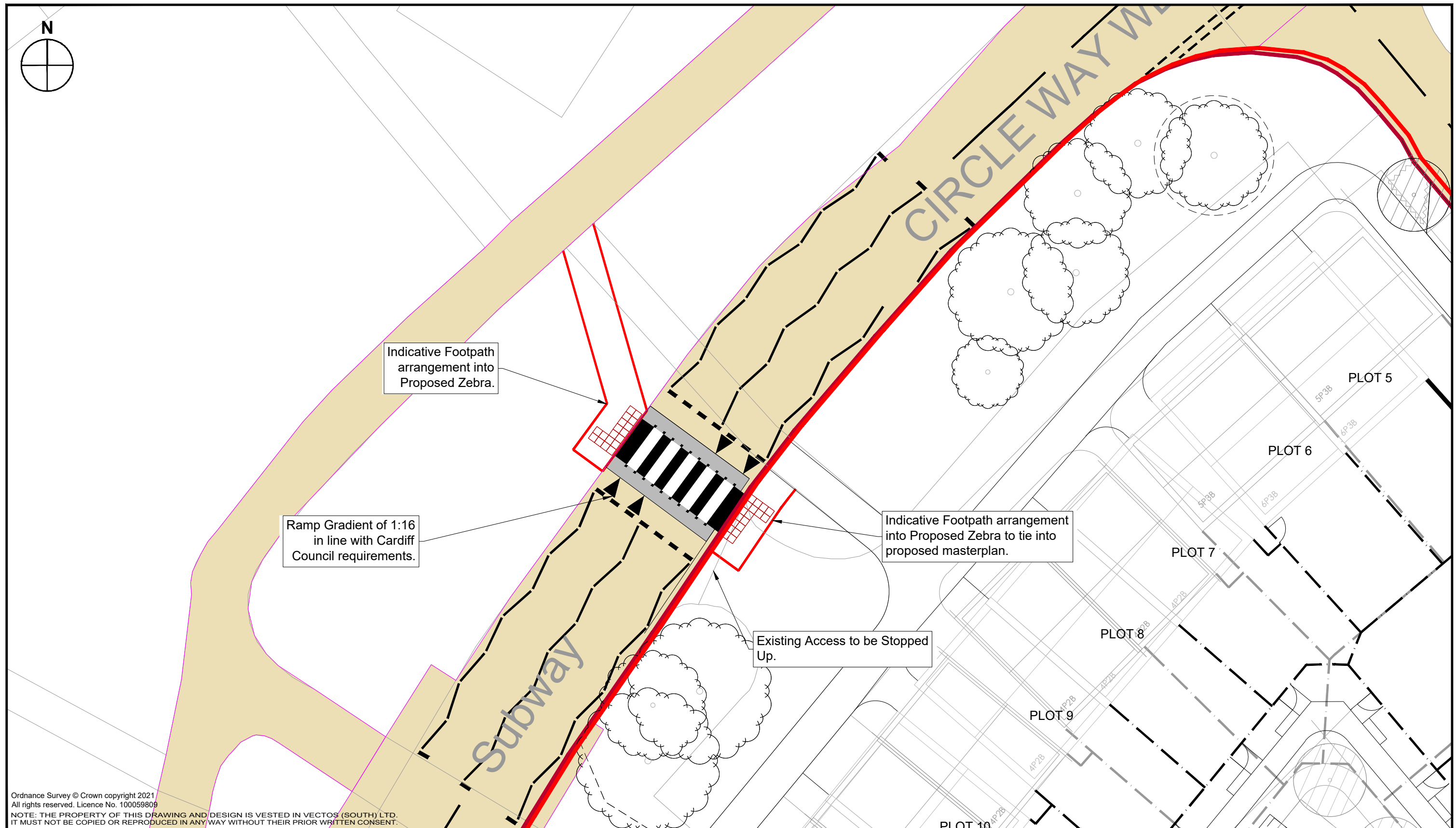
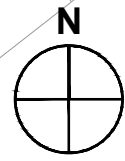
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DRAWING NUMBER: 226773_PD03	REVISION: C
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Appendix D

Proposed Zebra Crossing Scheme



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REV.	DETAILS	DRAWN	CHECKED	DATE
A	Updated Zebra Crossing	RJ	EW	23.03.23
B	Updated Site Layout	RJ	EW	05.05.23

Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.
2. White lining is indicative only.

Adopted Highway

New Penn, Llanederyn

Proposed Zebra Crossing Location

DRAWN: KR	CHECKED: EW	DATE: 17.08.22	SCALES: 1:200 at A3
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INFORMATION ONLY

Appendix E

TRICS Outputs – Public House

Calculation Reference: AUDIT-152302-220711-0700

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
 Category : C - PUB/RESTAURANT
 MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	HC HAMPSHIRE	2 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	1 days
	NR NORTHAMPTONSHIRE	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	SY SOUTH YORKSHIRE	1 days
08	NORTH WEST	
	CH CHESHIRE	1 days
	LC LANCASHIRE	1 days
09	NORTH	
	DH DURHAM	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: Gross floor area
 Actual Range: 200 to 2000 (units: sqm)
 Range Selected by User: 175 to 2384 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/14 to 23/09/21

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:

Tuesday	3 days
Thursday	2 days
Friday	4 days

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

Selected survey types:

Manual count	9 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 undertaken using machines.

Selected Locations:

Edge of Town Centre	2
Suburban Area (PPS6 Out of Centre)	2
Edge of Town	5

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:

Industrial Zone	1
Commercial Zone	1
Residential Zone	1
Retail Zone	2
Out of Town	1
No Sub Category	3

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.

Secondary Filtering selection:

Use Class:

Sui Generis 9 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 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	2 days
5,001 to 10,000	2 days
10,001 to 15,000	1 days
15,001 to 20,000	3 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:

75,001 to 100,000	1 days
100,001 to 125,000	2 days
125,001 to 250,000	4 days
250,001 to 500,000	2 days

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

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	4 days
1.1 to 1.5	3 days
1.6 to 2.0	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 9 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 9 days

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

LIST OF SITES relevant to selection parameters

1	CH-06-C-02 OXFORD ROAD MACCLESFIELD	PUB/RESTAURANT		CHESHIRE
	Edge of Town Centre No Sub Category Total Gross floor area:		471 sqm	
	<i>Survey date: FRIDAY</i>		<i>10/11/17</i>	<i>Survey Type: MANUAL</i>
2	DH-06-C-02 STADIUM WAY BISHOP AUCKLAND TINDALE	PUB/RESTAURANT		DURHAM
	Edge of Town Retail Zone Total Gross floor area:		450 sqm	
	<i>Survey date: FRIDAY</i>		<i>31/03/17</i>	<i>Survey Type: MANUAL</i>
3	HC-06-C-04 APOLLO RISE FARNBOROUGH COVE	PUB/RESTAURANT		HAMPSHIRE
	Suburban Area (PPS6 Out of Centre) Industrial Zone Total Gross floor area:		615 sqm	
	<i>Survey date: TUESDAY</i>		<i>11/06/19</i>	<i>Survey Type: MANUAL</i>
4	HC-06-C-06 SHETLAND ROAD BASINGSTOKE	PUB/RESTAURANT		HAMPSHIRE
	Edge of Town Residential Zone Total Gross floor area:		652 sqm	
	<i>Survey date: FRIDAY</i>		<i>10/09/21</i>	<i>Survey Type: MANUAL</i>
5	LC-06-C-01 MANCHESTER ROAD BURNLEY	FAYRE & SQUARE		LANCASHIRE
	Edge of Town Centre No Sub Category Total Gross floor area:		830 sqm	
	<i>Survey date: THURSDAY</i>		<i>29/09/16</i>	<i>Survey Type: MANUAL</i>
6	LN-06-C-01 CRUSADER ROAD LINCOLN NEW BOULTHAM	FLAMING GRILL		LINCOLNSHIRE
	Edge of Town Retail Zone Total Gross floor area:		760 sqm	
	<i>Survey date: TUESDAY</i>		<i>10/10/17</i>	<i>Survey Type: MANUAL</i>
7	NR-06-C-01 BEDFORD ROAD NORTHAMPTON BRACKMILLS	PUB/RESTAURANT		NORTHAMPTONSHIRE
	Edge of Town Commercial Zone Total Gross floor area:		620 sqm	
	<i>Survey date: FRIDAY</i>		<i>11/11/16</i>	<i>Survey Type: MANUAL</i>

LIST OF SITES relevant to selection parameters (Cont.)

8	SY-06-C-01 HERTEN WAY DONCASTER	BREWERS FAYRE	SOUTH YORKSHIRE
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	2000 sqm	
	Survey date: THURSDAY	23/09/21	Survey Type: MANUAL
9	WM-06-C-02 PENNWOOD LANE WOLVERHAMPTON PENN COMMON	PUB/RESTAURANT	WEST MIDLANDS
	Edge of Town		
	Out of Town		
	Total Gross floor area:	200 sqm	
	Survey date: TUESDAY	22/11/16	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 06 - HOTEL, FOOD & DRINK/C - PUB/RESTAURANT
MULTI-MODAL TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 1.86

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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									
08:00 - 09:00									
09:00 - 10:00									
10:00 - 11:00	7	564	0.634	7	564	0.228	7	564	0.862
11:00 - 12:00	9	733	1.591	9	733	0.743	9	733	2.334
12:00 - 13:00	9	733	2.652	9	733	0.864	9	733	3.516
13:00 - 14:00	9	733	2.440	9	733	1.985	9	733	4.425
14:00 - 15:00	9	733	1.212	9	733	2.182	9	733	3.394
15:00 - 16:00	9	733	1.364	9	733	1.122	9	733	2.486
16:00 - 17:00	9	733	2.228	9	733	1.258	9	733	3.486
17:00 - 18:00	9	733	2.531	9	733	1.470	9	733	4.001
18:00 - 19:00	9	733	2.804	9	733	2.531	9	733	5.335
19:00 - 20:00	9	733	2.395	9	733	2.910	9	733	5.305
20:00 - 21:00	9	733	1.637	9	733	3.031	9	733	4.668
21:00 - 22:00	9	733	0.788	9	733	1.576	9	733	2.364
22:00 - 23:00	9	733	0.288	9	733	1.834	9	733	2.122
23:00 - 24:00	6	554	0.060	6	554	0.481	6	554	0.541
Total Rates:			22.624			22.215			44.839

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.*

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Parameter summary

Trip rate parameter range selected: 200 - 2000 (units: sqm)
 Survey date range: 01/01/14 - 23/09/21
 Number of weekdays (Monday-Friday): 9
 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 shown. 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 06 - HOTEL, FOOD & DRINK/C - PUB/RESTAURANT

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 1.86

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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									
08:00 - 09:00									
09:00 - 10:00									
10:00 - 11:00	7	564	1.090	7	564	0.253	7	564	1.343
11:00 - 12:00	9	733	2.683	9	733	0.940	9	733	3.623
12:00 - 13:00	9	733	4.774	9	733	1.364	9	733	6.138
13:00 - 14:00	9	733	4.759	9	733	4.032	9	733	8.791
14:00 - 15:00	9	733	2.440	9	733	4.607	9	733	7.047
15:00 - 16:00	9	733	2.713	9	733	2.425	9	733	5.138
16:00 - 17:00	9	733	4.198	9	733	2.955	9	733	7.153
17:00 - 18:00	9	733	4.395	9	733	2.410	9	733	6.805
18:00 - 19:00	9	733	5.259	9	733	4.592	9	733	9.851
19:00 - 20:00	9	733	4.244	9	733	5.032	9	733	9.276
20:00 - 21:00	9	733	2.713	9	733	5.350	9	733	8.063
21:00 - 22:00	9	733	1.591	9	733	3.031	9	733	4.622
22:00 - 23:00	9	733	0.470	9	733	3.759	9	733	4.229
23:00 - 24:00	6	554	0.120	6	554	1.052	6	554	1.172
Total Rates:			41.449			41.802			83.251

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.

Appendix F

TRICS Outputs – Affordable Housing

Calculation Reference: AUDIT-152302-220621-0655

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : L - MIXED AFFORD HOUS (FLATS AND HOUSES)
 MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

10	WALES	
	CF	CARDIFF 1 days
	SW	SWANSEA 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:	21 to 26 (units:)
Range Selected by User:	21 to 37 (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: 01/01/14 to 14/05/21

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:

Friday	2 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 undertaken using machines.

Selected Locations:

Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	1

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:

No Sub Category	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.

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 2005 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:

10,001 to 15,000 1 days

25,001 to 50,000 1 days

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

Population within 5 miles:

125,001 to 250,000 1 days

250,001 to 500,000 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 2 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.

Covid-19 Restrictions Yes At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1	CF-03-L-02	SEMI DETACHED & FLATS	CARDIFF
	SANQUHAR STREET		
	CARDIFF		
	SPLOTT		
	Neighbourhood Centre (PPS6 Local Centre)		
	No Sub Category		
	Total No of Dwellings:	26	
	Survey date: FRIDAY	14/05/21	Survey Type: MANUAL
2	SW-03-L-03	TERRACED HOUSES AND FLATS	SWANSEA
	CROWN STREET		
	SWANSEA		
	MORRISTON		
	Edge of Town		
	No Sub Category		
	Total No of Dwellings:	21	
	Survey date: FRIDAY	14/05/21	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/L - MIXED AFFORD HOUS (FLATS AND HOUSES)

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): 2.44

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	24	0.106	2	24	0.191	2	24	0.297
08:00 - 09:00	2	24	0.128	2	24	0.128	2	24	0.256
09:00 - 10:00	2	24	0.106	2	24	0.106	2	24	0.212
10:00 - 11:00	2	24	0.085	2	24	0.149	2	24	0.234
11:00 - 12:00	2	24	0.191	2	24	0.149	2	24	0.340
12:00 - 13:00	2	24	0.085	2	24	0.128	2	24	0.213
13:00 - 14:00	2	24	0.234	2	24	0.191	2	24	0.425
14:00 - 15:00	2	24	0.149	2	24	0.191	2	24	0.340
15:00 - 16:00	2	24	0.319	2	24	0.234	2	24	0.553
16:00 - 17:00	2	24	0.170	2	24	0.149	2	24	0.319
17:00 - 18:00	2	24	0.170	2	24	0.234	2	24	0.404
18:00 - 19:00	2	24	0.277	2	24	0.170	2	24	0.447
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.020			2.020			4.040

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.

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Parameter summary

Trip rate parameter range selected:	21 - 26 (units:)
Survey date date range:	01/01/14 - 14/05/21
Number of weekdays (Monday-Friday):	2
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
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 shown. 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/L - MIXED AFFORD HOUS (FLATS AND HOUSES)

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 2.44

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	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	24	0.191	2	24	0.234	2	24	0.425
08:00 - 09:00	2	24	0.383	2	24	0.702	2	24	1.085
09:00 - 10:00	2	24	0.234	2	24	0.277	2	24	0.511
10:00 - 11:00	2	24	0.149	2	24	0.319	2	24	0.468
11:00 - 12:00	2	24	0.447	2	24	0.277	2	24	0.724
12:00 - 13:00	2	24	0.277	2	24	0.426	2	24	0.703
13:00 - 14:00	2	24	0.553	2	24	0.447	2	24	1.000
14:00 - 15:00	2	24	0.468	2	24	0.426	2	24	0.894
15:00 - 16:00	2	24	0.766	2	24	0.468	2	24	1.234
16:00 - 17:00	2	24	0.383	2	24	0.489	2	24	0.872
17:00 - 18:00	2	24	0.404	2	24	0.447	2	24	0.851
18:00 - 19:00	2	24	0.660	2	24	0.447	2	24	1.107
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			4.915			4.959			9.874

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.

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