Transport Statement

Barry Waterfront School

Barry, Wales

Jubb

PREPARED BY:	FOR:	DATE:	REFERENCE:
Jubb	Galliford Try Construction	March 2021	20111-TS-01

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1 Project Information

1.1 Project Information

Client	Galliford Try Construction

1.2 Project Details

Project Name	Barry Waterfront School
Location	Barry, Wales
Jubb Project Number	20111

1.3 Report Details

Version	2
Status	2nd Issue
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1.4 Project Authorisation

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Version	Date	Detail	Prepared By	Approved By
1	Feb 2021	First Draft	S.Radford	J.Duffy
2	Mar 2021	Second Issue	S.Radford	J.Duffy

2 Introduction

2.1 Preamble

2.1.1 Jubb has been commissioned by Galliford Try Construction to provide traffic and transport advice in relation to a proposed 2-form entry primary school for 420 pupils and a nursery for 96 pupils - 48 full time equivalent spaces (FTE) at Barry Waterfront.

2.1.2 The proposed school site is situated on an infill site that lies within the West Pond of the wider Barry Waterfront scheme to the west of Ffordd Y Mileniwm and southeast of Hood Road. A site location plan in relation to the wider regeneration area is illustrated in **Figure 2.1** below:

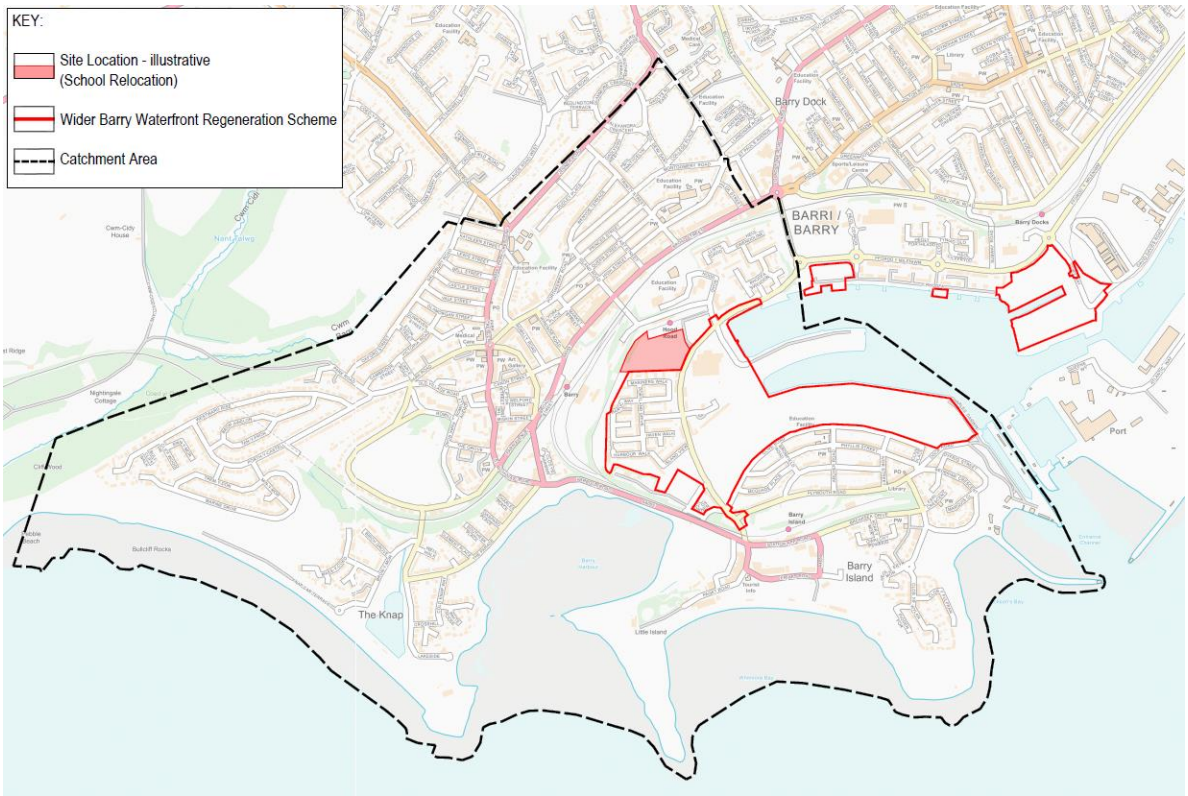


Figure 2.1 – Site Location Plan

2.2 Planning History

2.2.1 The principle of the school and overall floor area was approved as part of the wider Barry Waterfront regeneration scheme that was granted outline consent under the application reference 2009/00946/OUT in March 2012. The scheme will see the creation of a self-sustained neighbourhood area including residential, retail, cafes, bars, restaurants, a hotel, offices, community and leisure uses.

2.2.2 A comprehensive traffic, access and highway study in the form of a Transport Assessment, dated December 2009, was compiled and submitted by Arup to address the associated transport and highway implications of the wider regeneration scheme. A package of highway enhancements by means of financial contribution and offsite highway works were identified and agreed with the Local Highway Authority (LHA) to mitigate the anticipated development impact and maximise the site accessibility by sustainable modes of travel. Details of the associated transport enhancements are set out in the **Section 4** below.

2.2.3 Since that time, most of the wider Barry Waterfront Development is now built and the offsite highway works have been completed.

2.3 Development Proposal

2.3.1 The proposed 2FE school will deliver primary education for approximately 420 pupils with an additional nursery provision of 48 FTE spaces that are supported by approximately 38 FTE teaching and assisting staff, with associated car parking, access and landscaping arrangements (**Appendix A**).

2.3.2 Vehicular access to the development site will be taken directly from a gated side road via an existing priority junction off Ffordd Y Mileniwm with pedestrian/cyclists only egress/entry points also facilitated along the route. Movements internal to the site are managed to create a safe travel environment for all the road users, particularly facilitating easy access by foot and cycle.

2.3.3 It should be noted that the proposed 420 place school is not only to offer sufficient capacity to accommodate the projected increasing demand for Welsh Medium Education arising from both the new residential communities at Barry Waterfront and the wider communities in Barry, but also facilitates the replacement of an existing Welsh Medium School known as Ysgol Sant Baruc.

2.4 Scope of the Statement

2.4.1 It is understood that the proposed new primary school will not result in any net uplift on the approved overall floor area as previously consented for the wider regeneration scheme. And hence the development proposals are considered in accordance with the principles set out for the wider Barry Waterfront scheme and will not lead to any unforeseen traffic impact that what was previously assessed in the 2009 TA. Thus, the associated trip attraction can be accommodated within the existing transport provision.

2.4.2 A Transport Statement (TS) and Travel Plan (TP) were developed by WYG in August 2019 and were submitted to the Local Highway Authority as part of pre-application consultation. In response to the submission, initial highway comments were received from the LHA with requests for further clarifications and detailed information made by the LHA in terms of school operation, safe routes to school, traffic distribution and travel patterns.

2.4.3 This TS expands and updates the previous work to address this LHA comment and to take into account subsequent changes in planning policies and local transport provisions. The structure of this TS is set out as below:

Section 3	Considers the development in the context of relevant national and local planning and transport policies;
Section 4	Outlines the existing local transport infrastructure by all means of transport;
Section 5	Provides a detailed description of the development proposal including operation of the school, school catchment area, parking provision and access arrangement;
Section 6	Quantifies the development vehicle trips attracted by the proposals during the AM, and PM, and After School peak periods and considers the associated impact;
Section 7	Presents the conclusion of the TS

3 Transport Planning Policy

3.1 Introduction

3.1.1 This section sets out the national and local policies and guidance pertinent to the proposed development. These encompass the following documents:

- Planning Policy Wales, 2021;
- Future Wales: The National Plan 2040;
- One Wales: Connecting the Nation
- Technical Advice Note 18, 2007;
- Active Travel (Wales) Act, 2013;
- The Vale of Glamorgan Local Development Plan
- The Vale of Glamorgan Local Transport Plan

3.1.2 Current transport policies at the national, regional and local level are built around the central themes of long-term sustainable development, sustained investment in transport and improved accessibility at all levels. It promotes continued economic growth through the provision of an efficient and reliable transport system, a reduction in traffic congestion, improvements in highway safety, and enhancements to the accessibility of sustainable modes of travel.

3.2 Planning Policy Wales

3.2.1 Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government, with Edition 11 published February 2021. It is supplemented by a series of Technical Advice Notes. Of particular relevance to this project is Technical Advice Note 18 - Transport.

3.2.2 Along with the National Development Framework, published as Future Wales- the National Plan 2040, PPW sets out a strategic planning framework to guide developments across the country. The document promotes a transport hierarchy, that sites are arranged to give priority to sustainable transport and finally by private motor vehicle.

3.2.3 The document states that development plans should foster integrated communities to secure a sustainable settlement pattern which meets the needs of the economy, the environment and health, while respecting local diversity and protecting the character and cultural identity of communities.

3.2.4 Paragraph 4.1.9 states that 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.

3.2.5 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.

3.2.6 It is Welsh Government policy to require the use of a sustainable transport hierarchy in relation to new development, which prioritises walking, cycling and public transport ahead of the private motor vehicles. The transport hierarchy recognises that Ultra Low Emission Vehicles also have an important role to play in the decarbonisation of transport, particularly in rural areas with limited public transport services.

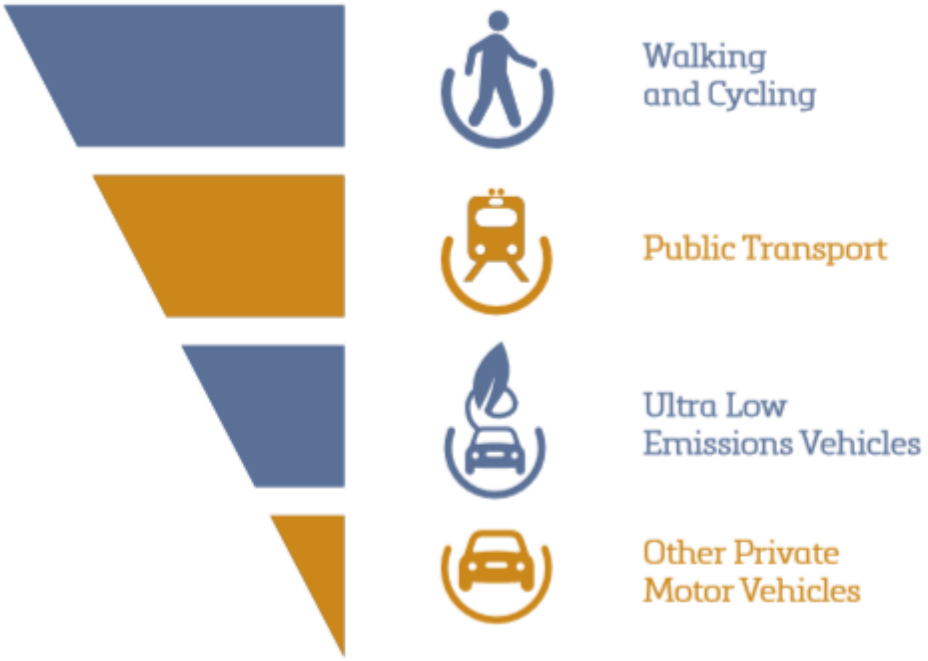


Figure 3.1 – The sustainable Transport Hierarchy for Planning (Extracted from PPW)

3.2.7 The sustainable transport hierarchy should be used to reduce the need to travel, prevent car-dependant developments in unsustainable locations, and support the delivery of schemes located, designed and supported by infrastructure which prioritises access and movement by active and sustainable transport, there the sustainable transport hierarchy must be a key principal in the preparation of developments plans, including site allocations, and when considering and determining planning applications.

3.3 Future Wales: The National Plan 2040

3.3.1 The national development framework - Future Wales: The National Plan 2040 was published by Welsh Government in February 2021 setting out directions for developments and infrastructure improvements in the nation for the next 20 years.

3.3.2 The document provides a national spatial plan strategy to address key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience, developing strong eco-systems and improving the health and well-being of the local communities.

3.3.3 Future Wales emphasises that the planning system in Wales should provide quality development in the right places for the right reasons and support a long-term vision to achieve the 11 outcomes identified in the Plan. The identified objectives and policies that are of relevance to the development proposals are summarised below:

- An 80% Increase in the welsh speaking population in Wales by 2050 is identified in the Plan. To achieve this, developments are viewed as a positively force in encouraging the creation of education and social infrastructure to enable the language to develop as a natural thriving part of communities.
- Sustainable transport infrastructures will be embedded within the development design with main focus in reducing reliance on private vehicles.

3.4 One Wales: Connection the Nation

3.4.1 The document sets out a long-term transport strategy for the nation with the aim to "promote sustainable transport networks that safeguard the environment while strengthening our economic and social life"; and "achieve a nation with access for all, where travelling between communities and accessing services, jobs and facilities in different parts of Wales is both easy and sustainable, and which will support the growth of our economy". In support of this, five key strands are identified as follows:

- Reducing greenhouse gas emission and other environmental impact
- Improving public transport and better integration between modes
- Improving links and access between key settlements and sites across wales
- Enhancing international connectivity; and
- Increase safety and security

3.5 Technical Advice Note (TAN 18)

3.5.1 Planning Policy Wales supplement: Technical Advice Note 18 Transport is the primary guidance note on matters relating to transport and highways for new development. In its second iteration, the 2007 March revision has taken on board new policy impetus and changes over the past decade reflecting the importance of transport considerations in the planning process.

3.5.2 TAN 18 aims to integrate the land use planning and transport, with regards to reducing both the need to travel and the reliance upon the private car. It provides material advice on:

- Integration between Land Use Planning and Transport;
- Location of Development;
- Parking;
- Design of Development;
- Walking and Cycling;
- Public Transport;
- Planning for Transport Infrastructure;
- Assessing Impacts and Managing Implementation.

3.6 Active Travel Wales Act

3.6.1 The Active Travel (Wales) Act, passed by Welsh Assembly on 1st October 2013, established a number of duties for Local Highway Authorities that include the production of an Integrated Travel Map to identify the future network and improvements in conjunction with the Local Transport Plan.

3.6.2 The purpose of this Act is to require local authorities to continuously improve facilities and routes for pedestrians and cyclists and to prepare maps identifying current and potential future routes or their use. The Act also requires new road schemes (including road improvement schemes) to consider the needs of pedestrians and cyclists at design stage.

3.6.3 The Act is accompanied by a statutory design guidance document published in December 2014 which provides advice on the planning design construction and maintenance of active travel networks and infrastructure and is to be used at all stages of the process.

3.7 The Vale of Glamorgan Local Development Plan (LDP) 2011-2026 – Adopted June 2017

3.7.1 The LDP sets out the vision, objectives, strategy and policies for managing development in the Vale of Glamorgan. This document contains a number of local planning policies and makes provision for the use of land for the purposes of housing, employment, retail, recreation, transport, tourism, minerals, waste, and community uses. It also seeks to identify the infrastructure that will be required to meet the growth anticipated in the Vale of Glamorgan up to 2026 and provides a monitoring framework for assessing the effectiveness of the Plan.

3.7.2 To ensure the development accords with sustainability principles and the site is accessible by a range of modes of transport, it should accord with policy "SP1 – Delivering the Strategy", "MD2 – Design of New Development" and "MD5 – Development within Settlement Boundaries".

3.7.3 "Policy SP1- Delivering the Strategy", seeks to improve the living and working environment, promotes enjoyment of the countryside and coast and manage important environmental assets. From a transport perspective this is achieved though:

- Promoting sustainable transport; and
- Delivering key infrastructure linked to the impacts of development.

3.7.4 "Policy SP7-Transportation" sets out the delivery of planned housing and strategically important sites that will be dependent upon the implementation of key transport and highway improvement schemes.

3.7.5 "Policy MD2 – Design and New Development" sets out in order to create a high quality, healthy, sustainable and locally distinct places developments should:

- *"Be of a high standard of design that positively contributes to the context and character of the surrounding natural and built environment and protects existing features of townscape or land interest;*
- *Where appropriate, provide new or enhanced areas of public realm particularly in key location such as town centres, major routes and junctions;*
- *Promote the creation of healthy and active environments and reduce the opportunity for crime and anti-social behaviour. In the case of retail centres, development should provide active street frontages to create attractive and safe urban environments;*
- *Provide a safe and accessible environment for all users, giving priority to pedestrians, cyclists and public transport users;*
- *Have no unacceptable impact on highway safety nor cause or exacerbate existing traffic congestion to unacceptable degree;*
- *Provide public open space, private amenity space and car parking in accordance with the council's standards;*
- *Mitigate the causes of climate change by minimising carbon and other greenhouse gas emissions associated with their design, construction, use and eventual demolition, and include predicted future effects of climate change."*

3.7.6 "Policy MD5 – Development within settlement boundaries" sets out that the proposed development should:

- *"Has no acceptable impact on the amenity and character of the locality by way of noise, traffic congestion and parking; and*
- *Makes appropriate provision for community infrastructure to meet the needs of future occupiers."*

3.8 The Vale of Glamorgan Local Transport Plan –

3.8.1 The Vale of Glamorgan Local Transport Plan 2015 - 2030 sets out the long term transport vision and commitments for delivering "*Sustainable transport improvements that serve the economic, social and environmental needs of the Vale of Glamorgan*" and states that "*Priority will also be given to schemes that improve highway safety and accessibility, public transport, walking and cycling*."

3.8.2 The LTP seeks ways to secure better conditions for pedestrians, cyclists and public transport users and to encourage a change in travel choices away from the single occupancy car and to identify the sustainable transport measures that are required to support and enable a sustainable transport environment.

3.8.3 The LTP recognised that as most journeys by car, particularly for school travel, are relatively short, better conditions for pedestrians and cyclists can lead to a reduction in car use, and hence promote good health and well-being, reduce the negative impacts on the environment that car travel can bring, and offer better access to services and facilities.

The identified schemes that are of relevant to the proposed development are summarised below:

- To implement road safety Education, Training & Publicity schemes that address the current risk of accident on the highway to help meet the targets identified in the Road Safety Framework for Wales;
- To implement safe routes in communities and identify walking infrastructure improvements that assist the public accessing schools and services by using sustainable travel options
- To complete the cycle route between Barry Waterfront and Dinas Powys.

3.9 Summary

3.9.1 It is evident that the proposed development is in keeping with national and local policy which seeks to locate developments in locations that are accessible by sustainable modes and that have access to nearby facilities.

3.9.2 The site is favourably located in relation to the existing and newly established residential communities in Barry and is well served by sustainable transport infrastructure given that the site benefits from an improved walking, cycling and public transport network in the area.

3.9.3 Measures and initiatives in the form of traffic management and travel planning are also proposed to support the delivery of a sustainable development, thereby meeting policy goals and enhancing site connectivity.

4 Existing Transport Connections

4.1 Introduction

4.1.1 This section examines the level of accessibility to and from the application site. The audit is in keeping with current National and Local planning policies which highlight the importance of integrating land-use, transport and planning decisions to address the needs of both present and future communities to create developments with good access to local infrastructure and that are supported by quality public transport services.

4.1.2 The appraisal demonstrates that the site is linked to a comprehensive network of footpaths that are highly permeable through to the wider Barry Waterfront Regeneration Area. In addition, the site is located in close proximity to supporting cycle routes, and benefits from a reasonable level of public transport connectivity.

4.2 Site Location

4.2.1 Barry is a market town in the Vale of Glamorgan and is home to a population of 51,502. It is located some 12 km south west of Cardiff and around 24km south east of Bridgend. The proposed new school site is located off Ffordd Y Mileniwm within the newly developed Barry Waterfront Regeneration Area. It lies some 1000m south of Barry Town Centre and some 750m north of Barry Island.

4.2.2 **Figure 4.1** below shows the location of the site in the regional context and the proposed site in the context of Barry.

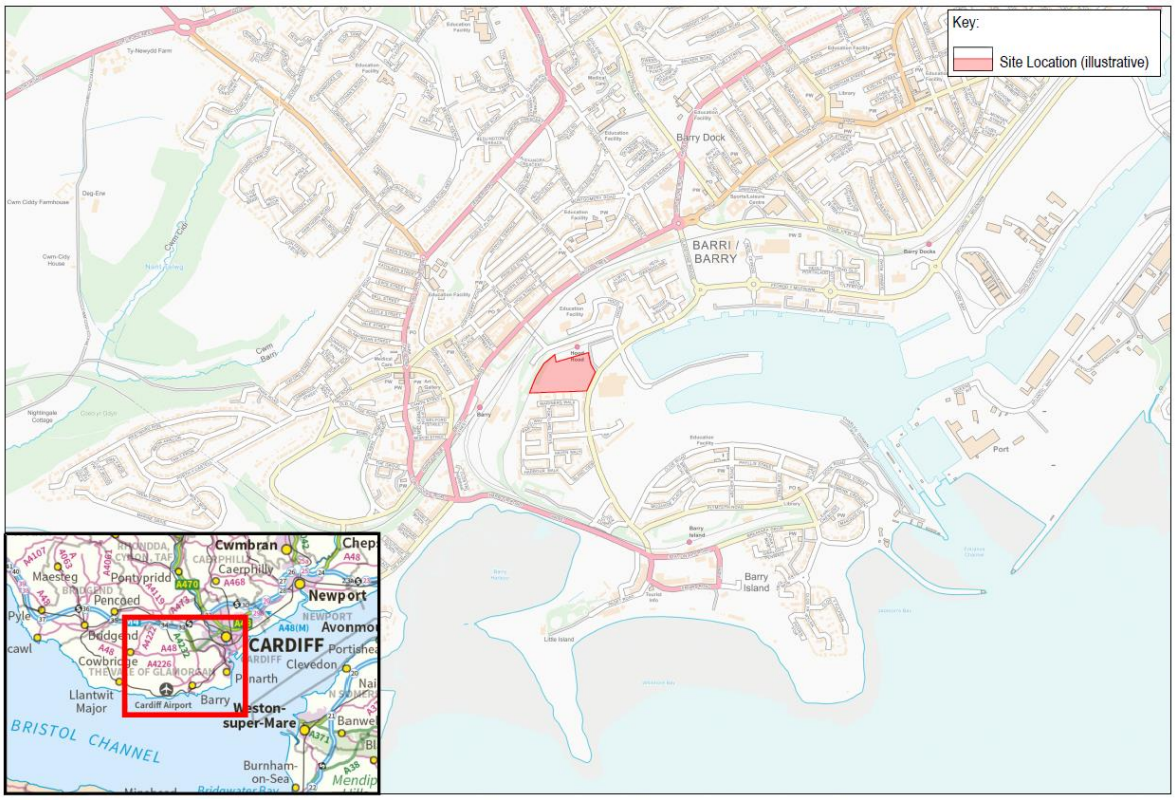


Figure 4.1 Site Location

4.3 Pedestrian Accessibility

4.3.1 Walking is a major mode of travel for local journeys and is recognised as the most sustainable form of travel (IHT, 2000). The roads within the vicinity of the site are generally a mixture of residential and local distributors with reasonable quality footways, street lighting and dropped kerbs at crossing points near

4.3.2 Pedestrian access to the new school is off Ffordd Y Mileniwm. Ffordd Y Mileniwm which is an urban road with well-lit and kerbed shared cycleway/footways that run continuously along either side of the carriageway.

4.3.3 Signalised pedestrian crossing points are located on all arms of the Ffordd Y Mileniwm/ Powell Duffryn Way junction that allow pedestrian linkages around Barry Waterfront. **Figure 4.2** shows the locations of these crossing points.

4.3.4 It is noted that pedestrian infrastructure within Barry Waterfront has been subject to significant improvements that were purposely designed and constructed to serve the wider regeneration area. Consistent footway links, by means of roadside provision and traffic free pathways, are provided throughout the area facilitating a comprehensive network of well-lit and attractive walking routes connecting between the nearby residential communities and the school site.

4.3.5 Assisted crossing points by means of signal-controlled crossing facilities and zebra crossings are available along Ffordd Y Mileniwm throughout the Waterfront area. A detailed map of all the footpaths in the surrounding area is included in **Figure 4.2**.

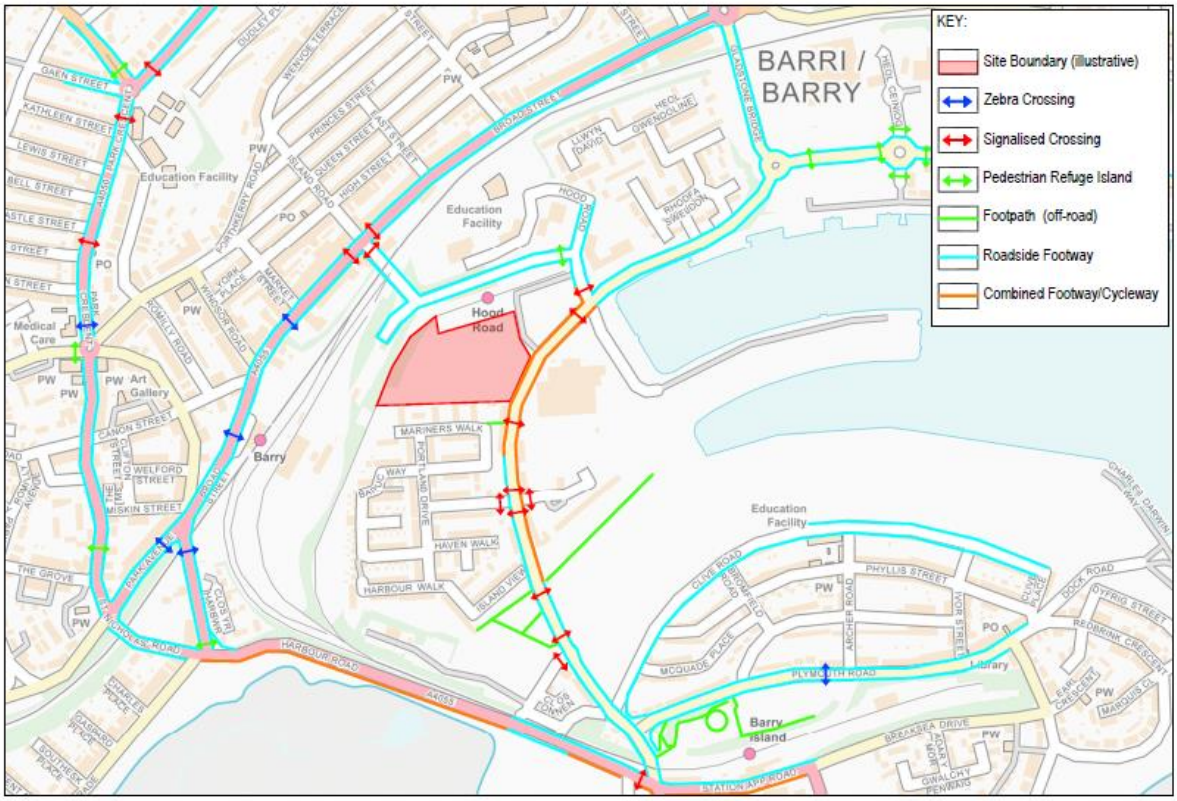


Figure 4.2 Local Pedestrian Network

4.3.6 Pedestrian desire lines from the nearby residential estates to the new school site are identified in **Figure 4.3** below as well as the crossing points.

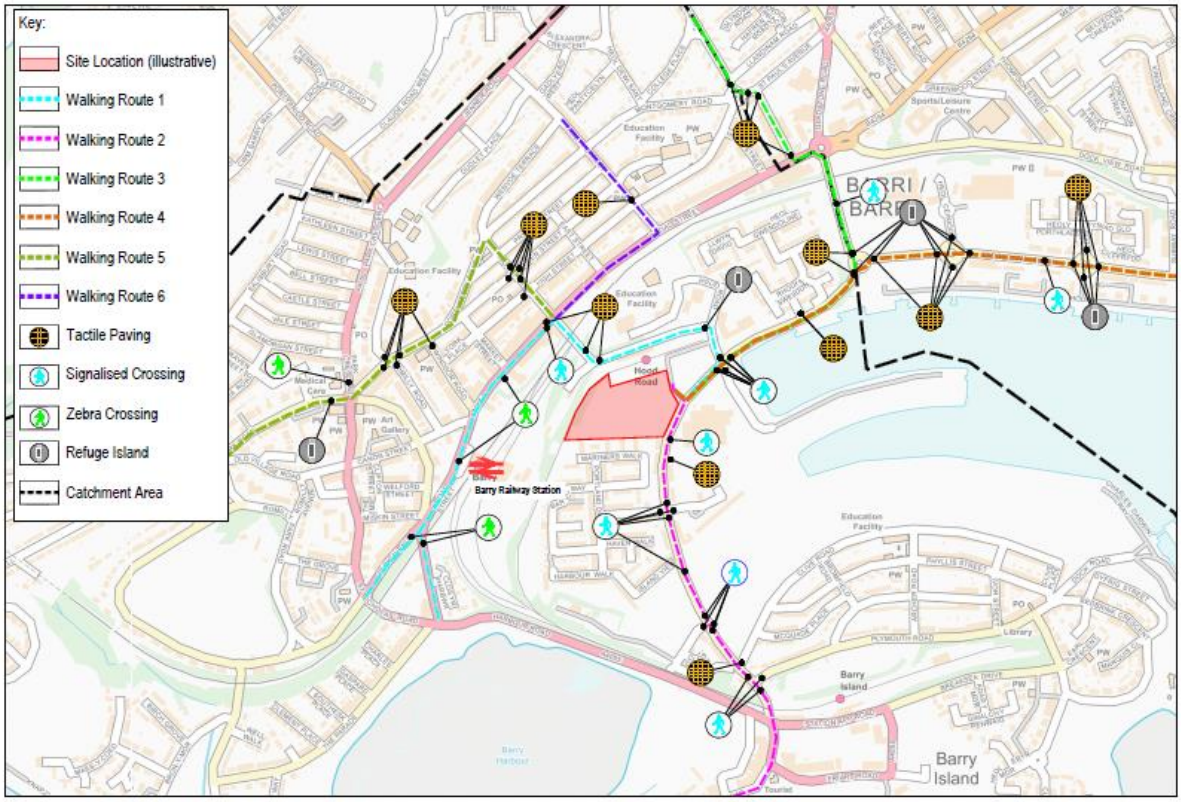


Figure 4.3 Pedestrian Desire Lines

4.4 Cycle Accessibility

4.4.1 Cycling is recognised as one of the most sustainable forms of transport (CIHT's Planning for Cycling, 2015). **Figure 4.4** shows the local cycle routes within the vicinity of the site extracted from the Vale of Glamorgan Active Travel website. https://www.valeofglamorgan.gov.uk/en/living/transportation/Active-Travel.aspx

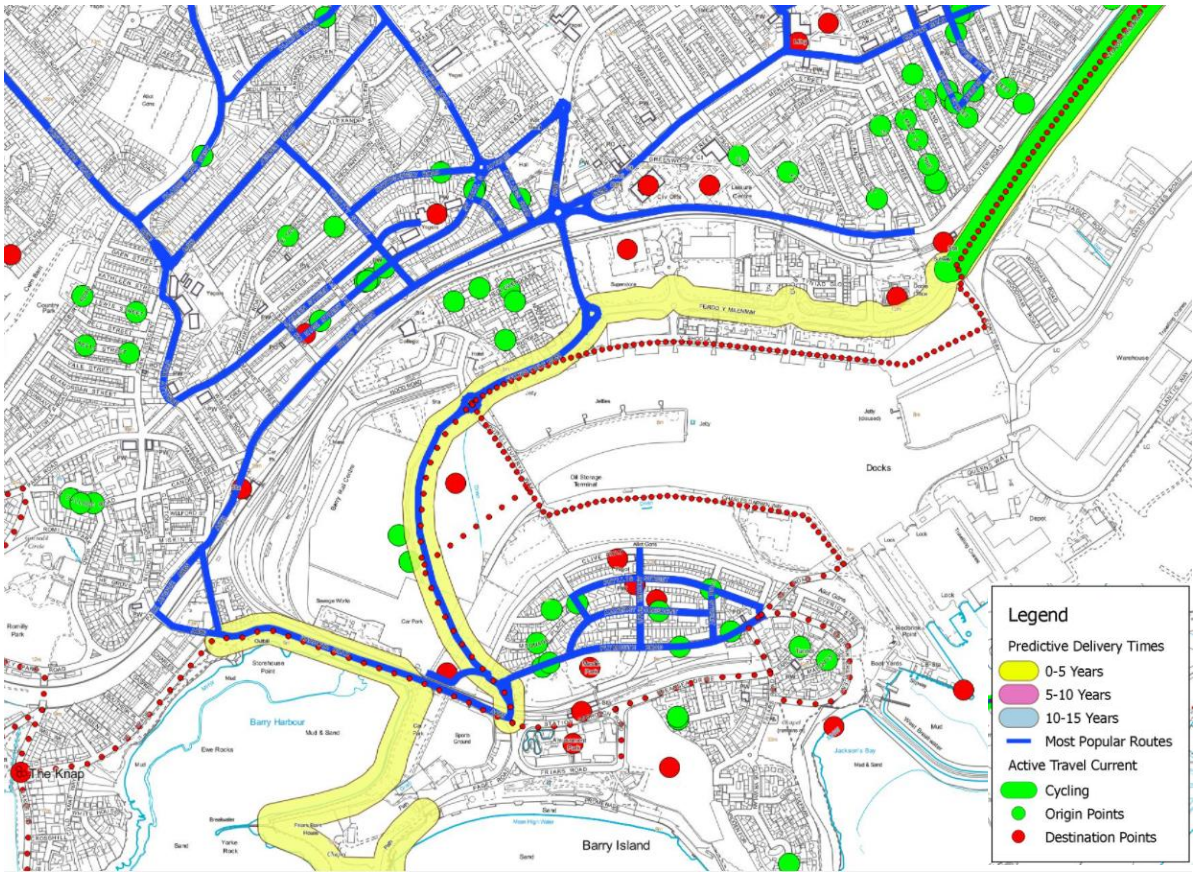


Figure 4.4 Local Cycle Routes

4.4.2 Ffordd Y Mileniwm also forms part of the National Cycle Network (NCN) Route 88. NCN 88 route links to Newport, Cardiff, Bridgend and Margam.

4.4.3 Ffordd Y Mileniwm provides a shared cycleway/footway on the eastern side of the carriageway. This route continues south towards the signalised pedestrian crossing approximately 120m north of Ffffordd Y Mileniwm/Fford Y Glannau crossroads and joins in with Ffordd Y Mileniwm which from that point becomes a popular on-road route for cyclists.

4.5 Public Transport Accessibility - Bus

4.5.1 The nearest bus stop can be accessed along Ffordd Y Mileniwm around 18m from the site. This bus stop known as 'Barry Asda' consists of a layby and timetable information. The 'Barry Asda' bus stop serves the number 95 service which runs on an hourly basis between Barry Island and Cardiff.

4.5.2 In addition, bus stops at Hood Road can also be reached within 350m distance from the site at where regular bus services 97 can be boarded facilitating half hourly service commuting between Barry King Square and Colcot. Bus service 94, that passes the site, can be accessed some 550m north at Morrison's bus stop along Ffordd Y Mileniwm.

4.5.3 Furthermore, bus stops at Broad Street can also be accessed via a short walk from the site via Hood Road. At where regular bus services 96/96A, 97, 303 and 304 services stop facilitating a combined average frequency of 5 buses per hour in both directions.

4.5.4 Local bus services which utilise these stops are summarised below in **Table 4.1** along with a brief route description and the associated operating frequency. The table indicates the general level of provision

however, some additional service buses are added or routes varied slightly to accommodate peak period, school journey destination demands and enhanced summer services.

No.	Bus Stop	Service Route	Frequency		
			Mon -Fri	Sat	Sun
94*	Morrison	Barry – Sully – Penarth - Cardiff	Every 20 minutes 08:58 – 19:01	Every Hour 08:06 – 18:59	-
95*	Asda	Barry Island – Morrisons – Gibbonsdown – Dinas Powys - Llandough – Heath Hospital	Hourly 09:10 – 18:10	Hourly 06:18 – 20:03	-
96/96A	Board Street	Barry – Cardiff	Hourly 06:47-22:25	Hourly 06:47-22:25	-
97	Hood Rd	King Square – Colcot	Half Hourly 07:51 – 19:42	Half Hourly 09:21 – 19:21	-
303	Broad Street	Barry – Bridgend	Hourly 07:16 – 23:46	Hourly 07:16 – 23:46	Every 2 hours 09:16 – 23:15
304	Broad Street	Barry Cardiff	Hourly 06:50 – 23:55	Hourly 06:50 – 23:55	Every 2 hours 08:10 – 00:50

Table 4.1 Bus Services

4.5.5 **Figure 4.5** below provides an illustration of the routes which each of these bus services takes. Also included is a 400m isochrone, measured from each of the bus routes, identifying the residential areas lying in a 400m walk (equivalent to a 5- minute walk) served by these bus routes and corresponding stops.

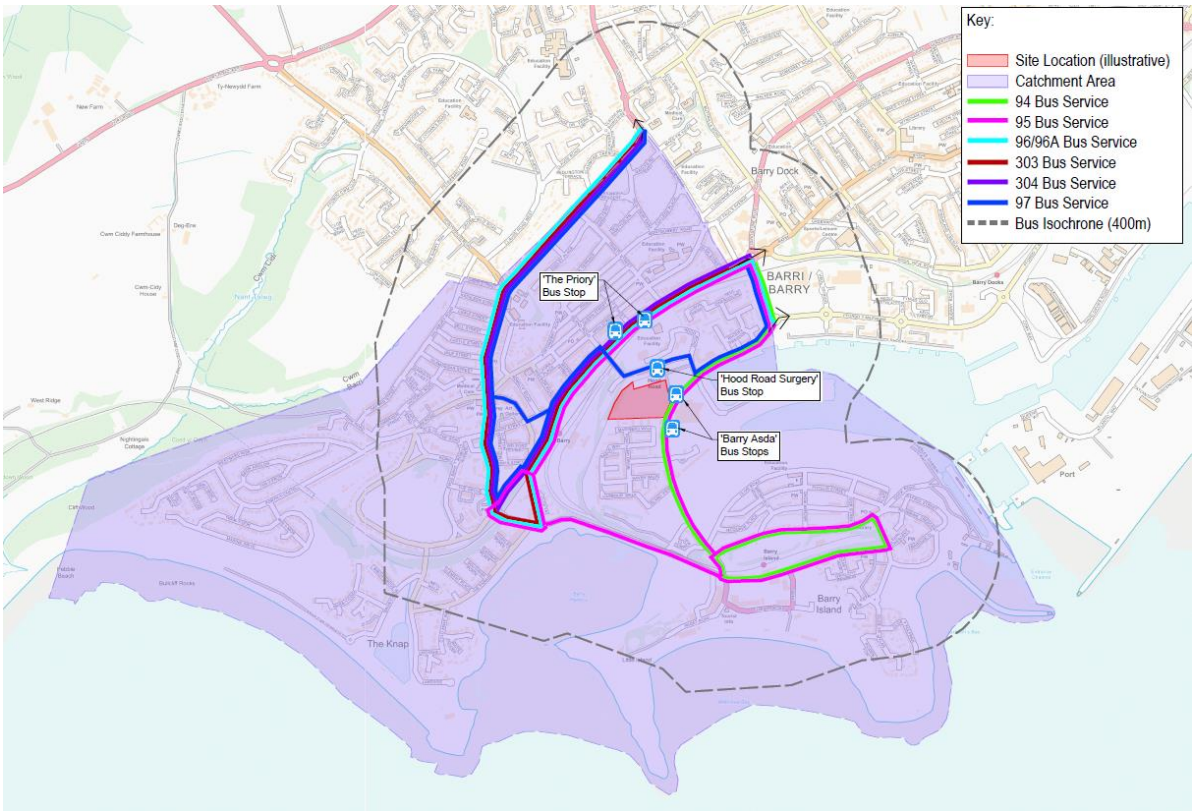


Figure 4.5 Local Bus Routes

4.5.6 As can be seen above, a large proportion of the residential communities within the school catchment area is covered within 400m isochrone and hence lies within a reasonable location for the use of public transport as a means of travel to and from the school.

4.5.7 In addition, free school transport will be provided for students who live over 2 miles from the school. Parents of children who live within 2 miles travel distance of the site can also opt to use the school transport service at a cost.

4.6 Public Transport Accessibility – Rail

4.6.1 Barry Railway Station, which is on the Vale Line, is located 1km south west of the site approximately a 12-minute walk.

4.6.2 The station has numerous facilities that include a manned ticket counter and automated ticket machines, a café, departure/arrival screens, customer service desk, a car park and around 10 cycle parking stands. **Table 4.2** provides a summary of the destinations from Barry Rail Station.

Route	Operator	Frequency Monday - Friday
Cardiff Central – Merthyr – Tydfil - Aberdare	Transport for Wales	Every 15 minutes
Barry Island	Transport for Wales	3 services every hour

Route	Operator	Frequency Monday - Friday
Bridgend via Rhoose	Transport for Wales	Every hour

Table 4.2 Railway Services

4.6.3 In addition, on Saturdays, there is a half-hourly service to Cardiff Central and an hourly service southbound to Barry Island and Bridgend. On a Sunday a half hourly service is provided to Barry Island and every 120 minutes to Bridgend.

4.7 Travel by Car

4.7.1 Bordering to the south-east, Ffordd Y Mileniwm has been purposely built to serve the wider Barry Waterfront Regeneration scheme facilitating vehicular link between the newly established communities and Barry Island with onwards connection to the wider strategic highway network at the A4055.

4.7.2 Running in a north-south direction, the single carriageway provides the main vehicular route to the site and is intersected by a number of junctions that are purposely constructed to serve the retail and residential elements at Barry Waterfront. Well maintained and street lit footways are available along either side of the carriageway with tactile paving and dropped kerbs at side road junctions.

4.7.3 Travelling north-eastwards, Ffordd Y Mileniwm joins Gladstone Bridge at 3-arm roundabout with Gladstone Bridge proceeds northwards and joins with the A4055 Broad Street directing traffic into the urban area north of the railway line. Continue eastwards, Ffordd Y Mileniwm proceeds through Barry Dock Yard with onwards connections to Cardiff Road and the A4055 on the northern edge of the Barry Waterfront Regeneration area.

4.7.4 Whereas heading south Ffordd Y Mileniwm meets A4055 Harbour Road and Station Approach at a signalised crossroads junction on the southern edge of the Regeneration area facilitating vehicular access to Barry Island and the settlement area on the south-western edge of Barry.

4.7.5 Bordering to the north west of the site is Hood Road which is approximately 5.5m wide and subject to a speed limit of 30mph. Hood Road operates as a local access and has a predominantly commercial frontage directing traffic between Broad Street to the north and Ffordd Y Mileniwm to the south.

4.7.6 Broad Street forms part of the A4055 that provides a northeast-southwest route through Barry. Broad Street is a single carriageway and subject to a 30pmh speed limit. Running southwards, it proceeds through the town centre and joins up with Harbour Road. Whereas heading northeast, it bisects the urban area of Barry offering long distance vehicle connections to Dina Powys and Penarth to Cardiff Bay.

4.8 Highway Safety

4.8.1 To assess the safety level of the nearby highway network and thus identify any potential collision patterns, a review of the latest available 5-year personal injury records between 2015 and 2019 was undertaken using Crashmap – www.crashmap.co.uk

4.8.2 It is noted that 5 incidents were reported along Ffordd Y Mileniwm during the latest available 5-year period including 2 slight and 3 serious accidents. In addition, one slight incident was reported at Hood Road with another two recorded at Hood Road/Broad Street Junction. The location and severity of the reported incidents are shown in **Figure 4.6** below.

4.8.3 This equates to, on average, less than 2 collisions per year and therefore does not illustrate a significant pattern in this area, particular given the dispersed location of these collisions in relation to one another.

4.8.4 In view of this, it is reasonable to conclude that the highway network surrounding the proposed development site does not include any geometric features that can be specifically linked to recorded collisions.

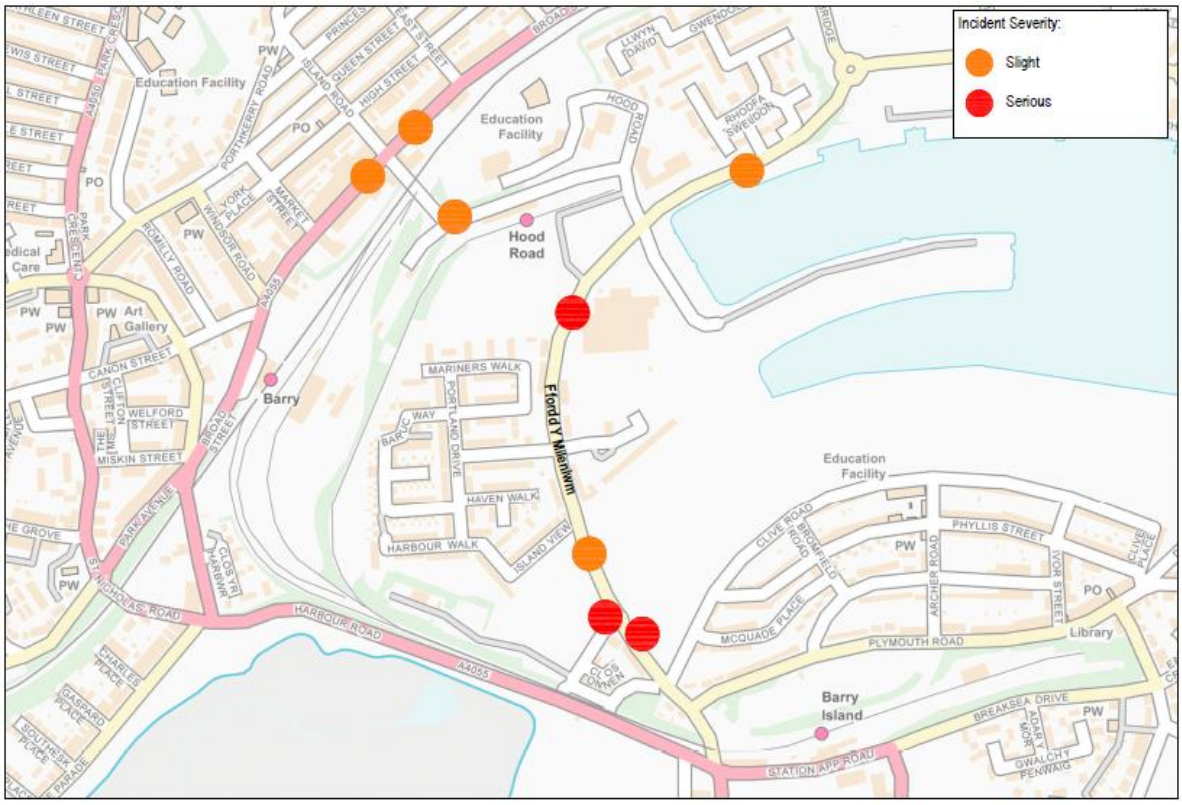


Figure 4.6 – Location of Incidents Recorded

4.9 Infrastructure Improvements

4.9.1 As aforementioned, local transport infrastructure within and surrounding the Barry Waterfront area were subject to significant investment and has been purposely constructed and improved to serve the regeneration scheme.

4.9.2 A comprehensive package of infrastructure enhancement, by means of offsite highway works and financial contribution, has taken place as part of the Section 106 obligations for the wider Barry Waterfront scheme. These enhancements improve not only the operational capacity of the local highway network but also the connectivity of walking, cycling and public transport network within the regeneration area.

4.9.3 These improvements encompass:

Walking and Cycling:

- A cycleway/footway along Cardiff Road between Dinas Powys and Barry Waterfront
- Improved pedestrian/cycle routes between West Pond, the High Street and Barry Railway Station;

- Improvements to the route to Barry Island Railway Station
- Improvements to Clive Road Steps
- Improvement to the links between East Way and the Barry Dock Railway Station.

Bus Services:

- Bus subsidy for a South Quay Route
- Provision of 6 Bus stops within the whole of the Barry Waterfront Regeneration Area.

Offsite Highway Works

- Coordinated signalisation at Harbour Road/Station Approach and Plymouth Road/Earl Crescent Junctions;
- A contribution of £1,625,000 towards highway enhancements at junctions identified within the transport assessment prepared for the consented Barry Waterfront scheme as well as further offsite highway works agreed with LHA. These includes works at:
    - Barry Dock Link Road/Port Road Roundabout
    - Gladstone Bridge/Ffordd Y Mileniwm Roundabout
    - Wimbourne Road/Ffordd Y Mileniwm Junction

4.9.4 The above schemes will not only provide sufficient road capacity to accommodate the forecast traffic generation arising from Barry Waterfront but also maximise the area's permeability and accessibility by sustainable modes of travel. And hence it is considered that the forecast trip generation associated with the school site can be comfortably accommodated within the existing network.

4.10 Summary

4.10.1 The assessment demonstrates that the site is well located in connection with the existing walking and cycling routes and is reasonably served by current public transport provisions. Its high accessibility by sustainable modes of travel offers significant opportunities for staff and students to access the surrounding facilities by foot, by bike or by public transport.

5 Development Proposals

5.1 The Scale of the School

5.1.1 The proposed 2FE school will deliver primary education for approximately 420 pupils with up to 60 students joining each year. An additional provision of 48 FTE places Nursery School will also be accommodated on site facilitating early childcare for children aged between 2 -3 years old.

5.1.2 The envisaged scheme is to facilitate the relocation of an existing welsh medium primary school, known as Ysgol St Baruc, located at St Pauls Avenue in Barry and to expand its current capacity from 210 spaces to 420 places.

5.1.3 The existing Ysgol Sant Baruc sits on a very confined slope site that is bounded by St Pauls Avenue to the south, the High Street Primary School to the east, Aberystwyth Crescent to the north and residential properties to the west. It comprises a main Victorian building and a two-classroom block built in the 1980s and has limited outdoor sports/game area. The site itself is considered not suitable for any significant upgrade and expansion to meet the modern teaching and learning requirements.

5.1.4 In view of this, the replacement of this run-down primary school with a quality-built 21st Century education facility that is purposely placed at the centre of a newly established residential community at Barry Waterfront is proposed.

5.1.5 Upon completion, the new school will become the new home of the existing Ysgol St Baruc offering not only fit for purposes teaching and learning environment but also much needed classroom space providing an additional 30 places per year to meet the growing call for Welsh medium education in the town.

5.1.6 The location of the existing Ysgol Sant Baruc and the proposed new school site are illustrated in the **Figure 5.1** below.

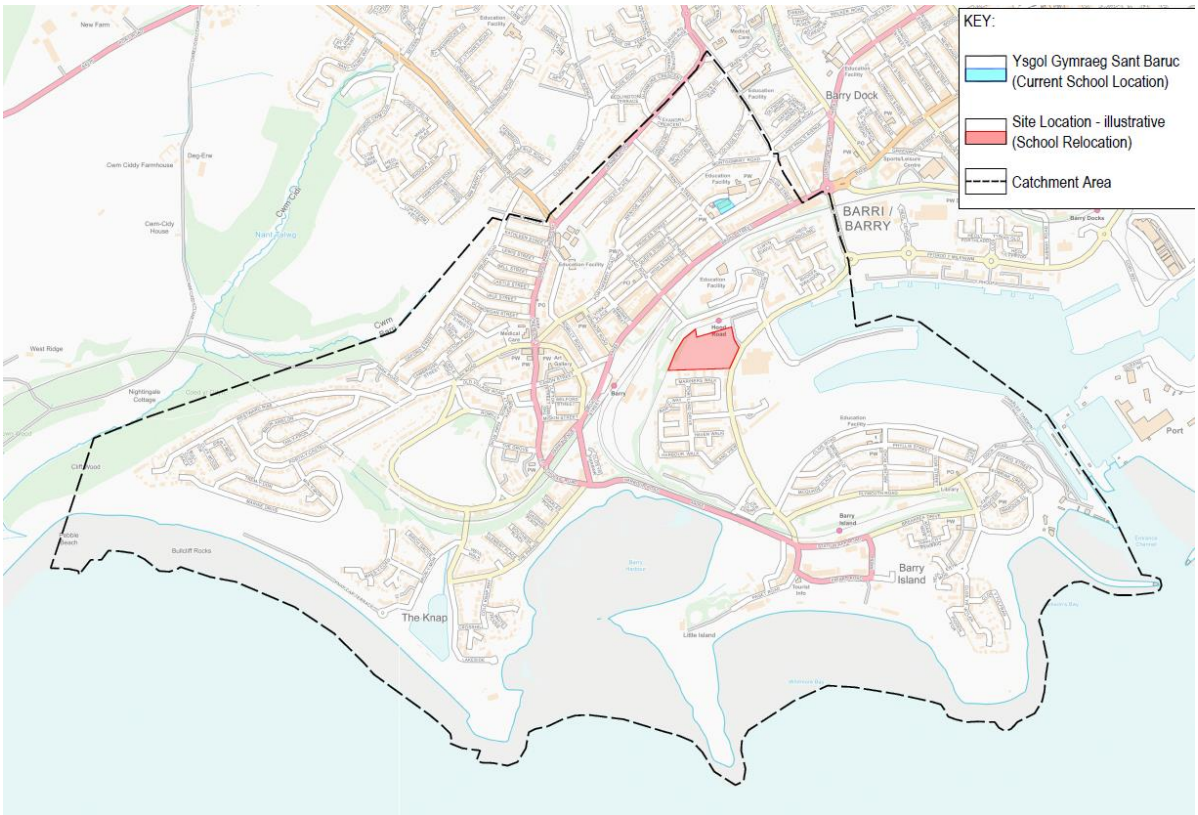


Figure 5.1 Location of the Existing and Proposed School Sites

5.1.7 Ancillary facilities, including hard and soft play areas, habitat areas, a Multi- Use Games Area (MUGA), sports pitches, car parking and service yard are also included in the development proposals. A masterplan of the development proposals is provided at **Appendix A**.

5.1.8 Upon its full capacity, the school will be supported by approximately 18 FTE teaching posts and 20 FTE supporting roles that would see 38 Full Time Equivalent (FTE) staff employed at the site. A detailed breakdown of these staff is summarised in **Table 5.1** below.

Position	Roles	Note
Teaching Staff	20 Teaching Staff	-
Supporting Staff	2 Administrators	-
	4 Kitchen Staff	-
	7 Caretaker	
	6 Cleaners	After School
	20 Part Time Learning Support Assistances	Teaching Assistants are likely to take on other roles (e.g. lunchtime supervisors, Breakfast club staff)

Table 5.1 Breakdown of Staff Members

5.2 Hours of Operation

5.2.1 The school teaching hours will be between 9:00 and 15:20 with a breakfast club available from 7:40am and After School Clubs operating every day until 17:30pm. It is understood that at full capacity the breakfast club will hold up to 120 pupils with a slightly lower capacity of 100 pupils for the After-School Club.

5.2.2 A slightly different operation is proposed at the Nursery School offering two different sessions to children aged between 2 and 3 years old:

- 48 pupils in the morning session between 09:00 and 12:00; and
- 48 pupils in the afternoon session between 13:00 and 15:00.

5.3 Vehicular Access

5.3.1 It is proposed that vehicle access to the site will be directly off a gated access spur road via an existing priority junction off Ffordd Y Mileniwm, as shown in **Figure 5.2** below, that will provide access to a staff car park and pick-up/ drop off area for school mini-buses, taxies and commercial/service vehicles.

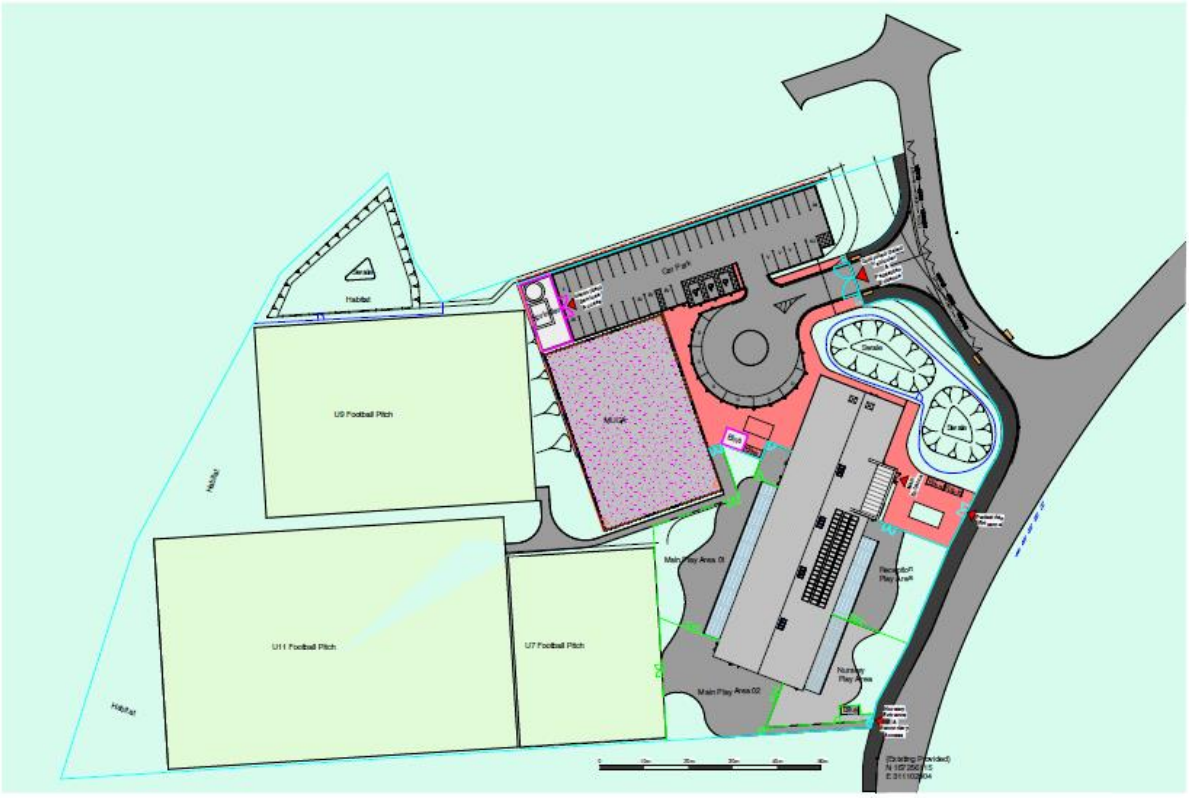


Figure 5.2 Vehicle Access point

5.3.2 It is understood that Ffordd Y Mileniwm, through Barry Waterfront, has been purposely built to cater for the traffic arising from the wider Regeneration Scheme and operates as a primary traffic route connecting the Waterfront with Barry Island. The existing site access junction off Ffordd Y Mileniwm has been provided as part of the new link road. It was engineered to accommodate the forecast school traffic associated with the site and was deemed appropriate by the LHA.

5.3.3 Swept path analysis (**Appendix B**) has also been carried out for the internal circulation and the school access point off the side road using the following vehicles:

- A large school coach of 12.2 (L) x 2.51m (W) in dimension.
- A fire tender of 7.7m (L) x 2.43m (W) in dimension.
- A large refuse vehicle of 11.73m (L) x 2.49m (W) in dimension.
- A large estate vehicle of 4.99m(L) x 1.79m (W) in dimension.

5.3.4 The swept path drawings demonstrate that the proposed vehicle access and internal movement strategy for the proposed school is suitable for use by commercial, service and large vehicles that require on-site access. The design of the site access and the internal circulation area offers sufficient geometric arrangement to accommodate the movements associated with these types of vehicles allowing them to enter and leave the site in a forward direction.

5.4 Pedestrian and Cyclist Access

5.4.1 A shared use pathway of 3.0m wide will be provided to the southern side of the access road at the school entrance whereas a 2.0m footway will be introduced along the northern side. These routes will tie into the existing provision along the spur road with onwards connection to the pedestrian and cyclist infrastructure along Ffordd Y Mileniwm.

5.4.2 Assisted crossing points by means of tactile paving and dropped kerb will be facilitated along the access spur road and at the school entrance.

5.4.3 In addition, pedestrians/cyclists only access will also be facilitated directly off Ffordd Y Mileniwm, which benefit from existing footways/cycleway and street lighting.

5.4.4 The development has been designed with consideration towards disabled access (i.e. with regards to access to the building), to ensure the safe movement of future site users that are mobility impaired.

5.5 Parking Provision

Vehicle Parking

5.5.1 The scale of parking provision is viewed in some quarters as a tool in managing demand generated by vehicles. In PPW 11, it stated that a design led approach to the provision of car parking should be taken, which ensures an appropriate level of car parking is facilitated in a manner which does not dominate the development. It emphasises that well designed scheme, which has a low level of parking, should be supported.

5.5.2 A staff car park of 42 parking spaces will be provided onsite including 3 disabled spaces, 3 visitor spaces and 2 electric vehicle charging bays. A dedicated drop off/pick area of approximately 6 vehicle bays is also facilitated onsite for school mini-buses, commercial/service vehicles, and taxies for pupils with assisted needs.

5.5.3 It should be noted there is no provision for parent's parking within the school ground and onsite parents' drop off and collection by car will be prohibited, except for children with assisted needs.

5.5.4 It is understood that to enforce this, the vehicle access will be manned by a member of the staff at the start and end of the school day to oversee the use of the gated access. Any parents arriving at the school by car during the collection and drop off periods will not be allowed to enter the school car park. The school drop off/pick up policy will be made clear to all parents during the site induction periods and will be reminded through the regular newsletters.

Cycle Parking

5.5.5 It is proposed that secured and sheltered cycle parking storage will also be provided at the school in line with The Vale of Glamorgan's 2019 SPG parking standards. It is noted that showers and changing

facilities (as well as drying) will be provided for both staff and students including lockers for staff. **Table 5.4** below sets out the cycle parking standards.

Type of Development	Long Stay	Short Stay
Nursery/ Infants/Primary Schools	1 stand per 5 staff and 1 stand per 20 children	1 stand per 100 children

Table 5.4 Cycle Parking Standards (The Vale of Glamorgan's 2019)

5.6 Offsite Highway Works

5.6.1 To prevent any unauthorised parking by parents along the adjoining highway network, the following offsite traffic management measures are envisaged:

- Zag "Keep Clear" road marking will also be applied to the eastern side of the spur road along the school frontage; whereas
- Parking restrictions by means of double yellow line will be introduced along eastern site of the access spur road and along Ffordd Y Mileniwm within the vicinity of the access junction to the school.

5.6.2 The extend of the proposed highway works are shown in **Appendix C**.

5.6.3 It is understood that Ffordd Y Mileniwm, also known as Barry Island Link Road (BILR), has not yet been adopted by LHA due to the outstanding signal improvements works and remains under the Consortium's ownership. The timescale for completing the relevant signal improvements and subsequently the adoption of the BILR is December 2021. Once the BILR is adopted and handed over to the LHA, the council will install bus shelters associated with the existing bus stops along NILR to the south of the site, using fixed contribution set out in Schedule 1 of the Section 106 Agreement towards the sustainable transport facilities.

5.7 Student Catchment Area

5.7.1 It is understood that despite an increase in school capacity, the identified school catchment area for the existing Welsh Medium School – Ysgol Sant Baruc will remain unchanged and is illustrated in **Figure 5.3** below:

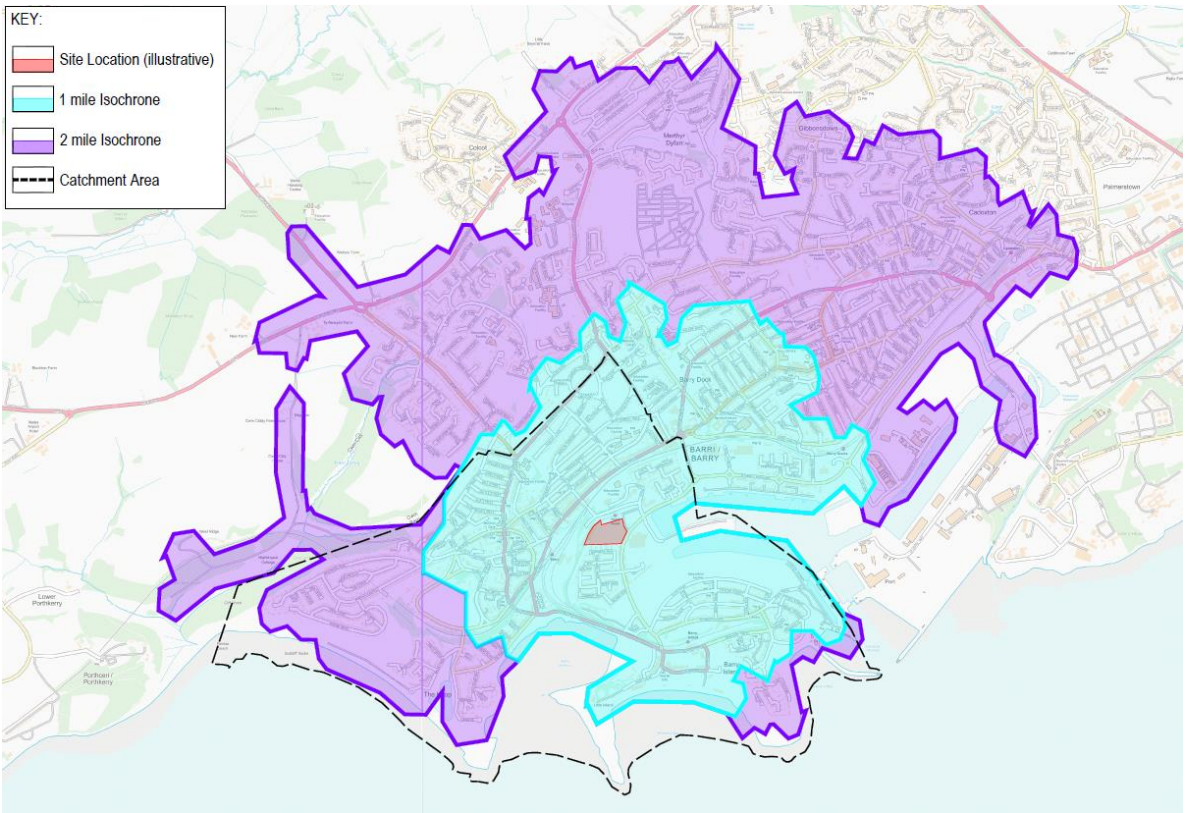


Figure 5.3 Students Catchment Area

5.7.2 As can be seen above, the proposed new school is favourbly lcoated in the centre of the student catchment area. **Figure 5.3** above also illustrates the 1 mile and 2 miles isochrone, measured from the centre of the development site, identifying the residential area lying within these catchment areas. It demonstrates that a large proportion of the residential communities within the catchement area lie within 1 mile walking distance to the site with the small remainingarea still within a 2 miles isochrone.

5.8 Travel Pattern

5.8.1 As there is no survey data from the existing primary schools in Barry available, and hence to establish the likely method of travel for these pupils, 2019 travel data from the National Travel Survey (NTS) Table NTS0614: "Trips to School by Main Model, Trip Length and Age" has been interrogated. A summary of the mode share for primary school age between 5 and 10 is populated in **Table 5.5** below:

	Under 1 mile	1 to 2 miles	2 to 5 miles	Over 5 miles	All Distance
Walk	80%	19%	1%	0%	46%
Bicycle	1%	4%	1%	0%	1%
Car/Van	18%	71%	87%	73%	47%
Bus	1%	5%	9%	18%	5%
Others	0%	1%	1%	9%	1%

Table 5.5 NTS Trip to School Travel Pattern for Age between 5 and 10

5.8.2 As can be seen above, the majority (70%) of the residential communities within the school catchment area are situated within 1-mile walking distance to the school with a small portion of the population living between 1 to 2 miles of the site. Therefore, it is considered that a high percentage of pupils will be drawn locally within suitable walking distance from the site and hence will travel to school by foot or bicycle/scooter. And hence based upon the student catchment area, the mode shares for walking and

cycling are proportionally established using the NTS travel pattern derived for pupils live under 1 mile and between 1 to 2 miles.

5.8.3 In addition, as shown in **Figure 5.3**, a large proportion of the residential communities within the catchment area are located within 400m walking distance and therefore lie within a reasonable location for the use of public transport as a means of travel to and from the school.

5.8.4 In light of the above, the forecast modal splits for pupils at the development site are tabulated below:

	Students Model Splits
Walk	62%
Bicycle	2%
Car Passengers	30%
Bus	5%
Others	1%

Table 5.6 Proposed Travel Patterns for Pupils

5.8.5 Travel to Work data from the 2011 Census Data has been reviewed to determine the mode share for work related journeys in the region (WP7003EW – Method of Travel to Work Workplace Population) and are adopted as baseline travel pattern for staff at the school.

	Staff Travel
Walk	12%
Bicycle	2%
Car Driver	73%
Car Passenger	7%
Bus	6%
Motorcycle	1%
Others	1%

Table 5.7 Proposed Travel Patterns for Staff

6 Development Trip Generation

6.1 Introduction

6.1.1 This section firstly quantifies the number of trips generated by the proposed development, and thereafter sets out the distribution of these trips on the local highway network.

6.2 Traffic Generation

6.2.1 In order to establish the associated school traffic, vehicle trip rates have been established using the comparable survey sites collated from TRICS 7.7.4 for the land categories of "Education – Primary School".

6.2.2 The database was reviewed to include only survey samples that share similar characteristics with the proposed scheme in terms of location and scale of the school. This assures a robust assessment and provides a reasonable indication as to the level of vehicle trips that will be generated by the development site. The selection criteria for these sites are set out as follows:

- Weekday Only;
- Sites within England, Scotland and Wales;
- Edge of Town and Suburban locations;
- the number of pupils enrolled between 370 and 530;
- Surveys predate current pandemic between 2012 and 2019;
- Sites has a Nursery School onsite.

6.2.3 The resultant vehicle trip rates for the traditional highway AM (08:00-09:00) and PM (17:00-18:00) peaks as well as After School Peak (15:00-06:00) are summarised in **Table 6.1** below with the full TRICS report included within **Appendix D**.

Vehicle Trip Rates	In	Out	Total
08:00 – 09:00	0.216	0.117	0.333
17:00-18:00	0.012	0.024	0.036
15:00 – 16:00	0.105	0.171	0.276

Table 6.1 Vehicle Trip Rates

6.2.4 Applying the above vehicle trip rates, traffic attraction associated with the existing and new Welsh Medium School are summarised in **Table 6.2** below:

Time Period	In	Out	Total
Existing Ysgol Sant Baruc – 210 Spaces			
08:00 – 09:00	45	25	70
17:00-18:00	3	5	8
15:00 – 16:00	22	36	58
Proposed New Welsh Medium School – 468 Spaces (including 48 FTE Nursery Spaces)			
08:00 – 09:00	101	55	156
17:00-18:00	6	11	17

Time Period	In	Out	Total
15:00 – 16:00	49	80	129
Residual Increase on Traffic Attraction			
08:00 – 09:00	56	30	86
17:00-18:00	3	6	9
15:00 – 16:00	27	44	71

Table 6.2 Forecast School Traffic

6.2.5 As can be seen above, a residual increase of 86 vehicle movements in the AM peak and 71 movements in the After-School Peak are forecast as result of the development proposal. This is equivalent to a maximum increase of 1.4 vehicles per minute.

6.3 Traffic Assignment

6.3.1 Taking into account the school catchment area and population density, it is assumed that 60% of the forecast vehicle traffic to the site would use Ffordd Y Mileniwm North whereas the remaining 40% would travel via Ffordd Y Mileniwm South. This is consistent with the directional distribution established in the original 2009 TA for the outline consent.

6.3.2 The forecast vehicle movements to/from the new school at the site access junction with Ffordd Y Mileniwm is illustrate below:

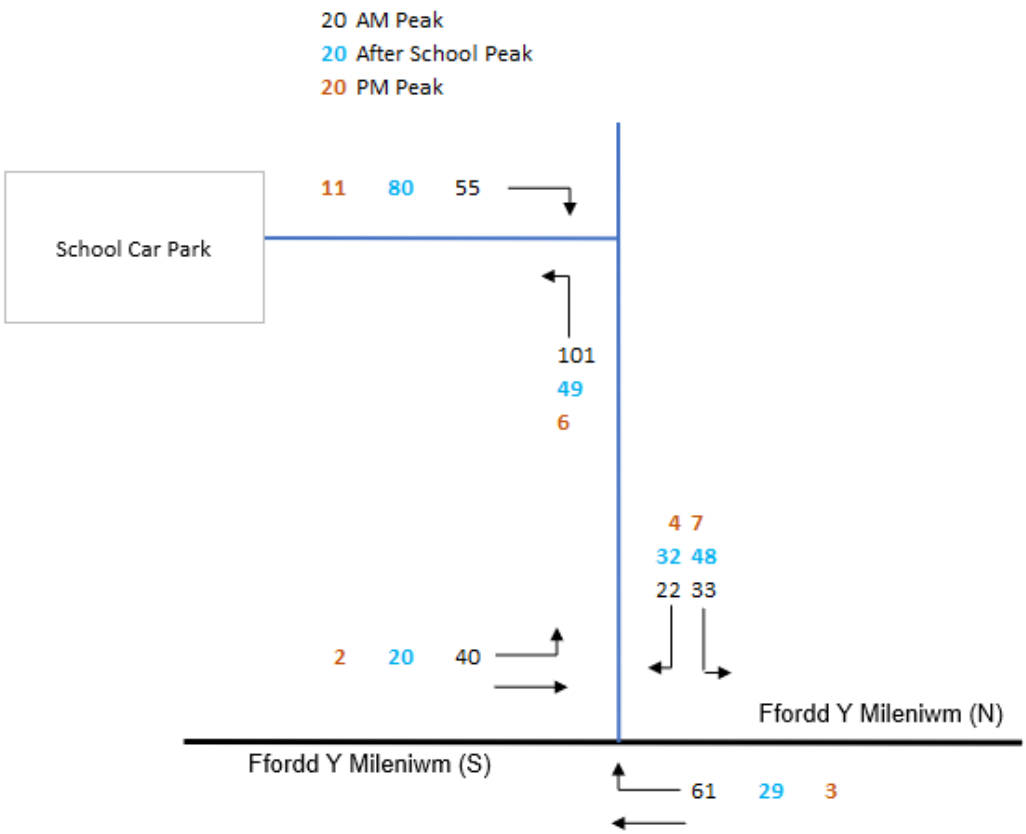


Figure 6.1 School Traffic Distribution

6.4 Traffic Impact

6.4.1 It should be noted that the proposed 420 place school would not only offer surplus capacity to accommodate the projected increasing demand in Welsh Medium Education arising from both the new residential communities at Barry Waterfront and the wider communities in Barry but also to facilitate the relocation of the existing Welsh Medium School.

6.4.2 It is therefore considered that the proposed primary school would not be a significant traffic generator with majority of the school traffic

- either already travelling along the adjoining highway network and diverted to the site from the existing school or other similar education establishments; or
- vehicle movements arising from the newly established residential communities and housing developments at Barry Waterfront that are already accounted for within the original assessment.

6.4.3 The proposed primary and nursery school will offer more localised primary and early education for pupils at the newly established community that are currently travelling further afield due to lack of suitable capacity in the area and would thus reduce the requirement for long distance travel that is highly likely to be car dependent.

6.4.4 In addition, a number of school runs are likely to be linked trips with other journey purposes with parents completing the journey to school as part of their trip to work or shops and hence already travelling along the local highway network.

6.4.5 As the proposed new school will not result in any net uplift to the overall floor area of the previously consented scheme, the proposal will not lead to any unforeseen traffic impact than what was assessed in the supporting TA.

6.4.6 In addition, it is understood that the local highway network has been purposely built and upgraded as part of the wider Barry Waterfront Scheme to accommodate the forecast development traffic, with a comprehensive package of highway enhancements proposed and implemented to mitigate the associated impact and improve the network capacity.

6.4.7 In light of the above, it is considered that the development proposal will not lead to any materially impact on the local highway network and that associated traffic attractions can be comfortably accommodated within the enhanced highway network as proposed as part of the Section 106 agreement for the wider site.

6.5 School Travel Plan

6.5.1 It is the Government's aim to promote smarter travel choices as a strategic management tool in achieving traffic reduction and accelerating the development more sustainable travel trends within both the strategic and local highway network.

6.5.2 In view of this, a school TP has been developed in conjunction with this TS to support the planning application for the new Barry Waterfront School. The main aims of this TP are as follows:

- To ensure travel choices information is provided to staff, students, parents and visitors;
- To increase the number of journeys undertaken by healthy and creative modes public transport; and
- Promote healthier lifestyles for all users of the site.

6.5.3 As aforementioned in **Section 4**, the new school is favourably located in the centre of the newly established residential communities at Barry Waterfront and benefits from an expansive network of existing footpaths, cycleways and public transport services through the local area.

6.5.4 In order to achieve the above objectives, a comprehensive package of hard and soft measures and initiatives are recommended. These include:

- To initiate "Walking Buddies" scheme and "Biker Group";
- Launch a Travel Information Webpage within the school's main website and distribute a travel welcome pack to all pupils, parents and staff.
- Installation of a noticeboard that will contain walking and cycling maps for the surrounding area as well as local public transport information
- Allocation of an adequate cycle/scooter parking for both staff and pupils;
- Installation of sheltered and secure cycle storage;
- Provision of changing and locker facilities;
- Appoint a TP Champion and set up Working Groups;
- Review the TP on an annual basis;
- Promote the ethos of the school TP to the parents;
- Hold a "sustainable travel" week;
- Keep staff, pupils and parents updated on safer routes to school issues;
- Encourage pupils involvement in discussing their travel needs;
- Organise kerb craft and cycle proficiency training scheme;
- Advise and guide people on the ways they can change their travel habits.

7 Summary and Conclusions

7.1 Summary

7.1.1 The development site is strategically located in relation to the local settlement areas and surrounded by well-established residential estates. It is well served by the existing walking and cycling routes in the area connecting between the site and the nearby residential estates. Reasonable bus services can also be accessed within a suitable walking distance offering alternative mode of travel.

7.1.2 The principle of a primary school has long been established as part of the wider regeneration scheme with associated traffic impact being considered and accounted for as part of the infrastructure schemes implemented at Barry Waterfront.

7.1.3 The proposed development proposal will see the creation of a 2FE primary school for 420 pupils and a nursery for 96 pupils at Barry Waterfront. The proposal is not only to offer sufficient capacity to accommodate the projected increasing demand in Welsh Medium Education arising from both the new residential communities at Barry Waterfront and the wider communities in Barry, but would also facilitate the relocation of an existing Welsh Medium School known as Ysgol Sant Baruc.

7.1.4 It is noted that the development proposal does not foresee any net uplift on the overall floor space that what was previously consented as part of the wider Barry Waterfront regeneration scheme, therefore, the school will not result in any unexpected impacts as previously assessed.

7.1.5 It is therefore considered that the proposed development will have immaterial impact on the local waking and cycling network and there is available capacity on the public transport network to accommodate the new trips. The highway improvements constructed as part of the wider regeneration scheme is considered appropriate to mitigate any adverse highway impact.

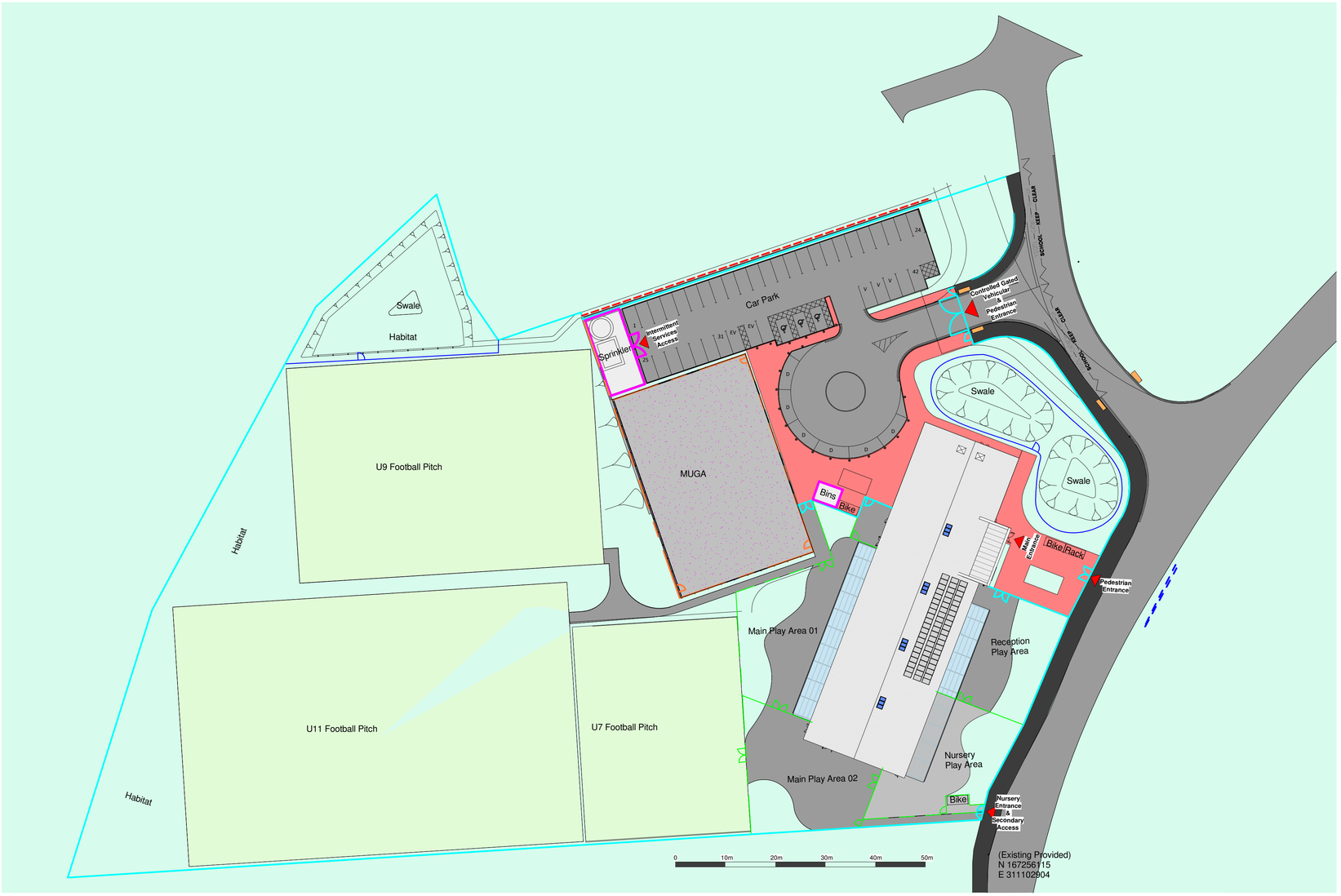
7.2 Conclusions

7.2.1 The report concludes that:

- The proposed development is consistent with the national, regional and local planning and transport policies;
- The application site is well situated with respect to the surrounding residential estates and local communities;
- The design of the proposed development will provide an adequate and safe parking environment in line with LHA's parking standards;
- Its connectivity to the walking/cycling routes and proximity to the public transport network, offers realistic alternative travel mode choices to the private car for day to day destinations.
- The proposed development does not have a material impact on the surrounding highway network.
- The introduction of the School Travel Plan will assist in:
    - Mitigating the development Impact;
    - Releasing the capacity of existing highway;
    - Strengthening the coherence of the whole community; and
    - Delivering a sustainable development in the neighbourhood area.

7.2.2 Based on these, there is no grounds to refuse permission for the proposed development.

Appendix A: Development Layout



Materials Key

- Tarmac
- Paviours
- Bitumen Softplay Surface
- MUGA
- Concrete Hard Standing
- Off SIte Public Footpath
- Type 01 - 2400mm high Secure Anti Climb Fencing (SBD compliant)
- Type 02 - 3000mm high sports pitch fencing
- Type 03 - 1800mm high timber hit and miss fence
- Type 04 - 1200mm high PPC bow top metal fence
- Type 05 - 1200mm high general purpose openmesh fencing
- Type 06 - Featheredge Timber Facing to Retaining Wall
- Textured paving crossing point with drop curbs

Refer to Civil Engineers drawings for all levels

N

1 Proposed Site Plan

1 : 500

Planning

STATUS
S3 - Issued for Comment

This drawing must not be scaled.
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.

A1

Rev:			Chk'd:
A	Drawing Issued for Pre App	01/10/2020	
B	Design Development	18/12/2020	
C	Gen amends	12/01/2021	
D	Issued For Inclusion in PAC	25/01/2021	
E	Issued for Co Ordination	09/03/21	
F	Issued For Planning Application	12/03/2021	

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PDA Job No: 19128

C4328	- PDA	- V1	- XX	- DR	- A	- 05	- 1000	F
UPRN	ORIGINATOR	VOLUME	LEVEL	DR TYPE	DIS	CLASS	NUMBER	REV

Contract: Barry Waterfront
Primary School, Vale of Glamorgan

Title: Proposed Site Plan

Scale: As indicated
Date: 01/10/20
Drawn: AH
Checked: RD

Registered Office: Powell Dobson, Suite 1F, Building One, Eastern Business Park, Wern Fawr Lane, Old St Mellons, Cardiff CF3 5EA. Powell Dobson is a trading name of Powell Dobson Ltd a company registered in England and Wales No 3673602.

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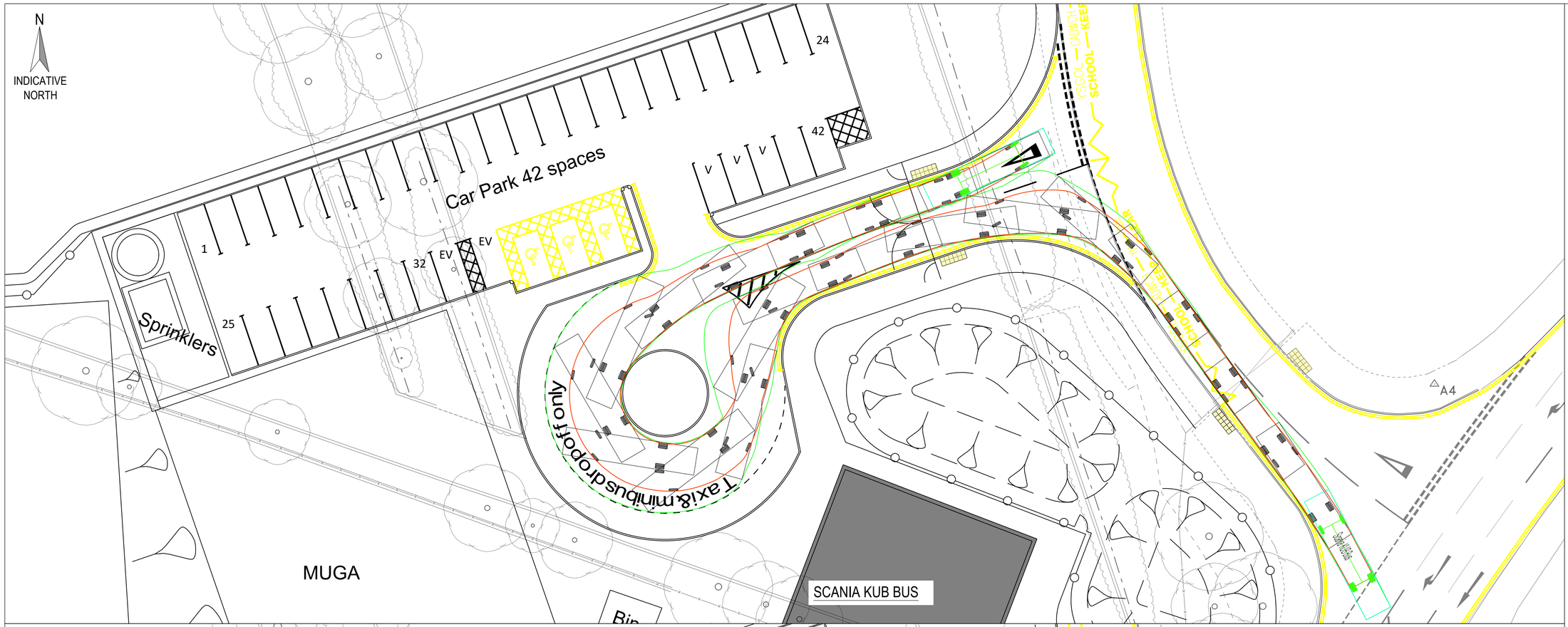
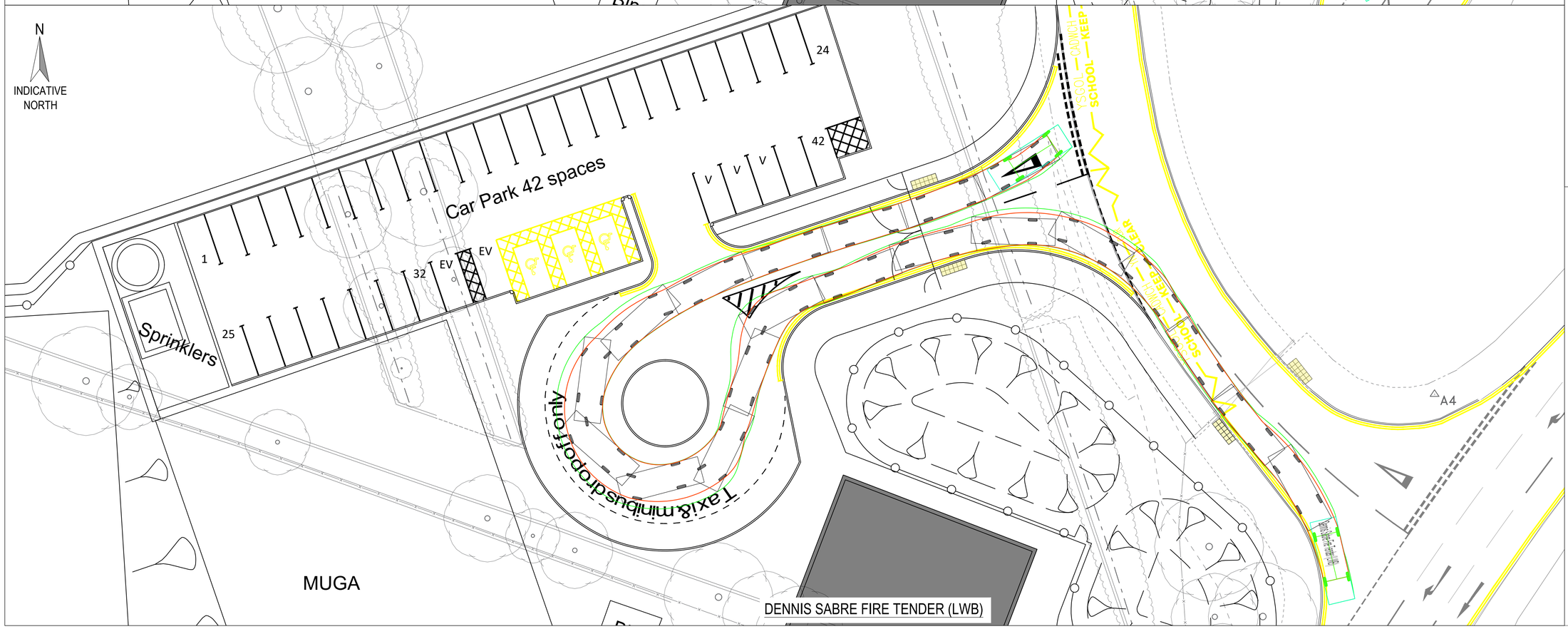
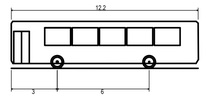
Appendix B: Swept Path Analysis



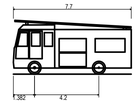


NOTES:

VEHICLE TRACKING BASED ON VEHICLES SHOWN BELOW



Scania KUB Bus	
Overall Length	12.200m
Overall Width	2.510m
Overall Body Height	3.069m
Min Body Ground Clearance	0.309m
Track Width	2.350m
Lock to lock time	4.00s
Wall to Wall Turning Radius	10.771m



Dennis Sabre Fire Tender (LWB)	
Overall Length	7.700m
Overall Width	2.430m
Overall Body Height	3.512m
Min Body Ground Clearance	0.397m
Track Width	2.380m
Lock to lock time	5.00s
Kerb to Kerb Turning Radius	7.400m

NOTES:

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2. DO NOT SCALE THIS DRAWING. ALL DIMENSIONS MUST BE CHECKED/VERIFIED ON SITE. IF IN DOUBT ASK.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT'S, ENGINEER'S AND SPECIALIST'S DRAWINGS AND SPECIFICATIONS.
4. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE. ALL LEVELS IN METRES UNLESS NOTED OTHERWISE.
4. ANY DISCREPANCIES NOTED ON SITE ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.

Rev	Date	Description	By	Apvd
P1	22.02.21	Preliminary issue	ME	GS

PROJECT:
BARRY WATERFRONT SCHOOL

TITLE:
VEHICLE TRACKING

CLIENT:
GALLIFORD TRY CONSTRUCTION

SCALE@A1:
1:200

PROJECT REF:
20111

DRAWING No: C4294-JUBB-XX-XX-DR-CS-0900

REV: P1

Revision Referencing
P = Preliminary A = Approval T = Tender C = Construction

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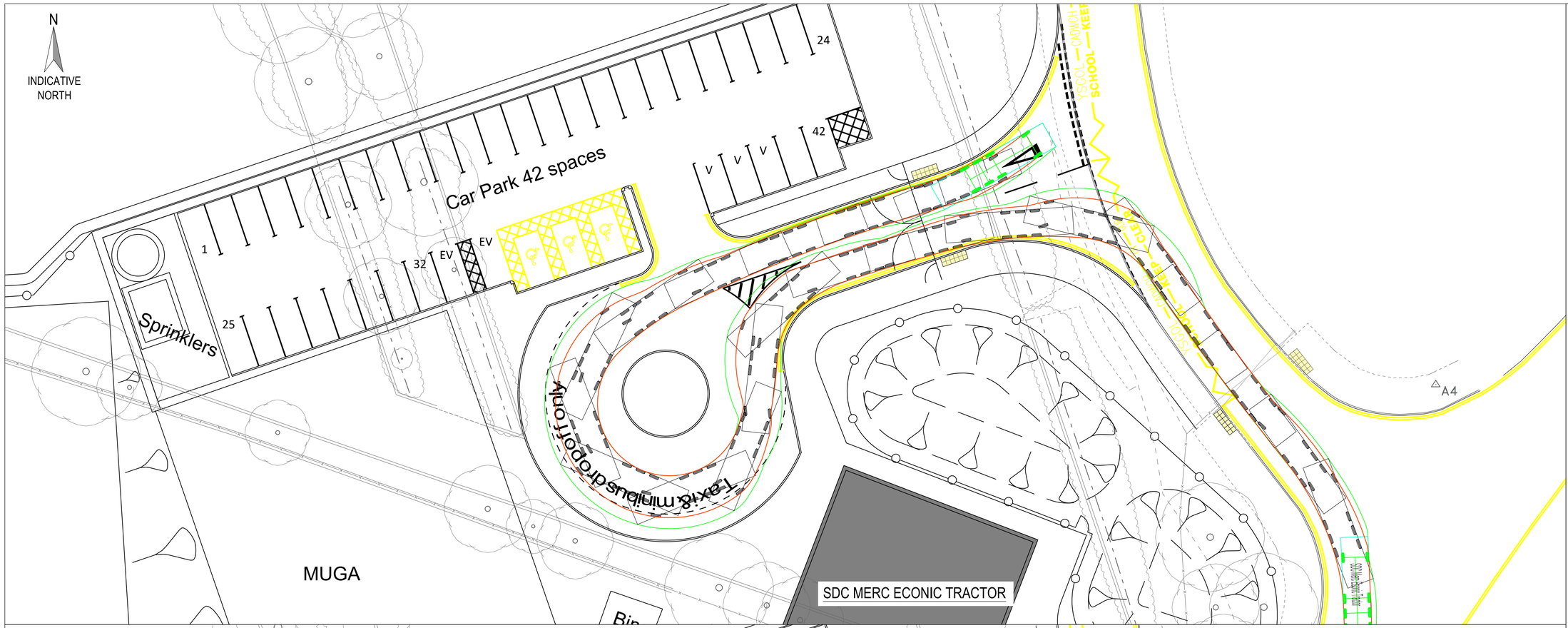
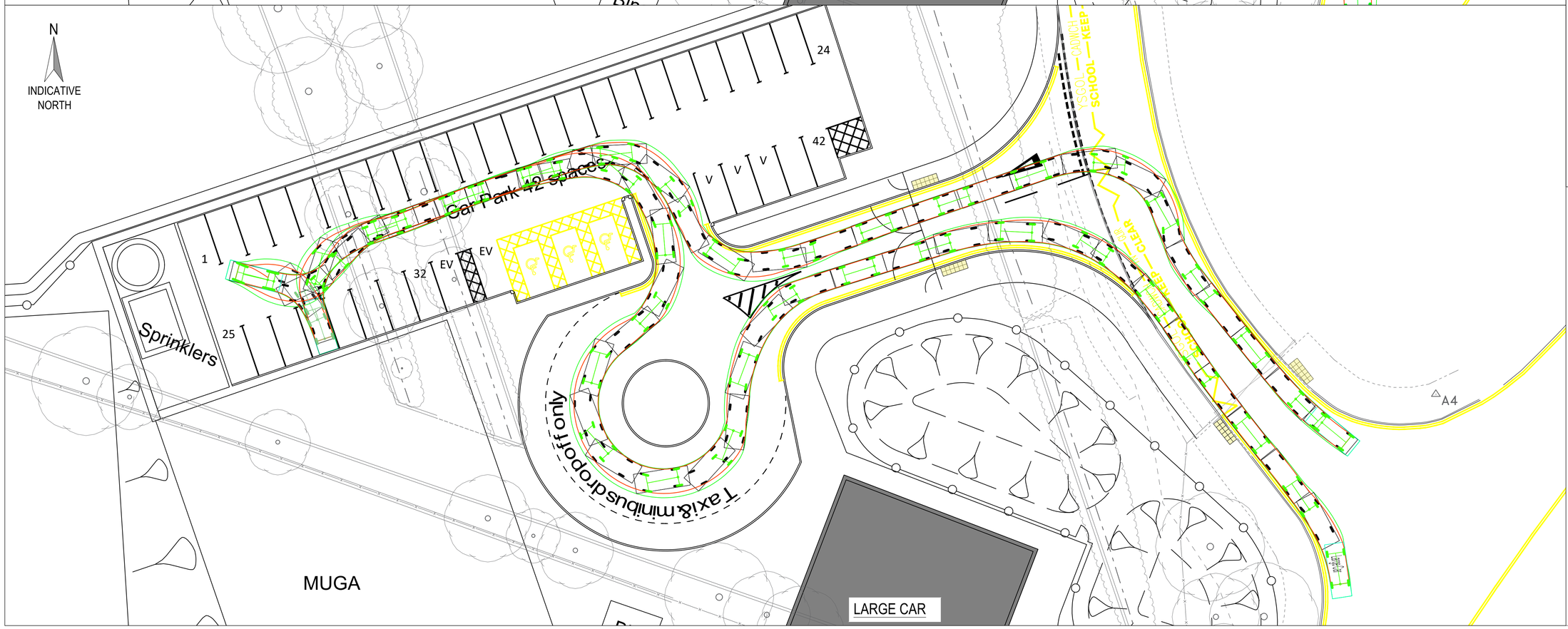
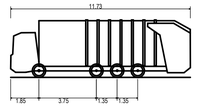




NOTES:

VEHICLE TRACKING BASED ON VEHICLES SHOWN BELOW.



SDC Merc Econic Tractor

Overall Length	11.730m
Overall Width	2.490m
Overall Body Height	3.749m
Min Body Ground Clearance	0.302m
Track Width	2.490m
Lock to lock time	4.00s
Max Steering Angle (Virtual)	33.00°

Large Car

Overall Length	4.988m
Overall Width	1.793m
Overall Body Height	1.502m
Min Body Ground Clearance	0.287m
Track Width	1.700m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	6.200m

NOTES:

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Rev	Date	Description	By	Apvd
P1	22.02.21	Preliminary issue	ME	GS

PROJECT:
BARRY WATERFRONT SCHOOL

TITLE:
VEHICLE TRACKING

CLIENT:
GALLIFORD TRY CONSTRUCTION

SCALE@A1:
1:200

PROJECT REF:
20111

DRAWING No: C4294-JUBB-XX-XX-DR-CS-0901

REV: P1

Revision Referencing
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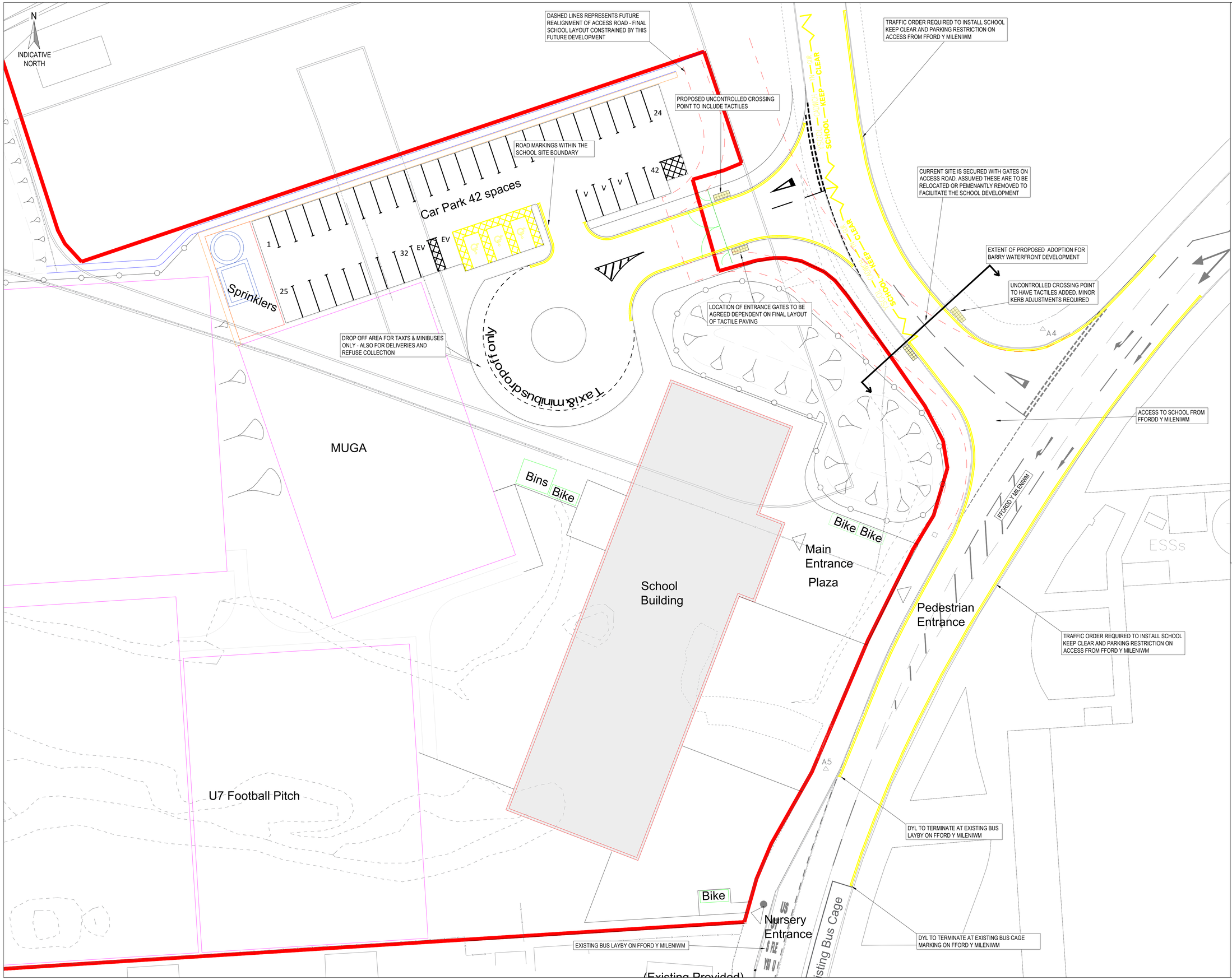
Appendix C: Proposed Offsite Highway Works



NOTES:

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4. ALL DIMENSIONS IN METRES UNLESS NOTED OTHERWISE. ALL LEVELS IN METRES UNLESS NOTED OTHERWISE.
4. ANY DISCREPANCIES NOTED ON SITE ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
5. COACH/ BUS PROVISION:

   THE BARRY ISLAND LINK ROAD (BILR) HAS NOT YET BEEN ADOPTED AND REMAINS UNDER THE CONSORTIUM'S OWNERSHIP. THE BILR WILL BE ADOPTED WHEN THE OUTSTANDING SIGNAL IMPROVEMENT WORKS ARE INSTALLED, THE TIMESCALES FOR COMPLETING THE SIGNAL IMPROVEMENT WORKS AND ADOPTION OF BILR IS DEC 2021. ONCE THE BILR IS ADOPTED AND HANDED OVER TO THE COUNCIL, THE COUNCIL WILL INSTALL THE BUS SHELTERS ASSOCIATED WITH THE EXISTING BUS STOP LOCATIONS USING FIXED CONTRIBUTIONS SET OUT IN SCHEDULE 1 OF THE S106 TO PAY TOWARDS THE SUSTAINABLE TRANSPORT FACILITIES.
6. ACCESS SPUR ROAD:
   ROAD MARKINGS AND MINOR HIGHWAY WORKS WILL BE INSTALLED ADJACENT TO THE SITE ENTRANCE AND TO THE BELL MOUTH INTO THE SCHOOL SITE. SUBJECT TO THE PROPOSED ROAD ADOPTION PLANS FOR THIS SECTION OF ROAD, CONFIRMATION/AGREEMENT WILL BE SOUGHT WITH THE VOGC REGARDING A TRAFFIC REGULATION ORDER.

KEY:

- RED LINE/PLANNING BOUNDARY (REFER TO ARCHITECTURAL LAYOUTS)
- PROPOSED NO WAITING AT ANY TIME ROAD MARKINGS
- PROPOSED NO STOPPING MON - FRI 8AM - 4PM ON SCHOOL ENTRANCE MARKINGS / NO WAITING AT ANY TIME. ACCOMPANIED BY APPROPRIATE SIGNAGE
- UNCONTROLLED CROSSING POINT WITH BUFF COLOURED TACTILE PAVING

Rev	Date	Description	By	Apvd
P2	12.03.21	DYL added & layout updated	ME	GS
P1	22.02.21	Preliminary issue	ME	GS

PROJECT:
BARRY WATERFRONT SCHOOL

TITLE:
PROPOSED HIGHWAY WORKS

CLIENT:
GALLIFORD TRY CONSTRUCTION

SCALE@A1:
1:250

PROJECT REF:
20111

DRAWING No: C4294-JUBB-XX-XX-DR-CS-0902

REV: P2

Revision Referencing
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Appendix D TRICS

Calculation Reference: AUDIT-829401-210223-0222

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION
Category : A - PRIMARY
TOTAL VEHICLES

Selected regions and areas:

03	SOUTH WEST		
	CW	CORNWALL	1 days
05	EAST MIDLANDS		
	NR	NORTHAMPTONSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	WY	WEST YORKSHIRE	1 days
08	NORTH WEST		
	GM	GREATER MANCHESTER	1 days
	LC	LANCASHIRE	1 days
11	SCOTLAND		
	DU	DUNDEE CITY	1 days
	FA	FALKIRK	1 days
	SR	STIRLING	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: Number of pupils
Actual Range: 370 to 472 (units:)
Range Selected by User: 370 to 530 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/12 to 28/03/19

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:

Monday	3 days
Tuesday	1 days
Wednesday	1 days
Thursday	3 days

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

Selected survey types:

Manual count	8 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:

Suburban Area (PPS6 Out of Centre)	5
Edge of Town	3

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	7
No Sub Category	1

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:

D1	8 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	1 days
5,001 to 10,000	2 days
10,001 to 15,000	2 days
25,001 to 50,000	3 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	2 days
75,001 to 100,000	1 days
125,001 to 250,000	2 days
250,001 to 500,000	2 days
500,001 or More	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	5 days
1.1 to 1.5	3 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	8 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	8 days

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

LIST OF SITES relevant to selection parameters

1 CW-04-A-03 PRIMARY ACADEMY CORNWALL
TREVERBYN RISE
PENRYN

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of pupils: 440
Survey date: THURSDAY *28/03/19* *Survey Type: MANUAL*

2 DU-04-A-01 PRIMARY SCHOOL DUNDEE CITY
FALKLAND CRESCENT
DUNDEE
BROUGHTY FERRY
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of pupils: 412
Survey date: MONDAY *21/05/12* *Survey Type: MANUAL*

3 FA-04-A-03 PRIMARY SCHOOL FALKIRK
GLENDEVON DRIVE
FALKIRK
MADDISTON
Edge of Town
Residential Zone
Total Number of pupils: 452
Survey date: MONDAY *03/06/13* *Survey Type: MANUAL*

4 GM-04-A-01 PRIMARY SCHOOL GREATER MANCHESTER
ROCH MILLS CRESCENT
ROCHDALE

Edge of Town
Residential Zone
Total Number of pupils: 457
Survey date: TUESDAY *20/10/15* *Survey Type: MANUAL*

5 LC-04-A-05 PRIMARY SCHOOL LANCASHIRE
NEWTON STREET
BLACKBURN

Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of pupils: 472
Survey date: WEDNESDAY *28/09/16* *Survey Type: MANUAL*

6 NR-04-A-03 PRIMARY SCHOOL NORTHAMPTONSHIRE
BOOTH LANE NORTH
NORTHAMPTON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of pupils: 400
Survey date: THURSDAY *24/03/16* *Survey Type: MANUAL*

7 SR-04-A-01 PRIMARY SCHOOL STIRLING
PULLAR AVENUE
STIRLING
BRIDGE OF ALLAN
Edge of Town
Residential Zone
Total Number of pupils: 386
Survey date: MONDAY *16/06/14* *Survey Type: MANUAL*

8 WY-04-A-01 PRIMARY SCHOOL WEST YORKSHIRE
SHAKESPEARE AVENUE
LEEDS

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of pupils: 370
Survey date: THURSDAY *19/09/13* *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.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
DS-04-A-01	No Nursery
LE-04-A-02	No Nursery

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY
TOTAL VEHICLES
Calculation factor: 1 PUPILS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	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	8	424	0.056	8	424	0.020	8	424	0.076
08:00 - 09:00	8	424	0.216	8	424	0.117	8	424	0.333
09:00 - 10:00	8	424	0.045	8	424	0.070	8	424	0.115
10:00 - 11:00	8	424	0.015	8	424	0.015	8	424	0.030
11:00 - 12:00	8	424	0.022	8	424	0.020	8	424	0.042
12:00 - 13:00	8	424	0.030	8	424	0.030	8	424	0.060
13:00 - 14:00	8	424	0.016	8	424	0.019	8	424	0.035
14:00 - 15:00	8	424	0.060	8	424	0.034	8	424	0.094
15:00 - 16:00	8	424	0.105	8	424	0.171	8	424	0.276
16:00 - 17:00	8	424	0.021	8	424	0.064	8	424	0.085
17:00 - 18:00	8	424	0.012	8	424	0.024	8	424	0.036
18:00 - 19:00	8	424	0.013	8	424	0.011	8	424	0.024
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.611			0.595			1.206

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:	370 - 472 (units:)
Survey date date range:	01/01/12 - 28/03/19
Number of weekdays (Monday-Friday):	8
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	2

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.