Land at St Bridget Nursery, Newcourt, Exeter

Transport Assessment

On behalf of **Waddeton Park Ltd**

Project Ref: 332310070 | Rev: - | Date: 31 January 2022

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For and on behalf of Stantec UK Limited				

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Contents

Tables

Figures

Appendices

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1 Introduction

1.1 Introduction

1.1.1 Stantec UK Ltd are commissioned by Waddeton Park Ltd to produce a Transport Assessment (TA) in relation to a proposed residential development on land at St Bridget Nursery in Newcourt, Exeter. It comprises the redevelopment of the site for the delivery of up to 350 dwellings and associated access roads, open space, and landscaping.

1.1.2 The transport strategy outlined in this TA has been developed around a balanced and integrated package of measures. These seek to prioritise the use of alternative modes of travel to the private car, and therefore improve the sustainable nature of the development. The assessment will seek to determine whether the surrounding transport network is suitable to accommodate the person trips associated with the proposed development in order to ensure that the site is accessible, aligns well with local and national planning policy, provides safe access for all modes, and that the development's impact on the local and strategic highway network is not 'severe'.

1.1.3 This TA has been produced in line with the Planning Practice Guidance (PPG) on TAs and, as a result, will examine the sustainable modes of walking, cycling, and public transport, and then consider the impact of the residual vehicular traffic.

1.1.4 An Interim Travel Plan (TP) has also been prepared in support of the proposed development and should be read in conjunction with this TA.

1.2 Planning Context

1.2.1 The site forms part of the strategic allocation at Newcourt, which has been allocated as a sustainable urban extension under policy CP19 of the adopted Exeter Core Strategy. The Newcourt Masterplan document was prepared and subsequently adopted by Exeter City Council (ECC) in November 2010 and was produced to act as a framework in which the Newcourt area of Exeter could be developed as a sustainable urban extension to the southeast of the city centre as allocated in the Core Strategy.

1.2.2 The overall aim for the Newcourt area is the development of approximately 3,500 dwellings and 16ha of employment land

1.2.3 The proposed development would be one of the last areas of the allocation to come forward for development.

1.3 Proposed Development

1.3.1 The proposed development will comprise of up to 350 dwellings, alongside an access strategy which takes account of both vehicular and sustainable (walking / cycling / public transport) needs, landscaping, public open space, drainage, and associated enabling infrastructure works. An illustrative masterplan demonstrating how the site could come forward is included in **Appendix A** of this report.

1.4 Aims of the Transport Assessment

1.4.1 The purpose of this TA is to demonstrate that:

- The development proposals generally conform with transport and planning policy / guidance;

- The site is well located in respect of active and sustainable transport opportunities and accessible local facilities and amenities;
- Appropriate access to the development can be achieved for all; and,
- There are no transport reasons why the development should not be approved.

1.5 Scoping Consultation

Transport Assessment Scoping Report

1.5.1 The current guidelines on the preparation of Transport Assessments (TA), as set out in the National Planning Practice Guidance, do not set specific thresholds for the requirement of a Transport Statement or TA. Instead, the Guidance emphasises the importance of engagement and scoping consultations with the relevant authorities to determine the requirements for, and appropriate level of assessment.

1.5.2 Stantec issued a Transport Assessment Scoping Note to Devon County Council's (DCC) highway officers in May 2021, and subsequently met with DCC in a pre-application meeting on 8th June 2021. At this meeting, DCC agreed in principle to the content of the Scoping Note, and the requirement for a TA and a Travel Plan to support an outline planning application for the site was established. The Transport Assessment Scoping Note, which was submitted to DCC in May 2021 and the subsequent email correspondence with DCC is included as **Appendix B**.

1.5.3 Further, the proposed site access strategy was discussed with DCC, and a Stage 1 Road Safety Audit for the two site access junctions has been requested as part of the outline planning application.

1.5.4 In addition, Stantec has liaised with National Highways (NH, formerly Highways England) due to the site's proximity with M5 Junction 30, and the M5 J30 has been included within the study area of this TA. The email correspondence with NH is attached in **Appendix B**.

1.6 Wider Context of the Transport Assessment

1.6.1 This TA has been prepared within the context of COVID-19, which has brought about a sudden change in the way people work and travel. Even before COVID-19, a growing evidence base had demonstrated a significant shift in travel behaviour as a result of disruptive technological and societal changes, in particular, amongst the younger generations for whom a significant part of future housing development demand applies.

1.6.2 COVID-19 inflicted an unparalleled shock to the global economy, and as a result, there have been considerable, sustained impacts on how and why we travel. The Government's '*Opinion and Lifestyle Survey*' (OPN), presented in the initial daily briefings, demonstrated an increase in home working from 12% in 2019 to 35% in February 2021[1]. Furthermore, the '*COVID-19 Community Mobility Report*'[2], published on 6th October 2021, showed that there were 23% and 40% less visits to workplaces during the lockdown period when compared with five-week data from the 3rd January to 6th February 2020 in Devon and Exeter respectively.

1.6.3 The lockdown period forced many people to work from home, some for the first time; some individuals have now experienced a working day without the long daily commute, and with the increased flexibility that comes with working from home. It is evident that the majority of

[1] https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandthesocialimpactsongreatbritain/26february2021#main-indicators

[2] https://www.gstatic.com/covid19/mobility/2021-05-09_GB_Devon_Mobility_Report_en-GB.pdf

people are now returning to their pre-pandemic lives, however, there will be lasting impacts and it's therefore reasonable to expect that some will continue to utilise home-working / flexible working.

1.6.4 As businesses adapt, one of the few positive legacies of COVID-19 could therefore be that a large proportion of the workforce will work from home (WFH) more often, thereby saving money on travel and benefitting the environment. This is also evident from job vacancy adverts across both the private and public sectors which advocate the employer's openness to home and flexible working arrangements. The traditional peak hour commuting is evidently therefore going to look very different moving forward.

1.6.5 The Government additionally released statutory guidance providing advice on road management techniques for responding to COVID-19 related issues. Whilst the short-term focus has been to accelerate pedestrian and cycle schemes, the long-term focus is also on improving public transport provision.

1.6.6 These measures have an additional benefit in that they support the long-term objective of decarbonisation, which was the priority for many local authorities long before the on-set of the pandemic. Devon County Council has acknowledged a climate emergency, and therefore seeks to achieve net-zero carbon by 2050, with an interim target of a 50% reduction below 2010 levels by 2030.

1.6.7 A key factor of the Devon Carbon Plan[3] relates to transport, and sets out three key facets to reduce green-house gas (GHG) emissions; these are:

- Reducing the need to travel;
- Shifting to sustainable transport options (following a hierarchy of active travel, mass / shared transit, and finally taxis, i.e. first / last-mile use); and
- Electrifying the remainder of the shared private vehicle fleet and reducing emissions from larger vehicles and aviation.

1.6.8 As such, sustainable travel modes remain in focus in the post-COVID environment.

1.6.9 Notwithstanding the effects of the pandemic, there is a strong evidence base which demonstrates that there is less reliance on the car amongst younger generations, and that there are higher aspirations to socialise or work whilst travelling. In addition, the high costs of car ownership and a change in spending priorities (i.e., cars no longer being a status symbol), are all factors leading to a consensus that future travel behaviour will involve lower levels of private car use.

1.6.10 Key documents within this evidence base, which will be further examined in **Chapter 4**, include the following:

- '*Understanding the drivers of road travel: current trends in and factors behind road use*' (DfT, Jan 2015);
- '*Provision of Travel Trends Analysis and Forecasting Model Research*' (Atkins, AECOM and Imperial College London (2017);
- '*Research undertaken by Devon County Council and presented to the DfT*' (2018);

[3] https://www.devonclimateemergency.org.uk/interimcarbonplan/?cat_id=2162&subsection=10_1

- '*Young People's Travel – What's Changed and Why? Review and Analysis: Report to DfT*' (UWE, 2018);
- '*A Time of Unprecedented Change in the Transport System, The Future of Mobility*' (Government Office for Science, January 2019); and
- TRICS Guidance Notes
- Other recent planning applications - Plymouth

1.6.11 Over 20 years after the publication of Planning Practice Guidance 13, the Independent Transport Commission published '*On the Move 2*'. This publication presented compelling evidence that the link between the growth in travel per head and the growth in the economy has been broken, and that significant changes in the way in which we are now travelling is taking place.

1.6.12 This is additionally explored in the *'All Change*' document; some of the key findings include:

- The number of trips, and the number of miles travelled per person per year have declined since the late 1990s, whilst average trip distance and time travelling have increased;
- The number of car driver trips made per person per year has reduced in all regions of the country, and this is true for both rural and urban areas;
- Despite a 9% increase in population, total personal car traffic has remained broadly constant between 2002 and 2014; and
- Since 2002 in England, commuting miles per person per year have reduced by 7%, the total miles travelled per person per year has reduced by 7%, and car driver and passenger travel has reduced by 11%.

1.6.13 In addition to these evidenced changed in travel behaviour, there are six 'game changers' that could further change the way we travel in the future. These are:

- Big data – The digital revolution presents vast opportunities to use the wealth of available data to better plan for people's needs;
- Internet of Things – By connecting devices over the internet, supported by the roll out of 5G, these are able to communicate with each other, applications, and with us, allowing the travel industry to track people / vehicle movements and either reduce the need to travel or co-ordinate seamless travel;
- Connected vehicles – A system that allows vehicles to communicate with each other and the world around them, connecting them to the Internet of Things. This supplies information which allows drivers to make informed decisions about their travel;
- The sharing economy – sharing cars / taxis, lifts, driveways, houses, tools etc. could change when and how we travel, and whether we travel by ourselves or with others;
- Mobility as a Service (MaaS) – MaaS will offer consumers access to a range of vehicle types and journey experiences; and
- Driverless vehicles – these are currently being trialled by many manufacturers; the UK has one of the best regulatory schemes for testing automated vehicles in the works, thereby providing a good platform for developments in this industry.

1.6.14 PBA's *'All Change*' document explains that the approach to travel planning needs to take account of the 'game changers' outlined above. Out transport networks need to be resilient, and able to adapt to the changes the future could bring; this means that new developments also need to be designed for the future, and influence travel behaviour with investments developed and prioritised in order to support and encourage sustainable travel in line with DfT's user hierarchy, in which pedestrians, cyclists, and public transport users are considered before other motorised traffic.

1.6.15 Furthermore, advancements in vehicle technologies such as electric vehicles and autonomous vehicles create opportunities to rethink established means of delivering transport in an urban environment, and development in mobile technology creates a new realm of possibility when considering how the built environment is designed and how people use it. Increased internet access allows people to work in more 'agile' ways, where 'work' is not a place you go to, but something you do.

1.6.16 This research, in combination with many other evidence bases, is therefore questioning the validity of traditional *'Predict and Provide'* transport appraisal assumptions in forecasting future travel demands and traffic levels. Despite the end of the '*Predict and Provide*' approach for planning the transport effects of land use development being signalled in 1994's PPG13, often, practice on the ground still resembles a '*Predict and Provide*' approach, in which demand for future traffic growth is forecast and, where possible, provided for.

1.6.17 '*Monitor and Manage*' techniques have been employed in a limited way in order to encourage investment in new highway capacity only where necessary, as determined by intermediary evidence. Whilst this has been a step forward, what is really needed now is to adopt a '*Vision and Validate*' approach to transport planning (as advocated by Professor Peter Jones, UCL), in which we seek to envisage the places we want to create, and to use transport and land use planning skills to plan ways of getting there, taking into account the current 'disruptor' changes now taking place.

1.6.18 Notwithstanding this, the traffic impact assessment undertaken in this TA is based on a traditional '*Predict and Provide*' assessment approach and uses industry standard trip generation and traffic flow growth methodologies in order to provide a robust assessment. However, context on changing trends and wider transport interventions is outlined, as this will in reality result in low car ownership and encourage greater levels of sustainable travel. The forecast levels of traffic assessed within this TA is therefore extremely robust and should be taken into account through the assessment and determination of the application.

1.8 Report Structure

1.8.1 This report is prepared to support the planning application for the development. In this respect, the TA is structured as follows:

- Chapter 2 reviews the existing transport conditions around the site, including the local highway network, existing pedestrian, cycling, and public transport facilities. It also includes a review of highway safety near the site;
- Chapter 3 sets the context of the proposed development in relation to local and national planning and transport policy / guidance;
- Chapter 4 provides emerging evidence on future travel trends;
- Chapter 5 outlines the scope and scale of the proposed development, and details the accompanying transport strategy;
- Chapter 6 forecasts the trip generation potential of the proposed development by all modes of transport, and sets out the assumed trip generation of the extant site uses;
- Chapter 7 assesses the forecast residual cumulative transport impacts of the proposed development on the local and strategic highway network;
- Chapter 8 outlines the package of proposed mitigation measures; and
- Chapter 9 provides a conclusion to the report.

2 Existing Conditions

2.1 Introduction

2.1.1 It is important to understand the current nature of the site and the surrounding area, as well as the current provision for all modes of transport, to better understand how the proposed development will complement and enhance the existing transport provision.

2.1.2 As such, this chapter reviews the baseline conditions in respect of access, location, and provision for non-car modes of transport which could be used to access the proposed development. Each transport mode will be considered, along with its suitability as an alternative to the private car.

2.2 Site Context

2.2.1 The site is located within the Newcourt area of Exeter, approximately 4 kilometres to the southeast of the city centre. The site is bounded by third party land within the Newcourt allocation to the north, the A379 Rydon Lane to the west, Old Rydon Lane to the south, and residential areas to the east.

2.2.2 The site is a broadly triangular parcel of land occupied by a range of horticultural and garden centre related buildings, areas of hard standing, car parking, poly-tunnels and growing space. The site is in operational use with storage buildings, growing areas, offices and maintenance buildings currently in use in the eastern portion of the site. The site currently has two accesses and one exit onto Old Rydon Lane; the first access is a 'Goods In' access, and the second is the primary site access for visitors and staff. Each access is arranged as a simple priority T-junction, without pedestrian or cycle facilities. The exit is located at the south-easternmost point of the site and is similarly arranged as a vehicle only simple priority T-junction.

2.3 Existing and Committed Pedestrian / Cycle Facilities

2.3.1 **Figure 2-1** sets out the pedestrian and cycle facilities in the site vicinity and in the wider area.

2.3.2 On the site's southern frontage onto Old Rydon Lane, there are currently no footways or cyclist facilities provided, however, at the easternmost extent of Old Rydon Lane, in the vicinity of the junction with Newcourt Drive, a shared footway / cycleway is provided on the southern side of the carriageway.

2.3.3 This facility, which is lit and of a good width and quality, has a brief extent of guard railing before extending east towards Newcourt Way, where it ties directly into an uncontrolled pedestrian crossing facility. The crossing is provided in the form of dropped-kerbs with buff-coloured blister paving, a coloured surface, and kerbed pedestrian refuse island.

2.3.4 To the north-west of this crossing, a shared footway / cycleway extends on both sides of the carriageway north on Newcourt Way, facilitating access to bus stops, areas of public open space, and the IKEA store at its northernmost extent, before connecting to a pedestrian / cycle flyover footbridge which provides access to Russel Way and the Rydon Lane Business Park. To the direct east of the crossing, the shared footway / cycleway extends roughly parallel to Old Rydon Lane before tying into the facilities on Liberty Way via a similar uncontrolled crossing arrangement.

2.3.5 Whilst facilities are not provided directly on Newcourt Way to the south-east of the Old Rydon Lane / Newcourt Way junction, a shared footway / cycleway extends broadly parallel to the carriageway and connects with Jutland Way, and eventually River Plate Road, Liberty Way, and Omaha Drive. Further continuous footways are provided on Admiral Way, which in turn facilitate access to an outdoor play area, the Newcourt Community Centre, Trinity C of E VA Primary and Nursery School, and Newcourt Railway Station.

2.3.6 At the westernmost extent of Old Rydon Lane, at the junction with the A379 Rydon Lane, shared footway / cycleway facilities are provided. Approximately 40 metres to the south of the junction, this facility is provided as a segregated footway / cycleway which extends south for a short extent before continuing as a pedestrian footway towards the Countess Wear roundabout and tying into the network provided on the A3015 Topsham Road, from which facilities such as restaurants and schools can be accessed, and eventually Exeter City Centre.

2.3.7 To the north of the A379 Rydon Lane / Old Rydon Lane junction, a shared footway / cycleway extends broadly parallel to the carriageway, off-set by a wide extent of verge; this continues for approximately 550 metres before connecting to a pedestrian / cycle bridge which facilitates direct access to Russel Way and the Rydon Lane Business Park, and eventually the wide range of facilities to the north including the Sowton Industrial Estate.

Committed Pedestrian / Cycle Facilities

2.3.8 The Newcourt Masterplan, of which the proposed development is a composite part of, seeks as part of ECC's aims to secure the delivery of sustainable transport infrastructure as separate development parcels come forward in the area. This will ensure that the area is developed in a "*comprehensive and co-ordinated way to deliver a high-quality and sustainable form of development.*"

2.3.9 With regards to pedestrian and cycle facilities, the Masterplan (included as **Figure 2-2**) sets out a series of improvements which are envisaged to come forward within the area, many of which have been consented and delivered in the period following its adoption in 2010.

2.3.10 The Masterplan notes that "*Cycle links throughout the scheme will follow alignments of proposed primary and secondary routes and existing roads*". The Masterplan designates Newcourt Way and Admiral Way as primary routes with cycle facilities.

2.3.11 The Masterplan establishes that Old Rydon Lane will comprise a secondary route, which will extend between the A379 Rydon Lane and Clyst Road to the east of the M5 carriageway, specifically noting that the route will be managed to provide an "*attractive route for cyclists*"; this is bisected by (and will subsequently provide access to) the key primary route linking the A379 Rydon Lane with Topsham Road to the south.

2.3.12 The Holland Park Phase 3 application (referred to as Parcel 'b' in Figure 2.2) in the vicinity of the site has been consented, and will provide a 3-metre wide footway / cycleway that will connect Old Rydon Lane to Admiral Way. This route has been designated as a cycle route within the adopted Newcourt Masterplan.

2.3.13 Furthermore, the Masterplan outlines that a cycle route will be provided between the existing facilities on the A379 Rydon Lane and Old Rydon Lane, and will connect to the Holland Park Phase 3, Old Rydon Lane - Admiral Way route. This is currently a missing link within the Newcourt masterplan and the proposed site could deliver this link, thereby benefiting the wider area and the future residents of the site.

2.3.14 This establishes that there is an excellent pedestrian / cycle network within the vicinity of the site that the proposed development will both benefit from (in terms of accessibility for prospective residents) and contribute to (through the delivery of an access strategy which aligns with ECC's Masterplan vision).

National / Local Cycle Routes

2.3.15 Approximately 1.5 kilometres to the south of the site, National Cycle Routes 2 and 34 can be accessed from Bridge Road.

2.3.16 National Cycle Route 2 (NCR2) is a long-distance route which, when complete, will link Dover with St Austell over an extent approximately 581 kilometres long. In the immediate vicinity of the site, NCR2 routes south as a broadly traffic-free route to Topsham, Exmouth, and Dawlish, representing an excellent opportunity for leisure / recreational trips.

2.3.17 National Cycle Route 34 (NCR34) comprises a short route which connects Exeter St Davids train station to NCR2, and broadly follows the alignment of the River Exe and Exeter Canal towpath as a traffic-free route. This could feasibly be used for commuting purposes, or recreational / leisure trips.

2.3.18 In addition to routes on the National Cycle Network, DCC has indicated on the '*Travel Devon Cycle Routes*' map that there are several traffic-free cycle routes or advisory cycle routes within the immediate vicinity of the site. DCC's '*Travel Devon Cycle Routes'* map is presented in **Appendix C.** Many of these routes have been outlined above where they comprise part of the shared pedestrian / cycle network, and have been shown in the site surroundings on **Figure 2-1**. It should be noted that DCC have indicated that Old Rydon Lane is an "*Advisory cycle route*" on the site's southern frontage; this ties in with traffic-free cycle routes in the area to provide a clear cycle route towards Newcourt Railway Station.

2.3.19 In addition, the map indicates that the majority of the route into Exeter City Centre is a *"Traffic-free cycle route*", and that to the north of the site, there is an extensive provision of traffic-free cycle routes and advisory routes which will facilitate cycle access to a wide range of facilities and amenities within the area.

2.3.20 Furthermore, the E9 Strategic Cycle Route, which will connect Newcourt to Exeter city centre (referred to as Routes E6 and E5 within DCC's Multi-Use Trail Network Strategy, published March 2015) was recently implemented using pop-up cycle lanes and temporary point closures in June 2020, as part of the DCC Emergency Active Travel Fund in response to the COVID-19 pandemic.

2.3.21 The 5-kilometre route connects the Newton Pynes Hill area to the city centre via the Royal Devon & Exeter Hospital. It is understood that the entire length of the route is not yet completed / made permanent, but that this work is ongoing.

Local Cycle Shops and Cycle Hire

2.3.22 The closest cycle repair shop to the site is Halfords, which is located in Rydon Lane retail park, approximately 1.7 kilometres from the centre of the site to north, via existing pedestrian / cycle routes, and there are several further cycle shops available at the Sowton Industrial Estate and further into the city centre.

2.3.23 There are additionally several Co-Bike cycle hire locations throughout the city, with the closest located at the IKEA store, approximately 1.1 kilometres to the northeast of the centre of the proposed development via existing pedestrian routes, and at Digby Park and Ride, which is approximately 1.9 kilometres to the north. Co-Bikes offers on-demand, short-term electric cycle hire; bikes can be hired and returned to any location, and hired per hour, enabling a micromobility-focused approach to travel in the city.

2.4 Public Transport Accessibility

Bus

2.4.1 The WYG report entitled '*How far do people walk*' (July 2015) was prepared as guidance on walking distances was limited and outdated. Prior to this report, recommended walking distances were based on the CIHT report entitled '*Guidelines for Providing for Journeys on Foot*' (2000), as the Government's Planning Policy Guidance 13; Transport (PPG13, withdrawn in 2021) and the National Planning Policy Framework (NPPF) which replaced it, did not provide any specific guidance on walking distances. The WYG report therefore sought to use more recent data (based on data from the National Travel Survey) to suggest recommended walking distances, as the CIHT report's conclusions no longer represented the current situation.

2.4.2 Within the WYG report, it is recommended that "*When assessing the accessibility of a new development on foot… the 85th percentile distance should be used to estimate the distance up to which people are prepared to walk*". In terms of walking distance to a bus stop, the WYG report shows that for the South West region, the average and 85th percentile walk distances are 640 metres and 1,290 metres respectively.

2.4.3 Paragraph 4.8 of the report states that "*The contribution that the access distance to public transport has on the uptake of the mode is not clear and further research is needed. What is clear from our assessment is that the average walking distance to a bus stop is well above 400m and the average walking distance to a railway station, outside London, is well above 800m. Therefore, average walking distances to bus stops and railway stations based on revealed behaviour recorded in the NTS should be used for planning purposes in preference to the 400m and 800m distances recommended in IHT (1999)."* The report recommends that "*When considering the potential walking catchment of a new development, to bus stop or railway station, the 85th percentile distance should be used*."

2.4.4 The nearest bus stops to the site are located Newcourt Way and accommodate both northbound and southbound movements; these are located approximately 550 and 650 metres to the northeast from the existing site access onto Old Rydon Lane, respectively. Each stop is denoted by a simple flag and pole arrangement, a raised kerb, and on-carriageway cage markings.

2.4.5 These stops are served by the I and J services, operated by Stagecoach South West. These services route throughout the city and further out to Exminster and Whipton. **Table 2-1** below provides a summary of these services in terms of the destinations served and the service frequency available from these stops, and **Figure 2-3** summarises all of the services available from the site.

Table 2-1: Summary of local bus services

Bus Service	Bus Stop	Route	Service Frequency		
			Weekday	Saturday	Sunday
I	Countess Wear, Newcourt Way (NW-bound)	Digby – Whipton – Exeter City Centre – Countess Wear – Newcourt – IKEA (Circular Route)	Every 20 minutes then once per hour in the evenings (0712 / 2329)	Every 20 minutes then once per hour in the evenings (0726 / 2329)	Hourly services (0833 / 2231)
J	Countess Wear, Newcourt Way (SE-bound)	Digby – Exeter City Centre – Whipton (Circular Route)	Every 20 minutes then once per hour in the evenings (0703 / 2245)	Every 20 minutes then once per hour in the evenings (0715 / 2245)	Hourly services (0842 / 2242)
H1	Digby Tesco Filling Station	Digby – RD&E Hospital – Exeter St Davids	Hourly between 1057 and 1557 and then every 40 minutes (0607/ 2225)	Hourly services (0753 / 2225)	Hourly services (0815 / 2225)
H2	Digby Tesco Filling Station	Digby – RD&E Hospital – Exeter St Davids	Hourly between 09:26 to 16:29 and then every 40 minutes (0632 / 2252)	Hourly services (0819 / 2252)	Hourly services (0745/2152)

2.4.6 The bus stop at Tesco Filling Station is approximately 550 metres from the northern boundary of the site and provides access to additional bus services (H1 and H2) which provide connections to Exeter St Davids via the RD&E hospital.

2.4.7 Furthermore, the Digby Park & Ride facility, located approximately 1.9 kilometres to the northeast of the site centre, provides hospital staff car park and bus services to the Wonford RD&E hospital. Sowton Park & Ride facility, located approximately 2.2 kilometres to the northeast of the site centre, provides bus services to Exeter city centre, the Wonford RD&E hospital, Marsh Barton, and destinations further afield such as Honiton, Lyme Regis, Bristol city centre, and Plymouth city centre.

2.4.8 Each Park & Ride facility has 10 cycle lockers operated by Bikeway, although the lockers at the Digby facility are reserved for RD&E staff only. As the Sowton Park & Ride facility is an approximately 8-minute cycle from the northern edge of the site, it can be feasibly used for linked cycle / bus multi-modal journeys.

2.4.9 Exeter city centre can be reached in a journey time of 25 minutes, and Sowton Industrial Estate can be reached in 8 minutes via River Plate Road. As such, these services could be reasonably used by future site occupants for various journey purposes, including onward travel, retail and leisure use, and commuting.

Rail

2.4.10 Newcourt Railway Station is located approximately 1.3 kilometres east of the site; the station is served by trains to and from Exmouth and Paignton via Exeter, Newton Abbot, Torquay, and other local stations. Further details of these services are summarised in **Table 2-2** below.

Table 2-2: Summary of local rail services

To / From	Service Frequency		Approximate Journey Time
	Weekday & Saturday	Sunday Frequency	
Exmouth	Every 30 minutes	Hourly	16 minutes
Paignton			1 hour 15 minutes
Topsham			4 minutes
Exeter Central			11 minutes
Exeter St Davids			15 minutes
Newton Abbot			50 minutes
Torquay			1 hour 5 minutes

2.4.11 The station provides direct and frequent connections to the city centre and to destinations in the surrounding area such as Topsham and Exmouth; this therefore provides access to a wide range of amenities / facilities and employment opportunities. The station can be reached in 14 minutes by walking via Old Rydon Lane.

2.4.12 In addition to Newcourt Station, Digby & Sowton Station is located to the east of the Digby Park and Ride facility, and also provides connections to Exeter city centre, Topsham, and Exmouth, offering a sustainable alternative to travel by private car. The station, which can be reached within a 7 minute cycle or approximately 25 minute walk via either of the footbridges over the A379 from the site centre via existing cycle infrastructure, has a Co-Bike cycle hire location, and 6 cycle lockers.

2.4.13 Exeter Central and Exeter St Davids also provide connections to regional destinations such as Barnstaple and Tiverton, and national destinations such as Plymouth and London (London Waterloo).

2.5 Accessibility to Local Facilities

2.5.1 Walking offers the greatest potential to replace short car journeys, particularly trips under 2 kilometres in length; similarly, cycling has the potential to substitute car trips under 8 kilometres in length.

2.5.2 There are a number of local facilities in the immediate area of the site that future residents can access and benefit from within the recommended distances, notwithstanding the wide range of facilities and amenities available in Exeter city centre.

2.5.3 A summary of the facilities in the immediate vicinity of the site, and the actual walk / cycle distance and journey time from the existing site access along existing pedestrian / cycle routes, is provided in **Table 2-3** below. These have been calculated with reference to the actual experienced distance from the site access to each facility / amenity, and standard walking / cycling speeds (1.5 m/s and 4.4 m/s respectively). The location of facilities and amenities is additionally provided in **Figure 2-4**.

Table 2-3: Summary of local facilities

Type of Amenity	Name	Approx. Distance from Centre of Site (km)	Approx. Walk / Cycle Time from Centre of Site (mins)
Supermarket / Convenience Store	Spar	1.0 kilometres	12 mins / 4 mins
	One Stop	1.5 kilometres	18 mins / 5 ½ mins
	Aldi	2.4 kilometres	28 ½ mins / 9 mins
	Tesco Extra Superstore	1.6 kilometres	19 mins / 6 mins
Food and Drink	Wear Park	1.5 kilometres	18 mins / 5 ½ mins
	Countess Wear Beefeater	950 metres	11 mins / 3 ½ mins
	Blue Ball Inn	1.6 kilometres	19 mins / 6 mins
	The Tally Ho!	1.7 kilometres	20 mins / 6 ½ mins
	Toby Carvery Exeter	2.2 kilometres	26 mins / 8 ½ mins
	The Dolphin	2.4 kilometres	28 ½ mins / 9 mins
Nursery / Pre-School / Primary School	Trinity CofE VA Primary & Nursery School	1.5 kilometres	18 mins / 5 ½ mins
	Countess Wear Community School	1.7 kilometres	20 mins / 6 ½ mins
	Clyst Heath Nursery & Community Primary School	1.9 kilometres	22 ½ mins / 7 mins
Secondary School	St Peter's Church of England Aided School	2.3 kilometres	27 ½ mins / 9 mins
	Stansfield Academy	2.4 kilometres	28 ½ mins / 9 mins
	Isca Academy	2.6 kilometres	31 mins / 10 mins
Employment*	Sowton Industrial Estate	3.1 kilometres	37 mins / 12 mins
	Pynes Hill Business Centre	1.4 kilometres	16 ½ mins / 5 mins
	Topsham	3.6 kilometres	43 mins / 13 ½ mins
	Exeter City Centre	5.0 kilometres	59 ½ mins / 19 mins
	Marsh Barton	4.2 kilometres	50 mins / 16 mins
Medical / Dental Facilities	Dental 397	950 metres	11 mins / 3 ½ mins
	Dee Shapland Dental	1.1 kilometres	13 mins / 4 mins
	Glasshouse Medical Centre	1.6 kilometres	19 mins / 6 mins
	Wonford Green Surgery	2.5 kilometres	30 mins / 9 ½ mins
	Kestral Dental Studios	3.0 kilometres	36 mins / 11 mins

Type of Amenity	Name	Approx. Distance from Centre of Site (km)	Approx. Walk / Cycle Time from Centre of Site (mins)
	Hill Barton Surgery	3.1 kilometres	37 mins / 12 mins
Community Facilities	Newcourt Community Centre	800 metres	9 ½ mins / 3 mins
	Lower Wear Post Office	1.5 kilometres	18 mins / 5 ½ mins
	100 Club Youth Centre	2.0 kilometres	24 mins / 7 ½ mins
Retail	IKEA Store	1.1 kilometres	13 mins / 4 mins
Leisure and Recreation	Hook Drive Play Area	600 metres	7 mins / 2 mins
	Exeter Golf and Country Club	1.4 kilometres	16 ½ mins / 5 mins
	Lakeside Avenue Multi-Use Games Area	1.6 kilometres	19 mins / 6 mins
	David Lloyd Exeter	1.9 kilometres	22 ½ mins / 7 mins
	Sandy Park	2.0 kilometres	24 mins / 7 ½ mins

* in addition to employment opportunities afforded by the other amenities listed.

2.5.4 The above demonstrates that the proposed development is within walking and cycling distance of many day-to-day facilities, such as grocery stores, schools, and employment and retail / leisure opportunities, notwithstanding the wide range of facilities accessible within the city centre within cycling distance from the site or accessible by bus or rail.

2.6 Accessibility by Walking and Cycling

2.6.1 In considering the proximity of key facilities and amenities with regards to walking distances, the transport statistics are set out within the DfT's '*National Travel Survey: 2019 (NTS) Report*'[4]. The most recent NTS 2020 data was published in September 2021; however, this is not quoted here as it includes periods of lockdown during the pandemic, during which travel was restricted and hence data is not representative of normal travel patterns. The NTS 2019 report, indicates that 24% of all journeys are under one mile, that 80% of journeys under one mile are made on foot, and that the average walking trip length is 17 minutes.

2.6.2 Whilst the NPPF now supersedes the previous Planning Policy Guidance (PPG), the underlying principles of PPG13 '*Transport'* (March 2001) remain relevant as they are based on recorded travel behaviour and generally accepted accessibility indicators.

2.6.3 PPG13 indicates that:

"Walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under 2 kilometres."

2.6.4 In addition, the guidance on this issue is provided by Manual for Streets (MfS) 2007 which, in Paragraph 4.4.1, states that:

[4] 2019 National Travel Survey (publishing.service.gov.uk)

"Walkable neighbourhoods are typically 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. However, this is not an upper limit and walking offers the greatest potential to replace short car trips, particularly those under 2km."

2.6.5 With regards to cycling, the NTS (updated August 2019) identifies that the average journey time by bicycle is 23 minutes, which is equivalent to 4 miles (6.4 kilometres). Furthermore, Table NTS0308a[5] identifies that 85% of all cycle trips are over 1 mile (1.6 kilometres) and 54% of trips are over 2 miles (3.2 kilometres). A total of 82% of all cycle journeys are made over distances less than 5 miles (8 kilometres).

2.6.6 These statistics indicate that trips to the majority of the facilities and services in the site surroundings are within either a 2-kilometre walking distance or 5 kilometre cycling distance from the site, and could therefore reasonably be expected to be undertaken on foot or by cycle by the majority of people, except where car use is an obvious prerequisite or indeed the reason for the trip.

2.6.7 As a further, emerging mode, e-bikes have shown considerable growth globally and in the UK. E-bikes offer a longer range and increased distance travelled by bike, whilst also encouraging new users and less mobile people to cycle. In 18 European studies (including grey literature) (Cairns et al., 2017) it was found that depending on the study, the average weekly mileage by e-bike ranged from 15 kilometres to >70 kilometres, and the average commute trip length ranged from 9.8 to 17 kilometres. UK e-bike retailer Halfords also recorded that "*Electric bike sales are on the rise (around 50,000 – 60,000 are sold each year in the UK compared to overall UK bile sales of 3 million.)* Therefore, increased uptake of e-bikes will provide an alternative sustainable travel option to desired destinations such as Exeter city centre or Marsh Barton.

2.7 Local Highway Network

2.7.1 The existing A379 Rydon Lane, which runs to the north and west of the site, provides a key link between the M5 to the east and Topsham Road to the southwest, with the latter providing a direct connection to Exeter city centre. Along the site's north and west frontages, the A379 Rydon Lane carriageway provides two lanes in both directions, with a right turn lane provided at the junction with Old Rydon Lane. The A379 is subject to a 40mph speed limit.

2.7.2 Old Rydon Lane is a two-way carriageway which extends between the junction with the A379 Rydon Lane and Newcourt Drive, at a width of approximately 5 metres. To the east of the site, Old Rydon Lane meets Newcourt Way as the minor arm of a staggered right-left priority junction, with only eastbound (egressing) movements allowed from Old Rydon Lane.

2.7.3 As part of proposals for a hotel at Sandy Park, submitted under planning ref. 17/0665/OUT, a Traffic Regulation Order (TRO) has recently been applied to Old Rydon Lane to the east of the site; this restricts vehicular traffic to one-way in an eastbound direction between Oaklea and Sandy Park Lodge (to the immediate west of the M5 overbridge). In addition, a contraflow cycle lane has been provided on the south side of the road.

2.7.4 Traffic is therefore not permitted to travel in a westbound direction on Old Rydon Lane from Clyst Road and past Sandy Park Lodge.

5 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/905950/nts0308.ods

2.8 Strategic Road Network

2.8.1 The Strategic Road Network is accessible via Junction 30 of the M5, which is a fully signalised junction located approximately 2.6 kilometres to the northeast of the site. The M5 is a key arterial route for the southwest; as it routes between Exeter and West Bromwich (Birmingham) through regional destinations such as Taunton and Bristol, it additionally provides access to further destinations such as Gloucester, Worcester, and eventually Birmingham.

2.9 Highway Safety Review

2.9.1 Personal Injury Collision (PIC) data has been obtained from DCC for an agreed study area, comprising of the highway network set out below, and for the most recently available 5-year period, which covers 1st January 2016 and 31st December 2020:

- A379 Rydon Lane;
- Old Rydon Lane; and
- Newcourt Way

2.9.2 The scatter plot (and original accident records) provided in **Appendix D** identifies that a total of 16 incidents occurred within the study period; of these incidents, four were classified as ‘serious’, and the remaining 12 were classified as ‘slight’. No fatal incidents occurred within the study area over the five-year period. Of the 16 incidents, 9 occurred at the Newcourt Way / A379 / Russell Way junction, 3 occurred at the Old Rydon Lane / A379 Rydon Lane junction, and the remaining 4 occurred at other locations within the study area.

Junction Safety Assessment

2.9.3 The number of collision / incidents that could be anticipated at a junction has been calculated using Department for Transport’s (DfT) COBALT V2.1 User Manual (July 2021).

2.9.4 The methodology includes classifying junctions based on speed limit and road characteristics and using traffic flow information to predict the number of incidents that could be expected for the corresponding junction type.

2.9.5 The details of this assessment are provided in **Appendix E**. The assessment has shown that the Newcourt Way / A379 / Russell Way junction is predicted to experience 24 incidents over a period of 5 years (2016-2021), and therefore the observed number of incidents (9 in total) is considered well below the predicted number of collisions.

2.9.6 For the A379 Rydon Lane / Old Rydon Lane junction, the observed number of collisions for the period 2016-2020 was three in total, whilst the DfT methodology assessment showed that the anticipated number of collisions is two. It should be noted that the flows used to assess this junction were from 2017 (closest available data to 2016) while the recorded incidents are from 2016 – 2021. Considering the above, it is concluded that the recorded number of incidents are generally in accordance with anticipated number at the junctions.

2.9.7 A full review of the 16 observed incidents has been undertaken, and this is set out in the following sections.

A379 Rydon Lane / Old Rydon Lane Junction

2.9.8 Three incidents occurred at the junction of the A379 Rydon Lane and Old Rydon Lane within the study period. Of these incidents, two were classified as ‘serious’, and one was classified as ‘slight’.

2.9.9 The first ‘serious’ incident occurred when a motorcyclist overtaking stationary traffic entered the path of car turning right onto Old Rydon Lane from the A379.

2.9.10 The second ‘serious’ incident occurred when a car turned right across the two-lane carriageway into the path of a motorcyclist, and thereby causing a collision.

2.9.11 The ‘slight’ incident occurred when a vehicle struck the kerb on the central reservation, causing a loss in steering control which subsequently resulted in the vehicle swerving into the central reservation, mounting the kerb, and striking a road sign.

2.9.12 Analysis of the incident data at this junction does not indicate any obvious trends in terms of accident types and the number of which are as anticipated for this junction. Based on our review and interpretation of the data provided, it is concluded that the incidents occurred as a result of driver / rider error, and no pedestrians or cyclists have been involved. It is therefore considered unlikely that there are any inherent highway design issues or safety concerns at this junction that would preclude or be exacerbated by the development proposals.

A379 Rydon Lane / Newcourt Way / Russell Way Junction

A379 Rydon Lane / Newcourt Way Junction

2.9.13 Five incidents occurred at the junction of the A379 Rydon Lane and Newcourt Way within the study period. Of these incidents, one was classified as ‘serious’, and the remaining four were classified as ‘slight’. A further four incidents occurred at the junction of the A379 Rydon Lane and Russell Way, all of which were classified as ‘slight’.

2.9.14 The ‘serious’ incident occurred when a motorcycle driving towards Countess Weir drove through the lights in the third lane, into the path of a car who had turned right on the green light. The motorcycle struck the rear off-side quarter of the car, causing them to be thrown from the vehicle and onto the carriageway.

2.9.15 The first ‘slight’ incident occurred when a car travelling south on the A379 Rydon Lane drove through a red light into the path of a second car, which had turned right out of Newcourt Way on a green light.

2.9.16 The second ‘slight’ incident similarly occurred when a motorcycle travelling south on the A379 Rydon Lane drove through a red light and into the path of a car turning right out of Newcourt Way on a green light.

2.9.17 The third ‘slight’ incident occurred when a vehicle pulled out of Newcourt Way and was struck by a second vehicle travelling south on the A379.

2.9.18 The final ‘slight’ incident occurred when a vehicle turned right onto Newcourt Way, through a red light, and into the path of a second vehicle travelling south on the A379 Rydon Lane.

2.9.19 Analysis of the incident data at the junction indicates that the incidents occurred as a result of driver / error, and no pedestrians or cyclists have been involved.

A379 Rydon Lane / Russell Way Junction

2.9.20 The first ‘slight’ incident occurred when a vehicle travelling southbound on the A379 drove through a red light and into the side of a second vehicle travelling eastbound.

2.9.21 The second ‘slight’ incident occurred when a vehicle turned right onto Russell Way and into the path of a second vehicle travelling eastbound on the A379 Rydon Lane, having misjudged the speed / stopping time of the oncoming vehicle.

2.9.22 The third ‘slight’ incident occurred when a car travelling eastbound on the A379 Rydon Lane failed to slow in time on the approach to the red light, and subsequently collided with the rear of a motorcyclist waiting at the junction.

2.9.23 The ‘fourth’ and final slight incident occurred when a car travelling eastbound collided with the rear of a second vehicle, who had stopped at the temporary traffic lights at the junction.

2.9.24 Analysis of the incident data at the junction indicates that the observed incidents occurred as a result of rider / driver error, and no pedestrians or cyclists have been involved.

2.9.25 The overall number of collisions recorded are less than the anticipated number of collisions based on the traffic flows and junction type, using the COBALT user manual.

2.9.26 Whilst there have been instances where drivers have run through a red light, the location of these incidents have been varied, i.e. different approach arms of a stagger junction. As such, it is concluded that this does not result in a pattern of incidents at the same location. Furthermore, the number of observed incidents is considered typical for the traffic volume and type of junction.

2.9.27 It is therefore considered unlikely that there are any inherent highway design issues or safety concerns at this junction that would preclude or be exacerbated by the development proposals.

Other Incidents

2.9.28 Of the remaining four incidents observed in the study area, two occurred on the slip roads of the A379 Rydon Lane, one incident occurred on the A379 Rydon Lane, and one incident occurred on Old Rydon Lane, on the approach to the junction with the A379 Rydon Lane.

2.9.29 The first incident which occurred on the A379 slip road was classified as ‘serious’ and occurred when on navigating the left-hand bend in the carriageway, a motorcyclist lost control of the vehicle and was subsequently thrown from the vehicle.

2.9.30 The second incident which occurred on the A379 slip road was classified as ‘slight’ and occurred when a motorcyclist negotiating the right-hand bend swerved to avoid a car.

2.9.31 One incident occurred on the A379 Rydon Lane northbound and was classified as ‘slight’. This occurred when two merging vehicles collided.

2.9.32 The final incident observed in the study period occurred on Old Rydon Lane, where there is a bend in the carriageway on the approach to the junction with the A379 Rydon Lane. This occurred when a motorcycle crossed into the path of an oncoming vehicle at the bend.

2.9.33 Analysis of the incident data at these locations has indicated that the observed incidents occurred as a result of rider / driver error, and no pedestrians or cyclists have been involved.

Conclusions

2.9.34 The analysis indicates that there were no obvious clusters of incidents or any obvious trends in terms of accident type outside of the two junctions detailed above. A comparison of the observed number of collisions and the predicted number of collisions has shown that the A379 Rydon Lane / Newcourt Way / Russell Way stagger junction has experienced a lower number of observed collisions than that which would otherwise be predicted.

2.9.35 At the A379 Rydon Lane / Old Rydon Lane junction, the analysis has demonstrated that the recorded number of incidents is generally in accordance with the anticipated number at the junction.

2.9.36 The analysis does not show a pattern of incidents or common issues which would result in an incident, and it is also considered that the additional traffic flows on the network as a result of the proposed development would be unlikely to have any significant effect on the collision rates. It is therefore unlikely that there would be any local safety concerns or inherent highway design issues that would preclude or be exacerbated by the development proposals.

2.10 Baseline Traffic Data

2.10.1 In order to ascertain the existing traffic conditions in the vicinity of the site, a mixed methodological approach has been undertaken, in accordance with scoping discussions with the Highway Authority.

2.10.2 The majority of the flows used within the spreadsheet model prepared in support of the TA have been derived from 2027 forecasts from the Newcourt Strategic Model or Transport Statements which have been submitted in support of developments coming forward within the Masterplan area, and these are set out in **Chapter 7** of this TA.

2.10.3 Notwithstanding this, Stantec commissioned an independent survey company to undertake surveys in the following locations in March 2021, in order to obtain traffic flows for the site vicinity:

- Old Rydon Lane (7-day Automatic Traffic Counter surveys (ATC));
- Old Rydon Lane / A379 Rydon Lane junction (3-hour morning and evening Manual Classified Counts (MCC) surveys); and
- A379 Rydon Lane slip-roads (7-day ATC surveys).

2.10.4 In accordance with discussions with the highways officer at DCC, it is considered appropriate to compare these survey flows with flows recorded at a DCC live-counter site in 2019; this will allow factors to be applied to the surveyed traffic flows to account for the potential impact of COVID-19 on the typically expected traffic conditions.

2.10.5 To achieve this, ATC data was purchased from DCC for a location on A379 Rydon Lane, approximately 200 metres to the south of the Old Rydon Lane / A379 Rydon Lane junction. As a live ATC, data was available for any period required, and subsequently data was purchased for March 2021 (in line with the independently commissioned traffic surveys), and for week commencing 2nd March 2020, which was prior to the implementation of Government restrictions associated with COVID-19.

2.10.6 The average weekday two-way flows for the AM and PM peaks were subsequently extracted, and equated to:

- 2,190 two-way flows in the March 2020 AM peak;
- 1,920 two-way flows in the March 2021 AM peak;
- 2,784 two-way flows in the March 2020 PM peak;
- 2,218 two-way flows in the March 2021 PM peak.

2.10.7 From this, growth factors were then calculated in order to establish the difference in traffic flows on the local road network between March 2020 and March 2021, and provide a means with which the observed 2021 survey flows can be adjusted to represent pre-pandemic conditions.

2.10.8 The resulting growth factors are:

- 1.1408 – AM peak growth factor;
- 1.2552 – PM peak growth factor

2.10.9 These factors have been applied to the observed 2021 survey flows to forecast a more robust 2021 baseline.

2.11 Conclusions

2.11.1 This chapter has reviewed the existing conditions in the vicinity of the site, and the following conclusions are made:

- There is a good quality network of footways and cycleways within the area that will provide direct links from the site to a number of facilities and amenities within the Newcourt area and further into Exeter or Topsham;
- There are existing bus stops located to the east of the site, from which regular and frequent bus services which route through the city and out towards destinations such as Exminster can be accessed;
- The proposed development is well positioned to access facilities and amenities by active transport means; the majority of key services are available within the 2 kilometre recommended walking distance, and there are a wide range of amenities available within the 8 kilometre recommended cycling distance, including within the city centre itself.
- This range of facilities and amenities will additionally encourage local journeys to be made by non-car modes; there is evidence to suggest that walkable neighbourhoods encourage active travel and thereby promote physical activity. Increased walkability in neighbourhoods is associated with improved mental wellbeing and a reduced risk of medical conditions such as type 2 diabetes and cardiovascular diseases.
- Analysis of PIC data obtained from DCC has demonstrated that there does not appear to be any local safety concerns or inherent design issues associated with the highway network within the study area that could be exacerbated by the proposed development. Indeed, highway safety could be improved through the proposed access strategy works.
- Baseline (2021) traffic data for three locations has been acquired through ATC and MCC surveys conducted by an independent traffic survey company commissioned by Stantec; these flows have been adjusted to pre-pandemic flows and will be input into the traffic assessment spreadsheet model.

3 Review of Transport and Planning Policy and Guidance

3.1 Introduction

3.1.1 Stantec appreciates that the transportation elements of the planning application submission need to be undertaken in a consistent manner to take account of the other development proposals, policy background, and the strategy for development within Exeter and Devon. It is therefore important that the development generally accords with all appropriate national and local transport policy. Policy and guidance documents relevant to this site are therefore outlined and reviewed in this chapter.

3.2 National Planning Policy and Guidance

National Planning Policy Framework (2021)

3.2.1 The revised National Planning Policy Framework (NPPF) came into force in July 2021 and replaced the 2019 edition of the NPPF. The presumption in favour of sustainable development remains the core objective of the NPPF (paragraph 10 states that *"so that sustainable development is pursued in a positive way, at the heart of the Framework is a presumption in favour of sustainable development."*)

3.2.2 To promote sustainable transport, paragraph 110 states that "*in assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:*

- *Appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*
- *Safe and suitable access to the site can be achieved for all users;*
- *The design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the national design guide and the national model design code; and*
- *Any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."*

3.2.3 Additionally, paragraph 113 of the NPPF states "*all development that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.*"

3.2.4 In Section 9 *'Promoting sustainable transport'*, paragraph 104 states that *"Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:*

a. *The potential impacts of development on transport networks can be addressed;*

b. *Opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*

c. *Opportunities to promote walking, cycling, and public transport use are identified and pursued;*

d. *The environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*

e. *Patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places."*

3.2.5 Paragraph 111 of the NPPF states *"development should only be prevented or refused on highway grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."*

Planning Practice Guidance (2014)

3.2.6 The National Planning Practice Guidance (NPPG) provides the overarching framework within which the transport implications of development should be considered. It provides advice on the preparation of Transport Assessment, Transport Statements and Travel Plans. The key advice is as follows:

"Travel Plans, Transport Assessments and Statements are all ways of assessing and mitigating the negative transport impacts of development in order to promote sustainable development. They are required for all developments which generate significant amounts of movements"

3.2.7 The key principles within which Transport Assessments should be undertaken are detailed as follows:

"Travel Plans, Transport Assessments and Statements should be:

- *Proportionate to the size and scope of the proposed development to which they relate and build on existing information wherever possible;*
- *Established at the earliest practicable possible stage of a development proposal;*
- *Be tailored to particular local circumstances (other locally-determined factors and information beyond those which are set out in this guidance may need to be considered in these studies provided there is robust evidence for doing so locally);*
- *Be brought forward through collaborative ongoing working between the local planning authority/ transport authority, transport operators, rail network operators, highways agency where there may be implications for the network and other relevant bodies. Engaging communities and local businesses in travel plans, transport assessments and statements can be beneficial in positively supporting higher levels of walking and cycling (which in turn can encourage greater social inclusion, community cohesion and healthier communities.)"*

3.2.8 The guidance emphasises the importance to consult the relevant local authority at the outset in order to scope the transport assessment work, on the basis of the principles highlighted above.

National Design Guide (2021)

3.2.9 The National Design Guide document (NDG), which was published in October 2019 and revised in January 2021, sets out the characteristics of well-designed places and good design practice, forming part of the Government's suite of planning practice guidance.

3.2.10 The guidance is structured around ten characteristics, which the work in tandem to "*create* [a] *physical Character*", "*nurture and sustain a sense of Community*", and "*work to positively address environmental issues affecting Climate*".

3.2.11 The most pertinent characteristics to be borne in mind for the preparation of the Transport Assessment are:

- Context – whether the site relates well to its local and wider context;
- Built Form – whether development is walkable / cyclable, and whether public transport is accessible;
- Movement – whether there is a movement network that makes connections to destinations, places, and communities, for all modes of transport; and
- Lifespan – includes principles of considering how waste and parking will be managed from the outset.

3.2.12 The most important characteristic for the preparation of a Transport Assessment is Movement. This characteristic is therefore explicated further below.

Movement

3.2.13 This characteristic of the Design Guide seeks to ensure that developments are "*accessible and easy to move around*", and notes that:

"Patterns of movement for people are integral to well-designed places. They include walking and cycling, access to facilities, employment and servicing, parking and the convenience of public transport. They contribute to making high-quality places for people to enjoy… Their success is measures by how they contribute to the quality and character of the place, not only how well they function."

3.2.14 A well-designed movement network is defined within the Design Guide as a clear pattern of streets that:

- *"Is safe and accessible for all;*
- *Functions efficiently to get everyone around, takes account of the diverse needs of all its potential users and provides a genuine choice of sustainable transport modes;*
- *Limits the impacts of car use by prioritising and encouraging walking, cycling and public transport, mitigating impacts and identifying opportunities to improve air quality;*
- *Promotes activity and social interaction, contributing to health, well-being, accessibility and inclusion; and*
- *Incorporates green infrastructure, including street trees to soften the impact of car parking, help improve air quality and contribute to biodiversity."*

3.2.15 These principles are further established in Section M1 *"A connected network of routes for all modes of transport'*, M2 '*Active Travel*', and M3 '*Well-considered parking, servicing, and utilities infrastructure for all users."*

Transport Decarbonisation Plan

3.2.16 In March 2020, the Department for Transport published '*Decarbonising transport: setting the challenge'*. It sets out six strategic priorities in order to reach net zero emissions by 2050; the first of these is concerned with accelerating modal shift to public and active transport, and indicates that upcoming policy will require that developments and schemes:

- Help make public transport and active travel the natural first choice for daily activities; and
- Encourage cycling and walking for short journeys

3.2.17 The report notes that "…*transport is now the largest contributor to UK domestic GHG emissions, contributing 28% of UK domestic emissions in 2018. Transport emissions are 4% higher than in 2013 and are only 3% lower than in 1997*".

3.2.18 It further notes that co-benefits of positive action on reducing transport emissions include:

- Public health benefits through increased active travel and improved air quality;
- Improvements to the economy and employment rates through industry and innovation; and
- Reduction in inequality where those who generate less noise and air pollution are disproportionality impacted by pollution.

3.2.19 This report was followed by '*Decarbonising transport: a better, greener Britain*' in July 2021; this document seeks to set out how the emissions reductions will be delivered and the associated benefits realised, as well as the Government's commitments and actions needed to decarbonise the transport system in the UK.

3.2.20 The Plan crucially notes that

"As well as decarbonising private and commercial road vehicles… we must increase the share of trips taken by public transport, cycling and walking. We want to make these modes the natural first choice for all who can take them. We want less motor traffic in urban areas. Improvements to public transport, walking and cycling, along with the changes in commuting, shopping and business travel accelerated by the pandemic, also offer the opportunity for a reduction, or at least a stabilisation, in traffic more widely."

3.2.21 In addition, the Plan notes that "*more of our short journeys (43 per cent of all urban and town journeys are under 2 miles) are cycled or walked)*", and that "*Millions more people are walking and cycling following COVID-19, and progress has already been made towards our target that active travel should make up at least half of all journeys in towns and cities by 2030.*"

3.2.22 The Plan therefore establishes six strategic priorities; the most pertinent of these is set out as follows:

- Accelerating modal shift to public and active transport:
  - *"Public transport and active travel will be the natural first choice for our daily activities.*
  - *We will have a cohesive, widely available, net zero public transport network designed for the passenger.*
  - *We will use our cars differently and less often, with new technology helping reduce our carbon footprint"*

3.3 Local Policy

Devon and Torbay Local Transport Plan (2011 – 2026), LTP3 Strategy

3.3.1 The Devon and Torbay Local Transport Plan (2011 – 2026), or 'LTP3', was adopted by Devon County Council (DCC) and Torbay Council and sets out how each Council can "*deliver a transport system that can meet economic, environmental and social challenges.*" The Plan also "*seeks to deliver the aspirations of Devon & Torbay Councils, stakeholders, businesses and the public.*"

3.3.2 LTP3 therefore sets out the following vision:

"Devon & Torbay's transport system will offer business, communities and individuals safe and sustainable travel choices. The transport system will help to deliver a low carbon future, a successful economy and a prosperous, healthy population living in an attractive environment."

3.3.3 To achieve this, the following five key objectives are established:

- *"Deliver and support new development and economic growth;*
- *Make best use of the transport network and protect the existing transport asset by prioritising maintenance;*
- *Work with communities to provide safe, sustainable and low carbon transport choices;*
- *Strengthen and improve the public transport network; and*
- *Make Devon the 'Place to be naturally active.'"*

3.3.4 LTP3 also sets out a strategy for Exeter; the vision is set out as follows:

"Exeter will be a focus for economic growth, supporting prosperity throughout Devon and Torbay. It will offer new employment, new housing and maintain a high standard of living… Transport improvements will enable the proactive reduction of congestion and offer sustainable and high quality travel choices… The east of Exeter development will have a viable sustainable transport network. Overall, sustainable transport will play a key role in people living more active, healthy and inclusive lives in a vibrant and prosperous city."

3.3.5 As such, the following transport strategy for Exeter is established:

- *"Improve access to the city;*
- *Enable and support smarter travel;*
- *Unlock major growth east of Exeter;*
- *Deliver major development within Exeter; and*
- *Protect Exeter as a gateway."*

3.3.6 LTP3 crucially states that:

"Transport assessments and travel plans will be required for new housing and employment development to make sure that sustainable transport provision is designed into new development at the planning stage. Devon & Torbay will provide guidance on the development of Transport Assessment and Travel Plans."

3.3.7 The Plan additionally sets out key elements of the ‘Strategic Connections Transport Strategy’, stating that in order to “*Make best use of the strategic transport network and improve connections with London and the UK*”, there would be a need to:

- *“Reduce the need to travel by supporting high speed broadband for easier home working and video conferencing;*
- *Support the development of improved rail connections and the electrification of the rail network;*
- *Work with the Highways Agency to ensure development has a positive impact o the strategic network, support sustainable travel and thereby facilitate economic growth in the peninsula;*
- *Support the Highways Agency and neighbouring authorities in providing enhancements to the network that improve and the network’s resilience;*
- *Work with Exeter Airport to improve accessibility which enables the airport to expand and compete with other UK airports;*
- *Support travel planning and smarter choices to increase the number of sustainable trips and reduce the level of growth on the transport network;*
- *Encourage public transport use and make it easier for people to use the bus services by developing good interchanges at stations, and on some core bus routes;*
- *Embrace the use of new technology and real-time information to provide personalised journey planning information.”*

3.3.8 Furthermore, it is stated that in order to “*Support growth with a reliable and efficient strategic transport network*”, there will be a need to “*Use the transport assessment process to identify infrastructure (smarter choices and capital interventions) to manage transport demand.”*

Exeter Core Strategy (2012)

3.3.9 The Exeter Core Strategy was adopted by Exeter City Council (ECC) in February 2012, and seeks to set out the “*vision, objectives and strategy for the spatial development of the city up to 2016, explaining how sustainable growth may be achieved that protects the high quality environment of the city and takes the implications of climate change and the transition to a low carbon economy fully into account.*”

3.3.10 The vision for Exeter is set out in the Strategy as follows:

“Exeter will embrace its role in the region as an area of growth:

- *By providing houses, jobs and supporting infrastructure through maximising the use of previously developed land within the city, and through sustainable urban extensions to the east, at Newcourt and Monkerton / Hill Barton, and to the south west at Alphington; and,*
- *By maintaining a vital and viable mix of uses in the City Centre and delivering development to enhance Exeter’s position as a premier retail and cultural destination.”*

3.3.11 To achieve this vision, the Core Strategy has established ten objectives; the most pertinent of these are:

- "*Make the fullest contribution possible to the mitigation of, and adaption to, climate change and the transition to the low carbon economy by, in particular:*

    - *Reducing the use of follow fuels by promoting high quality public transport and encouraging walking and cycling."*

- *"Minimise the need to travel and reduce the dependence on the car, in accordance with the Local Transport Plan and the Green Infrastructure Strategy, through:*

    - *The enhancement of transport infrastructure and services;*

    - *A step change in the use of sustainable transport; and*

    - *Providing easy access to jobs and community facilities within the urban extensions to the east and south-west."*

- *"Promote development that contributes to a healthy population – by implementing the Green Infrastructure Strategy and ensuring that environmental quality and air quality is protected and enhanced";* and

- *"Ensure that infrastructure is in place, when required, that will enable the proposals for development within the urban area, and the Monkerton and Hill Barton, Newcourt and Alphington urban extensions, to be delivered successfully."*

3.3.12 The Core Strategy finally sets out a series of Policies that will assist the Council in delivering the vision and working towards the objectives.

3.3.13 Policy CP9 states that

- *"Comprehensive strategic transport measures to accommodate the additional development proposed for the city and adjoining areas shall include:*

    - *A step change in the quality, capacity and environmental performance of public transport, especially between the City Centre and proposed developments adjoining the city to the east in East Devon and to the south in Teignbridge;*

    - *Additional Park and Ride sites including Ide interchange;*

    - *Improvements to the strategic road infrastructure including key junctions on the M5, outer bypass and the Alphington Road corridor;*

    - *New rail halts at Hill Barton and Newcourt on the Exeter to Exmouth line and at Matford on the Exeter to Plymouth line;*

    - *Demand management measures; and,*

    - *Improvements to facilities for pedestrians and cyclists.*

The contributions necessary to ensure the delivery of transport infrastructure will be secured through the application of Policy CP18."

3.3.14 Correspondingly, CP18 states that:

- "*New development must be supported by appropriate infrastructure provided in a timely manner. The City Council will continue to work in partnership with infrastructure providers and other delivery agencies to keep an up to date infrastructure delivery plan that will enable proposals, in accordance with the spatial strategy, to be brought forward.*

- *Developer contributions will be sought to ensure that the necessary physical, social, economic and green infrastructure is in place to deliver development. Contributions will be used to mitigate the adverse impacts of development (including any cumulative impact). Where appropriate, contributions will be used to facilitate the infrastructure needed to support sustainable development."*

3.3.15 The Core Strategy additionally makes specific reference to the Newcourt area, and sets out how development should be delivered in the area in order to accord with the key objectives. Within this, the Strategy states that:

"In order to maximise sustainability, it will be important to achieve a modal shift away from the car… Good permeability must be achieved throughout the development area and links to the surrounding urban area are established. A green network will radiate from the local centre and will provide convenient and will provide convenient and safe walking and cycling routes to link existing and proposed housing, employment and community areas to each other and provide access to existing facilities beyond the development area. Access onto the A379 has already gained consent and is required to serve existing development proposals."

3.3.16 The Policy CP19 strategic allocation identifies the Newcourt area as appropriate for the development of 3,500 dwellings and 16 hectares of employment land. Further, it states that the Newcourt area should deliver a "*green infrastructure framework*" and "*new pedestrian and cycle crossings of the A379 and the railway line.*"

3.3.17 The Core Strategy states that "*Patterns of movement and modes of travel can, however, also be influenced by a range of other measures at the local level through the planning system*", and identify the following measures:

- *"Locating activities that can generate a lot of traffic (such as shopping centres, employment areas and high density housing) in the City Centre, district centres, local centres and other areas with good public transport links;*
- *Opposing the loss of shops and other local facilities in existing housing areas;*
- *Making sure that new housing is within easy walking distance of shops, schools, public-transport connections and other local facilities;*
- *Making sure that no more car parking is provided to serve existing and new developments than is necessary;*
- *Requiring that the design and layout of new development encourages access on foot and by bike and for people with disabilities, including provision of supporting facilities such as cycle parking;*
- *Requiring that development provides for, and contributes towards, the improvement of the city's footpath, cycle and public transport networks, including Park and Ride. And towards enhancing the highway network;*
- *Encouraging innovative measures, where appropriate, introduced as a result of green travel plans, to promote the advantages of sustainable transport modes such as car pools, car clubs and car sharing;*
- *Supporting the take-up of electric and plug-in hybrid vehicles; and*
- *Safeguarding the role of the strategic route network whilst seeking to reduce traffic congestion and improve air quality."*

Newcourt Masterplan (2010)

3.3.18 The Newcourt Masterplan was published by Exeter City Council (ECC) in 2010, and seeks to "*provide a framework to guide the future development of a sustainable urban extension to the south east of the city*" and "*enable a comprehensive development of this area through the planning process.*"

3.3.19 As part of the masterplanning process, the following aims were identified:

- *"High quality sustainable development;*
- *Sustainable transport;*
- *Environmental protection;*
- *Creation of a mixed and balanced community;*
- *Residential amenity; and*
- *Protection of the historic environment."*

3.3.20 The document states that "*Rail use is considered to have the potential to reduce the level of private car use*", and as such, it is stated that "*Pedestrian and cycle connections to* [Newcourt station, now built] *shall be provided*".

3.3.21 The document additionally states that "*Links through development areas to connect to the strategic routes should be accommodated in the detailed layout.*" As such, the masterplan notes on the '*Masterplan Main Figure'* that secondary routes, which include cycle routes, should extent on Old Rydon Lane east in order to connect with routes throughout the Newcourt Area and facilitate access to the transport hub at Newcourt railway station.

3.3.22 It should also be noted that the site is identified as 'Residential Area A', which states that residential development can be delivered at a density of 50 dwellings per hectare (dph) and that 80% of the area shall be developable.

Exeter Transport Strategy 2020 – 2030 (2010)

3.3.23 The Exeter Transport Strategy 2020 – 2030, which was published in November 2020 by DCC, seeks to expand on the transport strategy for Exeter set out in the Devon and Torbay Local Transport Plan 3 (LTP3), on the basis that "*A significant part of the existing strategy has now been delivered. With changing technology and a better understanding of travel habits*" and that the strategy needs to be "*refreshed to better reflect current travel trends, the needs of communities and the County Council's commitment to reducing carbon emissions.*"

3.3.24 The Strategy establishes that whilst the "*Exeter Travel to Work Area (TTWA) has grown considerably in recent years*", and that there has been a 48% rise in "*inward commuting*" (i.e., outside of the city), the "*Additional travel demand into the city has instead been accommodated by the residents of Exeter shifting to sustainable travel modes."*

3.3.25 Indeed, the Strategy notes that "*the majority of Exeter residents now travel to work by sustainable modes*", and that whilst they "*account for 35% of car-based commute trips to a destination in the city", Exeter residents have "more travel choices and are most likely to change modes to walking, cycling, or public transport.*"

3.3.26 In the period following the preparation of the original Exeter Transport Strategy, however, DCC has declared a climate emergency and has set out their ambitions to reduce carbon emissions to net-zero by 2050.

3.3.27 As such, the 2020 – 2030 Strategy seeks to "*focus on improving travel choices, the quality of life for residents, and provide the first stages in the transition of transport towards net zero*" and has been organised into three key themes. These are:

- Greater Connectivity;
- Greater Places for People; and
- Greater Innovation.

3.3.28 Some key facets of the Strategy therefore include:

- "*Creating a comprehensive, accessible and coherent cycle and pedestrian network in Exeter, so that "50% of trips within the city are being made on foot or by bike*";
- "*Reducing short distance car trips from within Exeter*", aligning with Sport England and Exeter's aspirations to become "the most active city in the country";
- Making some of the Emergency Active Travel 'pop-up' infrastructure changes permanent and creating 'green lanes';
- Creating high-quality strategic cycle links to create a "city region strategic leisure network";
- Supporting enhanced bus frequency on key inter-urban routes;
- Creating enhanced bus corridors;
- Continuing progress on the improvement of the 'Devon Metro' rail services.
- Introducing and encouraging measures such as:
  - Increased electric car club vehicles
  - Sustainable travel enhancements achieved through vehicle capacity reduction;
  - Pursuing targeted travel planning alongside new public transport or cycling interventions; and
  - Linking public transport enhancements with improved electric vehicle / cycle facilities.

3.4 Conclusions

3.4.1 The site forms part of the strategic allocation at Newcourt area, as allocated within Policy CP19 of the Exeter Core Strategy. A full review has been undertaken to identify the national and local transport and planning policies / guidance documents that are most applicable to the proposed development. The remainder of this report will demonstrate that the proposed development scheme is compliant with current national and local policy.

4 Emerging Evidence on Future Travel Trends

4.1 Introduction

4.1.1 There is a growing evidence base demonstrating a shift in travel behaviour as a result of disruptive technological and societal changes, in particular amongst the younger generations for whom a significant part of future housing development demand applies.

4.1.2 There is widespread evidence demonstrating that there is less reliance on the car from younger generations, and there is more of an aspiration to socialise or work while travelling. In addition, the high costs of car ownership, a change in priorities of spend (i.e., cars no longer being a status symbol), and other factors are all leading to a consensus that future travel behaviour will lead to lower levels of private car use.

4.1.3 This chapter provides an overview of a selection of key evidence documents that are underpinning these trends, including:

- '*Understanding the drivers of road travel: current trends in and factors behind road use*' (DfT, Jan 2015);
- '*Provision of Travel Trends Analysis and Forecasting Model Research*' (Atkins, AECOM and Imperial College London (2017);
- 'Research undertaken by Devon County Council and presented to the DfT' (2018);
- '*Young People's Travel – What's Changed and Why? Review and Analysis: Report to DfT*' (UWE, 2018);
- '*A Time of Unprecedented Change in the Transport System, The Future of Mobility*' (Government Office for Science, January 2019);
- TRICS Guidance Notes; and
- Other recent planning applications – Plymouth

Understanding the drivers of road travel: current trends in and factors behind road use (DfT; Jan 2015)

4.1.4 DfT research suggests that "*over recent decades growth in road traffic has been slowing*", and additionally indicates that "*car traffic has shown the greatest growth over the long-run but national levels are currently at the levels seen in 2002*."

4.1.5 As part of the 2015 report, the DfT have considered multiple factors affecting car use. Some of these include:

- Younger people not learning to drive due to the high cost of learning and car insurance, leading to a decline in car use in this demographic (based on NTS data);
- Employment rates: a fall in 'real income' amongst younger people over the last decade has made driving cost-prohibitive, whilst employments rates among "*females and older age groups*", who are driving more, has increased;
- Traffic levels are shown to track and 'mirror' the changes in Gross Domestic Product;

- Declines in company car use have been found to account for the largest reduction in mileage amongst men between the ages of 30 and 60 and may also be linked with the decline of car use in London. DfT link this to changes in company car taxation rules;

- Urbanisation and increases in population density have been found to have brought down car demand in recent decades; and

- There is evidence to suggest that "*increasing congestion in urban areas is contributing to the levelling of traffic in these areas, and that more people in these areas are travelling by public transport*."

4.1.6 The report suggests also that "*we may expect traffic in urban areas to grow less strongly, as… the availability of public transport services* [keeps] *traffic growth down, alongside more limited road capacity*", and it additionally suggests that "*public transport might be expected to continue becoming an increasingly important feature in these areas, whilst greater support and access to cycling… may encourage people to travel by other modes.*"

Provision of Travel Trends Analysis and Forecasting Model Research (Atkins, AECOM and Imperial College London; 2017)

4.1.7 The report, which aimed to develop a forecasting model using statistical relationships identified in travel trends and drivers, cites evidence which suggests that:

- "*Average trip rates have decreased between 1988 and 2010 for the majority of trip purposes*", including commuting and leisure, and suggested that based on their analysis, it is "*changes in walking trips and short trips…* [which] *have made a significant contribution to the overall observed trends in trip rates*";

- Trip rates amongst all age groups except the 65+ age group have decreased, whilst the 65+ age group has increased only "*slightly*";

- Whilst annual car mileage has increased more amongst females and older age groups, there has been "*a decline in distance travelled by car… predominantly* [seen] *amongst the young people and men*"; and

- A comparison of 2001 and 2011 Census data has shown that "the proportions of workers categorised as 'working mainly at or from home' has increased by 1.4 percentage points to 10.6% in 2011."

4.1.8 The report therefore suggests that:

- *"…reasons for changes in mobility patterns include the differential costs of motor insurance as well as learning to drive, which disproportionately accrue to younger age groups*", which may have in impact on the number of people choosing to drive or own a car;

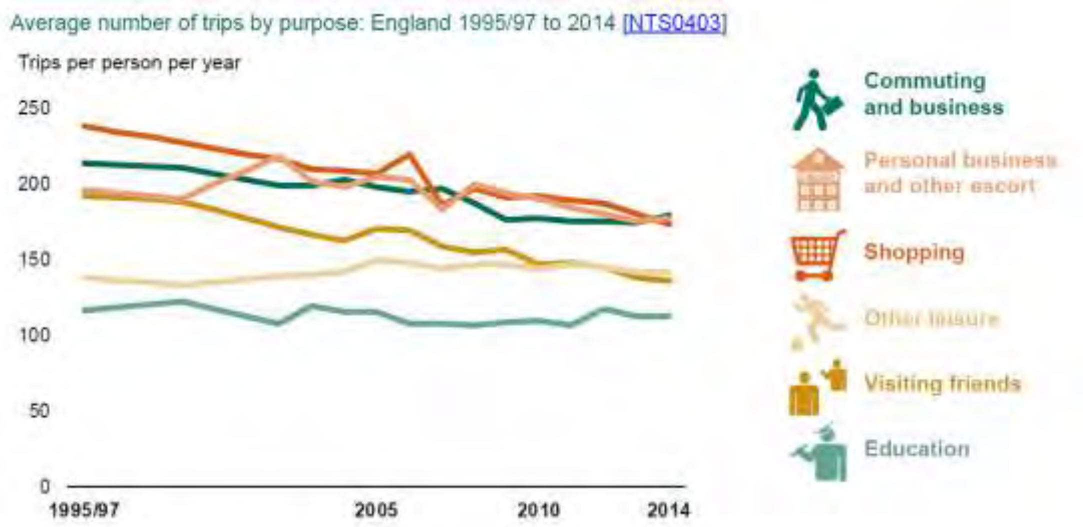
- "*…an increase in the number of individuals who work from home regularly is linked to a reduction in the number of commuting trips made*" and it is hypothesised that "*using online social networks and online gaming substitute social travel to some extent*", and;

- The overall decline in average trip rates may be mostly due to "*changes in walking trips and short trips*."

Research undertaken by Devon County Council and presented to DfT (2018)

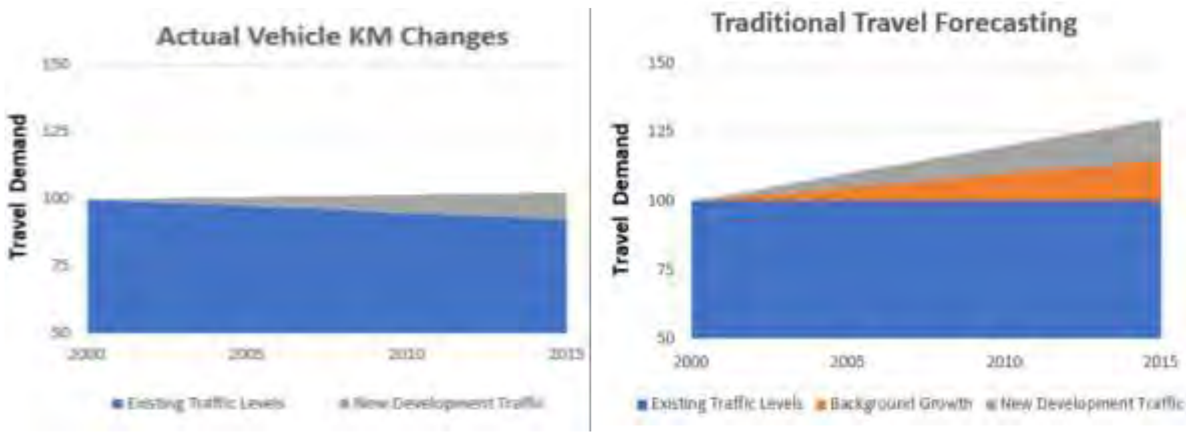
4.1.9 The DCC research suggests that the link between traffic growth and economic growth has been broken, and that there are significant changes amongst younger people whose propensity to travel by car has fallen, in men by some 47%. Whilst the older generation are generally travelling by car a little more, the trends amongst younger people away from the car might have very significant implications for future transport provision.

Figure 4-1: Average number of trips by purpose: England 1995/97 to 2014 (NTS_



4.1.10 The above research is therefore questioning the validity of current transport appraisal assumptions in forecasting future travel demands and traffic levels.

Figure 4-2: Traditional travel forecasting vs actual kilometre changes (Source: DCC, 2018)



4.1.11 The research considers that there is a need to move away from the increasingly discredited traditional assessment approach by taking into account travel trends evidence, the capacity for the existing network to accommodate future growth, and wider transport interventions forming part of the Exeter Transport Strategy. The anticipated outcome is that future traffic levels will be significantly lower than that forecast across the network using traditional approaches.

Young People's Travel – What's Changed and Why? Review and Analysis: Report to DfT (UWE, 2018)

4.1.12 Research undertaken by the Centre for Transport & Society (UWE and University of Oxford) found that "*young adults [ages 17-29] in Great Britain and other countries are driving less now than young adults did in the early 1990s*", and that this change began approximately 25 years ago.

4.1.13 This is evidenced in that as of 2014, only 29% of 17-20 year olds and 63% of 21-29 year olds held a driving licence, representing a 19% and 12% decrease respectively. Additionally, it is cited that "*between 1995-99 and 2010-14 there was a 36% drop in the number of car driver trips per person made by people aged 17-29.*"

4.1.14 The causes behind this change are hypothesised to be the prohibitive cost of motoring amongst younger people (linked in also with the "*stagnation in wage rates*" and decline in disposable income) as well as younger people accepting not driving, or their peers not driving, as evidenced by surveys and interviews.

4.1.15 Additionally, these decreases are linked to increases in "*time spent at home*", more young people are living in urbanised areas with public transport having a "*greater impact on commuting choice*", and increased enrolment in higher education which may delay when younger people choose to own a car.

4.1.16 The report also suggests that whilst evidence of the impact of technology on travel behaviour is "*contradictory*", it remains a "*a plausible contributor to the fall in total travel by young people*" as well as changes to signifiers and understandings of 'adulthood'.

A Time of Unprecedented Change in the Transport System, The Future of Mobility (Government Office for Science, January 2019)

4.1.17 The report notes that "*we are currently travelling less at an individual level*", with a greater shift away from use of the private car amongst young people linked in part to changing economic situations, choices of where people live, and a "*greater openness to the sharing economy, which new technology will increasingly facilitate.*"

4.1.18 Additionally, the report confirms that the different modes of transport are "*deeply interrelated: the increasing use of one often leads to a reduction in another*". Whilst it does add that "*the relationship…* [can] *be complementary*", it can be inferred that a shift towards more sustainable modes of transport to fulfil trip purposes (the most common of which are cited to be commuting and shopping) will in turn lead to a shift away from the private car.

4.1.19 The report therefore advocates for transport to be considered as a system, as well as "*exploring different futures, identify*[ing] *opportunities and help*[ing to] *mitigate the unintended consequences of new transport modes, technologies and/or trends*", and concludes that: "*transport needs to be considered as a holistic system, not as sequential or separate elements. The 'predict and provide' principle that guided transport planning between the 1950s and 1990s tended to treat modes separately, but this will no longer suffic.*"

4.1.20 The report states that "*there has been a general decrease in both trips and mileage (per person) for personal transport in rural, semi-urban and urban areas*", evidenced by a 12% decrease in car trips and distance travelled since 2002. Whilst it is noted that the factors influencing travel behaviour, both now and in future are "*too many to list*", key considerations include:

- The digitalisation of services, which will impact future mobility of passengers and businesses;

- Increased homeworking, which may reduce the need to travel;
- An ageing population who historically travel less and at different times to the working population, which will cause the "*nature of travel demand to shift*", whilst the younger cohort tend to also be travelling less;
- A sharp increase in car, bike and lift sharing, are predicted likely to grow further towards 2040;
- The influence of the built environment, i.e., people are more likely to walk and cycle if they are in proximity to local facilities and amenities that would otherwise necessitate car travel, i.e. shops, restaurants, schools, and;
- Mobility as a Service (MaaS) could "*support a move away from car ownership, potentially reducing congestion*."

TRICS Guidance Notes

Changes in Travel Behaviour (August 2019)

4.1.21 TRICS Consortium Limited (TRICS) is responding to the fact that the world is experiencing significant change in relation to social, technological, economic, and environmental drivers which in turn is creating new dynamics in travel behaviour and challenges for transport planning. In the face of deep uncertainty, the 'Predict and Provide' paradigm that has framed transport planning processes is to give way to the 'Decide and Provide' paradigm; decide on the preferred future and provide the means to work towards that which can accommodate uncertainty.

4.1.22 The TRICS report includes a review of the National Travel Survey (NTS) 2016 and Road Traffic Forecasts 2018, and the following is stated:

- "*The total distance travelled per person per year has fallen by 9% between 2007 and 2016. Distance by all motorised private transport has fallen by about 13% since 2003, and as a car driver by about 10% since 2007*";
- "…evidence from the National Travel Survey (NTS) [demonstrates that] trip rates have been declining over the last 20 years, with a reduction in trip rates of 13% since 2002"; and
- Due to uncertainty around socio-economic trends, the Road Traffic Forecasts assumes that young people reduce their licence holding acquisition compared to current levels and have extrapolated this trend in young people's licence holding up until 2050.

4.1.23 The TRICS report also sets out its own trend analysis, dated May 2019; this states that there has been a 12% decline in vehicle trip rates (morning peak and all day) for residential development between 1989 and 2018.

4.1.24 The TRICS report further comments on the implications of the above evidence for TRICS. It states that:

- "*The evidence reviewed from All Change, the DfT RTF 18, NTS 2016 and the TRICS historic review demonstrates that there has been a sustained change in travel behaviour. This change is reflected in the trip rates for residential, retail (super food) and employment sites. Care need to be taken to ensure that the design of the residential and retail development, in particular, take account of these changes in travel behaviour*";

- "*If no recognition is given to the trends shown in the evidence from All Change and the DfT RTF18 report then it is inevitable that transport planning will continue to provide infrastructure that meets previous predicted needs rather than the transport needs of the future. This could lead to the over provision of highway capacity which in turn induces travel demand or the analysis could lead to the under provision of walking and cycling infrastructure or public transport services. The consequences are serious, and we run the risk of planning and developing stranded or underutilised assets*"; and

- "*The Business as Usual or "rear view mirror" approach, i.e. projecting past traffic growth trends and socio-economic trends to determine the need for infrastructure, in particular new roads and junction capacity has diminished relevance. The question becomes how to plan in light of the evidence of trends and the uncertainty that lies ahead. As change in travel behaviour continues, it is anticipated there would a need for a more flexible approach in adapting or providing new transport measures for the development*".

Practical Implementation of the Decide and Provide Approach (February 2021)

4.1.25 The TRICS consortium has recently published a guidance note on the implementation of the 'Decide and Provide' approach, acknowledging the social, economic, and environmental changes which in turn are changing travel behaviour and patterns. This change has been further impacted and future uncertainty amplified by the COVID-19 pandemic.

4.1.26 The Guidance is split into two parts. Part 1 explains the background and reasons for the '*Decide and Provide*' approach and states that

"'Decide and Provide' (D&P) is a planning paradigm that is vision-led, rather than forecast-led (Predict and Provide), and which aims to improve the resilience of planning decisions by taking account of deep uncertainty about the future. At its heart is deciding on a preferred future and providing a development path best suited to achieving it."

4.1.27 Chapter 4, Paragraph 4.4 further states that:

"The risks associated with sticking with the P&P ['Predict and Provide'] approach need to be recognised and acknowledged. If we continue to reproduce past transport solutions based on previous travel behaviours, it is inevitable that transport planning will continue to seek to provide infrastructure that meets previously predicted needs, rather than meeting, and indeed shaping, the transport needs of the future.[6]"

4.1.28 Paragraph 5.2 also states that "*It is important that as transport professionals, we engage fully with this paradigm shift. We need to take decisions and make provisions that respond to the following key drivers including the following:*

- *The drive towards Net Zero climate change or greenhouse gas (GHG) emissions.*

- *Strategies to decarbonise the transport sector, being progressed in the UK's Transport Decarbonisation Plan.*

- *In terms of health and wellbeing, respond to the UK's obesity crisis (also further compounded by Covid-19) and further promote active travel provision."*

4.1.29 The Guidance recommends using scenario planning to develop a set of plausible scenarios that allows uncertainty to be accommodated within plan making. It refers to DfT's RTF18

6
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/932122/decarbonising-transport-setting-the-challenge.pdf

Scenarios and assumptions and suggests the use of these scenarios based on the scale, complexity, and sensitivity of projects.

4.1.30 Part 2 of the Guidance covers the practical application of the 'Decide and Provide' approach, and describes understanding the vision for the site, the use of historic trends, use of current data from TRICS, forecasting future rates, and sets out monitoring requirements, using a real-time example.

Micromobility

4.1.31 The 'Inrix: Micromobility Potential in the US, UK and Germany' report, dated September 2019, explains that:

"Driving and public transportation have historically been the most popular ways to travel, but the explosion of micromobility technology has brought a wide variety of new options that could make urban mobility more efficient, accessible and convenient. The emergence of micromobility-as-a-service – defined as shared bikes, e-bikes and e-scooters – highlights both the consumer and commercial appeal."

4.1.32 The Inrix report further states that:

"The benefits of micromobility services stem from their higher efficiency in terms of energy and space. For example, the minimum square footage of one parallel parking space is 212 square feet, whereas scooters and bikes require three to six square feet to park. There's also a sharp contrast in energy efficiency; an e-scooter can travel up to 83-miles with the same amount of energy it takes an average gas vehicle to travel one-mile. However, nuance is needed in their adoption."

4.1.33 The study concludes that:

"Micromobility faces a promising future by replacing short distance vehicle trips and providing currently underserved first- and last-mile solutions for public transit riders. The exceptionally high number of short duration trips found in all three countries highlights micromobility's massive market potential. Their flexible networks enable dynamic management of transportation networks providing travellers with fast, efficient alternatives to driving."

4.1.34 Whilst it is not currently lawful to use these modes on public highway (i.e. on highways, adopted footways, cycleways and the like) the growth of personal transport modes is likely to see changes to the way that these are used.

4.2 Implications for Development Transport Strategy and Assessment

4.2.1 This growing evidence base, from both a national and local perspective, demonstrates that travel behaviour is changing and that traditional methods of predicting future car travel based on historical trends, and providing for the required capacity, is outdated and predicts inaccurate forecasts.

4.2.2 Perhaps more importantly, providing for future car demand based on historical trends also creates negative (often unintended) consequences, a simple rule being that 'planning for people will result in places for people; planning for cars will result in places dominated by cars'.

4.2.3 Creating a car-dominant public realm, inducing additional traffic and therefore not solving congested networks in the medium term, worsening air pollution, and diverting funding and undermining the success of sustainable alternatives, does not meet the vision for the decarbonisation.

4.2.4 On this basis, the transport strategy for the site aligns fully with both national and local policy and the intended consequences of planning for sustainable development. Policy states that sustainable modes are to be prioritised, and as such the networks on which people will walk, cycle, and use public transport are considered before any highway capacity increases are planned. These are assessed to ensure that they meet the reasonable needs of local residents, so that the existing and new community have a genuine opportunity to embrace more sustainable travel habits from the outset.

5 Proposed Development

5.1 Introduction

5.1.1 This chapter will outline the scope of the proposed development, and the access strategy to be implemented to manage and mitigate the impact of the development on the local highway network. The access strategy will also seek to improve the accessibility of the development by sustainable modes and minimise the number of vehicular trips that are generated.

5.2 Proposed Development

5.2.1 The proposed development will comprise of approximately 350 dwellings, alongside an associated pedestrian / cyclist and vehicle access strategy, landscaping, public open space, and associated infrastructure works.

5.2.2 The illustrative masterplan, which depicts how the site could come forward, is included in **Appendix A**.

5.3 Access Strategy

Pedestrian / Cycle Access Strategy

5.3.1 The development has been designed to ensure that it is integrated with the existing pedestrian / cycle network within the site vicinity. This integration will be achieved through the implementation of the site access strategy, which will provide both on-site pedestrian / cycle facilities that connect into the existing network of shared facilities, and off-site improvements to improve facilities along key desire lines. **Figure 5-1** presents the proposed transport strategy for the site. **Stantec Drawing 47450/5505/SK09 Rev B** shows the proposed access strategy.

On-Site

5.3.2 It is proposed that Old Rydon Lane will be realigned to route through the site to form the development's primary street and will extend between the eastern and western site accesses.

5.3.3 As the primary street, Old Rydon Lane will be designed to provide a 2 metre wide footway on the southern side of the carriageway, and a segregated footway / cycleway on the northern side, which will comprise a 2 metre wide footway and 3 metre wide cycleway with 0.5 metre verge adjacent to the kerb. In addition, the internal road network comprising of secondary streets will make provisions for pedestrians in terms of standard-width footways and dropped kerb crossing points.

5.3.4 A two-way pedestrian / cycle route will be delivered within the site on a north-south alignment and will form the 'missing link' between the recently constructed route between Old Rydon Lane and Admiral Way (delivered as part of the Heritage Homes Holland Park 3 development), and the existing facilities on the A379 Rydon Lane, as identified in the Newcourt Masterplan.

5.3.5 The overall connection between Admiral Way and the A379 Rydon Lane will form part of the secondary cycle route network, as envisaged within the Newcourt Masterplan, and will connect to the proposed 'E9' Exeter Strategic Cycle Route. The internal pedestrian /cycle link will be designed with reference to LTN 1/20, and in consultation with DCC at the Reserved Matters Stage.

Off-Site

5.3.6 The existing Old Rydon Lane will be downgraded and restricted for through traffic (by use of collapsible bollards or other means), which allow for a 'quiet street' to be provided. This will accommodate pedestrians, cyclists, and vehicle access to existing residential dwellings only; this is in accordance with DCC's identification of Old Rydon Lane as a 'Green Lane / advisory cycle route'.

5.3.7 In addition, the realigned carriageway will provide an opportunity for pedestrian / cycle provision to be accommodated on the southern side of existing Old Rydon Lane, which will connect the 'downgraded' section to the existing pedestrian / cycleway on the A379 Rydon Lane and enhance pedestrian / cycle permeability in the area. The proposed facilities are designed such that adequate intervisibility splays can be achieved between private driveways and pedestrians / cyclists and could include landscape strips in front of properties to ensure drivers have adequate sight of pedestrians and painted cycle lane markings on the offside for cyclists. The kerb between this section and the primary street could be flush, with a 25mm upstand.

5.3.8 The proposed access strategy will additionally enable the carriageway on Old Rydon Lane from the eastern access to be re-allocated, in order to provide a 2 metre wide 'light segregation' footway between the site and Newcourt Way, whilst restricting traffic one-way, eastbound only. This provision will provide safe access by foot and cycle to IKEA, Newcourt Station, and other facilities from the site. It is considered that westbound cyclists (for example, those alighting at Newcourt Station) will use the Admiral Way to Holland Park cycle link connecting to Old Rydon Lane for accessing the site. This will be supported by way finding signage, both onsite and offsite, and will be provided in consultation with DCC.

Accessibility by foot / cycle to the key destinations

Table 5-1: Pedestrian / cycle routes and travel times following delivery of development access strategy

Key Destination	Walking Route	Cycling Route	Walk Time	Cycle Time
Rydon Retail Park	Proposed northern ped-cycle link – A379 Rydon Lane shared ped-cycle overbridge - Tesco	Proposed northern ped-cycle link – A379 Rydon Lane shared ped-cycle overbridge - Tesco	9 minutes	2 minutes
Sowton Industrial area	Proposed northern ped-cycle link – A379 Rydon Lane shared ped-cycle overbridge – Russell Way-Apple Lane path – Sowton Industrial Estate	Proposed northern ped-cycle link – A379 Rydon Lane shared ped-cycle overbridge – Russell Way-Apple Lane path – Sowton Industrial Estate	32 minutes	11 minutes
Newcourt Train station	Eastern site access - proposed footway on Old Rydon Lane – Newcourt Way crossing – Liberty Way- Newcourt station	*To station* – via eastbound Old Rydon Lane – Liberty Way - Newcourt station *From Station* - Liberty Way - Admiral Way - Holland Park ped-cycle link to Old Rydon Lane - site	11 minutes	To station: 3 minutes From station: 5 minutes
Trinity CoE Primary School	Holland Park ped-cycle link to Admiral Way –	Holland Park ped-cycle link to Admiral Way –	14 minutes	4 minutes

Key Destination	Walking Route	Cycling Route	Walk Time	Cycle Time
	Topsham Road – Vernon Crescent - School	Topsham Road – Vernon Crescent - School		
Exeter City Centre via Topsham Road	-	via western site access with -cycle link – Rydon Lane shared ped-cycle - Topsham Road traffic free cycle route – Exeter	-	14 minutes
Exeter City Centre via E9 in recent future	-	via proposed northern ped-cycle link- A379 cycle overbridge – Pynes Hill E9 cycle route via Wonford - Exeter	-	15 minutes

5.3.9 The table above shows that the proposed pedestrian / cycle links will further reduce the journey times to the key destinations compared to **Table 2-3** of **Chapter 2**. The internal streets and pedestrian / cycle links will be designed to provide safe, convenient, and conspicuous walking and cycling routes which will be accessible to all and will be further supported by a way-finding strategy.

5.3.10 The proposed pedestrian / cycle access strategy facilitates direct access to the existing pedestrian / cycle facilities in the surrounding area, and subsequently provides continuous walking and cycling routes from the site to the key destinations. The proposed pedestrian / cycle network and connection to the north of the site provides a 'missing pedestrian / cycle link' as envisaged within the Newcourt Masterplan, connecting Rydon lane foot-cycle overbridge and facilities on Admiral Way via Holland Park cycle link.

5.3.11 It is therefore concluded that the proposed pedestrian / cycle strategy will provide excellent connections to the offsite pedestrian / cycle facilities. This will provide a permeable pedestrian / cycle network which will deliver enhanced accessibility to sustainable transport options for future residents of the site, and also to the existing residents in the surrounding area.

Public Transport Access Strategy

5.3.12 The uptake of travel by public transport will be supported by ensuring safe pedestrian access to the bus stops on Newcourt Way is provided.

5.3.13 As outlined above, it is proposed that a carriageway space on Old Rydon Lane will be re-allocated to deliver a 'light-segregation' two-way footway for pedestrian travel to / from the site; this will better facilitate access to the existing bus stops on Newcourt Way, and better enable onward journey on foot to Newcourt railway station.

5.3.14 In addition, cycle access to the Newcourt Station has been described in the above section, and it is anticipated that the station will be accessible within a 5-minute cycle ride.

5.3.15 The proposed pedestrian and cycle strategy will provide access to additional bus services from the bus stop at Tesco Filling station via a 7 minute walk from the site's northern boundary and shorter cycle journey times (approximately 7 minutes) to the Sowton Park & Ride facility, which provides additional bus services to various regional destinations. Walk / cycle access to the Digby Park & Ride facility, which provides bus connections to the RD&E Wonford hospital, will additionally be improved by the development proposals.

Vehicular Access Strategy

5.3.16 **Stantec Drawing 47450/5505/SK09 Rev B** shows the proposed access strategy. The access strategy has been subjected to Stage 1 Road Safety Audit, with the details summarised below and included within the **Appendix F**. It is proposed that vehicular access to the development will be achieved via Old Rydon Lane, which will be realigned in order to accommodate the proposed access arrangements.

5.3.17 In brief, the scheme comprises the following:

- Retention of the existing priority right turn ghost island junction on the A379 Rydon Lane as the main access to the site;
- Old Rydon Lane to be realigned to form a development primary street, whilst forming a minor arm to the priority junction with A379 Rydon Lane;
- Downgrading of existing Old Rydon Lane to a ‘quiet route’, with access to existing residential dwellings only;
- Two new simple priority junctions connecting Old Rydon Lane to the new primary street;
- Retention of the existing priority junction and crossing point on Newcourt Way; and
- Old Rydon Lane to the east of the proposed existing junction to be delivered as one-way, eastbound only with provision of pedestrian facility (light segregated footway).

5.3.18 A design speed of 32kph (20mph) has been proposed for the site access. The existing 30mph speed limit on the existing Old Rydon Lane is likely to be retained, however, as the proposals for the site include downgrading the existing Old Rydon it is considered that proposals for a 20mph speed limit to be applied to Old Rydon Lane will be discussed with DCC. It should be noted however that the site access strategy is not reliant on any reduction in speed.

5.3.19 Each access (western and eastern accesses) is described in additional detail below.

Western Site Access

5.3.20 The existing A379 Rydon Lane / Old Rydon Lane junction will provide the primary vehicular access into the site. This junction is proposed to be retained in its current form, providing a left-turn out of Old Rydon Lane onto the A379, and both the left and right-turn into Old Rydon Lane from the A379.

5.3.21 Old Rydon Lane will be realigned to route through the site as the development’s new primary street, and a connection from the primary street onto existing Old Rydon Lane will be provided for local access. The layout is shown on **Stantec Drawing 47450/5505/SK06 Rev A**; this layout considers the existing levels difference, and accounts for earthworks on the embankment on the northside and visibility from the A379 Rydon Lane along the new primary street. A detailed 3D review (including horizontal and vertical design) has been undertaken for the junction, and it was confirmed that the junction geometry complies with the DMRB CD 109 standards. Stantec **Drawing 47450/ 5505 / SK10** shows a swept path assessment for a 10m rigid lorry and a large refuse vehicle.

Eastern Site Access

5.3.22 The proposed primary street alignment is shown to create a new priority junction with Old Rydon Lane within the eastern extent of the site frontage. The layout is shown on **Stantec Drawing 47450/5505/SK02 Rev B**.

5.3.23 The access has been designed with a carriageway width of 6 metres and has been appropriately designed in terms of road widths and junction radii to accommodate the swept path of pertinent vehicle types. **Stantec Drawing 47450/5505/SK11** shows a swept path assessment for a 10m rigid lorry and a large refuse vehicle.

5.3.24 To the east of the junction, it is proposed that Old Rydon Lane will be one-way eastbound only up to the existing one-way junction with Newcourt Way, as shown on **Stantec Drawing 47450/5505/SK01 Rev B**. This provides an alternative option for vehicular traffic to exit the site and join the A379 via the Newcourt Way junction. Under these proposals, left-turn movements out of Newcourt Drive will not be allowed due to the one-way operation on Old Rydon Lane. The Newcourt Drive approach junction will be provided with appropriate road markings and signage to enforce the right turn only / no entry restrictions, as shown on **Stantec Drawing 47450/5505/SK01 Rev B**.

5.3.25 The existing access arrangement to the Holland Park residential area to the south of the site will be retained.

5.3.26 The proposed access strategy is designed to ensure safe access by pedestrians along Old Rydon Lane, with only minor inconvenience to a few movements.

Stage 1 Road Safety Audit

5.3.27 As requested by DCC, the proposed junction was additionally subjected to a Stage 1 RSA. Stantec commissioned TMS Consultancy to undertake a third-party Stage 1 Road Safety Audit (RSA1) for the proposed access scheme. The RSA brief was issued to DCC on 13th July 2021, and DCC subsequently approved the audit brief in their email dated 3rd August 2021. Further to the outcomes of the Stage 1 RSA, a Designer's Response was prepared.

5.3.28 The Stage 1 RSA report and Designer's Response are included in **Appendix F,** along with the relevant email correspondences.

5.3.29 The proposed access strategy has been updated based on the safety audit comments, and it is considered that the access strategy will provide a safe access for vehicles, pedestrians and cyclists, with technical details to be developed through detailed design works as part of a Section 278 agreement.

Safeguarded Routes to North

5.3.30 The proposed development will provide a pedestrian / cycle access up to the northeast boundary to connect into any future development on land to the north / north east of the site, and thereby provide additional future opportunity for active travel to the IKEA roundabout and onwards. In the fullness of time, the proposed pedestrian / cycle access will enhance permeability in the wider area.

5.4 Parking Strategy

Cycle Parking

5.4.1 Cycle parking will be provided at the development to ensure all residents wishing to travel by these modes will not be discouraged by the lack of facilities to accommodate them. Within the '*Residential Design Supplementary Planning Document*' (SPD), which was adopted by Exeter City Council (ECC) in 2010, the Council states that "*Purpose designed cycle parking is required. Parking should be covered, discourage anti-social behaviour, be safe and convenient*", and along with Policy T3 and Schedule 2, which had been saved from the first review of the Local Plan, identifies the following standards for residential dwellings:

- 1 cycle space per 1-2 bedroom dwelling;

- 2 cycle spaces per 3 or 3+ bedroom dwelling;
- Cycle spaces can be accommodated within garages, if one is provided.

5.4.2 Cycle parking at the development will therefore be provided in line with the above requirements (or those in place at the time of the subsequent Reserved Matters application) and will be designed in line with the requirements set out within ECC's adopted '*Sustainable Transport Supplementary Planning Document'* (2013).

Vehicle Parking

5.4.3 It is important that the parking provision for the site is appropriate to the local area, and meets the requirements of the intended occupants, in order to balance the need for cars to be parked within the development as opposed to the surrounding highway network, without inadvertently encouraging use of the private car, this ties in with para. 8.6 of the ECC Adopted Core Strategy, which states reiterates the importance of *"making sure that no more car parking is provide to serve existing and new developments than necessary*".

5.4.4 The illustrative site layout does not include detailed parking proposals given the outline nature of the planning application. The vehicle parking provisions will, however, be developed at the Reserved Matters stage and will be broadly in accordance with Exeter City Council's '*Sustainable Transport Supplementary Planning Document*' (2013), which provides the following pertinent standards:

Table 5-1: ECC minimum residential vehicle parking standards

Land Use Type	Minimum Spaces
Residential	1.5 spaces per dwelling

5.4.5 In addition, the Residential Design SPD provides further elaboration for dwellings, including guidance on unallocated parking, and guidance on the design and layout of parking. The SPD states that "*The City Council… advise that parking provision should provide sufficient unallocated parking to provide for the additional need demonstrated by the… car ownerships patterns for Exeter*".

5.4.6 Figure 6.2 of the SPD, which is referred to in the Sustainable Transport SPD, sets out the requirements for unallocated spaces per dwelling; this has been replicated in **Table 5-2** below.

Table 5-2: Requirement for unallocated spaces per dwelling (Figure 6.2 of ECC's Residential Design SPD)

Houses			
Allocated space per dwelling	0	1	2
1 bedroom	1.0	-	-
2 bedrooms	1.1	-	-
3 bedrooms	1.23	+0.4	+0.1
4 bedrooms	1.32	+0.5	+0.1
5 bedrooms	1.54	+0.7	+0.15

5.4.7 The SPD states that "*The tables in Figure 6.2 set out the number of unallocated spaces per dwelling required in relation to the number of allocated spaces provided. For example for each 3 bed privately owned house with 1 allocated parking space an additional 0.4 unallocated spaces are required to accommodate additional demand and visitor parking*", however, this should also ensure "*a maximum average of 1.5 spaces per dwelling.*"

5.4.8 It is additionally noted within the SPD that "*A single garage counts as one allocated space.*"

5.4.9 The parking strategy for the site will ensure that vehicles which are associated with the development proposals will be accommodated within this site, preventing the need for vehicles to park on the adjacent highway network.

5.4.10 The Residential Design SPD additionally provides guidance on electric vehicle charging, stating that

"Developers should plan for the future installation of electric car charging points for all on-street parking, [and] As a minimum ducting and potential for easy connection to the electricity network should be provided to allow for future installation of charging apparatus."

5.4.11 The SPD additionally states that

"*Electricity supply to garages is also important* [and that] *Electric cars and disability vehicles need to be re-charged and mains sockets and lighting will encourage use of garages.*"

5.4.12 At this stage it is envisaged that the development will provide electric vehicle charging facilities in accordance with the most up-to-date guidance available at the RMA stage, and in liaison with DCC. The provision of electric charging facilities will encourage future residents to shift towards cleaner fuel and will also aid in reducing carbon emissions from the site, thereby reducing the potential impact on the air quality of the local area.

5.4.13 The accelerated uptake of Electric Vehicles (EVs) within the UK is primarily being delivered through Government policy (i.e. Road to Zero) and accompanying regulatory (i.e. Building Regulations) and financial measures (i.e. Company Car Tax or Electric Vehicle Homecharge scheme) and seeks to achieve both the climate change and air quality benefits that EV technology promises.

5.5 Mobility Hub

5.5.1 To increase the attractiveness of sustainable, low carbon modes of travel, onsite access to electric shared mobility options will be provided. This will consist of a block of 6 parking bay spaces within the development to provide access to an electric car club vehicle, shared electric bikes and traditional cycle parking. As part of the development the following infrastructure is proposed:

- Spaces 1-2 – Shared Electric Bikes. Developer to provide and install 10 – 12 bike terminal dock. (Bikes to be provided by operator).
- Spaces 3-4 Dual Electric Car Charger. One space to be allocated for use by car club only (Vehicle and Electric charger to be delivered by developer) the other to be used as public electric vehicle charge point for resident's use.
- Spaces 5-6 – To provide future flexibility for growth in EV demand. In interim to be provided as additional visitor cycle parking (Sheffield Stands).

5.6 Travel Plan

5.6.1 In addition to, and in support of this TA, an Interim Travel Plan (TP) has been submitted with this planning application. In general terms, a TP is a management tool that brings together transport issues into a co-ordinated strategy and contains a package of measures and initiatives to minimise the number and length of car trips generated by the development, whilst also supporting more sustainable modes of transport and reducing the overall need to travel.

5.6.2 The Interim Travel Plan has been prepared in accordance with pertinent national and local guidance, and includes a site audit, action plan, monitoring strategy, and targets for a reduction in vehicle trips.

5.7 Health and Wellbeing

5.7.1 **Chapter 2** of the report concludes that the site is located in a sustainable location, with access to schools, employment, leisure, and retail facilities within the recommended walking and cycling distances from the site.

5.7.2 In addition, the proposed development, as described in this chapter, will deliver a permeable development with new and improved pedestrian / cycle facilities which are well integrated with the existing facilities; this will benefit both future residents of the site and the existing residents in the surrounding area.

5.7.3 There is evidence to suggest that walkable neighbourhoods can encourage active travel and thereby promote physical activity. Improving neighbourhood walkability, and access to recreational and non-recreational destinations (such as grocery stores, schools, and other amenities) can also impact positively upon social interaction amongst older adults. There is a wealth of high-quality evidence to show that investing in infrastructure to support walking can increase physical activity levels and improve mobility among children, adults, and older adults (Carlin et al., 2015; D'Hease et al., 2015; Grasser et al., 2013; Larouche et al., 2014; Mueller et al., 2015; Wanner et al., 2012).

5.7.4 Furthermore, walkable neighbourhoods have higher levels of 'social capital', trust and social cohesion, and lower levels of antisocial behaviour. These features of more walkable streets are likely to positively influence mental health, reducing the risk of social isolation.

5.8 Conclusions

5.8.1 The site location allows for the proposed development to be well connected to existing access and movement facilities, as well as facilities and amenities such as schools and retail / employment opportunities.

- The access strategy will ensure that the site can be accessed by vehicles in a safe and efficient manner via a realignment of Old Rydon Lane to form a new primary street, and supporting one-way scheme;
- The site will be highly accessible by pedestrians and cyclists, and will link into and improve existing provisions in the vicinity, thereby ensuring a permeable development;
- The proposed pedestrian / cycle strategy will facilitate convenient access to bus services via bus stops on Newcourt Way, and train services via Newcourt train station.
- A pedestrian / cycle link will be proposed up to the northeast site boundary to enable future connections to the IKEA roundabout via the allocated land to the north / northeast, and will provide additional opportunities for active travel.

- Parking provisions at the site will be provided in line with the pertinent policy and guidance documents;

- An Interim Travel Plan will be introduced as part of the development to minimise the number and length of car trips generated by the development, whilst also supporting more sustainable modes of transport and reducing the need to travel; and

- The site proposals provide a realistic sustainable transport strategy which is not reliant on the car, which will alleviate impact on air quality, and therefore aligns well with the UK's Transport Decarbonisation Plan and the Exeter Transport Strategy. Moreover, site proposals will increase walkability in the wider area and provide opportunity to travel to education and employment facilities by walk or cycle, thereby providing health and mental wellbeing benefits to the future residents of the site.

6 Multi Modal Travel Demand Analysis

6.1 Introduction

6.1.1 The following section presents the analysis undertaken to establish the potential travel demand of the proposed development. The approach to the assessment has been agreed with DCC; the Scoping Note, which was submitted for comment in May 2021, is included as **Appendix B** to this report.

6.2 Trip Generation

Extant Development

6.2.1 In order to understand the extant trip generation of the nursery which currently occupies the site, the following information has been provided from the owners:

- Monthly transaction data for 2008 – 2020 (March);
- Number of staff – c. 30 full-time, with additional part-time employees;
- Number of car parking spaces – 75 marked spaces, overflow car park area, and unmarked area of 1,215sqm. The total number of spaces has been approximated to c. 125 spaces including staff parking;
- 669sqm of retail floorspace, 3,568sqm of plant area / furniture sale floorspace, 107 sqm of café floorspace (excluding the kitchen), and additional land of 858sqm. This has been equated to a total floorspace of 5,202 sqm.

6.2.2 The monthly transaction data has been used to predict the daily and peak hour trips that the Nursery likely generated when fully operational, based on:

- An average of data from May 2018 and May 2019 (which has been established as the peak season for the garden centre); and
- An assumption that the site was open 7 days per week.

6.2.3 As a result, it has been forecast that during the peak season, the Nursery likely generated in the order of 314 daily trips. However, this does not include people who visited the Nursery but did not make a purchase, or customers who only visited the site's café; as such, it is anticipated that the actual number of daily / peak hour trips will be greater than 314.

6.2.4 As such, an alternative methodology has been established, and this is set out below.

6.2.5 The TRICS database has been interrogated with a view to deriving vehicle trip rates for the garden centre based on parameters such as floorspace or number of employees; however, it is understood that at present, the TRICS database does not include Nursery sites where the weekday traffic has been captured. This is of particular importance, as it will be necessary to establish the impact of the proposed residential development on the network peak hours, which are weekdays 0800-0900 and 1700-1800, and compare this against the impact of the extant Nursery against the same baseline.

6.2.6 In order to generate this comparative data, vehicle trip rates for a Garden Centre with a floor area of c.5000 square metres have been derived from the TRICS database.

6.2.7 In addition, trip rates from a B&Q store in Exeter have been reviewed in order to establish the ratio of weekend trip rates to weekday peak hour traffic. Using TRICS guidance, the weekend trip rates are established for the Nursery and using ratios from the existing B&Q store, trip rates for the AM and PM peak hour are derived.

6.2.8 This equates to the following vehicle trip rates and vehicle trip generation for the 5,202sqm which comprise the existing Nursery.

Table 6-1: Extant Nursery vehicle trip rates and trip generation (5,202sqm)

	AM Peak (0800 – 0900)			PM Peak (1700 – 1800)		
	Arr	Dep	Tot	Arr	Dep	Tot
Extant Nursery vehicle trip rates[7]	0.186	0.222	0.408	0.566	0.677	1.242
Extant Nursery vehicle trips (5,202sqm)	10	12	21	29	35	65

Residential Development

6.2.9 In order to calculate the forecast trip generation of the proposed development, vehicle trip rates have been extracted from the IKEA Way residential application (planning ref, 21/0496/FUL); this is on the basis that this application made use of trip rates from the Newcourt Masterplan strategic model, as agreed within the outline planning application 13/4524/01 and that this was acceptable to DCC and HE. The decision on the recent planning application reference 21/0496/FUL is awaited, but DCC has raised no objection to the submitted Transport Assessment and Addendum Technical Note as part of the previous application (19/1467/FUL). The same transport documents have been referred within the new application (21/0496/FUL).

6.2.10 DCC's comments on the recent application note that *"As part of application 19/1647/FUL a Transport Assessment and Addendum Technical Note was submitted. Whilst the internal layout of this application has changed, the off-site traffic and impact has not altered since the latest technical note which detailed the impact of closing the A379 vehicular egress from the site. The conclusions set out in our previous response therefore remain valid. The site is accessible by non-car modes and residual impact of the residential development can be accommodated on the local highway network."'*

6.2.11 **Table 6-2** below presents these trip rates and the resulting trip generation potential of the 350 dwellings proposed.

Table 6-2: Proposed residential development vehicle trip rates and trip generation (350 dwellings)

	AM Peak (0800 – 0900)			PM Peak (1700 – 1800)		
	Arr	Dep	Tot	Arr	Dep	Tot
Residential vehicle trip rates[8]	0.090	0.360	0.450	0.297	0.140	0.437
Residential vehicle trips (350 dwellings)	32	126	158	104	49	153

[7] Vehicle trip rates expressed as per 100sqm
[8] Vehicle trip rates expressed as per dwelling

Net Trip Generation

6.2.12 The 'net' impact of the proposed development in terms of vehicle trip generation has been calculated by subtracting the extant Nursery trips from the proposed residential development trips. **Table 6-3** below summarises the resulting net vehicular impact.

Table 6-3: Net vehicular trip generation

	AM Peak (0800 – 0900)			PM Peak (1700 – 1800)		
	Arr	Dep	Tot	Arr	Dep	Tot
Forecast residential vehicle trips	32	126	158	104	49	153
Extant Nursery vehicle trips	10	12	21	29	35	65
Net vehicular trip generation	22	114	137	75	14	88

6.2.13 The analysis demonstrates that the proposed development is forecast to generate a net additional 137 two-way trips in the AM peak, and 88 two-way trips in the PM peak.

6.3 Multi-Modal Trip Generation

6.3.1 In order to generate the total person trip generation of the proposed development from the vehicle trip generation established above, a modal share has been derived from the 2011 Census dataset '*QS701EW – Method of travel to work*' for the Exeter 011 MSOA area, within which the site is situated.

6.3.2 **Table 6-4** below sets out the proposed modal share for the development as derived from the 2011 Census. It should be noted that the below mode share is a worst case scenario based on the most recent available Census data, and it is acknowledged that in reality the future mode share will have significantly higher share of active travel, as proposed within Exeter Transport Strategy. The proposed pedestrian-cycle strategy outlined within Chapter 5 will complement the vision set out within the Exeter Transport Strategy.

Table 6-4: Proposed modal share

Mode of Transport	Modal Share (%)
Walk	13.8%
Cycle	5.5%
Public Transport	11.4%
Vehicle Passenger	6.1%
Vehicle Driver	63.2%
Total	**100%**

6.3.3 The resulting person trip generation for the proposed development has been calculated from the information included in **Tables 6-3** and **6-4** above and is summarised in **Table 6-5** below.

Table 6-5: Multi-modal trip generation of the residential development (350 dwellings)

	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	Arr	Dep	Arr	Dep
Walk	5	25	16	3
Cycle	2	10	6	1
Public Transport	4	21	13	2
Vehicle Passenger	2	11	7	1
Vehicle Driver	22	114	75	14
Total	**35**	**181**	**118**	**22**

6.4 Conclusions

6.4.1 The above analysis is based on both a ‘traditional’ trip generation methodology which makes use of comparable trip rates, and a more ‘bespoke’ methodology for extant use trip generation which seeks to relate observed site-specific data with information derived from the TRICS database.

6.4.2 The above analysis is additionally focused on a single fixed-hour peak, without any adjustments being made to take account of changes in travel behaviour that would be expected due to factors such as:

- Adjusting the time of the trip, such as leaving for work earlier / later due to more flexible and agile working arrangements;
- Not making the trip, such as by working from home;
- Shifting the journey mode from private car to active and sustainable transport modes such as walking / cycling or making use of public transport; or
- Shifting the journey mode to new / emerging modes, such as shared / personal e-scooters or bikes (imminent in the near future).

6.4.3 Furthermore, recent travel trends and the post COVID-19 ‘new normal’ would likely include a greater proportion of the workforce working from home than previously and more employers embracing agile working practices, which is thought likely to significantly reduce peak hour commuting trips.

6.4.4 These trends have not been accounted for within the analysis, and as such the above forecasted trip generation is considered to be robust.

7 Cumulative Traffic Impact Assessment

7.1 Introduction

7.1.1 This chapter assesses the impact of full development on the local and strategic highway network, and therefore provides a cumulative impact assessment. It includes a summary of the analysis undertaken in order to generate the baseline and future year traffic scenarios, and then assesses the capacity of junctions within the study area under these scenarios.

7.2 Traffic Impact Study Area

7.2.1 In order to assess the impact of the net vehicular traffic generated by the application, the following study area has been established:

- A379 Rydon Lane / Old Rydon Lane junction;
- Countess Wear signal-controlled roundabout junction;
- A379 Rydon Lane / Newcourt Way / Russel Way staggered signal-controlled junction;
- Old Rydon Lane / Newcourt Way / River Plate Road staggered junction;
- Newcourt Way / IKEA Way roundabout junction; and
- M5 Junction 30 signal-controlled junction.

7.2.2 Together, these junctions comprise the study area to be considered within this TA; beyond the scope of these junctions, it is considered that the traffic associated with the proposed development will have dispersed across the network to a degree at which it is unlikely to have a significant effect on any further junctions.

7.3 Assessment Years and Traffic Growth

7.3.1 The impact of the proposed development on the surrounding highway network needs to be considered beyond its opening year. 2027 is considered to represent an appropriate future year for the site, as this takes into account the timescales for the outline planning permission, the Reserved Matters stage, the phased build-out of the development, and five years following the application validation.

7.3.2 Within the Newcourt area that the site is situated within (as designated by Exeter City Council (ECC)), a number of developments have already been delivered or are committed through the obtention of planning consent. These include the following:

- Holland Park, Old Rydon Lane (12/2530/03);
- Land to the South Newcourt Drive, 82 dwellings (17/0006/FUL);
- Beech Cottage, Old Rydon Lane (12/0920/03);
- Seabrook Orchards (11/0920/03);
- Lower RNSD site, Topsham Road (12/0870/02);
- Land North of Old Rydon Lane (12/0921/02);

- Seabrook Mews, Lower RNSD Topsham Road (12/0131/02);
- Former Royal Naval Stores Depot (07/1176/02);
- IKEA (13/4525/01);
- IKEA Way, Residential (19/1467/FUL and 21/0496/FUL);
- 250 bed Sandy Park Hotel (17/0665/OUT);
- Land at Newcourt, 450 houses with link road.

7.3.3 In support of, and response to, the significant level of development coming forward in the area, DCC commissioned a strategic model to be prepared for the area. The model, which has previously been used in support of the IKEA Way residential application (21/0496/FUL), includes a 2021 Forecast Year scenario.

7.3.4 In addition, a Transport Assessment submitted in support of the '*Land at Clyst Road*' application (planning ref. 17/1148/OUT) presented a 2027 Future Year scenario which utilised the forecast set out within the Strategic Model. The Addendum TA for this application included analysis which takes into account 'one-way' movements on Old Rydon Lane and flows associated with the Sandy Gate Hotel application (planning ref. 17/0665/OUT), Outline consent for '*Land at Clyst Road*' was granted in January 2019, and it is therefore considered that these flows are acceptable to DCC.

7.3.5 On the basis that the use of strategic model flows in support of transport assessment / planning works has previously been accepted by DCC, these flows have been extracted from the strategic model and used to support the traffic analysis (as the 2027 Base scenario) detailed in this report.

7.3.6 These flows have, however, been manually adjusted within the spreadsheet model prepared by Stantec in support of this TA to take account of the western arm of the Newcourt Way / IKEA Way roundabout. Whilst the stub arm has been built and flows have been assigned to this arm as the previously proposed access / egress into the site within the Newcourt Masterplan / Strategic Model, this has been superseded by the proposed accesses onto Old Rydon Lane; as such, the flows assigned to / from this arm have been removed and have been replaced with the forecast development flows set out later in this chapter.

7.3.7 As set out in **Chapter 2** above, survey flows have been captured for junctions in the immediate vicinity of the site; to growth survey flows for the A379 Rydon Lane / Old Rydon Lane junction to the 2027 Future Baseline extracted from the Newcourt Strategic Model, growth factors have been derived from National Trip End Model (NTEM) and national / local trip end figures obtained from the TEMPro version 7.2b software.

7.3.8 The site falls within the boundary of the Exeter 011 middle super output area (MSOA), and growth factors have therefore been extracted for the local network based on the following criteria:

- Weekday AM and PM peak hours;
- Exeter 011 MSOA;
- All trip purposes;
- Principal road type; and
- Origin / Destination trip end types.

7.3.9 The resultant growth factors are shown in **Table 7-1** below.

Table 7-1: Assessment growth factors

Year	AM Peak	PM Peak
2017 – 2021	1.0501	1.0471
2021 - 2027	1.0481	1.0472

7.3.10 It is considered that these TEMPro factors will have taken account of committed development within the area on the basis that these are calculated with reference to the National Trip End Model (NTEM) and local planning assumptions. Notwithstanding this, however, committed development flows will be added; with the recent implementation of the one-way scheme on Old Rydon Lane, it is considered that the road will carry a low traffic volume, and therefore the TEMPro growth with additional calculated development flows are considered to result in a very robust assessment.

7.3.11 Flows have additionally been extracted from Transport Statements (TS) submitted in support of the Holland Park residential development (under planning refs. 12/2530/FUL and 19/0528/FUL); these flows have been used to supplement the strategic model flows in that they did not indicate the baseline flows for the Newcourt Way / Old Rydon Lane junction to the east of the site. These flows have been adjusted to tie in with the extracted strategic model flows using the growth factors established above and comprise part of the 2027 Future Baseline scenario. The 2027 Future Baseline traffic flows are provided in Figures 7-1 and 7-2 for the AM and PM peaks respectively.

7.4 Development Traffic Distribution and Assignment

Trip Distribution

7.4.1 The proposed residential development traffic has been distributed across the study area based on the distribution model agreed for the IKEA Way Residential application (planning ref. 21/0496/FUL), from which the residential vehicle trip rates were also derived.

7.4.2 This distribution, which has additionally been validated against data extracted from the 2011 Census database for the Exeter 011 MSOA, is set out in **Table 7-2** below.

Table 7-2: Trip distribution

Route Name	Distribution (%)
M5 North	6.0%
M5 South	6.0%
A376 East (Sidmouth Road)	16.0%
A379 Southwest	11.0%
Topsham Road	24.0%
Rydon Lane / Russell Way	33.0%
Newcourt Way South	4.0%

7.4.3 As established in **Chapters 2** and **5**, the site access strategy is such that the vehicular entry can only be gained from the site's western access point, whilst egress can be achieved via either of the access proposed. Notwithstanding this, traffic will likely seek to route via the most convenient access, be that the access closest to the car parking areas or for the shortest possible route.

7.4.4 As such, the proposed distribution for the development will differ between each access; the resultant distribution is set out in **Table 7-3** below. The proposed development flows are shown in full in Figures 7-3 and 7-4 for the AM and PM peaks respectively.

Table 7-3: Trip distribution by accesses

Route Name	Distribution (%)	Arrival		Departure	
		Access East	Access West	Access East	Access West
M5 North	6.0%	-	100%	100%	-
M5 South	6.0%	-	100%	100%	-
A376 East (Sidmouth Road)	16.0%	-	100%	100%	-
A379 Southwest	11.0%	-	100%	-	100%
Topsham Road	24.0%	-	100%	-	100%
Rydon Lane / Russell Way	33.0%	-	100%	100%	-
Newcourt Way South	4.0%	-	100%	100%	-

7.5 Traffic Impact Assessment

7.5.1 This section of the TA considers the net change in traffic resulting from the development proposals, and how it is predicted to impact upon local junctions, in order to help define further assessment. This assessment establishes the proportional impact at each junction within the study area in percentage terms and determines if this impact is significant enough to require more detailed capacity assessments.

7.5.2 The traffic generated by the development is compared with the 2027 Future Year scenario, and a summary of the impact at each junction is presented in **Tables 7-4** and **7-5**. Figures 7-5 and 7-6 show the full future traffic flow scenario, or the 2027 Future Baseline + Development flow scenarios, for the AM and PM peaks respectively.

Table 7-4: Junction percentage impact assessment (2027) – AM Peak

	AM Peak (0800 – 0900)			
	Total Flows		Percentage Impact	Trip Impact
	2027 Future Base Flows	2027 Future Base + Development Flows		
A379 Rydon Lane / Old Rydon Lane	1,862	1,924	3.3%	62

	AM Peak (0800 – 0900)			
	Total Flows		Percentage Impact	Trip Impact
	2027 Future Base Flows	2027 Future Base + Development Flows		
Countess Wear Roundabout	5,135	5,183	0.9%	48
A379 / Newcourt Way / Russell Way	4,407	4,484	1.7%	77
Newcourt Way / IKEA Roundabout	672	743	10.6%	71
Newcourt Way / Old Rydon Lane / River Plate Road	669	744	11.2%	75
M5 Junction 30	16,019	16,057	0.2%	38

Table 7-5: Junction percentage impact assessment (2027) – PM Peak

	PM Peak (1700 - 1800)			
	Total Flows		Percentage Impact	Trip Impact
	2027 Future Base Flows	2027 Future Base + Development Flows		
A379 Rydon Lane / Old Rydon Lane	2,255	2,334	3.5%	79
Countess Wear Roundabout	5,164	5,195	0.6%	31
A379 / Newcourt Way / Russell Way	4,043	4,075	0.8%	32
Newcourt Way / IKEA Roundabout	791	802	1.4%	11
Newcourt Way / Old Rydon Lane / River Plate Road	737	749	1.6%	12
M5 Junction 30	16,686	16,711	0.1%	25

7.5.3 **Tables 7-4** and **7-5** demonstrate that the proportional impact of the development will not exceed 11.2% and will be greatest in the AM peak hour.

A379 Rydon Lane / Old Rydon Lane

7.5.4 **Tables 7-4** and **7-5** demonstrate that the maximum potential development impact on the A379 Rydon Lane / Old Rydon Lane junction is 3.5%% (79 two-way trips), which will occur in the PM peak hour.

7.5.5 As the impact does not exceed the generally accepted threshold of 5% impact, the impact of the proposed development is not considered to be significant; however, as the development proposals include the realignment of Old Rydon Lane to form the primary street, this junction has been subject to further detailed capacity assessment in order to ensure its suitability as a site access.

7.5.6 The methodological approach and subsequent results of this assessment are provided in **Section 7.7**.

Countess Wear Roundabout

7.5.7 **Tables 7-4** and **7-5** demonstrate that the maximum potential development impact on the Countess Wear Roundabout is 0.9% (48 two-way trips), which will occur in the AM peak hour. This equates to a maximum of additional two cars every two and half minutes, which is not considered to constitute a significant impact on the operation of the roundabout.

7.5.8 As such, further detailed capacity assessments of this junction are not considered to be necessary.

A379 / Newcourt Way / Russell Way

7.5.9 **Tables 7-4** and **7-5** demonstrate that the maximum potential impact on the A379 Rydon Lane / Newcourt Way / Russell Way staggered junction is 1.7% (77 two-way trips), which will occur in the AM peak hour. This equates to an additional two cars every one and half minute two-way or less than one car every one and half minute in each direction, which is considered to be low.

7.5.10 The proportional impact of 1.7% is considered to be well within the daily variation in flows generally accepted threshold of 5%, therefore the impact of the proposed development is not considered to be significant. Furthermore, the transport reports submitted with the IKEA Residential application showed that the junction operates well within capacity with maximum Degree of Saturation of 72.6% in the PM peak. As such, further detailed capacity assessments of this junction are not considered to be necessary.

Newcourt Way / IKEA Way Roundabout

7.5.11 **Tables 7-4** and **7-5** demonstrate that the maximum potential development impact on the Newcourt Way / IKEA Way roundabout is 10.6% (71 two-way trips), occurring in the AM peak hour. Conversely, in the PM peak hour the maximum potential impact will be 1.4% (11 two-way trips).

7.5.12 As the forecast impact exceeds the generally accepted threshold of 5% in the AM peak scenario, further junction capacity assessment has been undertaken. The methodological approach and the subsequent results of this assessment are provided in **Section 7.7**.

Newcourt Way / Old Rydon Lane / River Plate Road

7.5.13 **Tables 7-4** and **7-5** demonstrate that the maximum potential development impact on the Newcourt Way / Old Rydon Lane / River Plate Road staggered junction will be 11.2% (75 two-way trips), occurring in the AM peak hour. Conversely, in the PM peak hour the maximum potential impact will be 1.6% (12 two-way trips).

7.5.14 As the forecast impact exceeds the generally accepted threshold of 5% in the AM peak scenario, further junction capacity assessment has been undertaken. The methodological approach and the subsequent results of this assessment are provided in **Section 7.7**.

M5 Junction 30

7.5.15 **Tables 7-4** and **7-5** demonstrate that the maximum potential development impact on Junction 30 of the M5 is 0.2% (38 two-way trips), which will occur in the AM peak hour. This equates to less than additional 2 two-way cars every three minutes.

7.5.16 The impact of the proposed development is not considered to be significant. As such, further detailed capacity assessments of this junction are not considered to be necessary.

7.5.17 We have consulted with National Highways (NH, formerly Highways England) and advised them of our conclusion. NH have provided initial comments on the assessment methodology, including trip rates, TEMPro growth factors, and the trip distribution, however, the assessment presented in this report is based on the scoping consultation with DCC and it is considered to provide a robust assessment for M5 J30.It is considered that NH could review this TA along with the overall site proposals, taking account of the fact that it is an allocated site within the adopted Local Plan, and provide their comments. We will, however, continue this dialogue with NH post application submission.

Conclusions

7.5.18 It should be borne in mind that the above analysis is considered to be an overly robust assessment, as whilst **Chapter 4** discusses the wider changes in travel trends, these have not been factored into this assessment. Additionally, the figures outlined above do not include the reductions in vehicle trip generation which will be achieved through the implementation of a comprehensive Travel Plan.

7.5.19 Notwithstanding this, the analysis set out above confirms that the study area considered in this Transport Assessment is appropriate, and that two of these junctions are anticipated to experience a potential development impact of 5% or greater. As such, these junctions will be subject to further capacity assessment, the details of which are provided in **Section 7.7** of this report.

7.6 Junction Model Set-Up

7.6.1 The operational capacity of the junctions identified above have been assessed using the ARCADY and PICADY modules of the industry-standard software programme '*Transport Research Laboratories (TRL) Junctions 10*'. The junctions identified for further assessment are:

- A379 Rydon Lane / Old Rydon Lane / Western Site Access Junction;
- Newcourt Way / IKEA Way roundabout; and
- Newcourt Way / Old Rydon Lane / River Plate Road staggered junction.

7.6.2 To create the junction capacity models, geometrical measurements have been taken from a combination of OS mapping and previously approved models, and input into new junction model files. The measurements have been prepared in accordance with TRL's User Guides.

Traffic Flow Input

7.6.3 Each junction model has been prepared with a 'One-Hour' profile input, which is considered to represent a robust assessment.

7.7 Junction Capacity Assessment

7.7.1 This section of the report details the results of the capacity assessments undertaken for each of the junctions identified in **Para. 7.8.1** above. The full output reports for each junction assessment are provided in **Appendix G**.

7.7.2 The capacity assessment comprises the following scenarios, assessing both the AM and PM network peaks:

- 2027 Future Baseline (shown in **Figures 7-1** and **7-2**); and
- 2027 Test Case (Future Baseline + Proposed Development; shown in **Figures 7-5** and **7-6**).

7.7.3 The capacity analysis results for each junction are summarised in the following tables: these results are presented in terms of 'ratio of flow to capacity' (RFC) and the mean maximum queue in 'passenger car units' (PCU) for each arm.

7.7.4 It is generally concluded that a junction is operating within capacity where the RFC is less than 0.85 and operating at capacity where the RFC is between 0.85 and 1.00. RFC values above 1.00 indicate that a junction is operating in excess of its capacity, and that long vehicle queues will begin to accumulate.

A379 Rydon Lane / Old Rydon Lane / Western Site Access Junction

2021 Model Scenarios

7.7.5 As established in **Section 2.10**, the A379 Rydon Lane / Old Rydon Lane junction was surveyed in 2021 and has been subject to junction capacity modelling in order to understand the current operation. The geometries have been derived from OS mapping, and the junction model has been prepared using the PICADY module of Junctions 10.

7.7.6 **Table 7-6** provides a comparison of the surveyed queues with the queues calculated within the junction model, and **Tables 7-7** and **7-8** provides the results of the 2021 Surveyed Base scenario alongside the 2021 Adjusted scenario, the latter of which has been prepared to establish the likely traffic flow prior to the impact of the COVID-19 pandemic.

Table 7-6: A379 Rydon Lane / Old Rydon Lane Model Validation Results; AM Peak

	A379 Rydon Lane		Old Rydon Lane	
	Surveyed Queue	Modelled Queue	Surveyed Queue	Modelled Queue
2021 Surveyed Base; AM Peak	0	0	1	0
2021 Surveyed Base; PM Peak	1	0	0	0

Table 7-7: A379 Rydon Lane / Old Rydon Lane, 2021 Baseline Results; AM Peak

AM Peak	A379 Rydon Lane		Old Rydon Lane	
	RFC	Queue	RFC	Queue
2021 Surveyed Base	0.09	0	0.01	0
2021 Adjusted Base	0.11	0	0.01	0

Table 7-8: A379 Rydon Lane / Old Rydon Lane, 2021 Baseline Results; PM Peak

PM Peak	A379 Rydon Lane		Old Rydon Lane	
	RFC	Queue	RFC	Queue
2021 Surveyed Base	0.10	0	0.04	0
2021 Adjusted Base	0.14	0	0.05	0

7.7.7 **Table 7-6** indicates that the model calculates comparable queues in the AM and PM peaks to that which were previously observed and is therefore considered to be appropriate for assessing the junction capacity.

7.7.8 Furthermore, **Tables 7-7** and **7-8** demonstrate that the junction is forecast to operate well within capacity in the 2021 baseline scenarios and could therefore accommodate the addition of further growth and / or development generated traffic flows.

2027 Model Scenarios

7.7.9 The proposed access strategy will result in a realignment of Old Rydon, and as such, a separate junction capacity model has been prepared in PICADY utilising the geometries outlined in Stantec **Drawing 47450/5501/SK03 Rev A**. This model has been used to assess the operational capacity of the junction in the 2027 Future Year and 2027 Test Case scenarios, and the results of this are shown in **Tables 7-9** and **7-10** below.

Table 7-9: 2027 A379 Rydon Lane / Old Rydon Lane; AM Peak

AM Peak	A379 Rydon Lane		Realigned Old Rydon Lane	
	RFC	Queue	RFC	Queue
2027 Future Baseline	0.11	0	0.01	0
2027 Test Case	0.13	0	0.09	0

Table 7-10: 2027 A379 Rydon Lane / Old Rydon Lane; PM Peak

PM Peak	A379 Rydon Lane		Realigned Old Rydon Lane	
	RFC	Queue	RFC	Queue
2027 Future Baseline	0.15	0	0.05	0
2027 Test Case	0.22	0	0.06	0

7.7.10 The analysis shows that the junction is forecast to operate well within capacity in both of the network peak hours, and with negligible queuing occurring on either approach following the addition of local traffic growth and the proposed development becoming operational.

Newcourt Way / IKEA Way Roundabout

7.7.11 As aforementioned, the IKEA Way residential planning application has been submitted and is supported by a Transport Assessment and Addendum Technical Note, which includes modelling of IKEA Way roundabout. It is considered that the submitted TA and junction modelling were acceptable to DCC, and on this basis, the junction geometries have been derived and used to prepare the Junctions 10 ARCADY model used in this assessment. The junction capacity results for the 2027 Future Baseline and 2027 Test Case scenarios are shown in **Tables 7-11** and **7-12** below.

Table 7-11: Newcourt Way / IKEA Way Roundabout Junction Capacity Results; AM Peak

AM Peak	Newcourt Way (North)		IKEA Way		Newcourt Way (South)	
	RFC	Queue	RFC	Queue	RFC	Queue
2027 Future Baseline	0.06	0	0.08	0	0.41	1
2027 Test Case	0.06	0	0.08	0	0.47	1

Table 7-12: Newcourt Way / IKEA Way Roundabout Junction Capacity Results; PM Peak

PM Peak	Newcourt Way (North)		IKEA Way		Newcourt Way (South)	
	RFC	Queue	RFC	Queue	RFC	Queue
2027 Future Base	0.18	0	0.15	0	0.24	0
2027 Test Case	0.18	0	0.15	0	0.25	0

7.7.12 The analysis shows that the junction is forecast to operate well within capacity in both of the network peak hours, and with negligible queuing occurring on any approach following the addition of local traffic growth and the proposed development becoming operational.

7.7.13 The model output report is included in **Appendix G**.

Newcourt Way / Old Rydon Lane / River Plate Road Staggered Junction

7.7.14 The junction geometry has been taken from OS Mapping for the existing junction, and the proposed access strategy for the site does not include any changes to the junction geometry. Whilst the junction was not surveyed as part of the data collection and the modelled queues cannot be validated against the surveyed queues, based on our review of other applications in the area and our knowledge of the wider area, it is considered that the junction is not anticipated to have any operational issues.

7.7.15 In order to assess the impact of the development traffic on the operation of the junction, this junction has been modelled using the PICADY module of Junctions 10, and the results are shown in **Tables 7-13** and **7-14** below.

Table 7-13: Newcourt Way / Old Rydon Lane Junction Capacity Results; AM Peak

AM Peak	Old Rydon Lane (West)		Newcourt Way		Old Rydon Lane (East)		River Plate Road	
	RFC	Queue	RFC	Queue	RFC	Queue	RFC	Queue
2027 Future Base	0.17	0	0.00	0	0.00	0	0.00	0
2027 Test Case	0.30	0	0.00	0	0.00	0	0.00	0

Table 7-14: Newcourt Way / Old Rydon Lane Junction Capacity Results; PM Peak

PM Peak	Old Rydon Lane (West)		Newcourt Way		Old Rydon Lane (East)		River Plate Road	
	RFC	Queue	RFC	Queue	RFC	Queue	RFC	Queue
2027 Future Base	0.54	1	0.00	0	0.00	0	0.00	0
2027 Test Case	0.56	1	0.00	0	0.00	0	0.00	0

7.7.16 The analysis shows that the junction is forecast to operate well within capacity in both of the network peak hours, and with negligible queuing occurring on any approach following the addition of local traffic growth and the proposed development becoming operational.

7.7.17 The model output report is included in **Appendix G**.

7.8 Conclusion

7.8.1 This section of the TA evaluates the potential development impact on junctions within the study area and provides the results of further capacity analysis undertaken on junctions where this impact exceeds the generally-accepted threshold of 5%.

7.8.2 It is concluded that, based on the assessment undertaken above, that the proposed development will not have a severe impact on the local highway network and the proposals are therefore acceptable.

7.8.3 Travel planning measures will be implemented to encourage use of alternative modes and reduce the number of single occupancy vehicle trips arising from the proposed development, thereby further reducing the impacts of the development on the local highway network.

7.8.4 We have consulted with National Highways (NH, formerly Highways England) and advised them of our conclusion with regards to impacts at M5 J30. We will, however, continue this dialogue with NH post-application submission.

8 Proposed Package of Transport Measures

8.1 Introduction

8.1.1 The transport strategy considered within this TA focuses on making the best possible use of existing transport infrastructure, with the intention of mitigating the impact of the proposed development on this infrastructure, together with targeted improvements to promote sustainable modes of transport. This will be achieved, in order of preference, through:

- Demand management, including on-site micromobility provision; and
- Improvements to pedestrian / cycling facilities within the area

8.1.2 The sustainable transport strategy for the site is set out within **Chapter 5** of this TA, and includes:

Travel Planning

8.1.3 The application is supported by an Interim Travel Plan (TP), which should be read in conjunction with this TA. The Interim TP sets out the overarching aims, objectives, measures, and strategies to encourage the reduction of single occupancy private car trips associated with the proposed development.

Walking and Cycling Strategy

- Design of onsite infrastructure to accommodate pedestrian and cycle movement to, from, and through the development in line with Manual for Streets (MfS), National Design Guide principles and LTN1/20 Cycle Infrastructure Design;
- Downgrading Old Rydon Lane to a 'quiet street' for pedestrian, cycle, and local access for existing properties only, in line with DCC's identification of Old Rydon Lane as a 'Green Lane' for encouraging sustainable modes;
- Re-allocation of carriageway on Old Rydon Lane from the eastern access to provide a 2 metre wide 'light segregation' footway between the site and Newcourt Way;
- Provision of foot-cycle connection to the north to connect to the existing foot-cycleway bridge on the A379, thereby connecting to the strategic cycle route E9 and providing foot-cycleway through the site to connect into the cycle route within Holland Park and onwards to the wider cycle network as identified in the Newcourt Masterplan document (2010).
- 3 metre wide shared footway / cycleway to be provided on the southern edge of Old Rydon Lane, connecting the 'downgraded' section to the existing network provided on the A379 Rydon Lane;

Public Transport Strategy

- Re-allocation of carriageway on Old Rydon Lane to provide 2 metre wide 'light segregation' footway will improve pedestrian accessibility to bus stops on Newcourt Way and tie in with the existing pedestrian / cycle network which routes to Newcourt railway station.

Mobility Hub

8.1.4 To increase the attractiveness of sustainable, low carbon modes of travel, onsite access to electric shared mobility options will be provided. This will consist of a block of 6 parking bay spaces within the development to provide access to an electric car club vehicle, shared electric bikes and traditional cycle parking. As part of the development the following infrastructure is proposed:

- *Spaces 1-2 – Shared Electric Bikes. Developer to provide and install 10 – 12 bike terminal dock. (Bikes to be provided by operator).*

- *Spaces 3-4 Dual Electric Car Charger. One space to be allocated for use by car club only (Vehicle and Electric charger to be delivered by developer) the other to be used as public electric vehicle charge point for resident's use.*

- *Spaces 5-6 – To provide future flexibility for growth in EV demand. In interim to be provided as additional visitor cycle parking (Sheffield Stands).*

Parking Strategy

- Cycle parking to be delivered in line with ECC's '*Residential Design Supplementary Planning Document'*, Policy T3 and Schedule 2 of the Local Plan, and the '*Sustainable Transport Supplementary Planning Document*'.

- Vehicle parking, including the appropriate provision of electric vehicle charging spaces, to be delivered in line with the '*Residential Design Supplementary Planning Document' and the 'Sustainable Transport Supplementary Planning Document'*. The details of the EV charging facilities will be discussed with DCC at the Reserved Matters Application stage.

8.1.5 This strategy demonstrates the developer's commitment to the principles of sustainable development. The proposed localised improvements to the transport infrastructure, and the provision of a site-specific Travel Plan, will work in tandem to promote sustainable transport behaviour.

8.1.6 It is envisaged that the mitigation measures outlined would be secured through a Section 106 agreement and any planning conditions which would be associated with an outline consent. The above package of sustainable transport measures will support DCC's commitment to reduce carbon emissions and are considered to be in accordance with the UK government's Transport Decarbonisation Plan.

9 Summary and Conclusion

9.1 Introduction

9.1.1 This Transport Assessment (TA) has been prepared by Stantec on behalf of Waddeton Park Ltd and presents a comprehensive assessment of the transport context and potential impact of a proposed residential development of up to 350 dwellings in the Newcourt area of Exeter.

9.1.2 The TA has been prepared in accordance with advice set out within national and local planning policy and guidance.

9.2 Summary

9.2.1 The main findings of the TA are summarised below:

- The proposed development is compliant with all transport related policies at a national and local level.
- The site is an allocated site within the Newcourt development area, under policy CP19 of the adopted Exeter Core Strategy policy.
- A Scoping Report was prepared and submitted to Devon County Council (DCC) Highways in May 2021, which has informed the scope and methodological approach of this Transport Assessment.
- An Interim Travel Plan (TP) has been prepared in support of the proposed residential development and should be read in conjunction with this TA.
- To increase the attractiveness of sustainable, low carbon modes of travel, onsite access to electric shared mobility options will be provided. This will consist of a block of 6 parking bay spaces within the development to provide access to an electric car club vehicle, shared electric bikes and traditional cycle parking.
- The proposed development will be integrated with the wider Newcourt areaand, as such, the site will be highly connected to local educational, employment, retail / leisure, and community facilities, utilising the good quality pedestrian / cycle links which already permeate the area.
- The proposed development will additionally be well connected by public transport; bus routes accessible from the site provide regular and frequent services throughout the city, and there are multiple opportunities for further routes to be accessed, The site is in close proximity to Newcourt Rail Station, which provides realistic opportunities for travel to local, regional, and national destinations without the need of a private car.
- There are several leisure walking / cycling routes, such as National Cycle Route 2, which are accessible from the proposed development, representing health and wellbeing opportunities and benefits for future residents of the site.
- The existing road network in the vicinity of the site is in good condition and well-established; several roads to the east of the proposed development have been delivered within the last 10 years as part of the development of the Newcourt area.
- Based on the existing conditions of the surrounding highway network, and a review of the collision history within the area, it is not envisaged that the proposed development will result in or be precluded by any highway safety concerns.

- The proposed development will be accessed via Old Rydon Lane, which will be realigned and upgraded to become the development's primary street; access will be provided to the east and west.

- The existing Old Rydon Lane will be 'downgraded' to a 'quiet street' in line with DCC's identification, providing access for pedestrians, cyclists, and vehicle access to existing dwellings.

- A shared footway / cycleway will be provided at the western access to connect with the existing provision on the A379 Rydon Lane, and to the east, a 'light segregation' footway will be provided within reallocated carriageway space.

- The access strategy has been subject to a Stage 1 Road Safety Audit, and a Designers Response has been submitted.

- The development proposals will facilitate good pedestrian / cycle connections to the existing pedestrian / cycle and public transport facilities in the Newcourt area, including the Holland Park to Admiral Way cycleway which will route through the site and provide a new link.

- The vehicle trip generation of the site has been based on analysis informed from several sources and databases; this exercise has indicated that a total of 158 and 153 two-way trips in the AM and PM peak hours respectively are anticipated. Notwithstanding this, the extant trip generation associated with the Nursery which currently occupies the site has been subtracted from the proposed development's trip generation, resulting in a 'net' vehicular trip generation of 137 and 88 two-way trips in the AM and PM peak hours.

- The application of a modal share profile extracted from the 2011 Census database for the Exeter 011 MSOA area demonstrates that the proposed development will generate in the order of 216 and 140 two-way person trips in the AM and PM peak hours respectively.

- The vehicle trip distribution analysis has been based on the trip distribution accepted by DCC for IKEA Residential application.

- Baseline traffic flows have been derived from a mixed-methodological approach comprising the collection of independent traffic surveys commissioned by Stantec in 2021 and forecasts within the Newcourt Strategic Model for the 2027 future year scenario. These flows have been adjusted through the use of TEMPro growth factors and COVID-19 adjustment factors to present an appropriately synthesised 2027 forecast traffic model which can be used for further assessment.

- The development traffic has been added to the 2027 Future Base traffic flows in order to generate a 2027 Test Case scenario, which has been used to undertake the traffic assessment and junction capacity modelling undertaken in this TA. Whilst this TA sets out evidence to demonstrate changing travel trends, this has not been included within this assessment, i.e., no reductions have been applied to the forecasted base. Furthermore, no trip reductions which would be associated with the Travel Plan measures have been applied to the development trip generation in order to ensure a robust assessment is presented.

- Junction capacity models have been prepared using the industry-standard software published by TRL, Junctions 10, and the traffic flow data outlined. The capacity assessments have demonstrated that the proposed development will not have a significant impact on the operational capacity of junctions within the site's study area, and that the forecast vehicle trip generation of the proposed development can be suitably accommodated without the need for off-site physical mitigation.

9.3 Conclusion

9.3.1 The site forms a composite part of the Newcourt development area, and the traffic generated by the proposed development is not forecast to result in a severe impact, thereby according with the requirements of the National Planning Policy Framework.

9.3.2 The proposed access strategy has been subject to Stage 1 Road Safety Audit and a Designers Response has been submitted to DCC. The capacity assessment of the access junctions show that the junctions can operate within capacity with the development traffic. The impact of development traffic on offsite local and strategic network is not considered to be 'severe'.

9.3.3 Furthermore, the proposed development includes a suite of measures that would encourage active and sustainable travel patterns and provide health and wellbeing benefits to future site users.

9.3.4 The site is supported with an Interim Travel Plan, and the provision of full Travel Plan will be secured through a Section 106 agreement or an appropriate planning condition. Further, the site proposals include provision of a mobility hub to encourage the use of electric vehicles, car club and active travel from the site. In addition, the site will provide EV charging facilities in liaison with DCC, and the details will be agreed at the Reserved Matters Application stage. The above package of transport measures will support DCC's commitment to reduce carbon emissions and are considered to be in accordance with the UK government's Transport Decarbonisation Plan.

9.3.5 Considering the findings outlined above, and subject to securing the identified measures by way of an appropriate legal agreement, it is concluded that there are no reasons to refuse the planning application on highways and transport grounds.

Drawings

NOTES:

1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, CAPACITY TESTING, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP;

2. THE DETAILED DESIGN LAYOUT WILL BE DESIGNED IN ACCORDANCE WITH ALL RELEVANT DESIGN GUIDANCE AND STANDARDS;

3. THE LAYOUT HAS BEEN BASED ON THE APPROPRIATE DESIGN SPEED FOR OUR CURRENT PROPOSALS;

4. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT ASSOCIATED DOCUMENTS;

5. THE USE OF THE DRAWING DOES NOT ABSOLVE THE CLIENT FROM THEIR RESPONSIBILITIES IN REGARDS TO HEALTH & SAFETY AND CDM REGULATIONS; AND

6. TOPOGRAPHICAL SURVEY PROVIDED BY WEST COUNTRY LAND SURVEYS LIMITED AND RECEIVED ON 28.10.2020.

KEY:

HIGHWAY BOUNDARY INTERPRETED BY STANTEC ONTO OS MAPPING. RECEIVED FROM DEVON COUNTY COUNCIL 02.10.2019

INDICATIVE SITE BOUNDARY, INTERPRETED BY CLIFTON EMERY DESIGN (CED) ONTO OS MAPPING, BASED ON TITLE PLAN NUMBERS DN626137 & DN291892, AS CED DRAWING NUMBER 200909 L 01 01, NOV 2020

2.4M X 43M VISIBILITY SPLAY FOR JUNCTION OF NEWCOURT DRIVE (IN ACCORDANCE WITH MfS FOR 30MPH ROAD)

Mark	Revision	Date	Drawn	Chkd	Appd
B	Proposed layout updated in response to RSA comments	24.09.21	REM	PC	NT
A	Updated layout following client team comments	14.05.21	PC	NK	NK

SCALING NOTE: Do not scale this drawing - any errors or omissions shall be reported to Stantec without delay.

UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

Drawing Issue Status

FOR INFORMATION

LAND AT ST. BRIDGET'S NURSERY
OLD RYDON LANE - EASTERN SITE ACCESS
EXISTING ONE-WAY LAYOUT WITH 'LIGHT SEGREGATION' FOOTWAY

Client

WADDETON PARK LTD

Stantec

stantec.com/uk

BRISTOL
Tel: 01173 327 840

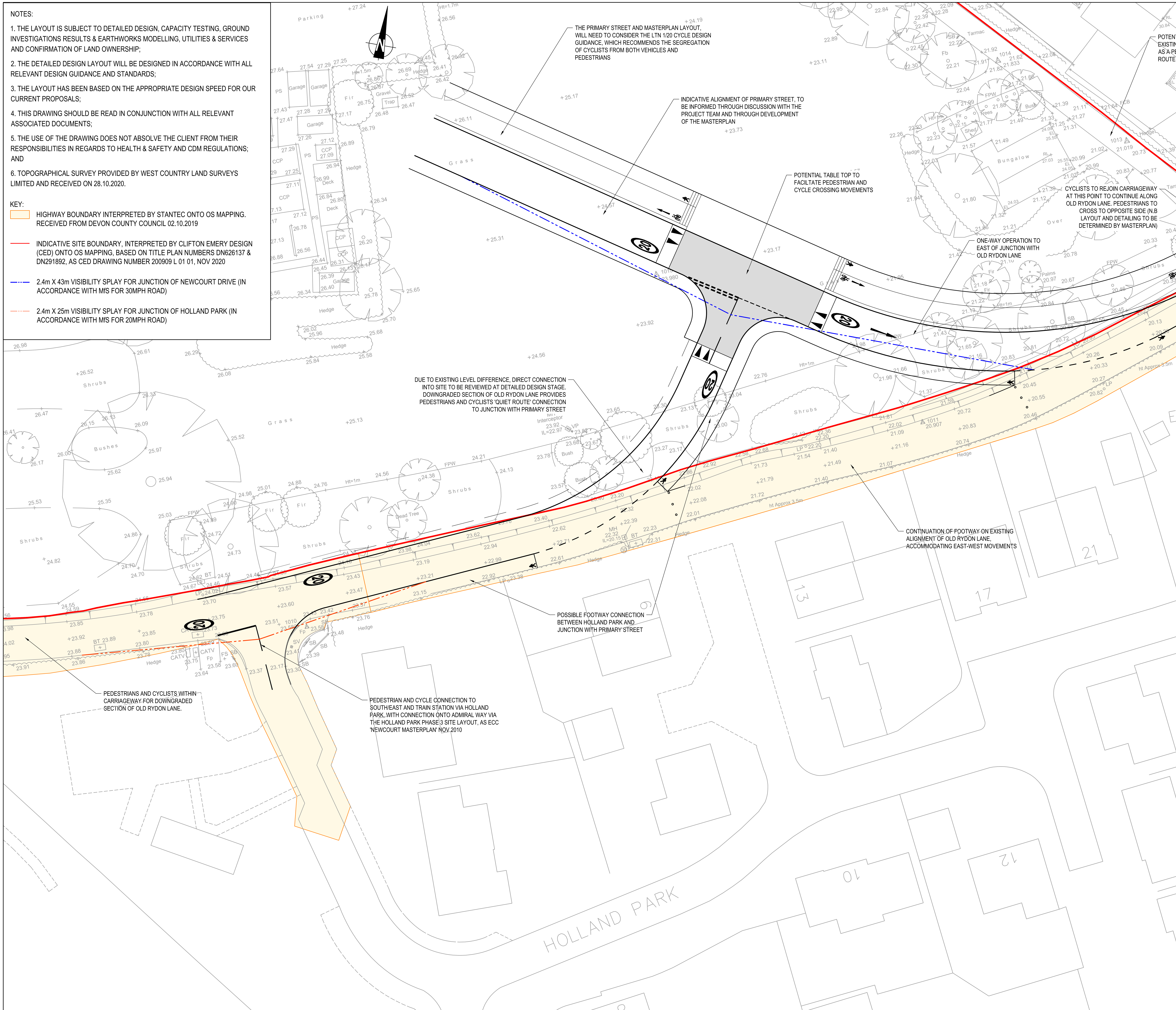
Date of 1st Issue	Designed	Drawn
09.12.20	PC	PC
A1 Scale 1:250	Checked NK	Approved NT
Drawing Number 47450/5505/SK01		Revision B

NOTES:

1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, CAPACITY TESTING, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP;
2. THE DETAILED DESIGN LAYOUT WILL BE DESIGNED IN ACCORDANCE WITH ALL RELEVANT DESIGN GUIDANCE AND STANDARDS;
3. THE LAYOUT HAS BEEN BASED ON THE APPROPRIATE DESIGN SPEED FOR OUR CURRENT PROPOSALS;
4. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT ASSOCIATED DOCUMENTS;
5. THE USE OF THE DRAWING DOES NOT ABSOLVE THE CLIENT FROM THEIR RESPONSIBILITIES IN REGARDS TO HEALTH & SAFETY AND CDM REGULATIONS; AND
6. TOPOGRAPHICAL SURVEY PROVIDED BY WEST COUNTRY LAND SURVEYS LIMITED AND RECEIVED ON 28.10.2020.

KEY:

- HIGHWAY BOUNDARY INTERPRETED BY STANTEC ONTO OS MAPPING. RECEIVED FROM DEVON COUNTY COUNCIL 02.10.2019
- INDICATIVE SITE BOUNDARY, INTERPRETED BY CLIFTON EMERY DESIGN (CED) ONTO OS MAPPING, BASED ON TITLE PLAN NUMBERS DN626137 & DN291892, AS CED DRAWING NUMBER 200909 L 01 01, NOV 2020
- 2.4m X 43m VISIBILITY SPLAY FOR JUNCTION OF NEWCOURT DRIVE (IN ACCORDANCE WITH MfS FOR 30MPH ROAD)
- 2.4m X 25m VISIBILITY SPLAY FOR JUNCTION OF HOLLAND PARK (IN ACCORDANCE WITH MfS FOR 20MPH ROAD)



Mark	Revision	Date	Drawn	Chkd	Appd
B	UPDATED LAYOUT FOLLOWING RSA STAGE 1 REPORT COMMENTS	13.09.21	REM	PC	NT
A	UPDATED LAYOUT FOLLOWING CLIENT TEAM COMMENTS	14.05.21	PC	NK	NK

SCALING NOTE: Do not scale this drawing - any errors or omissions shall be reported to Stantec without delay.
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Drawing Issue Status
FOR INFORMATION

LAND AT ST. BRIDGET'S NURSERY OLD RYDON LANE - EASTERN SITE ACCESS WITH DOWNGRADED OLD RYDON LANE AND CHANGE OF PRIORITY WITH PRIMARY STREET

Client
WADDETON PARK LTD

Stantec
stantec.com/uk

BRISTOL
Tel: 01173 327 840

Date of 1st Issue	Designed	Drawn
09.12.20	PC	PC
A1 Scale 1:250	Checked NK	Approved NT

Drawing Number	Revision
47450/5505/SK02	B

NOTES:

1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, CAPACITY TESTING, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP;
2. THE DETAILED DESIGN LAYOUT WILL BE DESIGNED IN ACCORDANCE WITH ALL RELEVANT DESIGN GUIDANCE AND STANDARDS;
3. THE LAYOUT HAS BEEN BASED ON THE APPROPRIATE DESIGN SPEED FOR OUR CURRENT PROPOSALS;
4. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT ASSOCIATED DOCUMENTS;
5. THE USE OF THE DRAWING DOES NOT ABSOLVE THE CLIENT FROM THEIR RESPONSIBILITIES IN REGARDS TO HEALTH & SAFETY AND CDM REGULATIONS; AND
6. TOPOGRAPHICAL SURVEY PROVIDED BY WEST COUNTRY LAND SURVEYS LIMITED AND RECEIVED ON 28.10.2020.

KEY:

HIGHWAY BOUNDARY INTERPRETED BY STANTEC ONTO OS MAPPING. RECEIVED FROM DEVON COUNTY COUNCIL 02.10.2019

INDICATIVE SITE BOUNDARY, INTERPRETED BY CLIFTON EMERY DESIGN (CED) ONTO OS MAPPING, BASED ON TITLE PLAN NUMBERS DN626137 & DN291892, AS CED DRAWING NUMBER 200909 L 01 01, NOV 2020

Mark	Revision	Date	Drawn	Chkd	Appd
A	Layout updated following RSA Stage 1 report	08.10.21	REM	NK	NT

SCALING NOTE: Do not scale this drawing - any errors or omissions shall be reported to Stantec without delay.

UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

Drawing Issue Status

DRAFT FOR COMMENT

LAND AT ST. BRIDGET'S NURSERY
A379 / OLD RYDON LANE JUNCTION LAYOUT AND PRIMARY STREET SITE ACCESS

Client

WADDETON PARK LTD

Stantec

Date of 1st Issue	Designed	Drawn
18.12.20	PC	PC
A1 Scale	Checked	Approved
1:250	NT	NT

Drawing Number: 47450/5505/SK03 — Revision: A

stantec.com/uk

BRISTOL
Tel: 01173 327 840

NOTES:

1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, CAPACITY TESTING, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP;

2. THE DETAILED DESIGN LAYOUT WILL BE DESIGNED IN ACCORDANCE WITH ALL RELEVANT DESIGN GUIDANCE AND STANDARDS;

3. THE LAYOUT HAS BEEN BASED ON THE APPROPRIATE DESIGN SPEED FOR OUR CURRENT PROPOSALS;

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5. THE USE OF THE DRAWING DOES NOT ABSOLVE THE CLIENT FROM THEIR RESPONSIBILITIES IN REGARDS TO HEALTH & SAFETY AND CDM REGULATIONS; AND

6. TOPOGRAPHICAL SURVEY PROVIDED BY WEST COUNTRY LAND SURVEYS LIMITED AND RECEIVED ON 28.10.2020.

KEY:

HIGHWAY BOUNDARY INTERPRETED BY STANTEC ONTO OS MAPPING. RECEIVED FROM DEVON COUNTY COUNCIL 02.10.2019, WITH UPDATE ALONG OLD RYDON LANE RECEIVED ON 03.02.21

INDICATIVE SITE BOUNDARY, INTERPRETED BY CLIFTON EMERY DESIGN (CED) ONTO OS MAPPING, BASED ON TITLE PLAN NUMBERS DN626137 & DN291892, AS CED DRAWING NUMBER 200909 L 01 01, NOV 2020

60m SIGHT STOPPING DISTANCE FOR BENDS (IN ACCORDANCE WITH DEVON DESIGN GUIDANCE FOR 30MPH ROAD)

PROPOSED CONTOURS

EXTENT OF INDICATIVE EARTHWORKS (SUBJECT TO DETAILED DESIGN). WORKS ASSUME A 1:3 GRADIENT TO TIE INTO EXISTING GROUND LEVEL WITH 0.5M BERM

Mark	Revision	Date	Drawn	Chkd	Appd
A	LTN 1/20 segregated footway/cycleways added, earthworks removed and title changed	08.10.21	REM	PC	NT

Drawing Issue Status
DRAFT FOR COMMENT

LAND AT ST. BRIDGET'S NURSERY

A379 / OLD RYDON LANE JUNCTION LAYOUT AND PRIMARY STREET SITE ACCESS

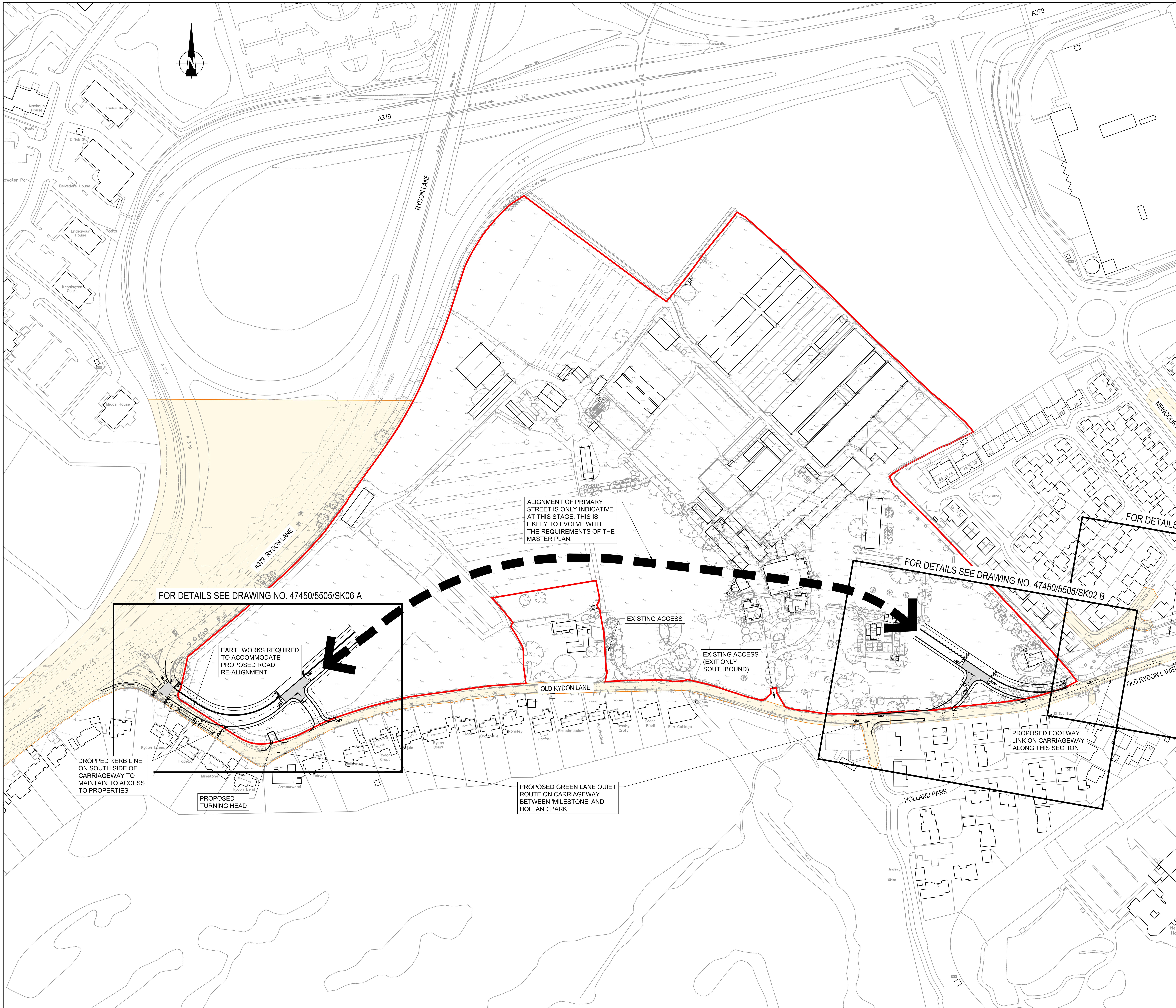
Client
WADDETON PARK LTD

Date of 1st Issue	Designed	Drawn
01.04.2021	ET	ET
A1 Scale	Checked	Approved
1:250	RAS	NK

Drawing Number: 47450/5505/SK06
Revision: A

Stantec
stantec.com/uk

BRISTOL
Tel: 01173 327 840



NOTES:

1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, CAPACITY TESTING, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP;

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6. TOPOGRAPHICAL SURVEY PROVIDED BY WEST COUNTRY LAND SURVEYS LIMITED AND RECEIVED ON 28.10.2020.

KEY:

HIGHWAY BOUNDARY INTERPRETED BY STANTEC ONTO OS MAPPING. RECEIVED FROM DEVON COUNTY COUNCIL 02.10.2019

INDICATIVE SITE BOUNDARY, INTERPRETED BY CLIFTON EMERY DESIGN (CED) ONTO OS MAPPING, BASED ON TITLE PLAN NUMBERS DN626137 & DN291892, AS CED DRAWING NUMBER 200909 L 01 01, NOV 2020

Mark	Revision	Date	Drawn	Chkd	Appd
B	A379/ Old Rydon Lane access layout updated	08.10.21	REM	NK	NT
A	Proposed layout updated in response to RSA comments	13.09.21	REM	PC	NT

SCALING NOTE: Do not scale this drawing - any errors or omissions shall be reported to Stantec without delay.
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

Drawing Issue Status
DRAFT FOR COMMENT

ST. BRIDGET'S NURSERY, NEWCOURT
HIGHWAY PROPOSALS PLAN

Client
WADDETON PARK LTD

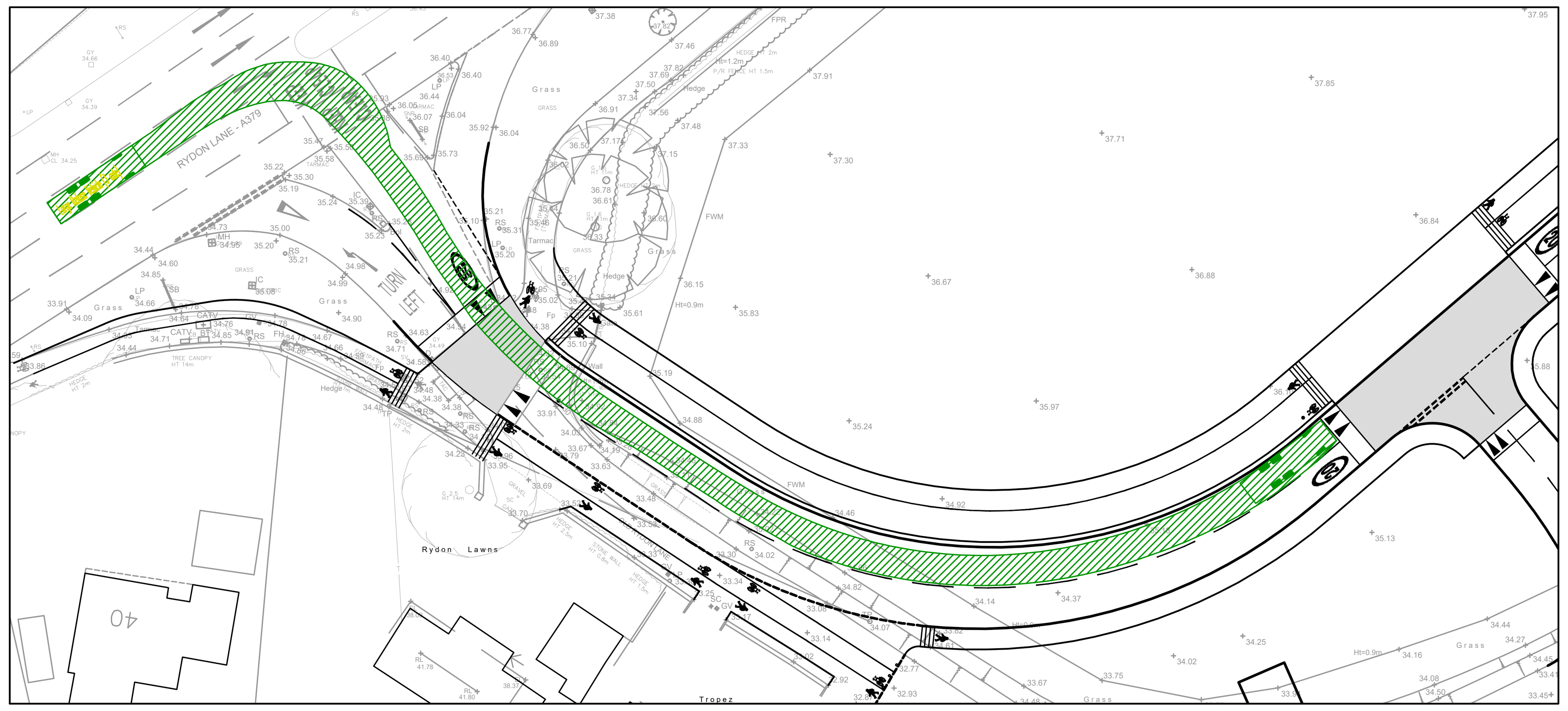
Date of 1st Issue	Designed	Drawn
30.06.2021	-	REM
A1 Scale	Checked	Approved
1:1250	NH	PC

Drawing Number: 47450/5505/SK09
Revision: B

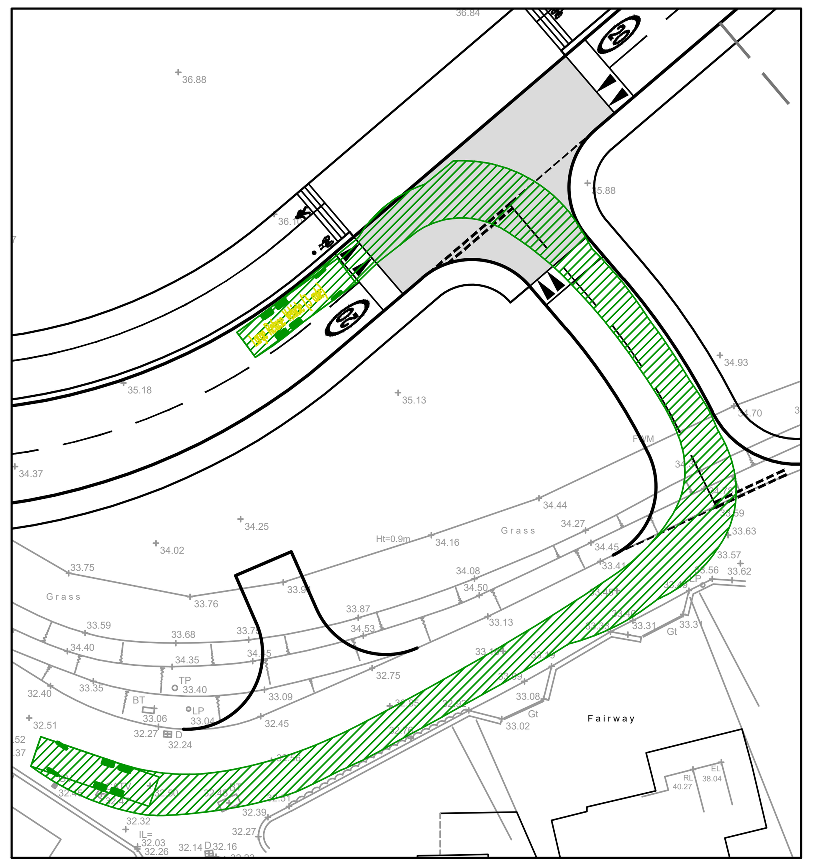
Stantec
stantec.com/uk

BRISTOL
Tel: 01173 327 840

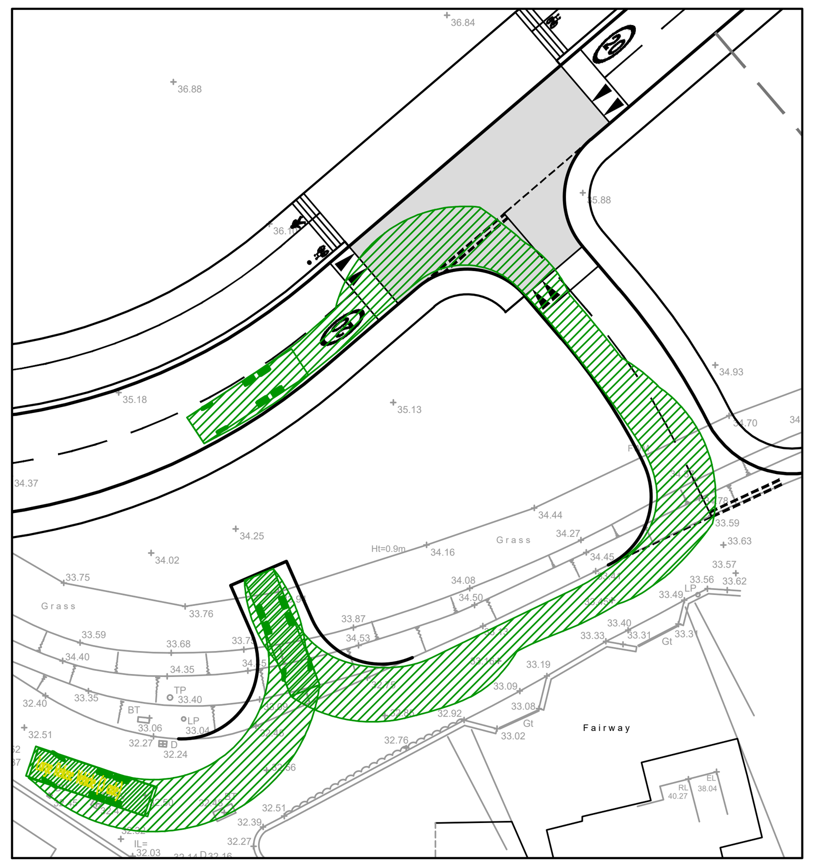
File Location: \\bri-vfps-001\bri\projects\47450 st bridget nursery, newcourt\cad\brief 5505 vehicle access\sketches\47450-5505-sk09 b highway proposals plan.dwg



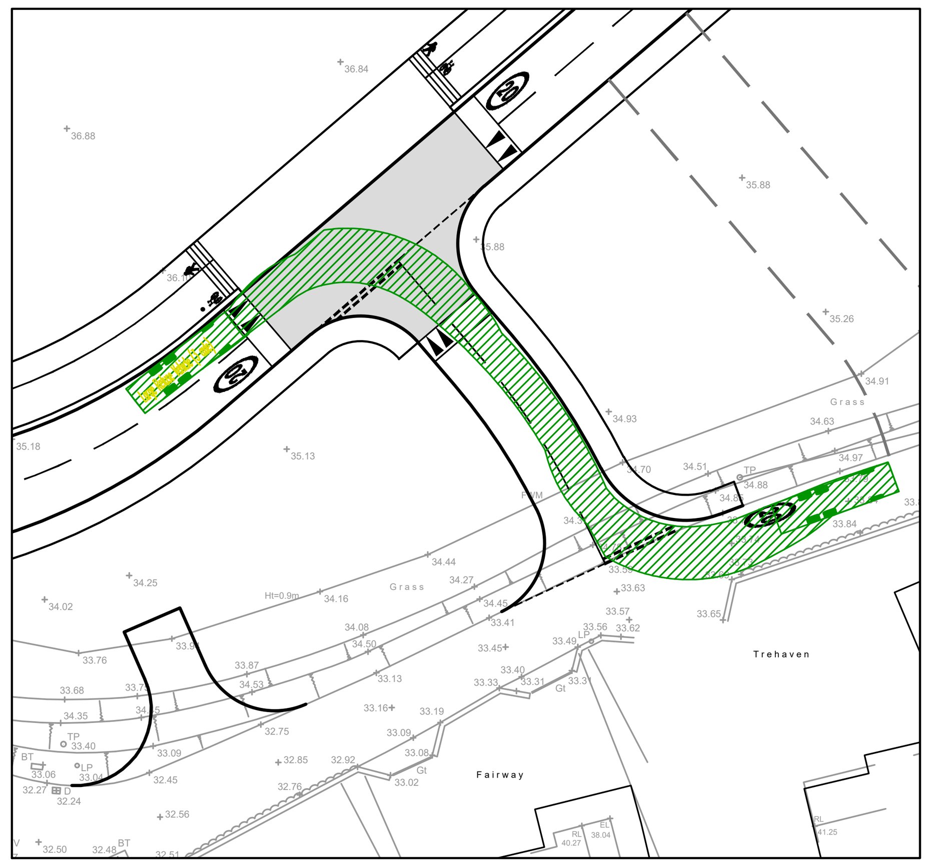
LARGE REFUSE TRUCK - EASTBOUND ALONG PRIMARY STREET



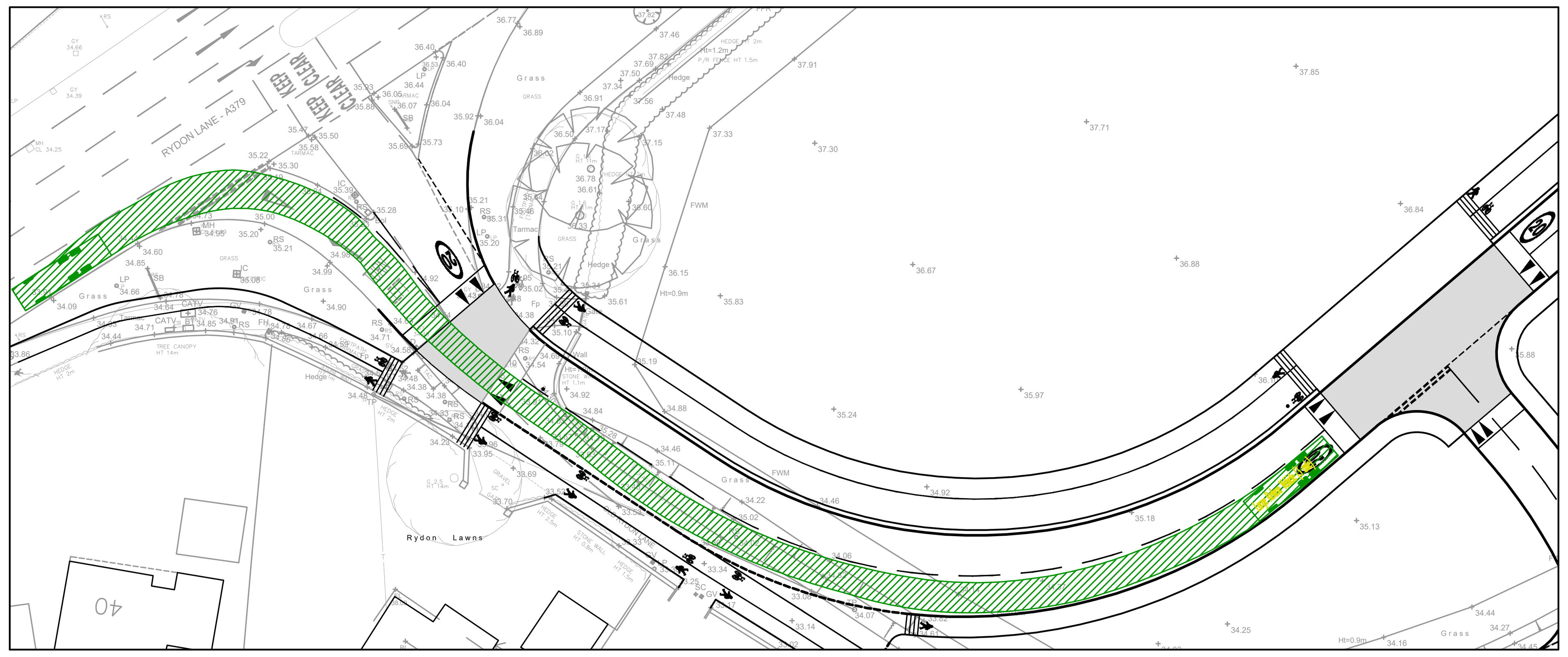
LARGE REFUSE TRUCK - INBOUND TO OLD RYDON LANE



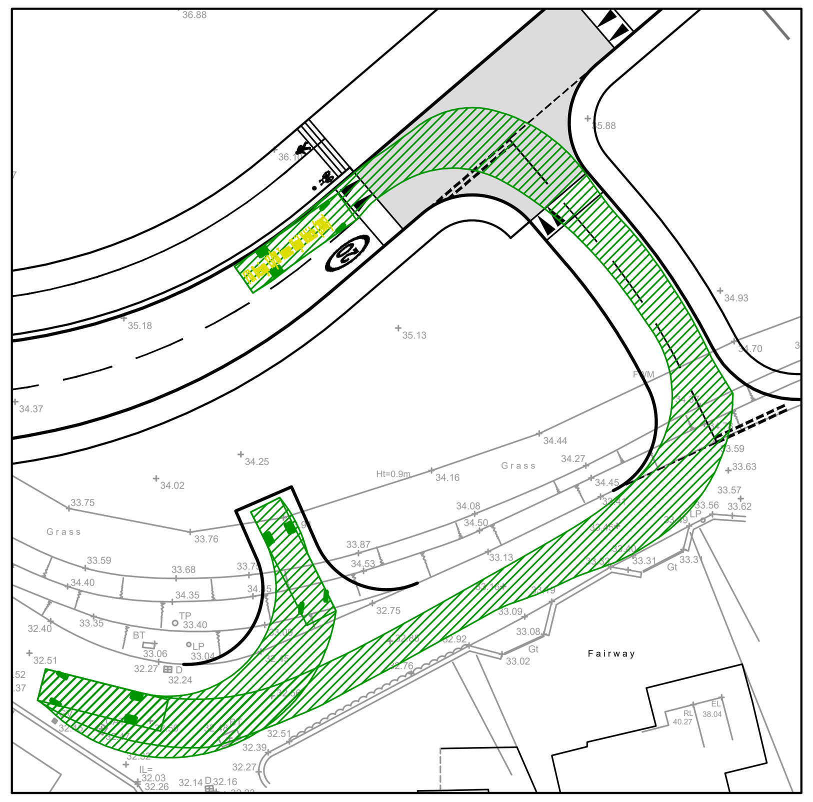
LARGE REFUSE TRUCK - OUTBOUND FROM OLD RYDON LANE



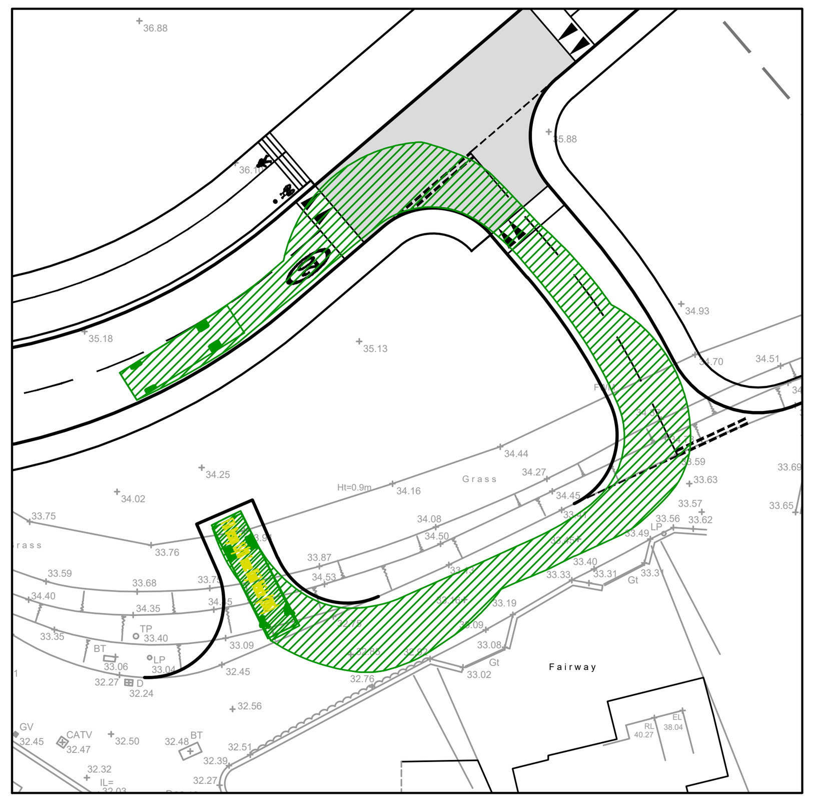
LARGE REFUSE TRUCK - EASTBOUND TO OLD RYDON LANE



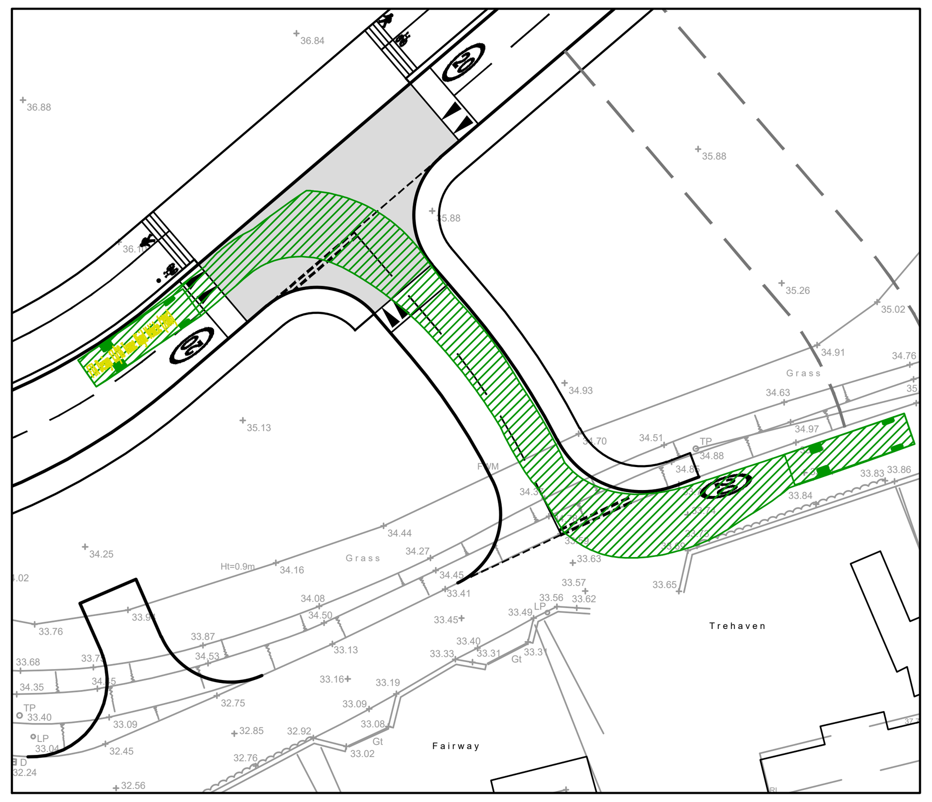
LARGE REFUSE TRUCK - WESTBOUND ALONG PRIMARY STREET TOWARDS A379



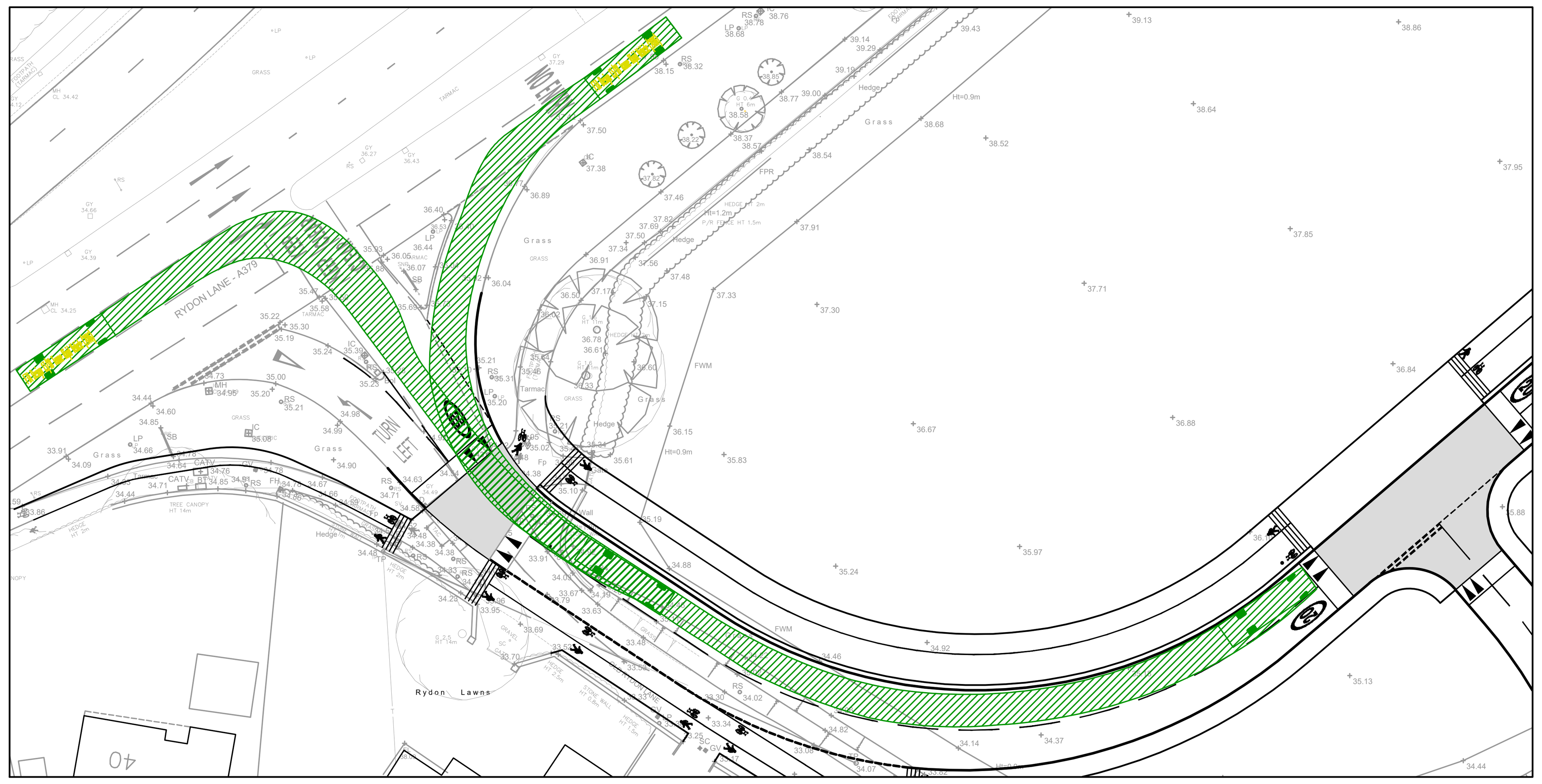
10m RIGID LORRY - INBOUND TO OLD RYDON LANE



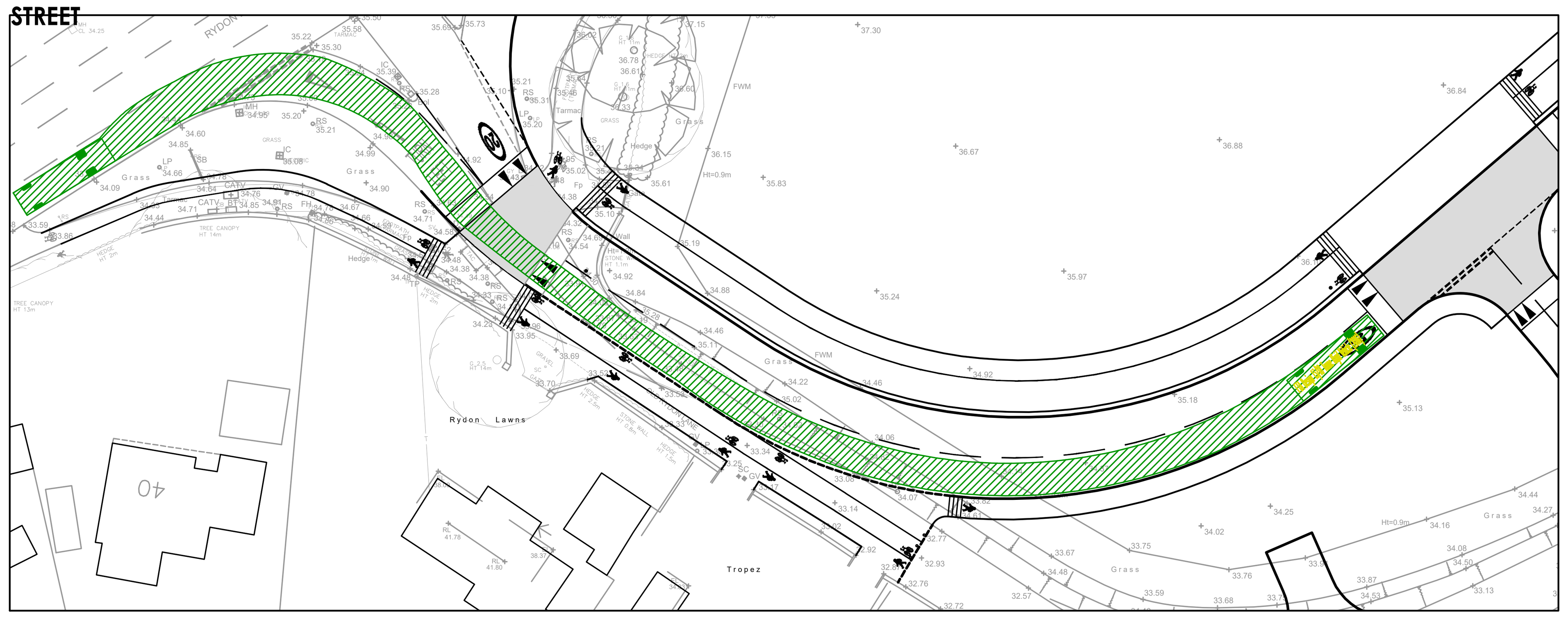
10m RIGID LORRY - OUTBOUND TO OLD RYDON LANE



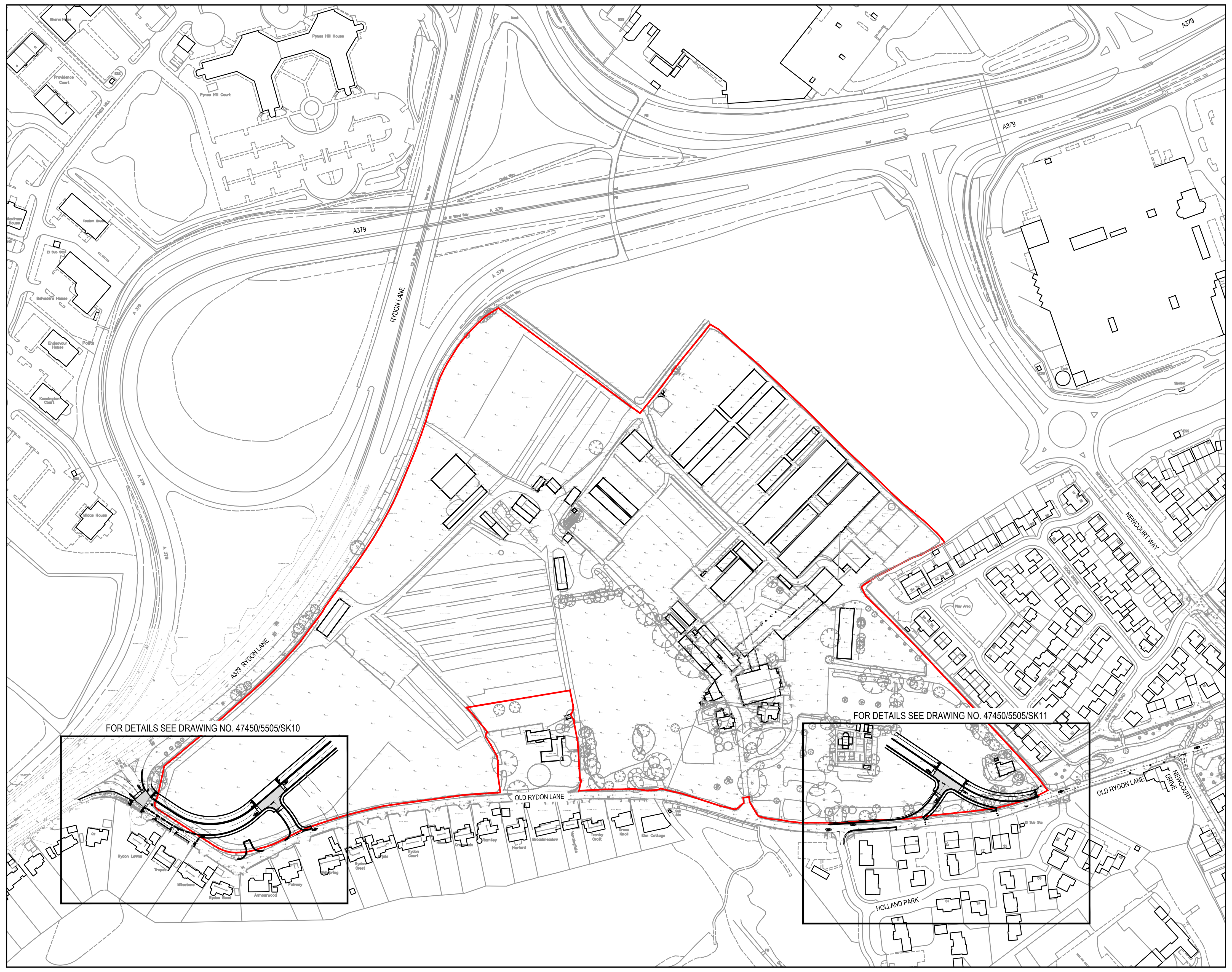
10m RIGID LORRY - EASTBOUND TO OLD RYDON LANE



10m RIGID LORRY - EASTBOUND ALONG PRIMARY STREET



10m RIGID LORRY - WESTBOUND ALONG PRIMARY STREET TOWARDS A379

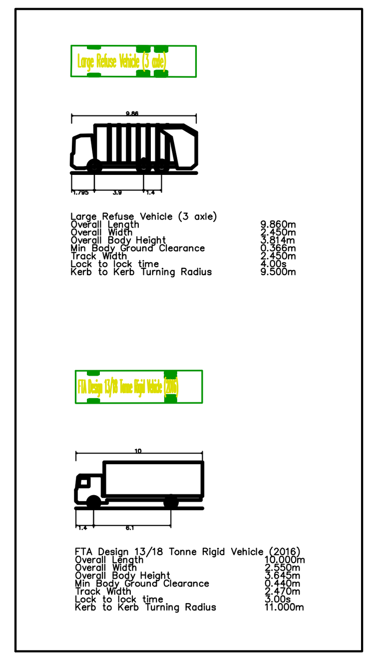


LOCATION PLAN

NOTES:

1. ALL VEHICLE TRACKING MOVEMENTS HAVE BEEN UNDERTAKEN AT A SPEED OF 10 MPH.
2. PLEASE SEE THE LATEST STANTEC DRAWING NO. 47450/5505/SK06 FOR THE HIGHWAY LAYOUT.
3. A 10m RIGID VEHICLE IS CONSIDERED TO BE THE LARGEST VEHICLE THAT IS LIKELY TO ACCESS THE SITE AND OLD RYDON LANE IN NORMAL CONDITIONS, AND THEREFORE PROVIDES THE WORST CASE SCENARIO FOR UNDERTAKING SWEPT PATH ANALYSIS.

VEHICLE PROFILES:



Mark	Revision	Date	Drawn	Chkd	Appd

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Drawing Issue Status

DRAFT FOR COMMENT

ST. BRIDGET'S NURSERY, NEWCOURT VEHICLE SWEPT PATH ANALYSIS FOR WESTERN SITE ACCESS

Client

WADDETON PARK LTD

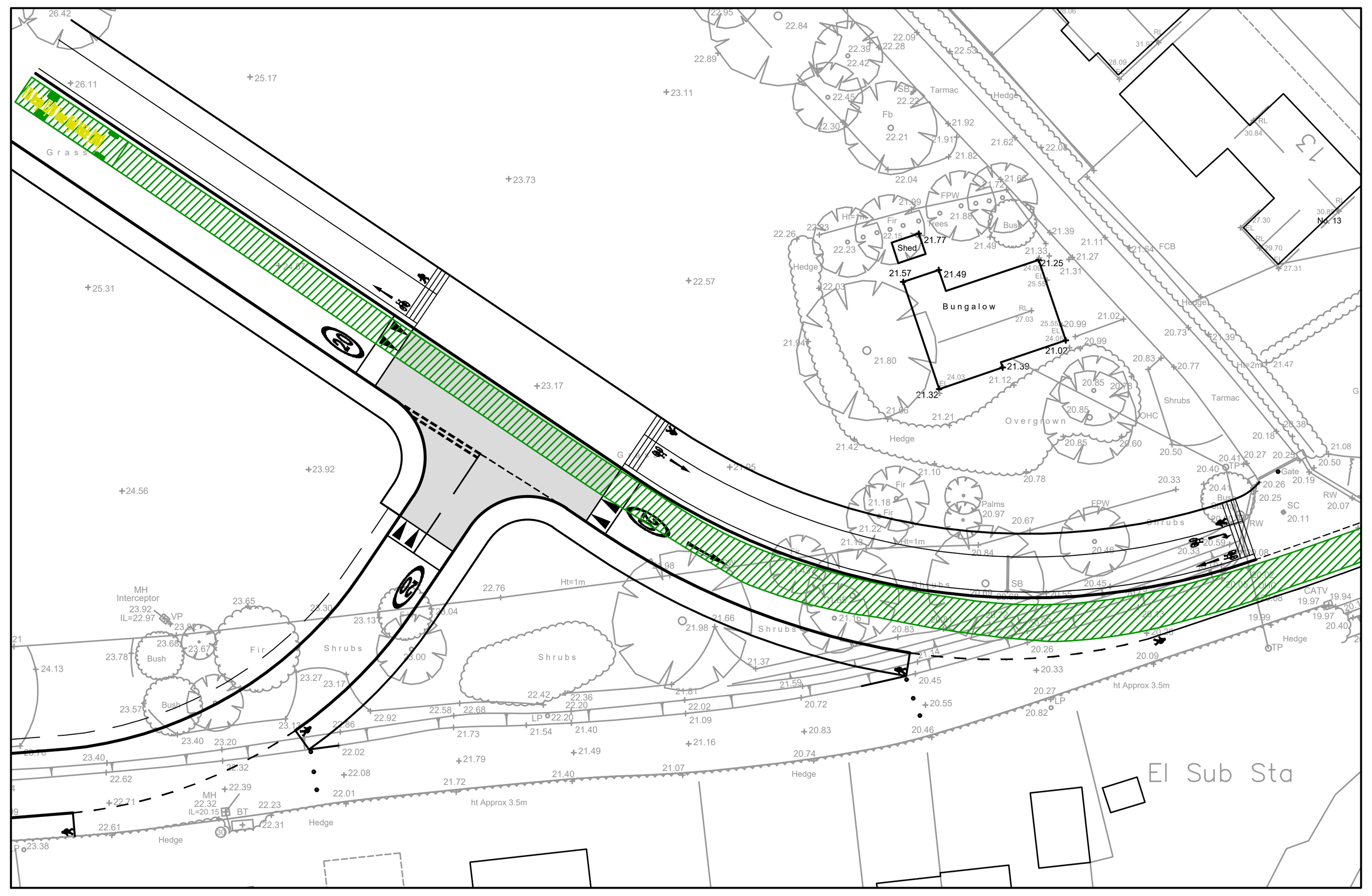
Date of 1st Issue	Designed	Drawn
20.08.2021	-	REM
A1 Scale	Checked	Approved
1:500 / 1:2500	NK	NT

Drawing Number	Revision
47450/5505/SK10	-

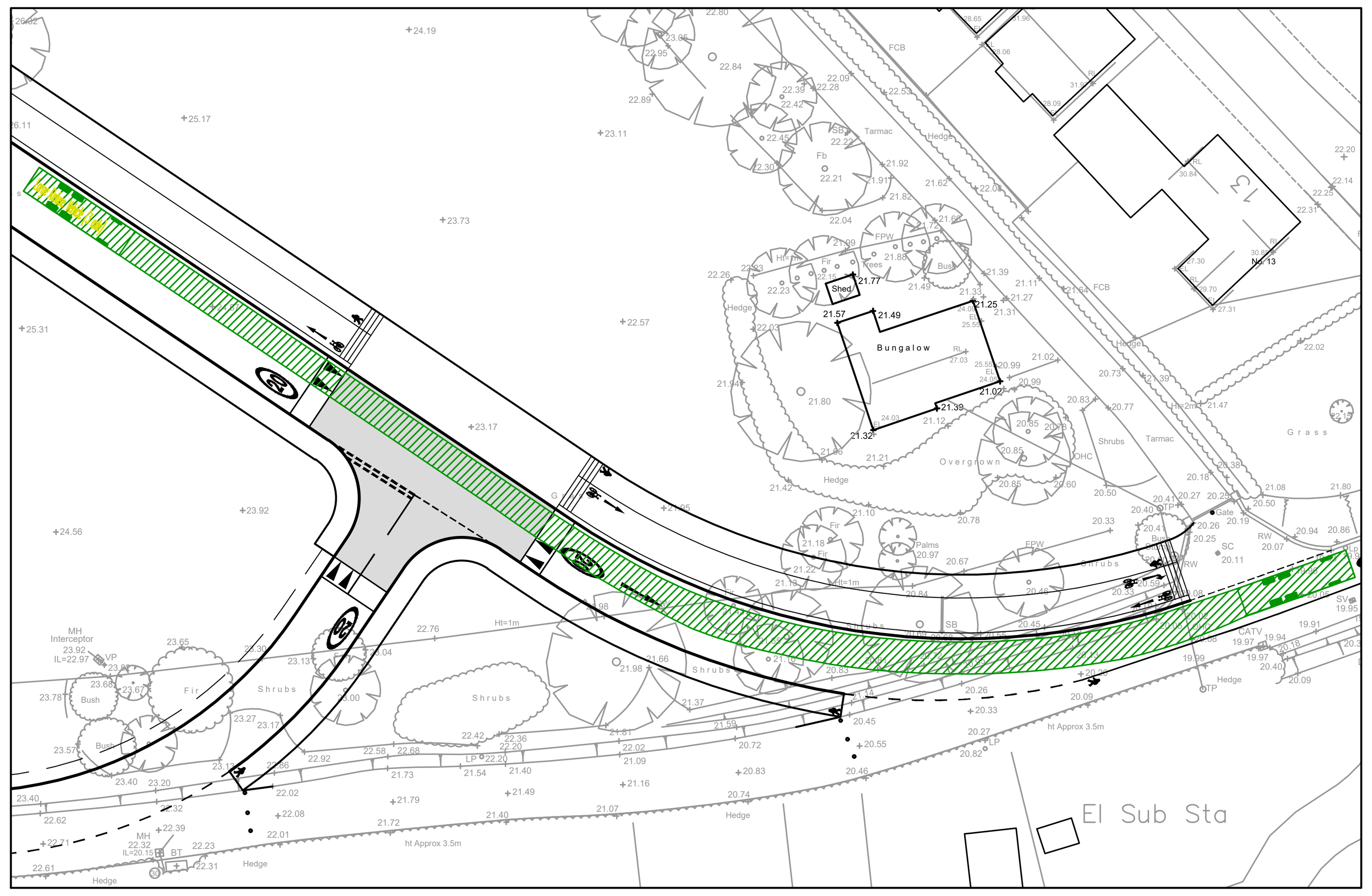
stantec.com/uk

BRISTOL
Tel: 01173 327 840

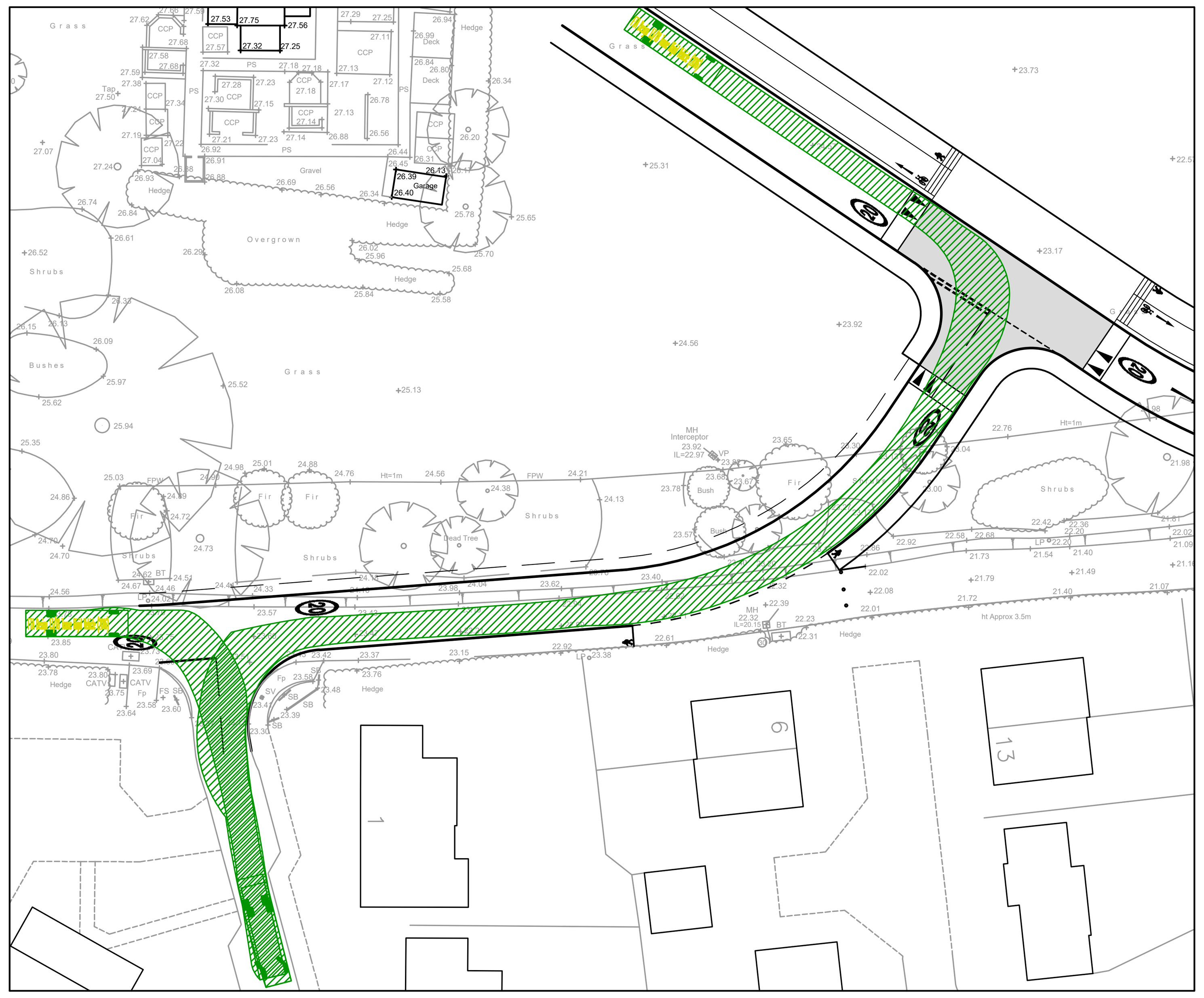
File Location: \\bri-vfps-001\bri\projects\47450 st bridget nursery, newcourt\cad\brief 5505 vehicle access\sketches\47450-5505-sk10 to sk11 vehicle swept path analysis.dwg



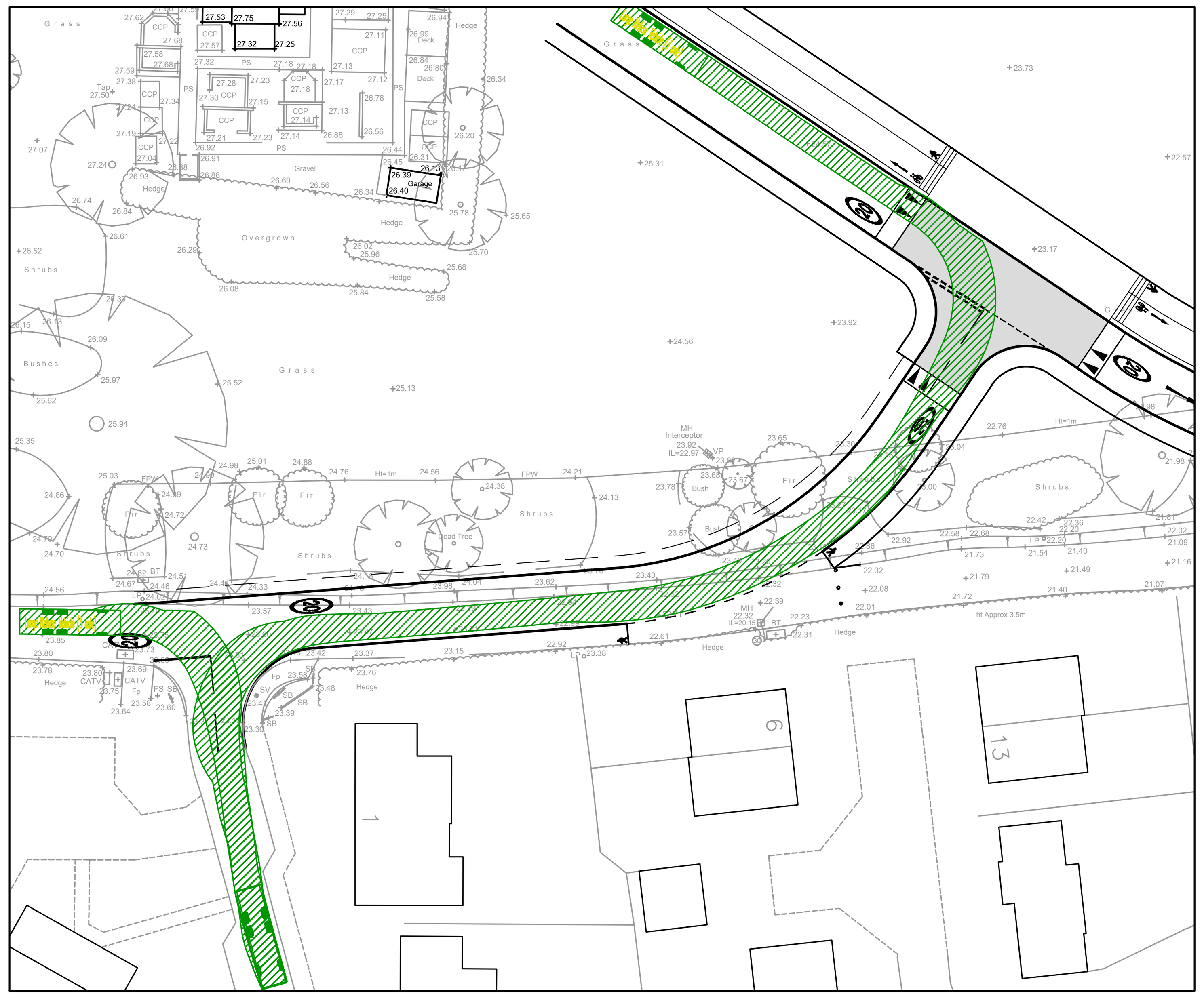
10m RIGID LORRY - EASTBOUND ALONG PRIMARY STREET



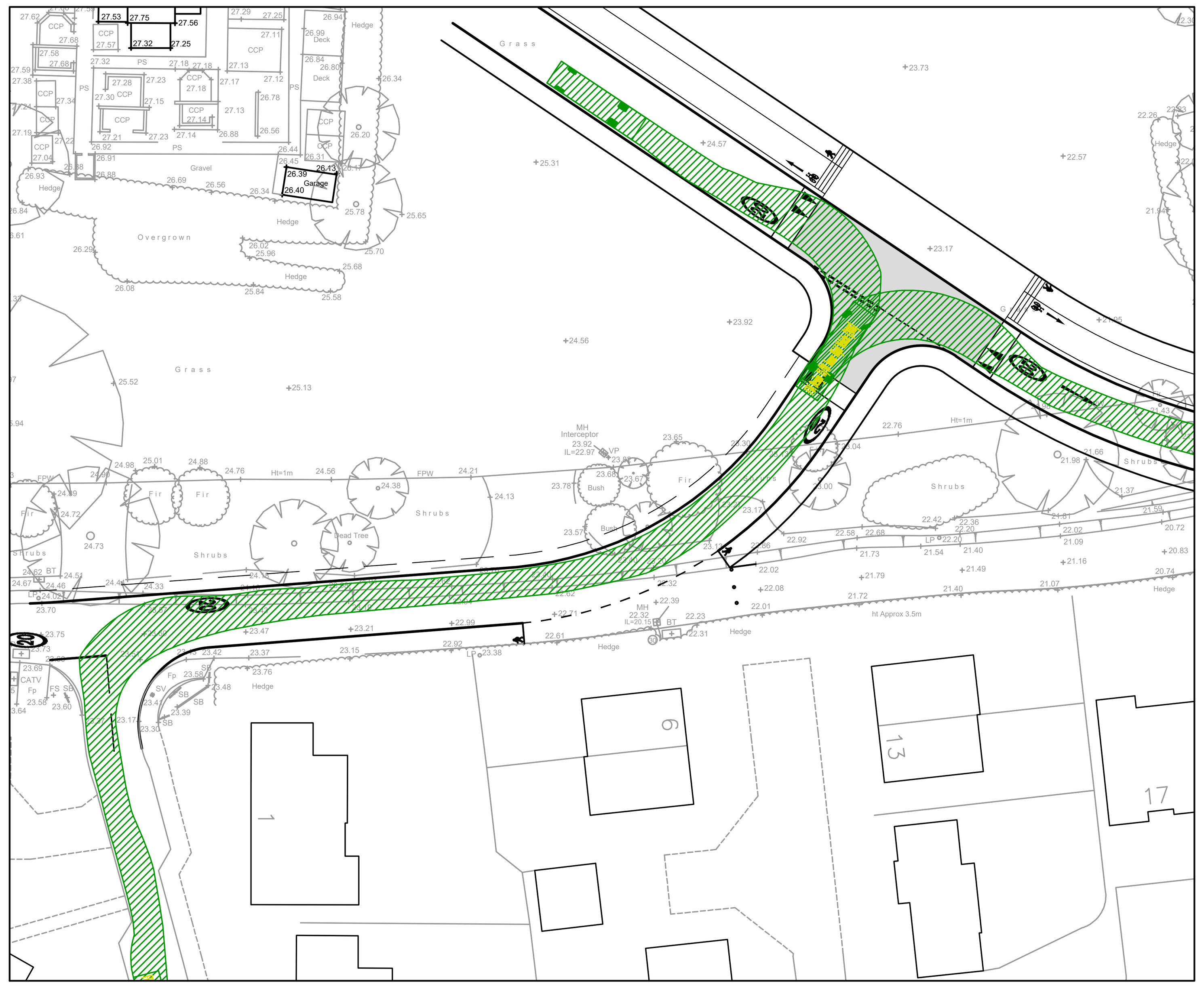
LARGE REFUSE TRUCK - EASTBOUND ALONG PRIMARY STREET



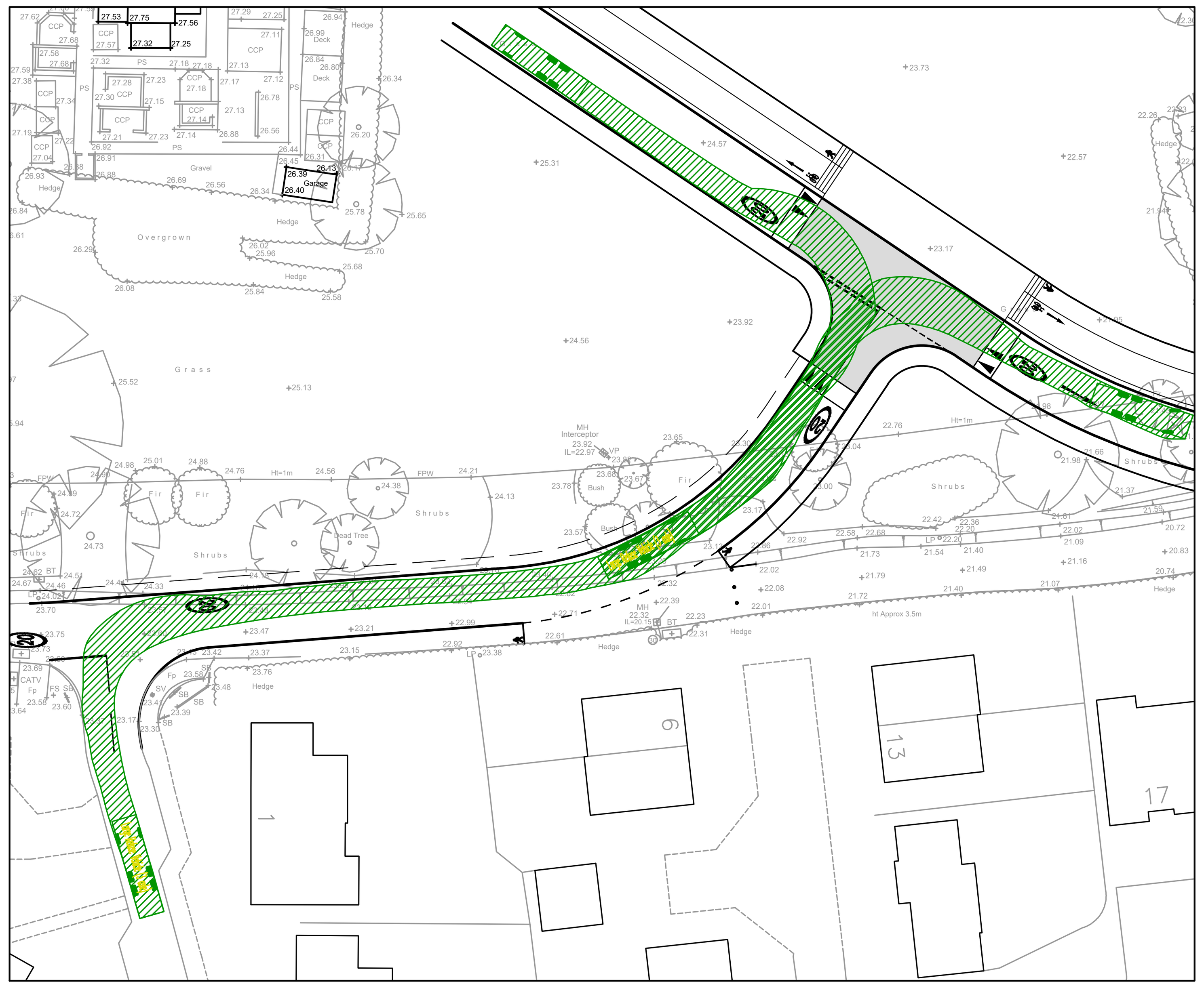
10m RIGID LORRY - INBOUND TO HOLLAND PARK



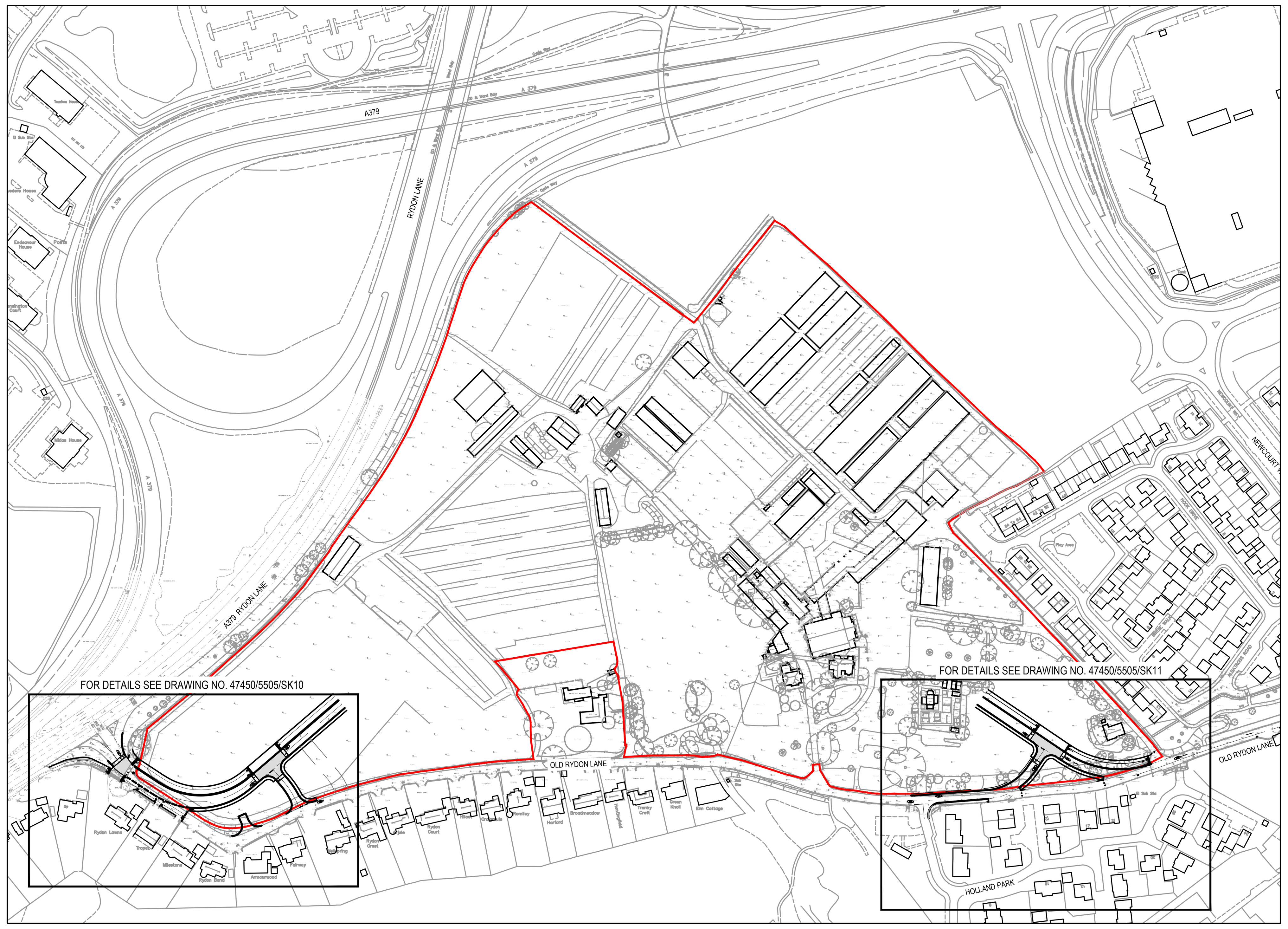
LARGE REFUSE TRUCK - INBOUND TO HOLLAND PARK



10m RIGID LORRY - OUTBOUND FROM HOLLAND PARK



LARGE REFUSE TRUCK - OUTBOUND FROM HOLLAND PARK

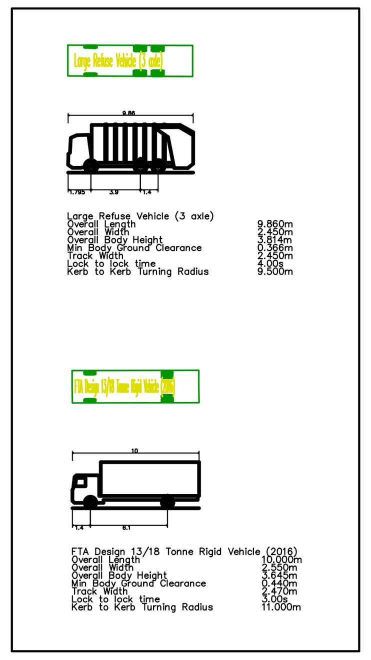


LOCATION PLAN

NOTES:

1. ALL VEHICLE TRACKING MOVEMENTS HAVE BEEN UNDERTAKEN AT A SPEED OF 10 MPH.
2. PLEASE SEE THE LATEST STANTEC DRAWING NO. 47450/5505/SK02 FOR THE HIGHWAY LAYOUT.
3. A 10m RIGID VEHICLE IS CONSIDERED TO BE THE LARGEST VEHICLE THAT IS LIKELY TO ACCESS THE SITE AND OLD RYDON LANE IN NORMAL CONDITIONS, AND THEREFORE PROVIDES THE WORST CASE SCENARIO FOR UNDERTAKING SWEPT PATH ANALYSIS.

VEHICLE PROFILES:



Mark	Revision	Date	Drawn	Chkd	Appd

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Drawing Issue Status
DRAFT FOR COMMENT

ST. BRIDGET'S NURSERY, NEWCOURT VEHICLE SWEPT PATH ANALYSIS FOR EASTERN SITE ACCESS

Client
WADDETON PARK LTD

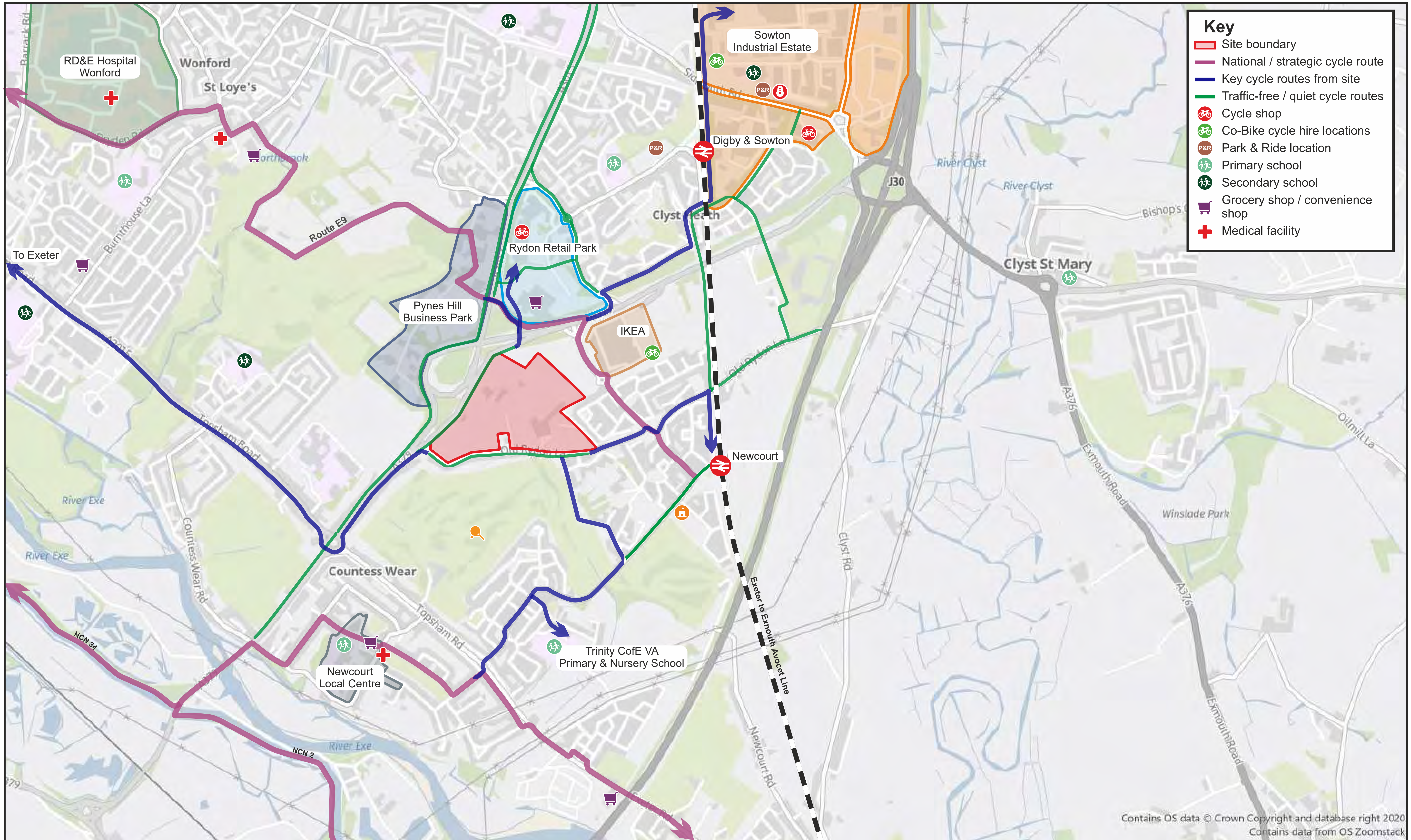
Date of 1st Issue	Designed	Drawn
20.08.2021	-	REM
A1 Scale	Checked	Approved
1:500 / 1:2500	NK	NT

Drawing Number	Revision
47450/5505/SK11	-

Stantec
stantec.com/uk

BRISTOL
Tel: 01173 327 840

Figures



Stantec

Client

Waddeton Park Ltd

St Bridgets Nurseries

Existing Transport Conditions: Walking and Cycling Accessibility

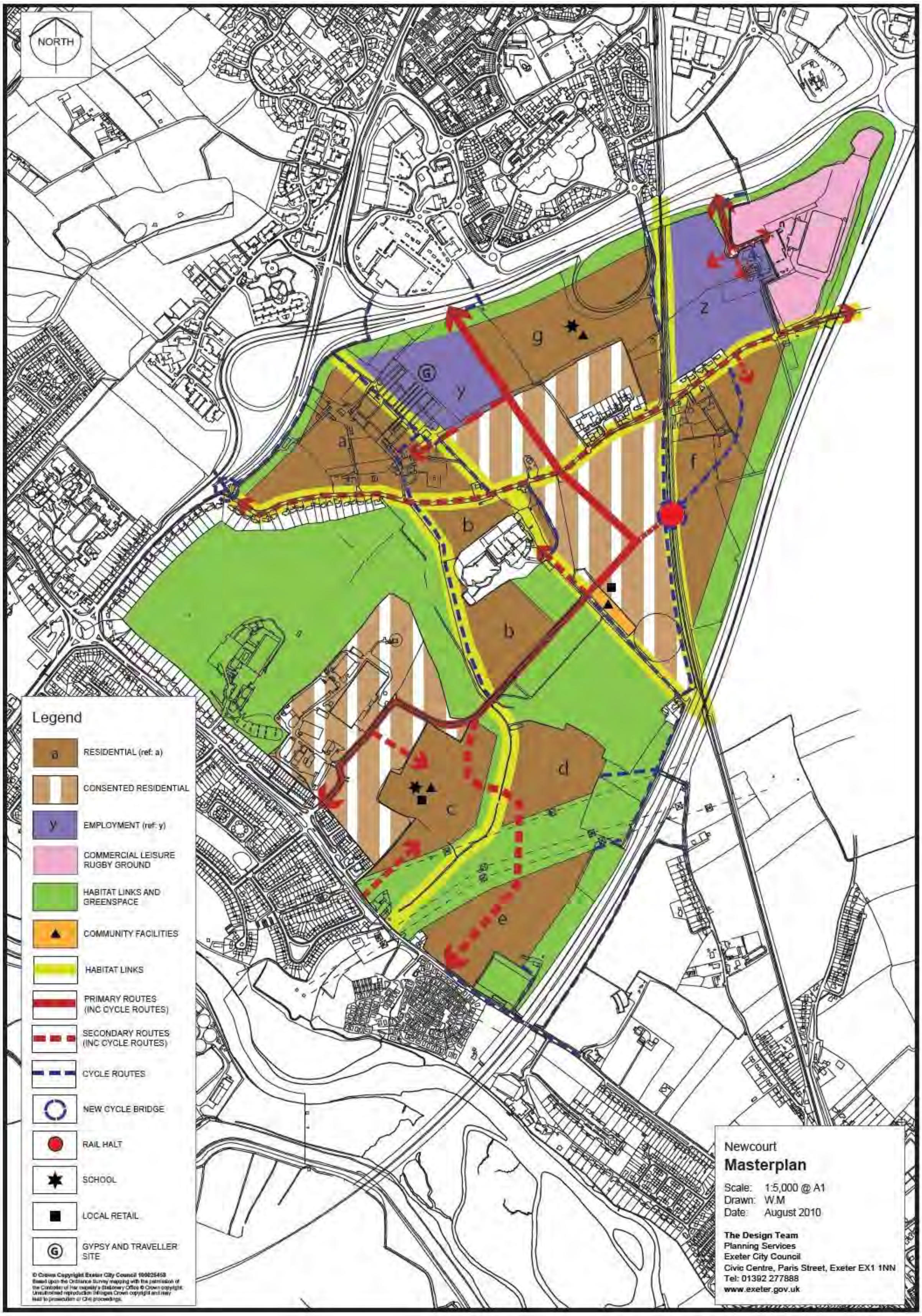
Mark	Revision	Drawn	Date	Chkd

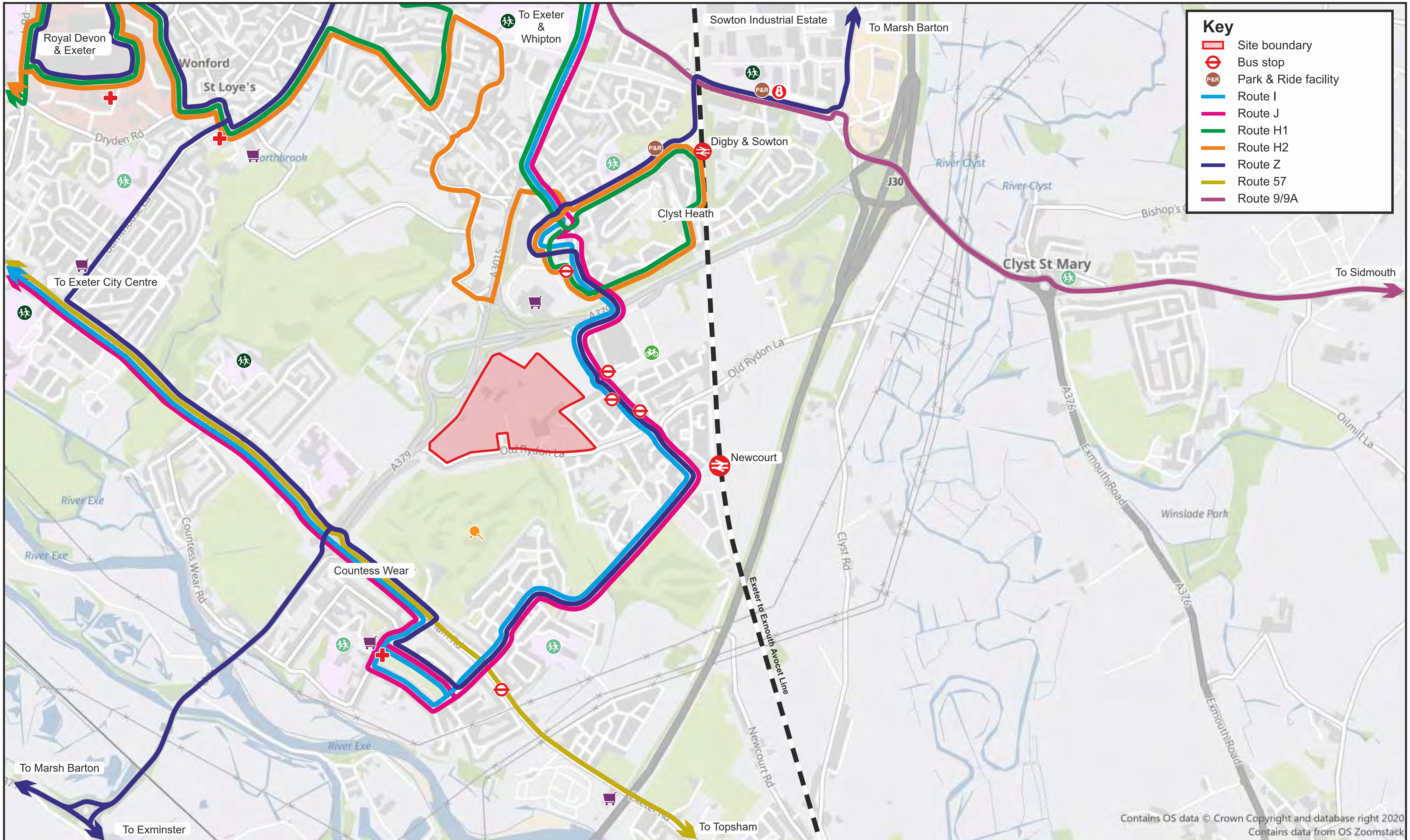
Date	05/10/2021
Scale	NTS
Drawn by	NL
Checked by	NK

Figure 2-1

Figure 2-2

Source: Newcourt Masterplan, November 2010 - Masterplan Figure





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Client

Waddeton Park Ltd

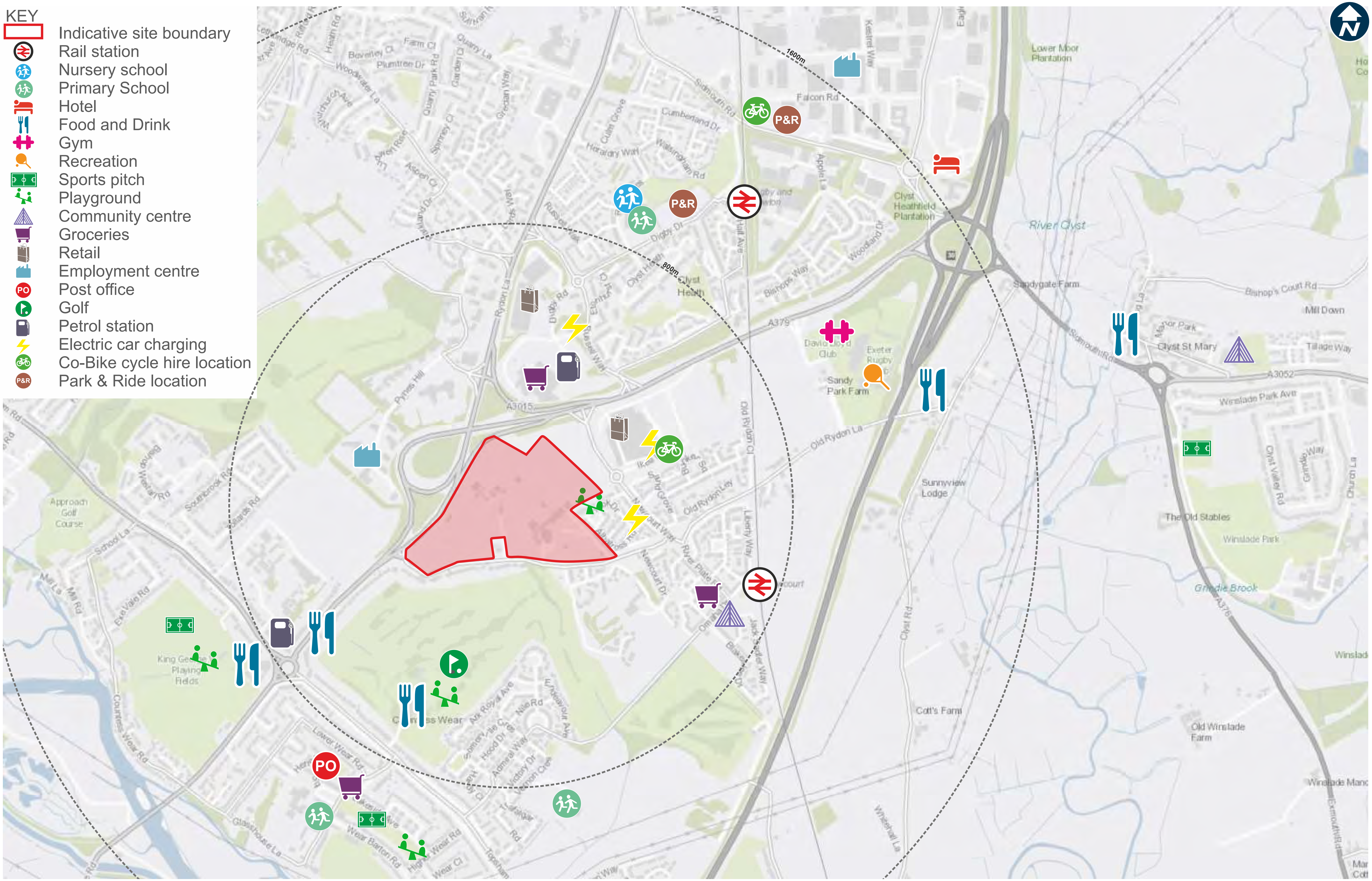
St Bridgets Nurseries

Existing Transport Conditions: Public Transport Accessibility

Mark	Revision	Drawn	Date	Chkd

Date	05/10/2021
Scale	NTS
Drawn by	NL
Checked by	NK

Figure 2-3



Client Logo

St Bridgets, Exeter

Facilities and Amenities

Figure 2-4

Draft
Drawing: 47450/5501/2.1
Date: 07/10/20
Drawn by: AA
Checked by: RK

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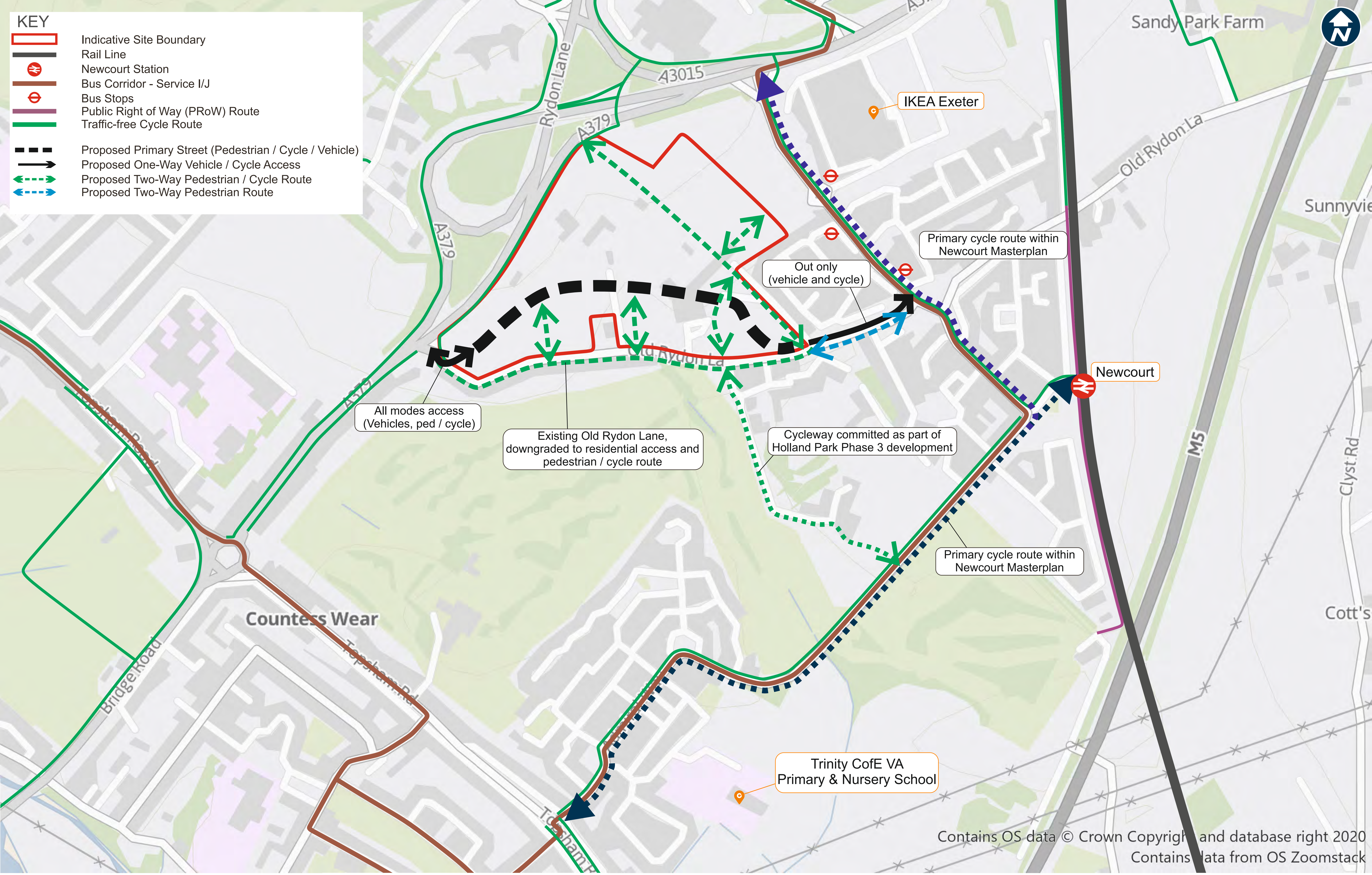

St Bridgets, Exeter

Proposed Site Transport Strategy

Drawing: 47450/5501
Date: 06/07/2021
Drawn by: NL
Checked by: NK

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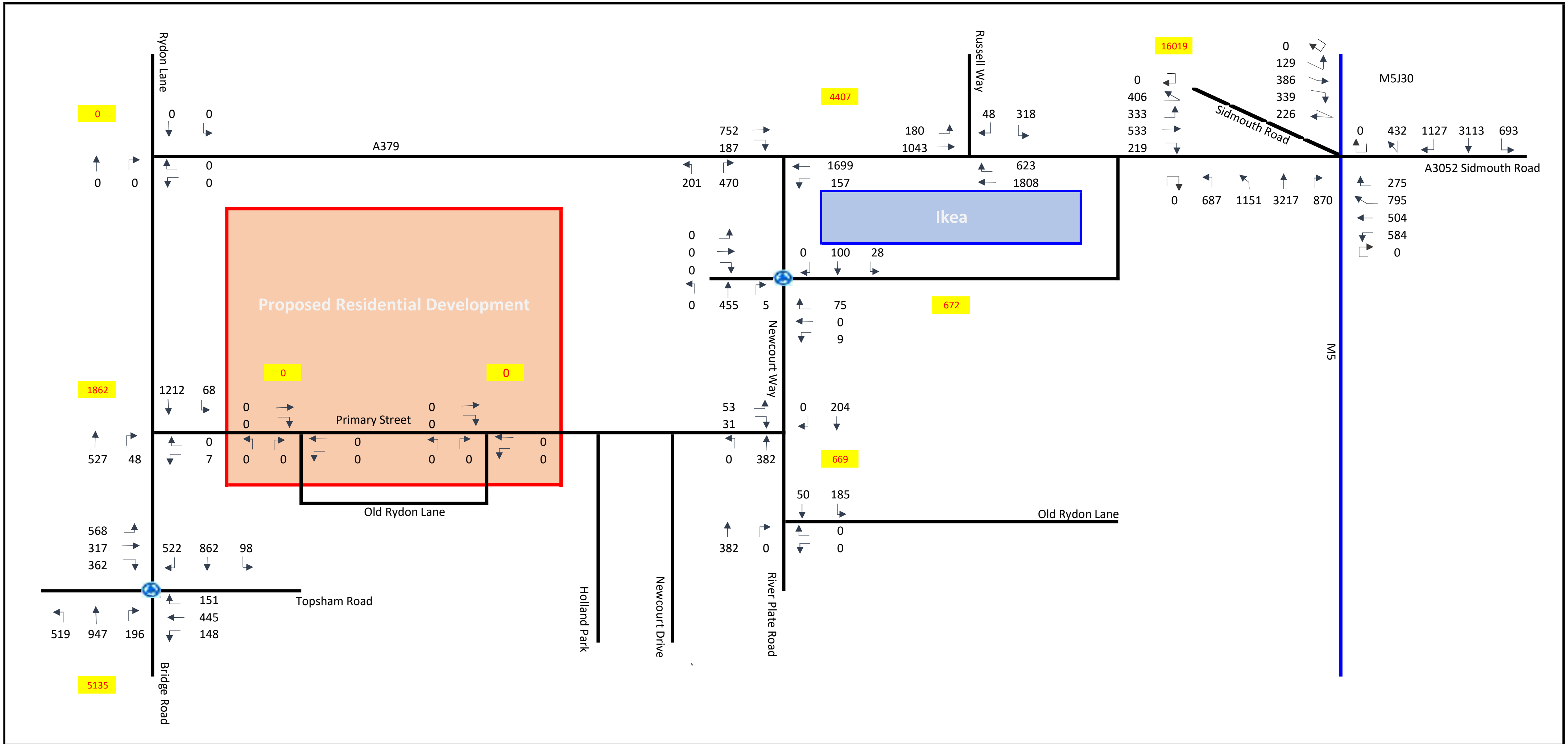

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Client:

Waddeton Park Ltd

Figure

Figure 7-1: 2027 Future Baseline traffic flows; AM Peak

Date: 17/12/21
Drawn by: NL
Checked by: NK

Figure 7-1

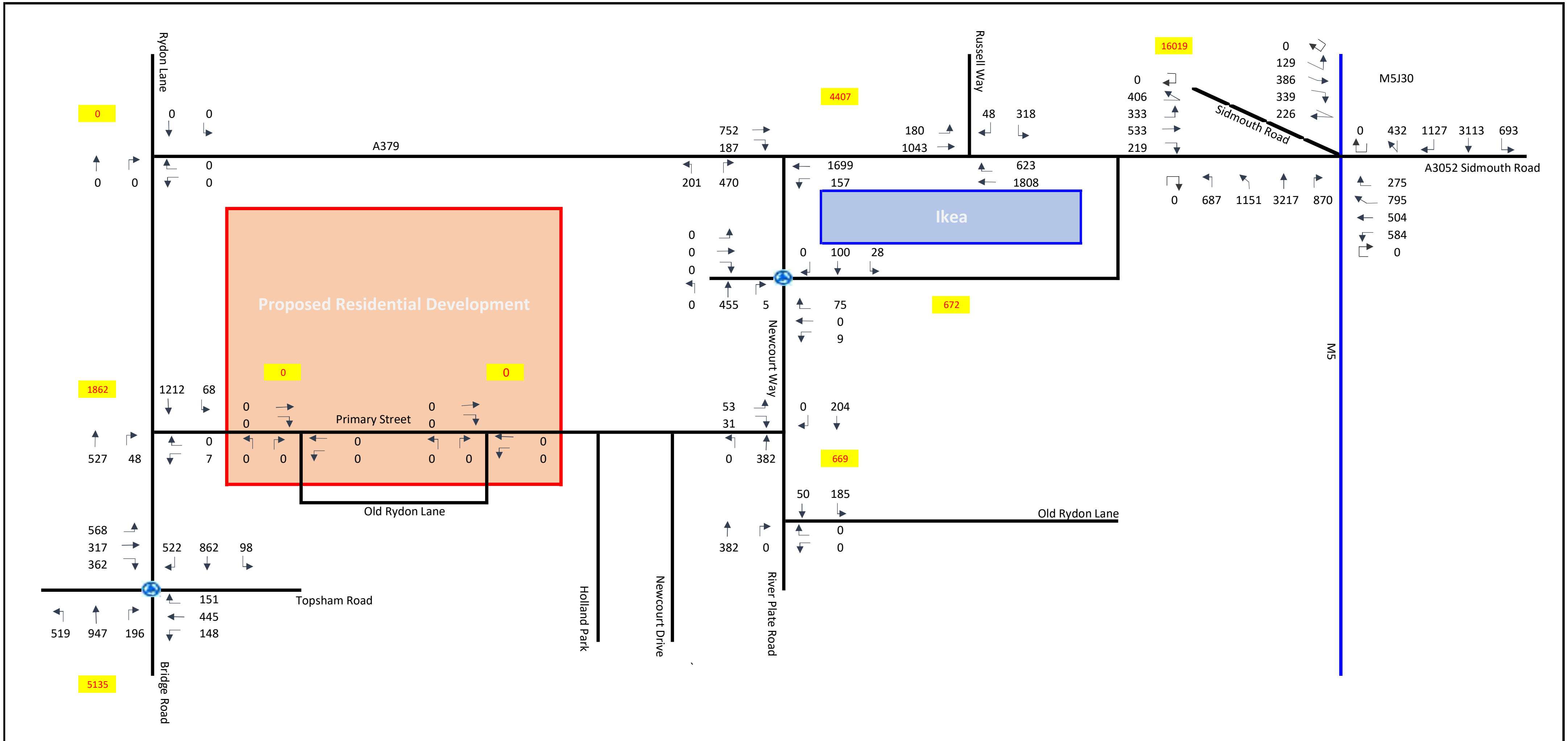

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Figure

Figure 7-2: 2027 Future Baseline traffic flows; PM Peak

Date: 17/12/21
Drawn by: NL
Checked by: NK

Figure 7-2

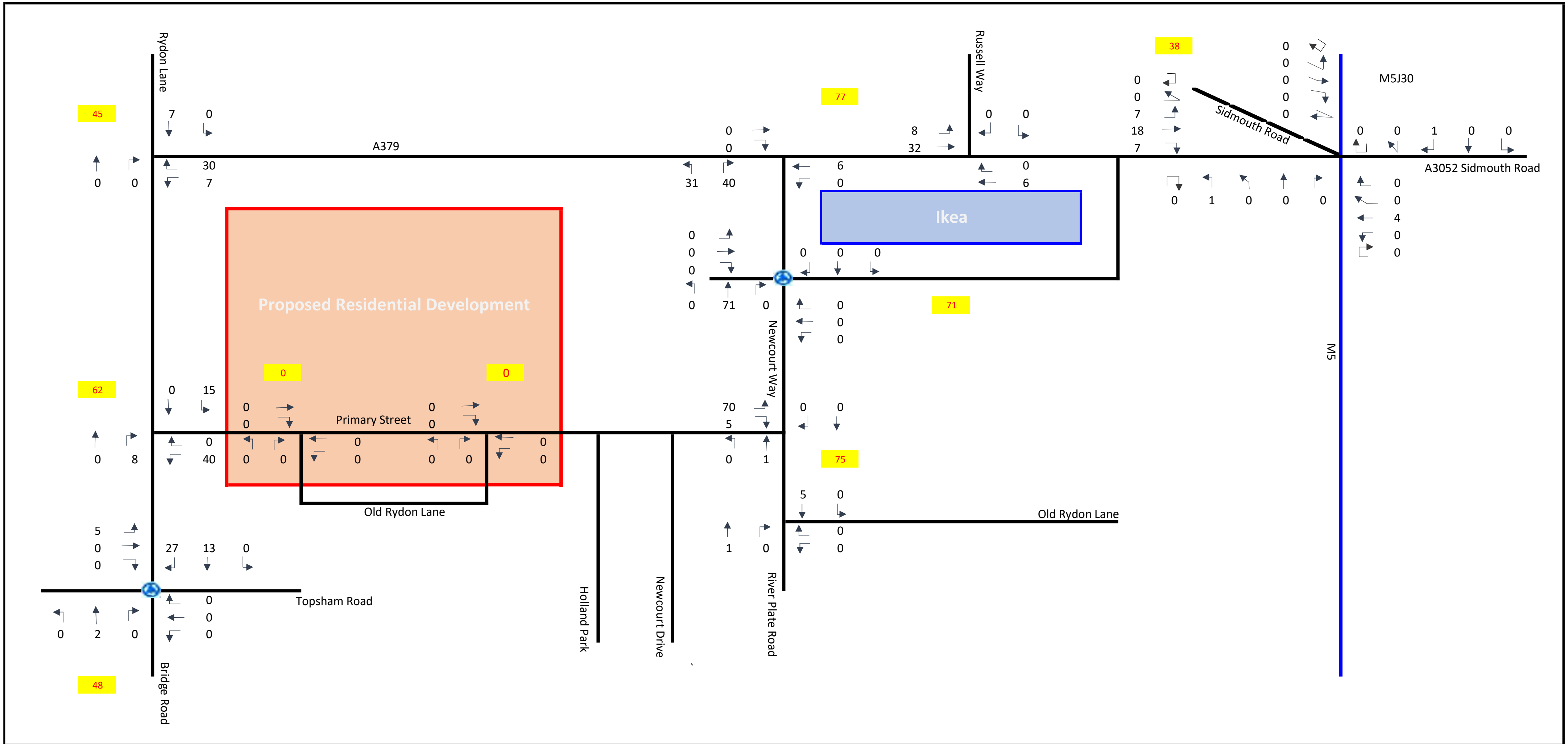

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Figure

Figure 7-3: Proposed development traffic flows; AM Peak

Date: 17/12/21
Drawn by: NL
Checked by: NK

Figure 7-3

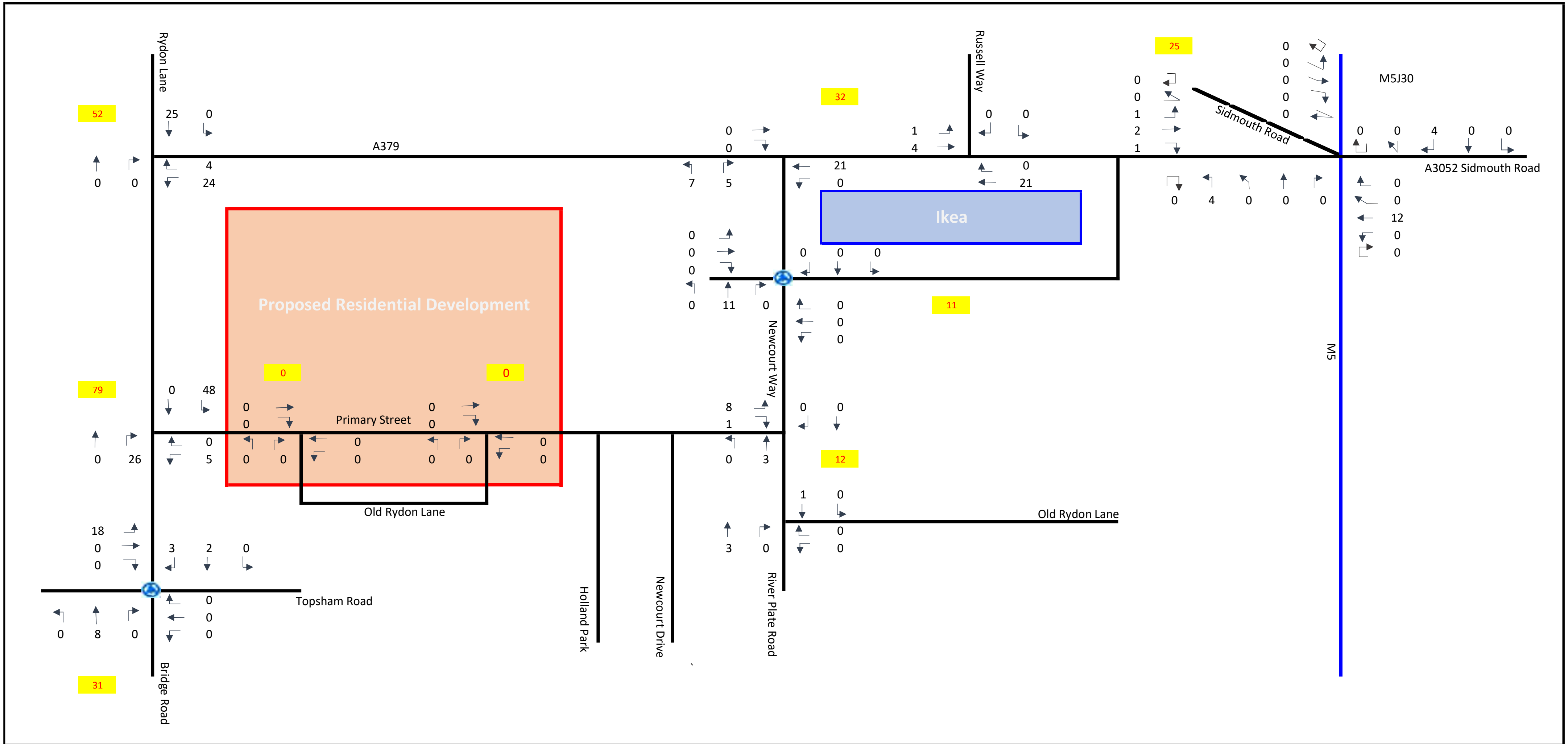

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Figure

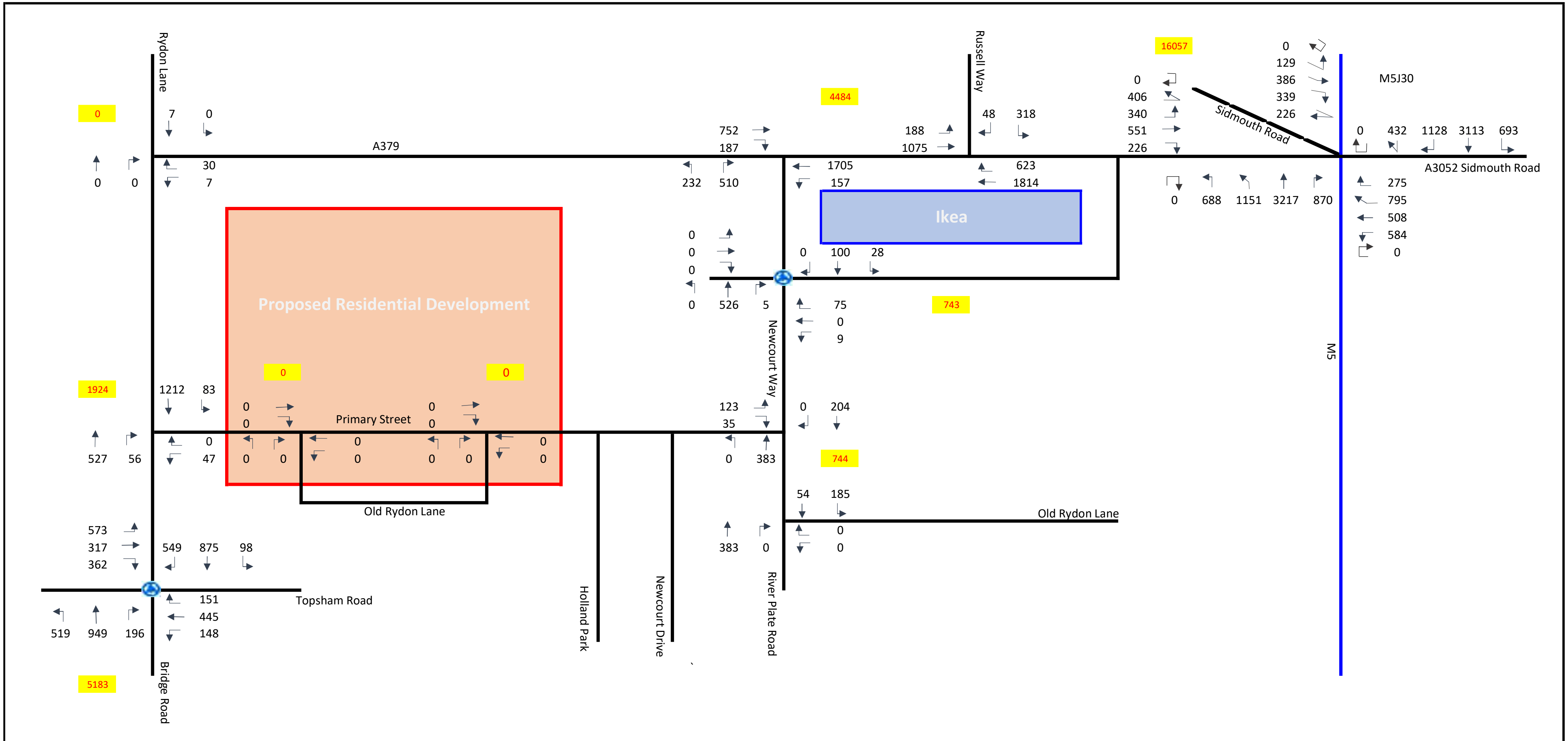
Figure 7-4: Proposed development traffic flows; PM Peak

Date: 17/12/21

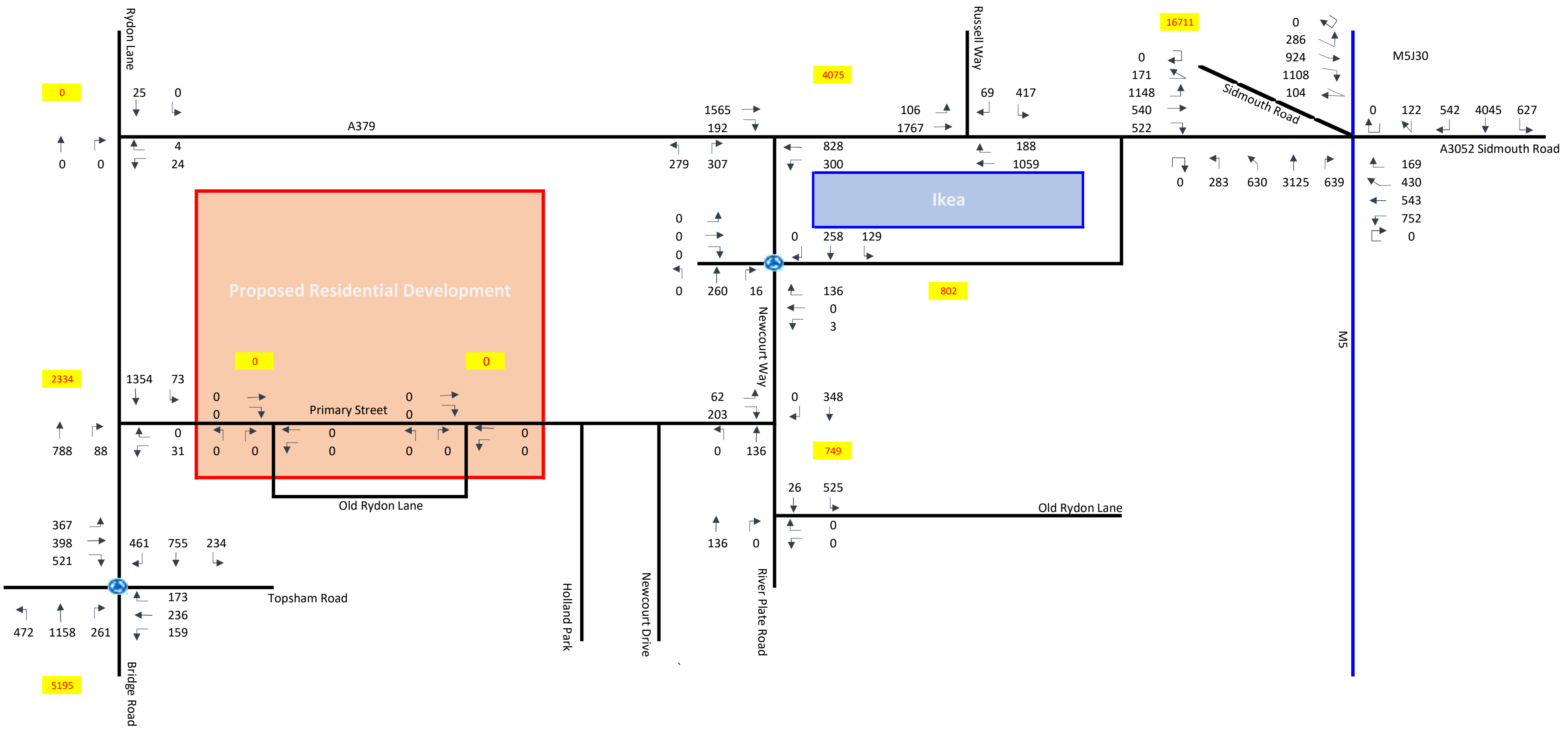
Drawn by: NL

Checked by: NK

Figure 7-4



Stantec	Client: Waddeton Park Ltd	Figure **Figure 7-5: 2027 Future Baseline + Proposed Development; AM Peak**	Date: 17/12/21 Drawn by: NL Checked by: NK
			Figure 7-5



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Client:

Waddeton Park Ltd

Figure

Figure 7-6: 2027 Future Baseline + Proposed Development; PM Peak

Date: 17/12/21
Drawn by: NL
Checked by: NK

Figure 7-6

Appendix A Illustrative Masterplan

NOTES:

Application boundary

Phase boundary

N

REV	NOTES		DATE
E	Amendments to layout	DH/DC	12.01.22
D	Amendments to layout (Gas/Parking/Attenuation)	DH/DC	11.01.22
C	Amendments to layout based on highways	DC	17.12.21
B	Various amendments to layout	DH/DC	06.08.21
A	Amendment to information	DH/DC	17.06.21

St Bridget Nursery Illustrative Layout		E DH/DC
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DRAWING–STATUS WORK IN PROGRESS

Appendix B TA Scoping Report and Correspondence

Kataria, Neha

From:	Thorne, Neil
Sent:	08 June 2021 11:00
To:	Michael Higgins (Michael.higgins@exeter.gov.uk); Alex A Thomas
Cc:	Brian Hensley (brian.hensley@devon.gov.uk); Gerry Keay; Nicole Stacey; David Seaton; Kataria, Neha
Subject:	RE: Pre-app Meeting - St Bridget's Nursery, Old Rydon Lane, Exeter
Attachments:	Proposed Site Access Strategy.pdf

Michael / all,

Great to talk to you all earlier. As requested, please see attached the Access Strategy drawing which we talked through during the meeting.

Alex, many thanks for confirming your in-principle agreement to the TA Scoping note, noting that you still need to review some of the detailed points. Once you've had the chance to review in more detail, please do not hesitate to contact either myself or my colleague Neha (cc'd). We will seek to finalise once we have agreed the content, noting from today's discussion that:

- Stage 1 RSA's will be required at both site access locations;
- PIC analysis should include the A379 Rydon Lane / Old Rydon Lane junction and the A379 / Newcourt Way / Russell Way signalised junction, subject to your review of the study area; and
- Once we have agreed the scope of the TA with yourselves, we will liaise with HE with regards to impacts at M5J30.

Kind regards,

Neil Thorne
Director of Transport

Direct: +44 1173327872
Mobile: +44 7493390269
neil.thorne@stantec.com

Stantec
10 Queen Square
BRISTOL BS1 4NT

-----Original Appointment-----
From: Nicole Stacey <n.stacey@pclplanning.co.uk>
Sent: 28 May 2021 14:16
To: Nicole Stacey; Michael Higgins (Michael.higgins@exeter.gov.uk); Alex A Thomas; Brian Hensley (brian.hensley@devon.gov.uk); Gerry Keay; David Seaton; Thorne, Neil
Subject: Pre-app Meeting - St Bridget's Nursery, Old Rydon Lane, Exeter
When: 08 June 2021 10:00-11:30 (UTC+00:00) Dublin, Edinburgh, Lisbon, London.
Where:

Hi all,

This date seems to suit us all for a pre-app meeting.

Please can you let me know ASAP if you can't make this time.

Kind regards

Nicole

Microsoft Teams meeting

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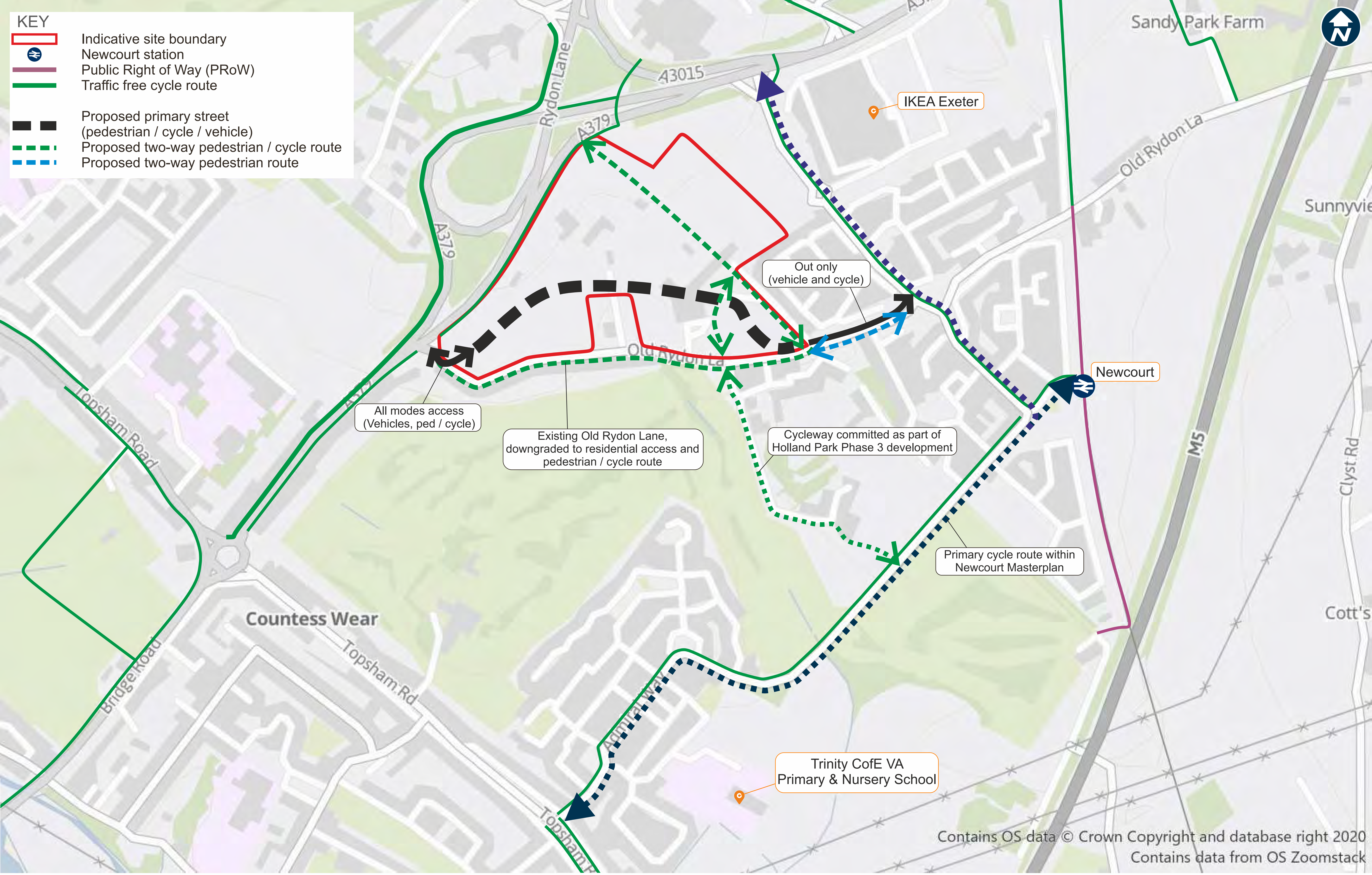

St Bridgets, Exeter

Proposed Site Access Strategy

Draft
Drawing: 47450/5501
Date: 26/05/2021
Drawn by: NL
Checked by: NK

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TECHNICAL NOTE

Job Name: Land at St Bridget's Nursery, Newcourt, Exeter

Job No: 332310070

Note No: TN002

Date: 25th May 2021

Prepared By: Neha Kataria

Subject: **Transport Assessment Scoping Note**

1. Introduction

1.1. Stantec have been commissioned by Waddeton Park Ltd. to provide Transport Planning support in relation to a forthcoming Outline Planning application at the allocated site, Land at St.Bridget's Nursery, Newcourt, Exeter. The application will comprise of the development of approximately 350 dwellings.

1.2. The site had an operational nursery and a garden centre with an access off Old Rydon Lane, although this has since closed. The existing nursery is relocated on another site at Clyst St Mary. Further we understand that the commercial horticulture business remains operational on site and is proposed to continue in the short to medium term as the site development progresses.

1.3. This Technical Note sets out the scope and methodology for a Transport Assessment (TA) to support the proposed residential development. It will also summarise the proposed content of an accompanying Travel Plan to be delivered at the site. The purpose of this document is to form the basis of an agreement with Devon County Council (DCC), as the Local Highway Authority (LHA), on the extent of assessment required to satisfy an outline planning application for the proposed site.

2. Site Context

2.1. The site is located within the Newcourt area of Exeter, approximately 4km south east of Exeter City Centre. The site is bounded by the A379 to the north, Rydon Lane to the west, Old Rydon Lane to the south and an open field and residential area to the east. The M5 is located approximately 1km east of the site and can be accessed via the A379 at Junction 30, which is 2.2km driving distance from the site.

2.2. The site is in close proximity to a number of existing facilities, including school, retail, shops, and Newcourt railway station that will be of use to future residents. **Figure 1.1** shows site location with surrounding facilities and amenities.

2.3. The site is part of the allocated Newcourt residential led mixed-use development. The Newcourt Masterplan references 'Area a' for residential development of approximately 470 dwellings. The overall masterplan for Newcourt aims to accommodate around 16 ha employment land and 3,500 dwellings. We are aware that much of the allocation has been developed, most recently with the site east of IKEA for development of 200 dwellings in 2020. The original masterplan for Newcourt is being built out over various sites and developers. The site is one of the last areas of the allocation to come forward for development.

2.4. We are aware that there is a Spatial Planning Guidance for the Newcourt masterplan, but significant changes have taken place since it was developed. It is understood that the Newcourt Masterplan identified the site as mixed -use development with access off IKEA roundabout, however, due to third party land to the north the connection from IKEA roundabout is not available at this stage, and a separate planning application may come forward by the third party to provide employment land to the north of this site.

3. Existing Conditions

3.1. The TA will include a detailed review of the local transport context for all modes of travel, a summary of local facilities and analysis of the highway safety conditions in the vicinity of the site.

3.2. Old Rydon Lane forms the minor arm of a priority T-junction with the A379 Rydon Lane and is subject to a 30mph speed limit. To the east it forms a staggered priority junction with Newcourt Way with eastbound (egressing) traffic only from Old Rydon Lane. In the vicinity of this junction shared pedestrian-cycle facilities are provided along Old Rydon Lane.

3.3. As part of the proposals for a hotel at Sandy Park, Old Rydon Lane has been recently subjected to a Traffic Regulation Order (TRO) restricting vehicular traffic to one-way in an eastbound direction between Oaklea and Sandy Park Lodge (to the immediate west of the M5 overbridge). A contraflow cycle lane is provided on the south side of the road. Traffic is therefore not permitted to travel in a westbound direction along Old Rydon Lane from Clyst Road past Sandy Park Lodge. We are aware that DCC envisage this road as a ‘Green Lane’ to be used for sustainable modes.

3.4. The TA will include a review of local Personal Injury Collision (PIC) data for the last 5 years to establish whether the impact of the development will have any material effect on the local highway safety conditions. The review will include local network; the A379 / Old Rydon lane junction to the west to the Newcourt Way / Old Rydon Lane staggered junction to the east.

4. Proposed Access Strategy

Vehicular Access Strategy

4.1. The site is proposed to be accessed via a new Primary Street through the development, which will run approximately parallel to the existing Old Rydon Lane. The new Primary Street will connect the existing A379 Rydon Lane / Old Rydon Lane junction to the west of the site and to Old Rydon Lane to the east, within the site frontage.

4.2. Through providing a new Primary Street within the development, it creates the opportunity to provide a standard width carriageway of 6.0m, with 2.0m footways on either side. The requirements for cyclists within the development will need to be discussed and agreed with DCC in line with LTN1/20. The masterplan layout will ensure visibility requirements are accommodated.

4.3. The existing Old Rydon Lane, which is constrained due to existing narrow width and levels differences to the site, will be downgraded to create a quiet street, for pedestrian, cycle and local access for fronting properties only. This is in accordance with DCC’s identification of Old Rydon Lane as a ‘Green Lane’ for encouraging sustainable modes.

4.4. The proposed access strategy is shown on the **Figure 1.2**

Western Site Access

4.5. The existing A379 Rydon Lane / Old Rydon Lane junction will provide the primary vehicular access into the site. The junction is proposed to be retained in its current form, which provides a left turn out of Old Rydon Lane onto A379 and both the left and right turn into Old Rydon Lane from the A379.

4.6. The Old Rydon Lane arm is proposed to be realigned into the site to create the new Primary Street. A side street connection from the Primary Street, onto Old Rydon Lane, will be provided for local access. At the junction with the A379, the realigned carriageway creates space to provide a 3.0m shared foot/cycleway along the southern edge of Old Rydon Lane, connecting the downgraded section of Old Rydon Lane to the existing cycle network along the A379. The layout is shown on **Stantec drawing 47450/5505/SK06**. This layout considers the existing levels difference and visibility from the A379 along the Primary Street.

Eastern Site Access

4.7. The proposed Primary Street alignment is shown to create a new priority junction with Old Rydon Lane within the eastern extent of the site frontage. The layout is shown on **Stantec drawing 47450/5505/SK02 Rev A**. This layout considers impacts to the existing trees, through minimising impacts to Category A and B trees where possible.

4.8. To the east of the junction, it is proposed to provide Old Rydon Lane as one-way eastbound only to the existing one-way junction with Newcourt Way, as shown on **Stantec drawing 47450/5505/SK01 Rev A.** This provides an alternative option for vehicular traffic to exit the site and join the A379 via the Newcourt Way junction. Through providing Old Rydon Lane as one-way only to the east, this allows the carriageway space to be reallocated to provide an approx. 2.0m 'light segregation' footway between the site and Newcourt Way. Cyclist traveling eastbound can cycle on-carriageway.

4.9. Access to Holland Park is retained as existing. Under these proposals the left-turn out of Newcourt Drive would not be provided for due to the proposed one-way operation.

Cycle Access

4.10. In addition to the cycle access discussed above, cycle access to the site from the east is provided via the cycle route between Holland Park to Admiral Way, as proposed in ECC's 'Newcourt Masterplan' 2010. Admiral Way provides a cycle connection to the train station and the wider cycle network. The cycle link via Holland Park will connect into the site, connecting to the proposed cycle link that will run north/south across the site to the existing foot/cycleway along the northern boundary of the site, as ECC's 'Newcourt Masterplan' 2010.

Parking

4.11. It is proposed that the car parking and cycle parking provision will be provided in accordance with the Exeter City Council's Sustainable Transport SPD, 2013. The proposals would come forward in line with parking and EV charging policy relevant at the time of the subsequent Reserved Matters application.

5. Proposed Transport Assessment Methodology

5.1. This section presents the proposed approach to assessing the transport impacts of the development on the local highway and transport network. It summarises the study area, trip generation, high level trip distribution and proposed assessment years.

Study Area

5.2. In order to assess the impact of the vehicular traffic generated by the development, following junctions on the network are proposed to be included within the study area

- A379 Rydon Lane / Old Rydon Lane junction
- Countess Wear Signal controlled roundabout junction
- A379 / Newcourt Way / Russell Way staggered signal-controlled junction

- Newcourt Way / Old Rydon Lane junction
- Newcourt Way / IKEA Way Roundabout
- M5 Junction 30 signal-controlled junction

5.3. Together, these junctions comprise the study area to be considered within the TA. Beyond the scope of these junctions, it is considered that the traffic associated with the proposed development will have dispersed across the network to a degree at which it is unlikely to have a significant effect on any further junctions.

Base Traffic Flows

5.4. As the site is allocated within Newcourt Masterplan, there have been several committed developments, including the following:

- Holland Park, Old Rydon Lane (12/2530/03)
- Land to the South Newcourt Drive, 82 dwellings (17/0006/FUL)
- Beech Cottage, Old Rydon Lane (12/0920/03)
- Seabrook Orchard (11/0920/03)
- Lower RNSD site, Topsham Road (12/0870/02)
- Land North of Old Rydon Lane (12/0921/02)
- Seabrook Mews, Lower RNSD Topsham Road (12/0131/02)
- Former Royal Naval Stores Depot (07/1176/02)
- IKEA, (13/4525/01)
- IKEA Way, Residential (19/1647/FUL)
- 250 bed Sandy Park Hotel (17/0665/OUT)
- Land at Newcourt, 450 houses with link road

5.5. Due to the significant level of development coming forward in the area, DCC commissioned strategic modelling to be undertaken for the surrounding area. The model has 2021 forecast scenario and the model outputs have been recently used in the IKEA Way residential application, submitted in 2019. Therefore, it is considered that outputs from 2021 forecast base model will be used as base year flows.

5.6. Further, Stantec commissioned surveys along Old Rydon Lane (7-day Automatic Traffic Counter), Old Rydon Lane / A379 junction (3-hour morning and evening Manual Classified Counts) and A379 slip roads (7-day ATC) to gather flows in the site vicinity in March 2021.

5.7. This was discussed with the highway officer at DCC (Lloyd Orriel) and, based on the discussions, it was considered appropriate to compare the survey flows with the flows from the live counter site for 2019. This will allow factors to be applied to the surveyed traffic flows to account for the potential impact on traffic flows of COVID-19.

5.8. Therefore, data from the live counter site on the A379 for March 2019 and March 2021 was purchased. The adjusted 2021 base year flows for A379 / Old Rydon Lane junction will be included with the Strategic model flows to prepare a spreadsheet model to assess the impact of development on the study area.

Future Years

5.9. The Strategic Model has a forecast year of 2033. We are aware that the TA in support of the application at Land at Clyst Road, Topsham (2017) presented a 2027 future year scenario, using the Strategic Model Forecast year of 2033.

5.10. Further the Addendum TA for this application included analysis taking into account the 'one-way' movement on Old Rydon Lane and Sandy Gate Hotel application flows. The outline application was granted permission and therefore it is considered flows were acceptable to DCC.

5.11. It is considered that 2027 will represent an appropriate future year for the site, taking into account timescales for the outline planning permission, reserved matters, and phased build out of the development and five years from the application validation. Therefore 2027 future flows derived from the 2033 strategic model will be used for Future Year analysis.

5.12. In order to present the future year assessment, 2021 survey flows need to be growthed to the future year scenarios. The flows for the A379 / Old Rydon lane junction will be growthed using TEMPro to future year 2027, Traffic growth factors have been derived using TEMPro version 7.2 and are shown in **Table 5.1**.

Year	AM	PM
2021 – 2027	1.0244	1.0248

Table 5.1 TEMPro Growth Factors

5.13. It is considered that TEMPro will include committed development in the area, however for robust assessment, the committed development flows from the Newcourt Way / Old Rydon Lane junction and A379 / Rydon Lane junction will be added to this junction. With the recent one-way movement implemented on Old Rydon Lane, it is considered that the road will carry low traffic volume and therefore TEMPro growth with additional calculated committed flows will provide a very robust assessment.

Trip Generation

5.14. As the site had an operational garden centre and nursery which is recently closed, it is considered appropriate to compare extant trip generation with the proposed trip generation to quantify the 'net additional' traffic that would be generated by the site.

5.15. TRICs data has been used to derive trip rates for Garden Centre using extant development; c.5,202 sqm GIA, 30 staff and 125 parking spaces. However, the TRICs database does not have trip rates for weekday trips. Hence, in order to compare extant and proposed developments, weekday trips for a DIY store are obtained from TRICs database. It is understood that the DIY store has similar travel pattern to the garden centre; greater weekend trips when compared to weekday trips, and higher trips during the mid-day period. In addition, trips rates from a B&Q Store in Exeter have been used to find a ratio of Weekend peak hour traffic to PM peak hour traffic. Therefore, the following criteria is used to derive weekday trips for extant use.

- Extant Garden Centre GIA
- Weekend Trip Rates from TRICs
- Ratio of weekend to weekday trip rates from existing B&Q in a local area

- Ratio of AM and PM weekday trips from TRICs for a DIY

5.16. The table below provides the resultant trip generation for the extant use.

		AM Peak			PM Peak		
		Arrival	Departure	Two-way	Arrival	Departure	Two-way
	Vehicle Trips	10	12	22	29	35	64

Table 5.2 Extant Trip Generation for 5,202 sqm of Garden Centre

5.17. In order to calculate the potential trip generation of the proposed development, it is proposed to use agreed trip rates for IKEA Residential application. It is understood that the IKEA Residential TA used the trip rates from the strategic modelling of the Newcourt Masterplan area, and it was acceptable to DCC.

5.18. The table below summarises the trip rates and resulting trip generation of the development quantum as currently proposed.

		AM Peak			PM Peak		
		Arrival	Departure	Two-way	Arrival	Departure	Two-way
Houses	Trip Rate	0.090	0.360	0.450	0.297	0.140	0.437
	Vehicle Trips	32	126	158	104	49	153

Table 5.3 Forecast Vehicle Trip Generation for 350 dwellings

5.19. In order to assess the impact of additional development trips on the network, difference of the proposed and extant trip generation will be used for further assessment.

	AM Peak			PM Peak		
	Arrival	Departure	Two-way	Arrival	Departure	Two-way
Vehicle Trips	22	114	136	75	14	89

Table 5.4 Net Vehicle Trip Generation (Proposed – Extant)

Trip Distribution

5.20. The Trip Distribution agreed for IKEA residential application is considered appropriate to use for distributing trips from the proposed development. This has been validated using Census Journey to work data for the local MSOA - E02004159.

Route Name	Route %
M5 North	6%
M5 South	6%
A376 E	16%
A379 SW	11%
Topsham Road	24%
Rydon Lane / Russel Way	32%
Newcourt Way S	4%
Total	100%

Table 5.5 Trip Distribution

Traffic Impact Assessment

5.21. A detailed assessment will be undertaken in the TA, to assess how traffic generated by the development will impact the junctions within the study area.

5.22. Development traffic flows will be added to the Reference Case flows to generate Test Case scenarios, for the future forecast year. The scenarios produced for modelling purposes are described below:

- 2021 Base Year (Base + Committed Development)
- 2021 Test Case (Base + Committed Development + Development)
- 2027 Reference Case (Base + Committed Development)
- 2027 Test Case (Base + Committed Development + Development)

5.23. The proportional impact of development traffic will be assessed for all the junctions within the study area and based on the outcome of the assessment, junctions will be subject to capacity assessments using the industry standard junction modelling software. The criteria of the modelling would be discussed with the DCC. However, based on our professional experience, we consider that where the development impact is greater than 30 vehicles during the peak hour, or more than 5%, capacity analysis will be required in order to gain a clear understanding of how the junctions operate with and without development traffic.

5.24. The PICADY module of Junctions 10 will be used to assess the operation of all priority junctions, whilst ARCADY will be used to assess the roundabouts and LINSIG modelling software will be used to model the signal-controlled junctions. This approach will allow determination of any junction improvements which may be necessary to mitigate the impact of the development traffic.

6. Report Structure

6.1. The analysis and methodology described above will be incorporated into the Transport Assessment report. The proposed report structure is summarised below:

- **Introduction** – setting out the project brief, scope of assessment and planning background.
- **Policy Review** – a summary of national and local transport policies that are relevant to the proposed development.

- **Existing and committed Transport Conditions** – a detailed review of the local transport context for all modes of travel, a summary of local facilities and analysis of the highway safety conditions in the vicinity of the site. This will also include review of committed facilities due to development in the surrounding area.
- **Development Proposals** – a description of the development proposals, the associated transport infrastructure and/or service improvements and proposed access arrangements.
- **Development Travel Demand** – consideration of the forecast multi-modal trip generation of the proposed development and the likely distribution of these trips across the local transport network.
- **Traffic Impact Analysis** – an assessment of the base conditions on the surrounding highway network, the assignment of the vehicle trips associated with the development and analysis of the impact of the development on the operation of the junctions within the study area.
- **Summary and Conclusions**

7. Framework Travel Plan

7.1. In addition to the Transport Assessment, to enhance the sustainability credentials of the proposed development the site will be supported by a Framework Travel Plan (FTP). This will be based on Planning Practice Guidance and our professional experience of delivering FTPs with DCC. It is understood that a requirement to prepare full Travel Plan at RMA will be included within a legal obligation associated with any future planning permission with this site.

7.2. This document will include a selection of potential measures that could be implemented at the site, taking account of the existing transport opportunities and constraints. It will also include a monitoring strategy and key objectives.

7.3. The below provides a summary of the key elements of the FTP:

- **Introduction** – setting out the scope of the Travel Plan, background information on the site and description of development.
- **Travel Plan Policy and Planning Context -** National and local travel plan policy review, placing the site in the planning context and demonstrating why it is appropriate for the location.
- **Existing and Committed Transport Conditions –** a review of the existing transport conditions, including accessibility to/from the site including non-car modes and to existing local facilities/amenities. This will reflect the equivalent section prepared in the TA.
- **Measures –** this will set out the measures that could be implemented at the site following occupation to encourage and facilitate sustainable travel behaviours.
- **Targets –** this will include, subject to agreement with DCC, mode shift targets that will need to be achieved through the implementation of the Travel Plan.
- **Implementation and Responsibilities** - outlines how the Travel Plan will be managed and will operate on a daily basis.
- **Monitoring Strategy –** this will set out the process by which the impact of the Travel Plan can be monitored over its lifetime. It will also present remedial measures that may need to be implemented if the Travel Plan does not achieve the targets.
- **Summary and Conclusions** – provides conclusions to the report.

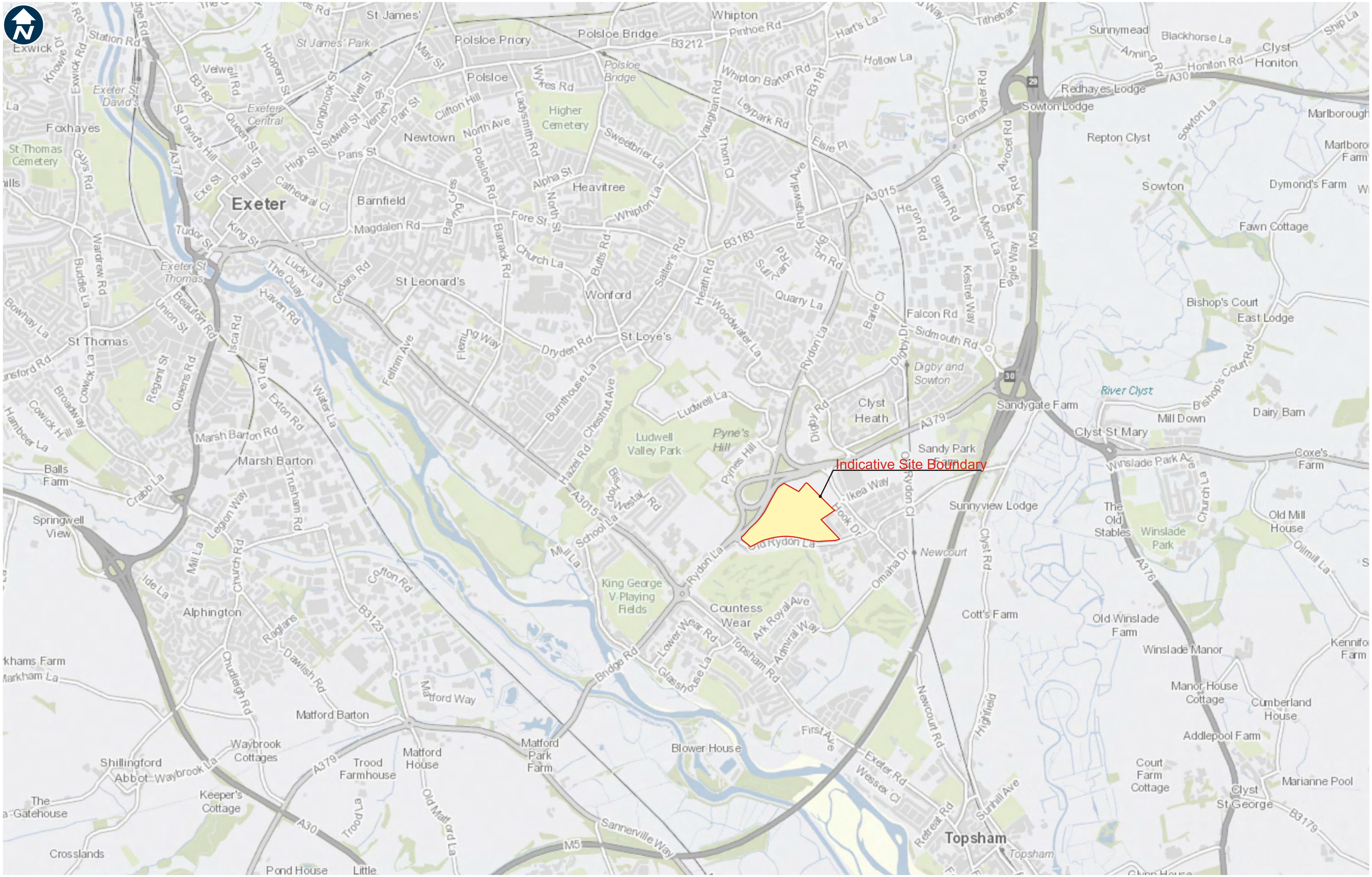
8. Summary

8.1. This Technical Note has presented the site context, the proposed Transport Assessment approach and the proposed content of the Travel Plan. It has been designed to form the basis of an agreement with DCC to progress the assessment. The Note will be updated to incorporate comments and input from DCC, and written agreement will be sought in due course.

DOCUMENT ISSUE RECORD

Technical Note No	Rev	Date	Prepared	Checked	Reviewed (Discipline Lead)	Approved (Project Director)
47450/TN002	-	25.05.21	NK	-	-	NT

T: E:



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Client Logo

St Bridgets, Exeter

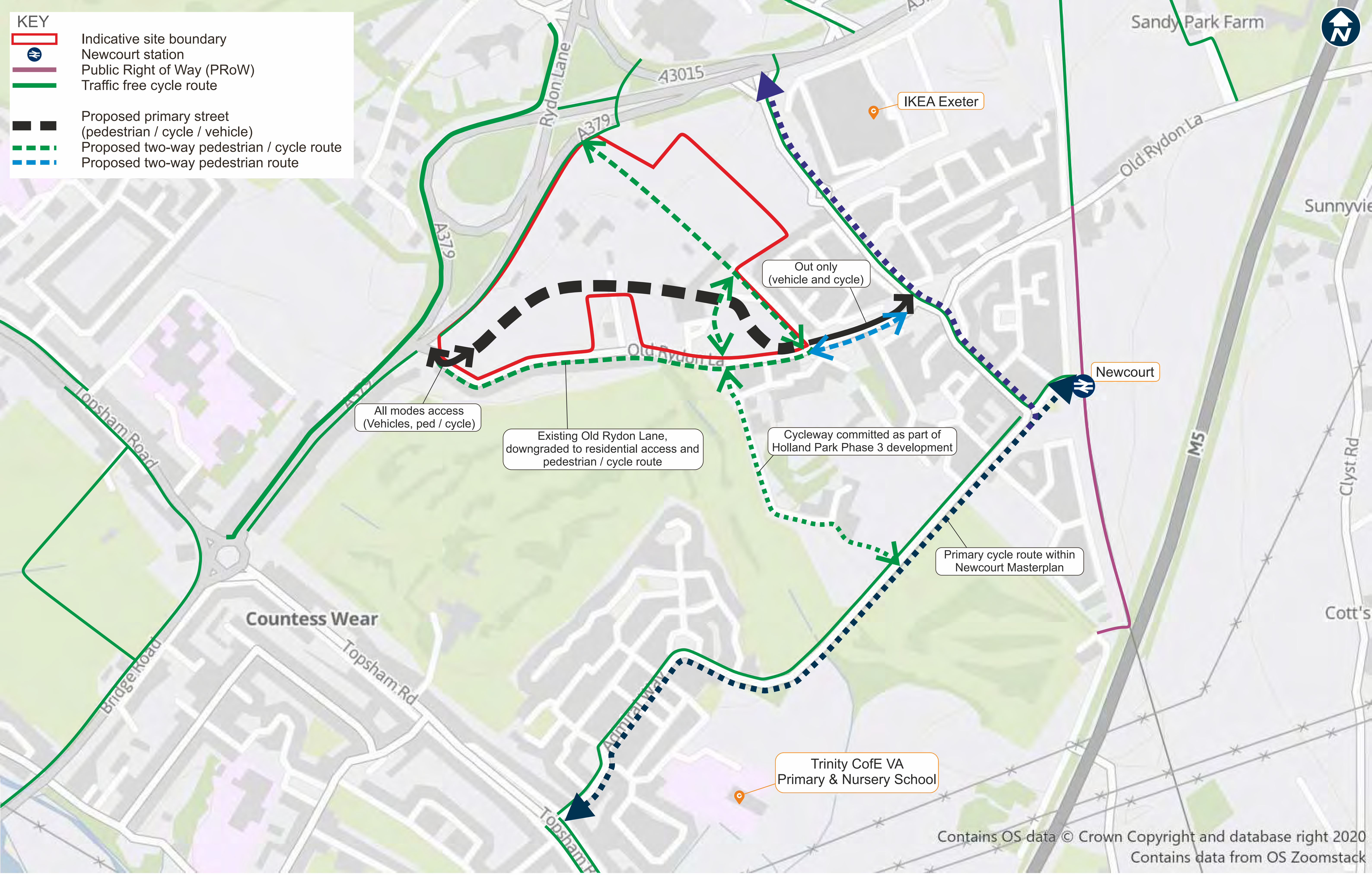
Site Location Plan

Figure 1

Draft
Drawing: 47450/5501/1.1
Date: 07/10/20
Drawn by: AA
Checked by: RK

Stantec

J:\47450 St Bridget Nursery, Newcourt\Technical\Corel



St Bridgets, Exeter

Proposed Site Access Strategy

Draft
Drawing: 47450/5501
Date: 26/05/2021
Drawn by: NL
Checked by: NK

Stantec

J:\47450 St Bridget Nursery, Newcourt\Technical\Corel

NOTES:

1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, CAPACITY TESTING, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP;
2. THE DETAILED DESIGN LAYOUT WILL BE DESIGNED IN ACCORDANCE WITH ALL RELEVANT DESIGN GUIDANCE AND STANDARDS;
3. THE LAYOUT HAS BEEN BASED ON THE APPROPRIATE DESIGN SPEED FOR OUR CURRENT PROPOSALS;
4. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT ASSOCIATED DOCUMENTS;
5. THE USE OF THE DRAWING DOES NOT ABSOLVE THE CLIENT FROM THEIR RESPONSIBILITIES IN REGARDS TO HEALTH & SAFETY AND CDM REGULATIONS; AND
6. TOPOGRAPHICAL SURVEY PROVIDED BY WEST COUNTRY LAND SURVEYS LIMITED AND RECEIVED ON 28.10.2020.

KEY:

- HIGHWAY BOUNDARY INTERPRETED BY STANTEC ONTO OS MAPPING. RECEIVED FROM DEVON COUNTY COUNCIL 02.10.2019, WITH UPDATE ALONG OLD RYDON LANE RECEIVED ON 03.02.21
- INDICATIVE SITE BOUNDARY, INTERPRETED BY CLIFTON EMERY DESIGN (CED) ONTO OS MAPPING, BASED ON TITLE PLAN NUMBERS DN626137 & DN291892, AS CED DRAWING NUMBER 200909 L 01 01, NOV 2020
- 60m SIGHT STOPPING DISTANCE FOR BENDS (IN ACCORDANCE WITH DEVON DESIGN GUIDANCE FOR 30MPH ROAD)
- PROPOSED CONTOURS
- EXTENT OF INDICATIVE EARTHWORKS (SUBJECT TO DETAILED DESIGN). WORKS ASSUME A 1:3 GRADIENT TO TIE INTO EXISTING GROUND LEVEL WITH 0.5M BERM

Mark	Revision	Date	Drawn	Chkd	Appd

SCALING NOTE: Do not scale this drawing - any errors or omissions shall be reported to Stantec without delay.
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

Drawing Issue Status
DRAFT FOR COMMENT

LAND AT ST. BRIDGET'S NURSERY

DETAILED REVIEW OF HORIZONTAL AND VERTICAL ALIGNMENT

Client
WADDETON PARK LTD

Stantec

Date of 1st Issue	Designed	Drawn
01.04.2021	ET	ET
A1 Scale 1:250	Checked RAS	Approved NK

Drawing Number: 47450/5505/SK06
Revision: -

stantec.com/uk

BRISTOL
Tel: 01173 327 840

NOTES:

1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, CAPACITY TESTING, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP;

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6. TOPOGRAPHICAL SURVEY PROVIDED BY WEST COUNTRY LAND SURVEYS LIMITED AND RECEIVED ON 28.10.2020.

KEY:

HIGHWAY BOUNDARY INTERPRETED BY STANTEC ONTO OS MAPPING. RECEIVED FROM DEVON COUNTY COUNCIL 02.10.2019

INDICATIVE SITE BOUNDARY, INTERPRETED BY CLIFTON EMERY DESIGN (CED) ONTO OS MAPPING, BASED ON TITLE PLAN NUMBERS DN626137 & DN291892, AS CED DRAWING NUMBER 200909 L 01 01, NOV 2020

2.4M X 43M VISIBILITY SPLAY FOR JUNCTION OF NEWCOURT DRIVE (IN ACCORDANCE WITH MfS FOR 30MPH ROAD)

Mark	Revision	Date	Drawn	Chkd	Appd
A	UPDATED LAYOUT FOLLOWING CLIENT TEAM COMMENTS	14.05.21	PC	NK	NK

SCALING NOTE: Do not scale this drawing - any errors or omissions shall be reported to Stantec without delay.
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

Drawing Issue Status
FOR INFORMATION

LAND AT ST. BRIDGET'S NURSERY
OLD RYDON LANE - EASTERN SITE ACCESS WITH DOWNGRADED OLD RYDON LANE AND CHANGE OF PRIORITY WITH PRIMARY STREET

Client
WADDETON PARK LTD

Stantec

Date of 1st Issue	Designed	Drawn
09.12.20	PC	PC
A1 Scale 1:250	Checked NK	Approved NT

Drawing Number: 47450/5505/SK02 Revision: A

stantec.com/uk

BRISTOL
Tel: 01173 327 840

File Location: \\pba.int\bri\projects\47450 st bridget nursery, newcourt\cad\brief 5505 vehicle access\sketches\47450-5505-sk02 crl eastern site access.dwg

NOTES:

1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, CAPACITY TESTING, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP;

2. THE DETAILED DESIGN LAYOUT WILL BE DESIGNED IN ACCORDANCE WITH ALL RELEVANT DESIGN GUIDANCE AND STANDARDS;

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6. TOPOGRAPHICAL SURVEY PROVIDED BY WEST COUNTRY LAND SURVEYS LIMITED AND RECEIVED ON 28.10.2020.

KEY:

HIGHWAY BOUNDARY INTERPRETED BY STANTEC ONTO OS MAPPING. RECEIVED FROM DEVON COUNTY COUNCIL 02.10.2019

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Drawing Issue Status
FOR INFORMATION

LAND AT ST. BRIDGET'S NURSERY
OLD RYDON LANE - EASTERN SITE ACCESS
EXISTING ONE-WAY LAYOUT WITH 'LIGHT SEGREGATION' FOOTWAY

Client
WADDETON PARK LTD

Stantec

Date of 1st Issue	Designed	Drawn
09.12.20	PC	PC
A1 Scale	Checked	Approved
1:250	NK	NT
Drawing Number		Revision
47450/5505/SK01		A

stantec.com/uk

BRISTOL
Tel: 01173 327 840

Kataria, Neha

From: Kataria, Neha
Sent: 04 August 2021 07:40
To: Alex A Thomas; Brian Hensley
Cc: Thorne, Neil; Mallett, Richard
Subject: RE: Pre-app Meeting - St Bridget's Nursery, Old Rydon Lane, Exeter
Attachments: Proposed Site Access Strategy_v2.pdf

Hi Alex

Hope Covid wasn't too bad and you are on a recovering path now.

Thank you for your approval on the RSA brief, just that you know the auditors are on the site this week.

I note your comments on safeguarding access to link to IKEA roundabout in future and the masterplan will consider this. Further the proposed access strategy via A379 / Old Rydon Lane junction will remove any ransom for this.

Regarding the access by cyclist, please see attached proposed transport strategy plan which is included within the RSA brief. The site proposals will provide pedestrian-cycle access at the north-west corner linking the site to the existing shared foot-cycleway along the A379 Rydon Lane. The cyclists from Russell Way / Sowton will be able to access the site via cycle overbridge on the A379 and the proposed northwest ped-cycle link. The Admiral Way / Holland Park link will mainly be used by the cyclists travelling from the primary school/Newcourt Station to the site. I hope it clarifies but please let me know if you have any further comments.

I look forward to your comments on the scoping report.

Thanks
Neha

From: Alex A Thomas <alex.a.thomas@devon.gov.uk>
Sent: 03 August 2021 12:05
To: Brian Hensley <Brian.Hensley@devon.gov.uk>; Kataria, Neha <neha.kataria@stantec.com>
Cc: Thorne, Neil <neil.thorne@stantec.com>; Mallett, Richard <richard.mallett@stantec.com>
Subject: RE: Pre-app Meeting - St Bridget's Nursery, Old Rydon Lane, Exeter

Hi Neha,

Apologies for my lack of response. I've been off work sick with COVID. I am hoping to be back working full time soon and will get back to you as soon as I can with comments on the Scoping Report.

To keep things moving I have reviewed the RSA brief and am happy for this work to be commissioned. I would however reiterate our comments made during our previous meeting that provision of safeguarding access to Ikea Roundabout for future access should be secured. As part of the masterplan, alternative routes need to be explored which could remove any ransom to this.

I have concerns that the proposed access strategy shows there is no provision of access for cyclists from the north east. How will cyclists travelling from Russel Way / Sowton access the site? Its unrealistic to think cyclists will travel south to then go back on themselves through Admiral Way/ Holland Park to access the site.

Kind Regards,
Alex

From: Brian Hensley <Brian.Hensley@devon.gov.uk>
Sent: 21 July 2021 12:30
To: Kataria, Neha <neha.kataria@stantec.com>; Alex A Thomas <alex.a.thomas@devon.gov.uk>

Cc: Thorne, Neil <neil.thorne@stantec.com>; Mallett, Richard <richard.mallett@stantec.com>
Subject: RE: Pre-app Meeting - St Bridget's Nursery, Old Rydon Lane, Exeter

Sorry Neha, Alex needs to see and approve this.

Regards

Brian

Brian Hensley
Development Manager – Highways and Transport
Tel: 01392383000
Mob: 07800829420

Ext. 3440

From: Kataria, Neha <neha.kataria@stantec.com>
Sent: 21 July 2021 10:22
To: Brian Hensley <Brian.Hensley@devon.gov.uk>
Cc: Thorne, Neil <neil.thorne@stantec.com>; Mallett, Richard <richard.mallett@stantec.com>
Subject: FW: Pre-app Meeting - St Bridget's Nursery, Old Rydon Lane, Exeter

Hi Brian

I have received an out of office from Alex, and it says he is away till 26th, would you please be able to respond to the below email (attached RSA brief).

Thanks
Neha

From: Kataria, Neha
Sent: 20 July 2021 12:22
To: Alex A Thomas <alex.a.thomas@devon.gov.uk>
Cc: Brian Hensley <Brian.Hensley@devon.gov.uk>; Thorne, Neil <neil.thorne@stantec.com>; Mallett, Richard <richard.mallett@stantec.com>
Subject: FW: Pre-app Meeting - St Bridget's Nursery, Old Rydon Lane, Exeter

Hi Alex

I tried calling you but and your phone is not available / mailbox is full! Our client is keen to progress the application and it would be very helpful if you could please review / approve the RSA brief.

Thanks
Neha

From: Kataria, Neha
Sent: 13 July 2021 14:24
To: Alex A Thomas <alex.a.thomas@devon.gov.uk>
Cc: Brian Hensley <Brian.Hensley@devon.gov.uk>; Thorne, Neil <neil.thorne@stantec.com>; Mallett, Richard

<richard.mallett@stantec.com>
Subject: FW: Pre-app Meeting - St Bridget's Nursery, Old Rydon Lane, Exeter

Hi Alex

Hope you are keeping well?

Further to the pre-application meeting, where my colleague Neil Thorne discussed access proposals for the site at St Bridgets, Newcourt, we have now prepared a Stage 1 RSA brief for your review and comments. I would be grateful if you could please review the attached and provide your confirmation so that we can commission the third party auditors to commence the audit.

Further, please let us know if you have any comments on the scoping note issued to you on 26th May 2021.

Thanks
Neha

From: Thorne, Neil <neil.thorne@stantec.com>
Sent: 08 June 2021 11:00
To: Michael Higgins (Michael.higgins@exeter.gov.uk) <michael.higgins@exeter.gov.uk>; Alex A Thomas <alex.a.thomas@devon.gov.uk>
Cc: Brian Hensley (brian.hensley@devon.gov.uk) <brian.hensley@devon.gov.uk>; Gerry Keay <gerry@greendalecourt.com>; Nicole Stacey <n.stacey@pclplanning.co.uk>; David Seaton <d.seaton@pclplanning.co.uk>; Kataria, Neha <neha.kataria@stantec.com>
Subject: RE: Pre-app Meeting - St Bridget's Nursery, Old Rydon Lane, Exeter

Michael / all,

Great to talk to you all earlier. As requested, please see attached the Access Strategy drawing which we talked through during the meeting.

Alex, many thanks for confirming your in-principle agreement to the TA Scoping note, noting that you still need to review some of the detailed points. Once you've had the chance to review in more detail, please do not hesitate to contact either myself or my colleague Neha (cc'd). We will seek to finalise once we have agreed the content, noting from today's discussion that:

- Stage 1 RSA's will be required at both site access locations;
- PIC analysis should include the A379 Rydon Lane / Old Rydon Lane junction and the A379 / Newcourt Way / Russell Way signalised junction, subject to your review of the study area; and
- Once we have agreed the scope of the TA with yourselves, we will liaise with HE with regards to impacts at M5J30.

Kind regards,

Neil Thorne
Director of Transport

Direct: +44 1173327872
Mobile: +44 7493390269
neil.thorne@stantec.com

Stantec
10 Queen Square
BRISTOL BS1 4NT

-----Original Appointment-----
From: Nicole Stacey <n.stacey@pclplanning.co.uk>
Sent: 28 May 2021 14:16
To: Nicole Stacey; Michael Higgins (Michael.higgins@exeter.gov.uk); Alex A Thomas; Brian Hensley (brian.hensley@devon.gov.uk); Gerry Keay; David Seaton; Thorne, Neil
Subject: Pre-app Meeting - St Bridget's Nursery, Old Rydon Lane, Exeter
When: 08 June 2021 10:00-11:30 (UTC+00:00) Dublin, Edinburgh, Lisbon, London.
Where:

Hi all,

This date seems to suit us all for a pre-app meeting.

Please can you let me know ASAP if you can't make this time.

Kind regards

Nicole

____

Microsoft Teams meeting

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Kataria, Neha

From: Parish, Sally <Sally.Parish@highwaysengland.co.uk>
Sent: 08 October 2021 14:29
To: Kataria, Neha
Cc: Thorne, Neil; Garnier, Chrystèle
Subject: RE: St Bridget's Nursery, Newcourt

Dear Neha,

Thank you for your emails regarding the above pre-application.

National Highways has been appointed by the Secretary of State for Transport as strategic highway company under the provisions of the Infrastructure Act 2015 and is the highway authority, traffic authority and street authority for the strategic road network (SRN). The SRN is a critical national asset and as such Highways England works to ensure that it operates and is managed in the public interest, both in respect of current activities and needs as well as in providing effective stewardship of its long-term operation and integrity.

In the case of this development proposal, our interest is in the M5 and in particular for this pre-application Junction 30 of the M5.

We have reviewed the information provided within and attached to your email of 17 September 2021 and without prejudice our comments are set out below.

Site Location/Context

The site is located within the Newcourt area of Exeter, approximately 4km south east of Exeter City Centre. The site is bounded to the north by the A379, to the west by Rydon Lane, Old Rydon Lane to the south and to the east by an open field and residential area. The M5 is located approximately 1km east of the site and can be accessed at Junction 30 via the new Signal controlled Newcourt Way / A379 Rydon Lane junction. The site is in close proximity to a number of existing facilities, including school, retail, shops, and Newcourt railway station, that could be of use to future residents of this site.

We understand from your Scoping Note that the site is part of the allocated Newcourt residential led mixed-use development (Strategic Allocation – Policy CP19 of the Exeter Core Strategy) and that the Newcourt Masterplan references 'Area a' for residential development of approximately 470 dwellings. Your note advises that the overall masterplan for Newcourt is for around 16 ha employment land and 3,500 dwellings with much of the allocation already built out over various sites by various developers and that this site is one of the last areas of that allocation to come forward for development. We note within that allocation that most recently the planning application (Ref: 19/1647/FUL) for the site east of IKEA for a development of 200 dwellings was refused in December 2020 and the applicant appealed this decision in March 2021. We also note that the applicant submitted a new planning application (Ref: 21/0496/FUL) for a reduced quantum of 184 dwellings in March 2021. Our predecessor Highways England was not consulted by the Local Planning Authority on either application 19/1647/FUL or application 21/0496/FUL, and as such have not previously agreed the methodology and conclusions contained within the supporting Transport Assessments. National Highways recently requested consultation on application 21/0496/FUL and following our review of the transport assessment requested that further assessment be undertaken to determine the impact of the development on the safe and efficient operation of M5 J30. It is anticipated that our formal planning response to application 21/0496/FUL will be published on the Local Planning Authority website shortly.

You advise that there is a Spatial Planning Guidance for the Newcourt masterplan, but significant changes have taken place since it was developed which include that the Newcourt Masterplan identified the site as mixed -use development with access off IKEA roundabout but due to third party land to the north the connection from IKEA roundabout is not available at this stage, and a separate planning application may come forward by the third party to provide employment land to the north of this site.

Previous/Current Use

Your Scoping Note states that the site had an operational nursery and a garden centre (5,202 sqm) with an access off Old Rydon Lane, although this has since closed and that the existing nursery has relocated to another site at Clyst St Mary, east of M5 J30, which is open 9am to 5pm (Monday to Saturday) and 10am to 4pm (Sunday). The Scoping Note also states that the commercial horticulture business remains operational on the site and is proposed to continue in the short to medium term as the site development progresses. As the nursery has relocated to the east of M5 J30 we consider that the nursery traffic will still be on the network although reassigned for the new location and consideration should be given to this in any future assessment. In addition, we query what is proposed for the existing commercial horticulture business, will it relocate somewhere close to where it is now or if it will move further away the trips may be 'lost' from this part of the network when business relocates so they could be 'netted' off in the future year assessments. This should be detailed in the Transport Assessment submitted with any future planning application.

Existing Conditions

We note that the TA will review the Personal Injury Collision (PIC) data for the most recent 5-year period to establish any clusters or trends which National Highways welcomes. However, we request the M5 J30 and the full extents of its slip roads are included and that a plan is provided which shows all of the collision locations so that we can identify any clusters at this junction.

Proposed Development

We understand that a forthcoming Outline Planning application at this allocated site will comprise of the development of approximately 350 dwellings.

Extant Trip Rates/Generation

As stated above, the existing nursery has relocated approximately 1.5miles to Clyst St Mary, east of M5 J30, and is not open during the weekday network peak hours (0800-0900 and 1700-1800). National Highways therefore considers that there could be only a small number of staff and customers passing through M5 J30 during the network peak hours and that any redistribution of these trips from the extant site to the new site will be imperceptible at M5 J30 and therefore do not need to be redistributed around it. We recommend that you consider undertaking a midweek 0800-0900 and 1700-1800 survey of movements into and out of the Clyst St Mary site as this will provide evidence of quantum of vehicle movements at the site during these times.

Please can you confirm what the current situation is with the garden centre.

In terms of the existing commercial horticulture business, depending on hours of operation, we recommend that you undertake a midweek 0800-0900 and 1700-1800 survey of movements into and out of the site and set this out in your Transport Assessment so that we can understand the quantum of movements associated with this site and the likely impact at M5 J30. We suspect that if this business is open during the network peak hours the movements are likely to be small and imperceptible at M5 J30 and therefore do not need to be redistributed around it if the business remains local or netted off if it moves further afield.

Proposed Trip Rates/Generation

To ensure consistency with our latest response on the Ikea residential planning application, National Highways considers that the residential trip rates presented in the Transport Assessment (TA) are low given the site's location. It is requested a revised trip rate assessment is undertaken based the TRICS database to ensure the trip rates are realistic.

Trip Distribution/Assignment

It is stated in the Scoping Note that "*The Trip Distribution agreed for IKEA residential application is considered appropriate to use for distributing trips from the proposed development. This has been validated using Census Journey to work data for the local MSOA - E02004159*." National Highways queries if this is based on the 2001 or 2011 Census data because in the November 2019 TA for the IKEA Residential Application we noted that in paragraph 6.29 of that TA it refers to the Census 2001 Journey to Work Statistics for the Topsham Ward. If it is identified that 2001 Census data is being used then we will require you to update the distribution using Census 2011 data.

Committed Developments

National Highways requests that you agree with Exeter City Council what committed developments you need to include in your future year assessments.

Growth Factors

We have become aware that a revised TEMPRO is due to be released this autumn due to it being widely accepted that the current growth predictions are too high and therefore the growth factors are to be reduced. Therefore we recommend that, if practicable, you await this update before proceeding with the growth and future year assessments.

Base Year Assessment

National Highways considers it acceptable for you to use the forecast 2021 traffic flows from the DCC commissioned strategic modelling as the 2021 base year flows in your assessment of M5 J30.

Future Year Assessment

In accordance with DfT Circular 02/13 National Highways requires that you undertake an opening year assessment with 100% development traffic flows and also a period up to ten years after the date of registration of your future planning application or the end of the relevant Local Plan whichever is the greater. As the Exeter Local Plan is valid until 2026 and 10 years after registration of your planning application is likely to be 2022, and that there are 2033 flows in the strategic model it is considered acceptable for you to use 2033 in addition to the year of opening.

The flows for these scenarios should be provided in network diagrams so that National Highways can identify the impact of the development on M5 J30 and cross check these with any junction modelling undertaken by you.

Junction Modelling Assessment

We welcome the inclusion of an assessment of M5 J30 within the Transport Assessment of the proposed development and the future year assessments should be as stated above.

Framework Travel Plan

National Highways welcomes that a Framework Travel Plan will be submitted with any future planning application for this site, and this should be conditioned accordingly.

It should be noted that comments made at pre-application stage are made without prejudice and we may therefore, have other comments as the pre-application progresses and more information is made available and any comments/responses you provide to this and later responses. However, based on the information provided to date and subject to our detailed review of the Transport Assessment provided with any future planning application submission the principal of the proposal is considered deliverable in planning terms.

We hope that you find the above helpful and please do contact us if you wish to discuss or provide further information.

Kind regards,

Sally

Sally Parish, Planning Manager (Highways Development Management), Operations
National Highways | Ash House | Falcon Road | Sowton Ind. Estate | Exeter | EX2 7LB
Phone: 07834 974215
Web: http://www.highways.gov.uk

Please note I am currently working from home and can be contacted by phone on the above mobile number

---

From: Kataria, Neha [mailto:neha.kataria@stantec.com]
Sent: 05 October 2021 16:23
To: Parish, Sally <Sally.Parish@highwaysengland.co.uk>
Cc: Thorne, Neil <neil.thorne@stantec.com>; Garnier, Chrystèle <Chrystele.Garnier@highwaysengland.co.uk>
Subject: St Bridget's Nursery, Newcourt

Hi Sally

Thanks for your email, and I note your comments related to the IKEA full application Reference 19/1647 which was refused planning permission and the submitted new application 21/0496/FUL. The latter is supported by a Transport Note which refers back to the TA and addendum Technical Note submitted with the application 19/1647. DCC has responded to the 21/0496/FUL and has provided no objections to the application, in their response dated 24 June 2021. With regards to Trip generation and traffic impact, DCC states, '*As part of application 19/1647/FUL a Transport Assessment and Addendum Technical Note was submitted. Whilst the internal layout of this application has changed, the off-site traffic and impact has not altered since the latest technical note which detailed the impact of closing the A379 vehicular egress from the site. The conclusions set out in our previous response therefore remain valid. The site is accessible by non-car modes and residual impact of the residential development can be accommodated on the local highway network*'

Further, the TA and the addendum Note submitted with the 19/1647 (referred within 21/0496) Full application are based on the consented outline applications 13/4525/01 (IKEA store) and 13/4524/01 (residential for 220 dwellings). Both the outline applications were consulted with DCC and HE (then HA).

The TA submitted for 19/1647 said ' *The traffic impact analysis undertaken within the original TA considers both the residential scheme for up to 220 residential units and the proposed IKEA store. As the analysis and impact were accepted by both the LHA and HE at that time, this has been set out in full for information purposes…. The parameters for the assessed junctions are considered to be agreed with DCC and HE, on the basis that the original TA was accepted*'

Further, my scoping email was using the following information from IKEA Residential full application:

Trip Rates: The trip rates used in the IKEA full application Reference 19/1647, are from the originally consented outline application. The TA stated, *An assessment was undertaken within the original TA for up to 220 residential dwellings on the site. During the initial scoping discussion with DCC and the HA it was suggested that the residential trip rates used for the strategic modelling of the Newcourt Masterplan area should be used to assess the weekday AM and PM peak period. These trip rates were used within that assessment.'* Therefore use of trip rates from Newcourt Strategic model is considered appropriate for the proposed allocated site, as was acceptable for IKEA residential application.

Trip Distribution: Similarly, the traffic distribution agreed within the consented IKEA outline application has been replicated within the TA for Full Application. The basis of distribution was agreed within the IKEA Outline application and as such it is used for the proposed site.

Future Year Flows: The future year flows have been used from the Full Application as they were considered most recent. The TA for full application obtained 2018 flows and growthed using TEMPro. The scoping note used the 2021 flows for M5J30 from the Full IKEA application, considering these are the most recent flows. If these flows are not acceptable to HE, I would be grateful to you if you could provide traffic flows for M5J30, which we could use to provide a opening year percentage impact assessment. Notwithstanding that, as mentioned in the previous email, the impact of development trips is very low, maximum of 38 two-way trips on the M5J30, that any changes to the base flows on M5J30 is unlikely to change the conclusion; the impact of development traffic will be insignificant to the operation of the junction.

Therefore, the trip rates and trip distribution used in the scoping note was based on the outline application consented for IKEA residential development, which was acceptable to HE and DCC. The flows used for the impact assessment are from the submitted TA for IKEA full application and are considered most recent, however we would be happy to use flows which you consider appropriate for M5J30.

I hope this provides you more context to review the information in the scoping email and I look forward to hear from you.

Thanks
Neha

From: Parish, Sally <Sally.Parish@highwaysengland.co.uk>
Sent: 29 September 2021 09:22
To: Kataria, Neha <neha.kataria@stantec.com>
Cc: Thorne, Neil <neil.thorne@stantec.com>; Garnier, Chrystèle <Chrystele.Garnier@highwaysengland.co.uk>
Subject: RE: St Bridgets Nursery, Newcourt

Neha,

Apologies, my below email was unclear, I should confirm as below that Highways England was not consulted on either application.

Kind regards,

Sally

From: Parish, Sally
Sent: 28 September 2021 17:24
To: Kataria, Neha <neha.kataria@stantec.com>
Cc: neil.thorne@stantec.com; Garnier, Chrystèle <Chrystele.Garnier@highwaysengland.co.uk>; McCaffrey, Lisa <Lisa.McCaffrey@highwaysengland.co.uk>
Subject: RE: St Bridgets Nursery, Newcourt

Neha,

Thank you for your email and associated attachments.

We will review and provide pre-application advice, however I wish to draw the below matter to your attention.

The scoping note makes reference to a residential application for 200 dwellings at IKEA Way, under reference 19/1647/FUL, and draws on the methodology previously accepted by DCC for this application. Our predecessor Highways England does not appear to have been consulted on this application and therefore have not been party to any agreements relating to the assessment methodology utilised, nor agreed the predicted impact of this development.

From a check of the Exeter City Council website we understand this application was refused in December 2020 and has been resubmitted under reference 21/0496/FUL for 184 dwellings, although Highways England was again not consulted. As a result we (now National Highways) have requested that the LPA formally consult us on application 21/0496/FUL to enable us to determine the impact of this development on the strategic road network.

Given your scoping note proposes to draw on the methodology used for the 2019 (and now resubmitted 2021) application, I would suggest it be useful for us to conclude our review of that application ahead of formally responding on your scoping note, to understand the implications this may have for your proposed approach.

I trust this makes sense, but please do contact me if you wish to discuss further.

Kind regards,

Sally

Sally Parish, Planning Manager (Highways Development Management), Operations
National Highways | Ash House | Falcon Road | Sowton Ind. Estate | Exeter | EX2 7LB
Phone: 07834 974215
Web: http://www.highways.gov.uk

Please note I am currently working from home and can be contacted by phone on the above mobile number

---

From: Kataria, Neha [mailto:neha.kataria@stantec.com]
Sent: 24 September 2021 10:52
To: Parish, Sally <Sally.Parish@highwaysengland.co.uk>
Cc: Garnier, Chrystèle <Chrystele.Garnier@highwaysengland.co.uk>; Thorne, Neil <neil.thorne@stantec.com>
Subject: St Bridgets Nursery, Newcourt

Hi Sally

I would be grateful to you if you could please review the below information (apologies for a long email!) and let me know your thoughts on it. We are currently drafting the Transport Assessment and Travel Plan reports for outline planning application submission in October 2021, and therefore you will get further details of the methodology / assessment in the reports.

1. Planning Background: As mentioned in the earlier email , the site forms part of the Newcourt area allocation within the policy CP19 of Exeter Core Strategy. The site location is attached again. For convenience Newcourt Masterplan is attached, with Page 7 showing the Masterplan figure. The overall aims for the Newcourt area is the development of approximately 3,500 dwellings and 16ha of employment land. The site forms a composite part of 'Area A', which is identified within the Masterplan document as an area allocated for the development of approximately 470 dwellings. The original masterplan for Newcourt has been built out over various sites and by various developers. The proposed development would be one of the last areas of the allocation to come forward for development.

2. Development: The proposed development comprises up to 350 residential dwellings. We are an early stage in the masterplanning process so unfortunately don't have a masterplan to share with you at this stage. However, I can forward if this is of interest, when ready.

3. Site Context: The site is bounded by the A379 Rydon Lane to the north and west, Old Rydon Lane to the south, and open fields and residential areas to the east. The site is located approximately 1.6km southwest of M5 Junction 30. A portion of the site currently sites a plant nursery, garden centre, and associated buildings; whilst the garden centre is no longer open to the public, plants are continuing to be grown as a commercial operation at the site at present. The remainder of the site is currently greenfield land.

4. Site Access: Please see attached plan for the proposed access strategy. The site is accessed off from Old Rydon Lane on the southern boundary of the site. Old Rydon Lane is realigned within the eastern and western extents of the site to provide accesses to the site. The realigned Old Rydon Lane forms a priority junction with A379 Rydon Lane at the western end and will serve as a primary street to the site accommodating all modes. The existing Old Rydon Lane is downgraded to provide access to existing residential properties and foot-cycle facility, between the eastern and western site accesses. The eastern access provides egress only from the site and meets existing Old Rydon Lane that continues as one-way eastbound to Newcourt Way. Footway improvements are proposed along this section of Old Rydon Lane.

5. Scoping Consultation: Stantec provided a scoping note to Devon County Council, in their role as a Local Highway Authority, in May 2021 and further discussed transport requirements to support an outline application during the pre-application meeting. The scoping note is attached for your reference. The note provides the study area and methodology for the traffic assessment. The vehicular trip rates are used from Newcourt Strategic masterplan and the net vehicular trip generation (forecast trips – extant trips) is provided below:

	AM Peak (0800 – 0900)			PM Peak (1700 – 1800)		
	Arr	Dep	Tot	Arr	Dep	Tot
Forecast residential vehicle trip rates	0.090	0.360	0.450	0.297	0.140	0.437
Forecast residential vehicle trips for 350 dwellings	32	126	158	104	49	153
Extant garden centre vehicle trips	10	12	21	29	35	65
Net vehicular trip generation	**22**	**114**	**137**	**75**	**14**	**88**

The above analysis is additionally focused on a single fixed-hour peak, without any adjustments being made to take account of changes in travel behaviour that would be expected due to factors such as: Adjusting the time of the trip, such as leaving for work earlier / later due to more flexible and agile working arrangements; Not making the trip, such as by working from home; Shifting the journey mode from private car to active and sustainable transport modes such as walking / cycling or making use of public transport; or Shifting the journey mode to new / emerging modes, such as shared / personal e-scooters or bikes (imminent in the near future).

6. Trip Distribution: The proposed residential development traffic has been distributed across the study area based on the distribution model agreed for the IKEA Way Residential application (planning ref. 19/1467/FUL).

Route Name	Distribution (%)
M5 North	6.0%
M5 South	6.0%
A376 East (Sidmouth Road)	16.0%
A379 Southwest	11.0%
Topsham Road	24.0%
Rydon Lane / Russell Way	33.0%
Newcourt Way South	4.0%

7. The above Table show that 28% (6% M5 North, 6% M5 South and 16% A376 East) of development trips will travel on M5J30.

Route Name	AM 2-way Trips	PM 2-way Trips
M5 North	8	5
M5 South	8	5
A376 East (Sidmouth Road)	22	15
M5J30	**38**	**25**

8. The above Table show that the proposed development will generate 38 and 25 two-way trips during the AM and PM peak hours on M5J30, with a maximum of 22 on any one arm (Sidmouth Road, AM peak). This equates to a maximum additional 2 two-way cars every three minutes on the junction as a whole, which is considered to be very low.

9. Further, considering DfT Circular 02/13 an opening year assessment is required. Whilst the development will open in 2023/2024 the flows for 2021 for M5J30 provided in IKEA Residential application have been considered appropriate as the flows were acceptable to HE and LHA, and the application is recently permitted (2020). Figure 37 and 38 of Vectos TA shows flows on M5J30 for AM and PM peak hours (attached above).

	M5J30 Base Flows	2-way Trips	% Impact
AM Peak	8841	38	0.43%
PM Peak	8905	25	0.28%

10. Above Table shows that the development impact at M5J30 when compared with the future base flows on the junction is 0.43% and 0.28% during the AM and PM peak hours. This is considered robust as in reality the opening year will be 2023 /2024, with a likely higher base flows. Further it is considered that Circular 02/13 requires a 'review period' assessment, which requires assessment for 10 year plus opening year or end of local plan period (whichever is greater). Any future year assessment will have higher base year flows when compared to 2021 flows, i.e lower percentage impact in comparison to the opening year assessment. Therefore the impact of development traffic on the operation of M5J30 is considered to be insignificant, both in the opening year and future year assessment.

11. In addition, the TA for IKEA Residential application presented modelling of the M5J30, and it was concluded that the junction operates at its design capacity, but within theoretical capacity (DoS 90.5% in the AM peak and 87.2% in the PM peak). The impact of the allocated development traffic on the junction is negligible and it is therefore considered that this will not deteriorate the operation of the junction, and will not have a severe highways impact. Therefore we conclude that no further assessment or modelling of M5 J30 is required to support the application.

I would be grateful if you could please review and comment on the above information and should you have any query please do not hesitate to contact me.

Thanks
Neha

Neha Kataria MSc CTPP
Principal Transport Planner
Bristol

Direct: +44117 332 7871
neha.kataria@stantec.com

Stantec

From: Parish, Sally <Sally.Parish@highwaysengland.co.uk>
Sent: 20 September 2021 12:58
To: Kataria, Neha <neha.kataria@stantec.com>
Cc: Garnier, Chrystèle <Chrystele.Garnier@highwaysengland.co.uk>
Subject: RE: St Bridgets Nursery, Newcourt

Neha,

Your below email has been passed to me as Planning Manager in this area.

I would be grateful if you could please provide further information as set out in your email.

Kind regards,

Sally

Sally Parish, Planning Manager (Highways Development Management), Operations
Highways England | Ash House | Falcon Road | Sowton Ind. Estate | Exeter | EX2 7LB
Phone: 07834 974215
Web: http://www.highways.gov.uk

Please note I am currently working from home and can be contacted by phone on the above mobile number

From: Kataria, Neha [mailto:neha.kataria@stantec.com]
Sent: 17 September 2021 12:07
To: McCaffrey, Lisa <Lisa.McCaffrey@highwaysengland.co.uk>
Cc: Thorne, Neil <neil.thorne@stantec.com>
Subject: St Bridgets Nursery, Newcourt

Hi Lisa

Hope you are keeping well?

Our client has an allocated site in Newcourt, Exeter for which the planning application will be submitted soon. Would you please be able to let me know who would be the concerned officer in your department whom we should contact.

The site location is attached above and the site forms part of the strategic allocation for Newcourt area within the policy CP19 of Exeter Core Strategy. The site has been used as a Garden Centre until last year and is now proposed for development of up to 350 dwellings. I can provide further details on the access strategy, traffic generation and development impact on M5J30 to the concerned officer in any subsequent correspondence.

Just that you know, Sparkford site for which I consulted with you earlier, is still undergoing masterplanning changes due to phosphate neutrality, and therefore has not been submitted for planning yet.

Thanks
Neha

Neha Kataria MSc CTPP
Principal Transport Planner
Bristol

Direct: +44117 332 7871
neha.kataria@stantec.com

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https://www.gov.uk/government/organisations/highways-england | info@highwaysengland.co.uk

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Kataria, Neha

From:	Kataria, Neha
Sent:	21 October 2021 13:36
To:	Alex A Thomas; Brian Hensley
Cc:	Thorne, Neil; Mallett, Richard
Subject:	RE: Pre-app Meeting - St Bridget's Nursery, Old Rydon Lane, Exeter
Attachments:	211021 - TN003 Road Safety Audit Response - St Bridgets Nursery.pdf

Hi Alex

Further to our email correspondence where in you approved the safety audit brief, the access proposals for the St. Bridget's site have been audited by the third party, TMS consultancy, and they have provided us the Stage 1 audit report.

On the basis of GG119, '*there is no requirement for the safety audit team to comment on the designer's response to each problem raised in the report. The design team should liaise with the Overseeing Organisation (i.e. the Highway Authority) with regards to agreeing actions to each problem*', therefore I have attached the Road Safety Audit Designers Response for your comments and approval. Should you have any query please do not hesitate to contact me.

Regards
Neha Kataria MSc CTPP
Principal Transport Planner
Bristol

Direct: +44117 332 7871
neha.kataria@stantec.com

Stantec

From: Kataria, Neha
Sent: 04 August 2021 07:40
To: Alex A Thomas <alex.a.thomas@devon.gov.uk>; Brian Hensley <Brian.Hensley@devon.gov.uk>
Cc: Thorne, Neil <neil.thorne@stantec.com>; Mallett, Richard <richard.mallett@stantec.com>
Subject: RE: Pre-app Meeting - St Bridget's Nursery, Old Rydon Lane, Exeter

Hi Alex

Hope Covid wasn't too bad and you are on a recovering path now.

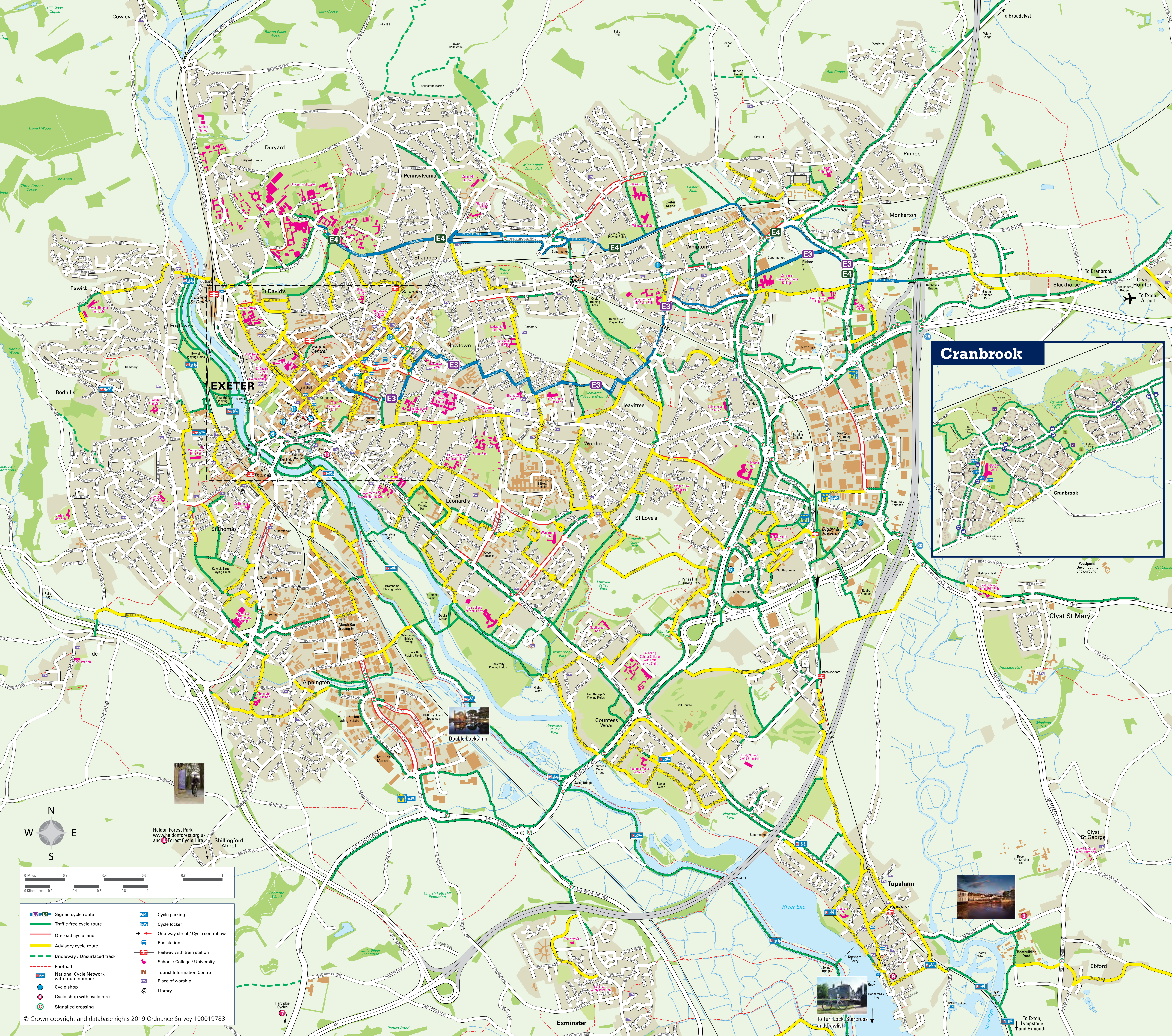
Thank you for your approval on the RSA brief, just that you know the auditors are on the site this week.

I note your comments on safeguarding access to link to IKEA roundabout in future and the masterplan will consider this. Further the proposed access strategy via A379 / Old Rydon Lane junction will remove any ransom for this.

Regarding the access by cyclist, please see attached proposed transport strategy plan which is included within the RSA brief. The site proposals will provide pedestrian-cycle access at the north-west corner linking the site to the existing shared foot-cycleway along the A379 Rydon Lane. The cyclists from Russell Way / Sowton will be able to access the site via cycle overbridge on the A379 and the proposed northwest ped-cycle link. The Admiral Way / Holland Park link will mainly be used by the cyclists travelling from the primary school/Newcourt Station to the site. I hope it clarifies but please let me know if you have any further comments.

I look forward to your comments on the scoping report.

Appendix C Travel Devon Cycle Routes Map


Cranbrook
EXETER
Exeter St David's
Exeter Central
St David's
St James Park
Newtown
Heavitree
Wonford
St Leonard's
St Loye's
St Thomas
Alphington
Countess Wear
Topsham
Exminster
Shillingford Abbot
Ide
Redhills
Exwick
Foxhayes
Cowley
Duryard
Pennsylvania
St James
Whipton
Pinhoe
Monkerton
Blackhorse
Clyst Honiton
Clyst St Mary
Clyst St George
Ebford
Digby & Sowton
River Exe
Double Locks Inn
Haldon Forest Park
www.haldonforest.org.uk
and Forest Cycle Hire
To Broadclyst
To Cranbrook
To Exeter Airport
To Turf Lock, Starcross and Dawlish
To Exton, Lympstone and Exmouth
N
W
E
S
0 Miles 0.2 0.4 0.6 0.8 1
0 Kilometres 0.2 0.4 0.6 0.8 1
Signed cycle route
Traffic-free cycle route
On-road cycle lane
Advisory cycle route
Bridleway / Unsurfaced track
Footpath
National Cycle Network with route number
Cycle shop
Cycle shop with cycle hire
Signalled crossing
Cycle parking
Cycle locker
One-way street / Cycle contraflow
Bus station
Railway with train station
School / College / University
Tourist Information Centre
Place of worship
Library
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Let's get cycling…

Welcome to the nineteenth edition of the Exeter Cycle Guide & Map.

Cycling is a great way to get around Exeter. This map is designed to be useful for anyone on a bike. The roads and cycle tracks are colour coded to show what type of route to expect when you cycle through and around Exeter for your commute, travel to school, shopping, social, leisure or simply for exercise.

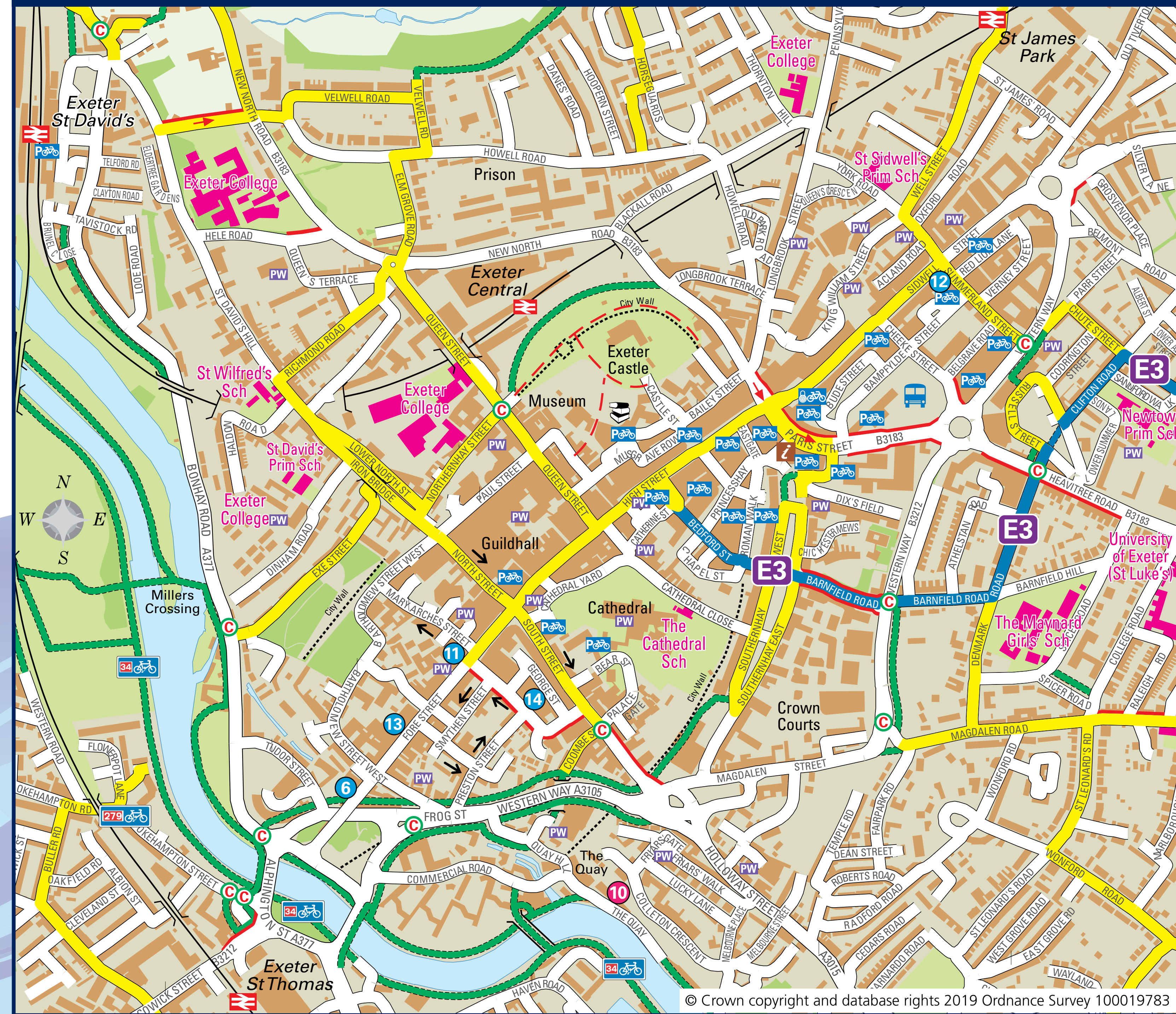
Cycling tips

Share the space
- Be polite and considerate. If someone lets you pass, thank them.
- Bikes are quiet so let people know you are coming – ring your bell, or a friendly "Hello!" often works wonders.
- Take care when passing others, especially children and older or disabled people and allow them plenty of room.

Use it, don't lose it! Bike security advice:
- Get a decent bike lock, D locks are recommended. Always lock your frame and wheels to the cycle stand.
- Make a note of your bike details (model, frame number) and get it insured.

Savvy cycling!
- Improve your bike skills – good observation and correct road positioning will keep you safe. Cycle confidence courses available for free for adults and children. **traveldevon.info**
- Wear a cycle helmet (with a British Standard EN1078) – ensure it is a good fit.
- Use lights at night - front and rear.
- It is illegal to cycle on the footway unless it is specifically marked for cyclists.
- On-road, position yourself where you are visible and keep away from the kerb or parked cars.

Exeter city centre cycling map



- Signed E4 cycle route
- Traffic-free cycle route
- On-road cycle lane
- Advisory cycle route
- Bridleway / Unsurfaced track
- Footpath
- National Cycle Network with route number
- Cycle shop
- Cycle shop with cycle hire
- Signalled crossing
- Cycle parking
- Cycle locker
- One-way street / Cycle contraflow
- Bus station
- Railway with train station
- School / College / University
- Tourist Information Centre
- Place of worship
- Library

This cycling map was produced by FourPoint Mapping for Devon County Council.

December 2019 Edition 19.

Cartography © FourPoint Mapping

Edition 19

Exeter

Cycling Guide & Map

Cycle devon

A cycle friendly city

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traveldevon.info

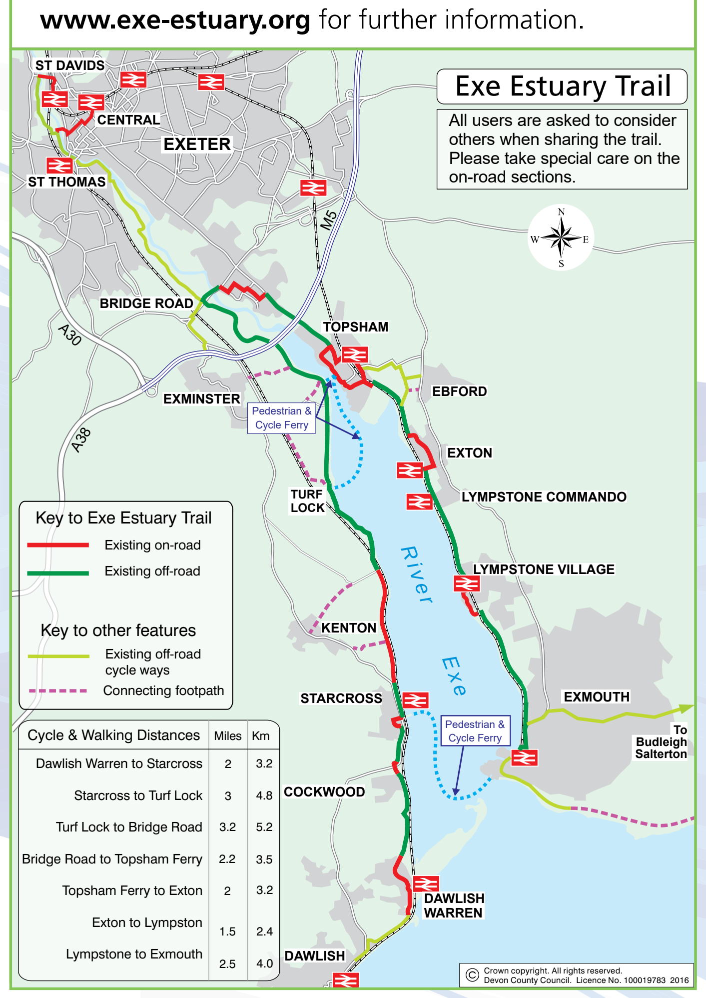
Devon County Council

The Exe Estuary Trail

Devon County Council is creating a fantastic new cycle/walkway known as the Exe Estuary Trail. It is part of Route 2 of the National Cycle Network.

The 26 mile trail runs along both sides of the Estuary, giving access to views as never before. The trail connects 80,000 residents to the city of Exeter and is used by nearly 200,000 people per year.

Visit **traveldevon.info** or **www.exe-estuary.org** for further information.



Cycles & trains at Exeter stations

Cycles can be carried on all trains from Exeter stations but at peak times space is at a premium.

The rail companies have different cycle carriage policies and varied space available.

If you wish to take bikes you are advised to check the rail company's cycle carriage policy.

At Exeter St David's Station there are many cycle parking stands inside the station on the platform and outside.

Folding bicycles can be hired at Exeter St David's Station. To hire a bike you first need to become a member by registering with Brompton Dock.

Visit **www.bromptonbikehire.com** for more information.

Signs & symbols

- Route for pedal cycles only
- Pedal cycles are allowed to use the bus lane
- Shared route for use by pedal cycles & pedestrians only
- Be polite and considerate to all path users
- Cycle lane
- Cycle lane goes against the flow of traffic
- No entry for all vehicles (including pedal cycles)
- No motor vehicles (cycling permitted)
- No cycling
- Town Centre – Route recommended for pedal cycles which differs for other traffic
- National Cycle Network (NCN) Route Marker

Signs and ground markings indicate segregated route for pedal cycles and pedestrians only (please keep to the correct side)

Cycle training

Whatever age you are, we can give you the skills and confidence to get out on your bike!

Why not use two wheels to get to school, to work, to the shops or just for pleasure?

Young people – Find out when your school is running a course.

Bikeability holiday clubs level 1, 2 and 3 delivered in school holidays.

Adults 1:1 cycle confidence sessions available for beginner, intermediate or advanced cyclists.

To book a cycle training session and for more information, please visit our website **traveldevon.info**

Other bike services available in the area

Devon Cycling Holidays
Tel: 01392 271426 or 07773 362119
Email: info@devoncyclingholidays.co.uk
www.devoncyclingholidays.co.uk

Mobile Cycle Hire (cycle hire delivered)

Mobile Cycle Repair Businesses (offer collection service/ on-road repair)

Action Kids
Pro Bike Bitz
AMBA Marketing (UK) Limited
Unit 5, Budlake Units, Budlake Road
Marsh Barton EX2 8PY
Tel: 01392 829903
Email: info@amba-marketing.com
www.probikebitz.co.uk

Execel at Cycling, Cycle Tuition
Tel: 07968 826402 or 07771 614593
Email: via website
www.execel.co.uk

Estuary Cycles
Tel: 07854 018196
Email: via website
www.estuarycycles.co.uk

The Mobile Cycle Service
Tel: 01392 427558
Email: via website
www.mobilecycleservice.net

The Cycle Surgeon
11B Leypark Close, Whipton EX1 3NU
Tel: 07870 924856
Email: treed1973@googlemail.com
www.the-cycle-surgeon.co.uk

Devon Cycle Repairs
Tel: 07764 188162
Email: andy@devoncyclerepairs.co.uk
www.devoncyclerepairs.co.uk

Other Contacts

Haldon Forest Park
Ranger's Office
Tel: 0300 067 5826
Email: haldon.rangers@forestryengland.uk
www.forestryengland.uk/haldon-forest-park

National Contacts

Sustrans
The UK's leading sustainable transport charity
Tel: 0117 926 8893
Email: south@sustrans.org.uk
www.sustrans.org.uk

Cycling UK
The UK's national cyclists' charity
Tel: 01483 238300
Email: cycling@cyclinguk.org
www.cyclinguk.org

British Cycling
Tel: 0161 274 2000
Email: info@britishcycling.org.uk
www.britishcycling.org.uk

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save money, be healthier

Travel Devon is your source for travel information. Our website provides you with all the tools you need to plan a journey as well as providing the latest news on travel in the county.

Why not follow us on Twitter or Facebook…

@Travel_Devon

www.facebook.com/traveldevon

To plan your journey by foot, bike, bus, rail or car, visit **traveldevon.info** or email **traveldevon@devon.gov.uk**

For any suggestions, comments or to report faults on the cycle routes please contact:

Highways and Traffic Management

Devon County Council	
Lucombe House	Tel: 0345 155 1004
County Hall	Email: customer@devon.gov.uk
Topsham Road	traveldevon.info
Exeter EX2 4QD	

Cycling shops in Exeter

Cycle shops · Cycle shops with cycle hire

1. **Cyclerama**
3 Summer Lane EX4 8BT
Tel: 01392 468746

2. **CycleSurgery**
Unit 2 Bishop's Court Retail Park
Sidmouth Road EX2 7JH
Tel: 01392 357600
Email: enquiries@cyclesurgery.com
www.cyclesurgery.com.

3. **Darts Farm (cycle hire only)**
Topsham EX3 0QH
Tel: 01392 878200
Email: shop@dartsfarm.co.uk
www.dartsfarm.co.uk

4. **Forest Cycle Hire (cycle hire only) (not shown on map)**
Haldon Forest Park, Kennford EX6 7XR
Tel: 01392 833768
Email: info@forestcyclehire.co.uk
www.forestcyclehire.co.uk

5. **Halfords**
Unit 5, Rydon Lane Retail Park EX2 7HX
Tel: 01392 447941
www.halfords.com

6. **Hardy Cycles**
1 New Bridge Street EX4 3JW
Tel: 01392 434997
Email: contact.hardycycles@gmail.com
www.hardycycles.co.uk

7. **Partridge Cycles Superstore (not shown on map)**
Exeter Road, Kennford EX6 7TF
Tel: 01392 833303
Email: via website
www.partridgecycles.co.uk

8. **Ride-On Cycling For All (second hand bike sales & charity)**
61 Haven Road EX2 8DP
Tel: 0754 4314749
Email: info@rideoncycling.org
www.rideoncycling.org

9. **Route 2 Bike Shop Topsham**
Nr Quay, 4 Amity Place
Topsham EX3 0JE
Tel: 01392 879160
Email: info@route2bikes.co.uk
www.route2bikes.co.uk

10. **Saddles & Paddles**
The Quay EX2 4AN
Tel: 01392 424241
Email: shop@sadpad.com
www.sadpad.com

11. **The Bike Shed**
163 Fore Street EX4 3AT
Tel: 01392 426191
Email: via website
www.bikesheduk.com

12. **Lickety Split**
140 Sidwell Street EX4 6RT
Tel: 01392 277770
Email: sales@licketysplit.biz
www.licketysplit.biz

13. **The Boarding House (BMX Cycles)**
132 Fore Street EX4 3AN
Tel: 01392 217774
Email: theboardinghouse.eu@gmail.com
www.theboardinghouse.eu

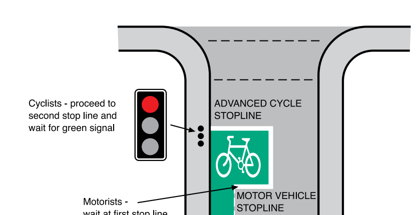
14. **Exeter Bike Workshop**
19 Market Street EX1 1BW
Tel: 01392432788
Email: info@ebw.org.uk

Junctions & crossings

Toucan Crossing
Pedestrians and cyclists share a signalled crossing area. Cyclists do not need to dismount.

Cyclists Using Pedestrian Crossings
Cyclists may use other crossings to cross the road, e.g. pelican and zebra, but should always dismount.

Advanced Stop Lines
A number of traffic signal controlled junctions in the city have advanced stop lines for cyclists. They enable cyclists to get to the front of traffic queues and improve safety, particularly when turning movements are involved.



Other cycling guides

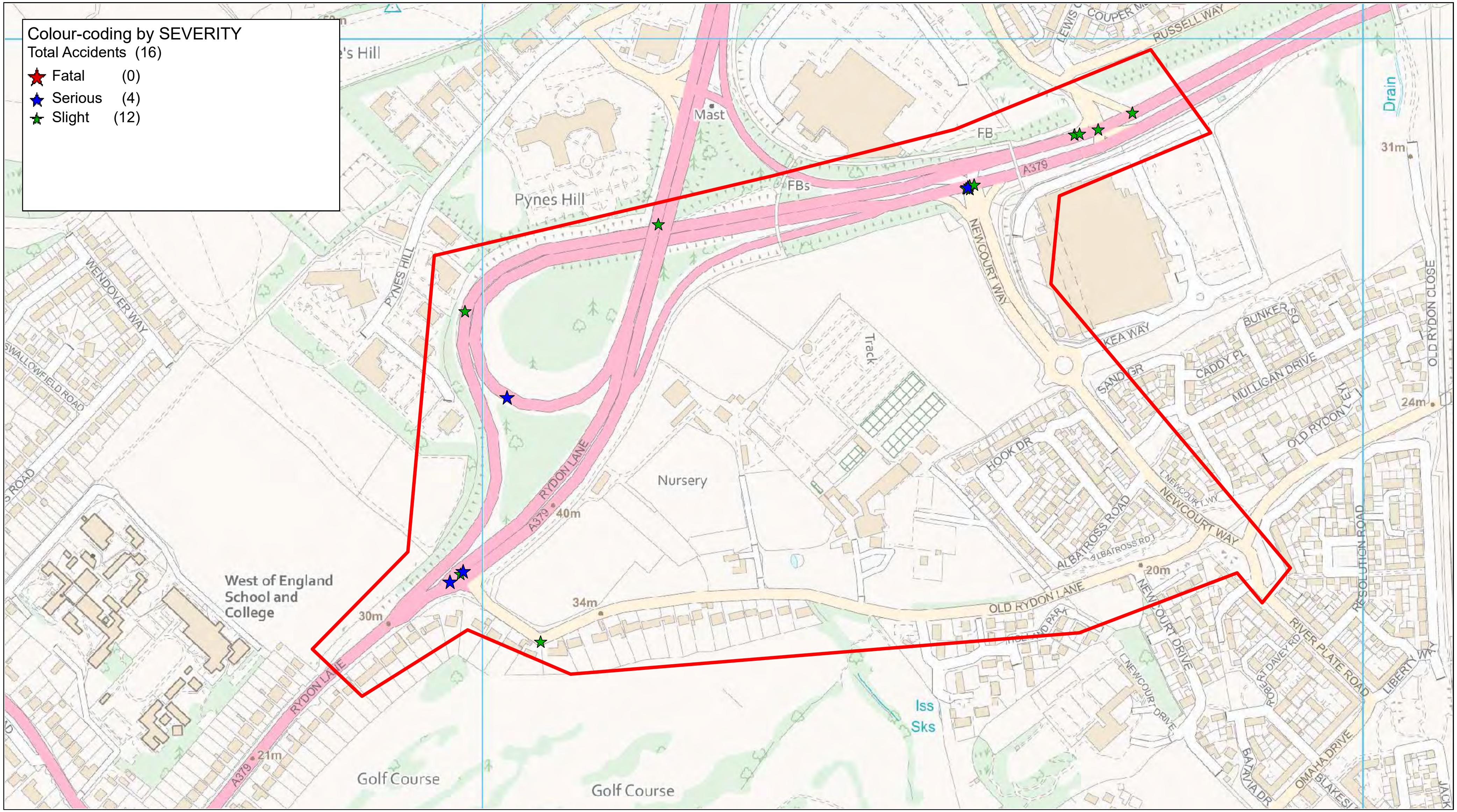
Cycle maps are available for towns across Devon and guides for family friendly rides.

Guides:
- Exe Estuary Trail
- Tarka Trail
- Drake's Trail
- Granite Way
- Stover Trail
- Grand Western Canal
- The Dartmoor Way
- The West Country Way
- The Devon Coast to Coast
- Tour de Manche
- La Velodyssee

Town Maps:
- Barnstaple
- Cranbrook
- Exmouth
- Newton Abbot
- Tavistock
- Tiverton and Culm Valley
- Totnes and Dartington

To download free maps or access our interactive cycle map, go to: **traveldevon.info**

Appendix D PIC Data



Devon County Council

Newcourt, Exeter

This data covers injury collisions reported to/recorded by the Police
Accidents between dates 01/01/2016 and 31/12/2020

AccsMap version 6.1

COLLISION MAP: www.devoncctraffweb.co.uk/public/collisionmap

SCALE	1 : 6000
DATE	30/06/2021
DRAWING No.	
DRAWN BY	OFD
	Page 1 of 1

Collisions between dates 01/01/2016 and 31/12/2020 - (60) months
; Refined using Accidents within selected Polygons -D_Data Requests Latest ("21_06_29_Stantec_Newcourt")

Notes: Collisions have been ordered from West to East to help align with the collision map.

LAYOUT: Police Ref. / Severity / Road No. Speed / Location Description / POLICE OFFICERS ACCOUNT OF COLLISION; Date / Weather / Grid Ref.; Time; Day / Rd cond; Darkness / Light; VEHICLE / CASUALTY DETAILS: Veh No / Type, Manoeuvre, Direction, Casualty Info

Selected Polygon:21_06_29_Stantec_Newcourt

16DE2V001 | 28/04/2016 | 1230 hrs | Thu | Daylight
Serious | Fine without high winds | Road Dry
A379 | 50 mph | E 295027 | N 90593
EXETER - A379 - SPUR ROAD

Veh No	Type	Manoeuvre	Direction	Casualty	Severity
Veh 1	M/C 500cc>	Going ahead LH bend	N - S	Casualty:Dri	Serious

VEH1 NEGOTIATING SWEEPING LEFT HAND BEND. RDR LOST CONTROL AND LEFT CARRIAGEWAY ON THE OFFSIDE MOUNTING VERGE. RDR THROWN OFF AND COLLIDED WITH A TREE. VEH1 CAME TO REST ON VERGE.

16130455 | 16/11/2016 | 1815 hrs | Wed | Dark: street lights lit
Slight | Fine without high winds | Road Wet/Damp
A379 | 50 mph | E 295738 | N 90917
A379 RUSSELL WAY

Veh No	Type	Manoeuvre	Direction	Casualty	Severity
Veh 1	Car	Going ahead	N - S	Casualty:RSP	Slight
Veh 2	Car	Going ahead	W - E	Casualty:	

VEH1 WAS TRAVELLING ALONG A379. VEH2 TRAVELLING ALONG RUSSELL WAY AND APPROACHING TRAFFIC LIGHTS TO JOIN A379. VEH1 DROVE THROUGH RED LIGHT. VEH2 DROVE THROUGH GREEN LIGHT AND INTO THE SIDE OF VEH1.

16132454 | 18/11/2016 | 1710 hrs | Fri | Dark: street lights lit
Slight | Fine without high winds | Road Wet/Damp
A379 | 40 mph | E 295199 | N 90790
RYDON LANE A3015 SLIP ROAD A379

Veh No	Type	Manoeuvre	Direction	Casualty	Severity
Veh 1	Car	Change lane to right	SW - NE	Casualty:	
Veh 2	Car	Going ahead	SW - NE	Casualty:Dri	Slight

VEH 1 ENTERING THE A3015 FROM A379 SPUR VEH 2 SIGHTS VEH 1 MERGING AND MOVES ACROSS TO LANE 2. VEH 1 MERGES INTO LANE 1 BUT CONTINUES IN THE SAME DIRECTION AND COLLIDES WITH VEH 2 IN LANE 2. VEH 1 FAILS TO STOP AND EXCHANGE DETAILS.

17235814 | 24/10/2017 | 1820 hrs | Tue | Daylight
Slight | Fine without high winds | Road Dry
A379 | 40 mph | E 294974 | N 90392
RYDON LANE A379 AT JN WITH OLD RYDON LANE

Veh No	Type	Manoeuvre	Direction	Casualty	Severity
Veh 1	Car	Going ahead	S - N	Casualty:Dri	Slight

V1 HAS STRUCK KERB IN CENTRAL RESERVATION CAUSING A LOSS OF STEERING CONTROL. VEH HAS THEN SWERVED INTO CENTRAL RES, MOUNTED KERB AND STRUCK ROAD SIGN.

17257396 | 20/12/2017 | 1209 hrs | Wed | Daylight
Slight | Fine without high winds | Road Dry
A379 | 30 mph | E 295699 | N 90898
RUSSELL WAY AT JN WITH RUSSELL WAY

Veh No	Type	Manoeuvre	Direction	Casualty	Severity
Veh 1	Car	Starting	S - SW	Casualty:FSP	Slight
Veh 1	Car	Starting	S - SW	Casualty:RSP	Slight
Veh 2	Car	Going ahead	W - E	Casualty:FSP	Slight
Veh 2	Car	Going ahead	W - E	Casualty:Dri	Slight

V1 HAS BEEN WAITING AT THE JUNCTION OF RUSSELL WAY WITH RUSSELL WAY WAITING TO TURN RIGHT CROSSING ONE LANE OF TRAFFIC TO HEAD TOWARDS TESCO. AS THEY PULLED OUT ACROSS THE LANE THEY MISJUDGED V2 TRAVELLING TOWARDS THEM WHICH DID NOT HAVE SUFFICIENT TIMETO STOP AS V1 CROSSED ITS PATH, RESULTING IN V2 COLLIDING WITH V1.

18306012 | 17/06/2018 | 1800 hrs | Sun | Daylight
Slight | Fine without high winds | Road Dry
A379 | 50 mph | E 295553 | N 90834
A379 AT JN WITH NEWCOURT WAY, EXETER

Veh No	Type	Manoeuvre	Direction	Casualty	Severity
Veh 1	Car	Going ahead	N - S	Casualty:Dri	Slight
Veh 2	Car	Turning right	E - N	Casualty:Dri	Slight

VEH1 TRAVELLING STRAIGHT AHEAD ON THE A379 WHEN IT GOES THROUGH A RED TRAFFIC LIGHT AND COLLIDES WITH VEH2 WHICH IS TURNING RIGHT OUT OF NEWCOURT WAY THROUGH A GREEN TRAFFIC LIGHT.

18800393 | 07/09/2018 | 1345 hrs | Fri | Daylight
Slight | Fine without high winds | Road Dry
A379 | 30 mph | E 294979 | N 90691
A379

Veh No	Type	Manoeuvre	Direction	Casualty	Severity
Veh 1	M/C 50-125cc	Going ahead RH bend	S - NW	Casualty:Dri	Slight
Veh 2	Car	Going ahead RH bend	S - NW	Casualty:	

VEH1 MOTORCYCLE SWERVED TO AVOID VEH2.

Collisions between dates 01/01/2016 and 31/12/2020 - (60) months

; Refined using Accidents within selected Polygons -D_Data Requests Latest ("21_06_29_Stantec_Newcourt")

Notes: Collisions have been ordered from West to East to help align with the collision map.

LAYOUT: Police Ref. / Severity / Road No. Speed / Location Description / POLICE OFFICERS ACCOUNT OF COLLISION — Date / Weather / Grid Ref. — Time — Day / Rd cond — Darkness / Light — VEHICLE / CASUALTY DETAILS: Veh No / Type — Manoeuvre — Direction — Casualty Info

18800487 | 10/09/2018 | 0745 hrs | Mon | Daylight

Serious | Fine without high winds | Road Dry

A379 | 40 mph | E 294977 | N 90395

Veh No	Type	Manoeuvre	Direction	Casualty Info	
Veh 1	Car	Turning right	N - W	Casualty:	
Veh 2	M/C 50-125cc	Going ahead	S - N	Casualty:Dri	Serious

RYDON LANE (A379) AT JUNCTION WITH OLD RYDON LANE, EXETER

VEH1 TRAVELLING ALONG RYDON LANE INTENTION TO TURN RIGHT INTO OLD RYDON LANE - TRAFFIC BUILT UP AND LEFT A GAP AT THE JUNCTION SO VEH1 STARTED TO MANOUVRE - VEH2 WAS OVERTAKING THE STATIONERY TRAFFIC AND COLLIDED WITH VEH1.

18801365 | 07/11/2018 | 1710 hrs | Wed | Daylight

Slight | Raining without high winds | Road Wet/Damp

A379 | 40 mph | E 295553 | N 90830

Veh No	Type	Manoeuvre	Direction	Casualty Info	
Veh 1	Car	Starting	N - S	Casualty:	
Veh 2	M/C 50-125cc	Going ahead	W - S	Casualty:Dri	Slight

NEWCOURT WAY NEAR JUNCTION WITH A379

VEH1 WAS AT THE TRAFFIC LIGHTS FROM NEWCOURT WAY AT RED LIGHTS STATIONARY WAITING TO TURN RIGHT IN THE DIRECTION OF GRENADA SERVICES. VEH2 (MOTORCYCLE) WAS ON THE A379 HEADING IN THE DIRECTION OF TORQUAY HEADING TOWARDS A RED LIGHT SIGNAL. VEH1 LIGHT HAS TURNED GREEN AND VEH1 HAS STARTED TO MOVE AWAY. VEH2 WENT THROUGH THE RED LIGHT AND COLLIDED WITH VEH1.

19858374 | 04/07/2019 | 1013 hrs | Thu | Daylight

Slight | Fine without high winds | Road Dry

A379 | 30 mph | E 295549 | N 90831

Veh No	Type	Manoeuvre	Direction	Casualty Info	
Veh 1	Car	Going ahead	NE - SW	Casualty:Dri	Slight
Veh 2	Car	Turning right	SE - NE	Casualty:	

A379 AT JUNCTION WITH NEWCOURT WAY

VEH 1 HAS BEEN APPROACHING THE TRAFFIC LIGHTS WHILST AT THE SAME TIME OBSERVING HIS REAR VIEW MIRROR. VEH 1 WAS TRAVELLING ALONG THE A379. VEH 2 HAS BEEN WAITING IN THE MIDDLE LANE TO PULL OUT OF NEWCOURT WAY ONTO THE A379. THERE WAS A LORRY IN THE LANETO THE RIGHT AND A CAR TO THE LEFT SO THE DRIVER HAD AN OBSTRUCTED VIEW OF TRAFFIC COMING FROM THE RIGHT ALTHOUGH THE JUNCTION IS TRAFFIC LIGHT CONTROLLED. AS THE LIGHTS GO GREEN VEH 2 PULLES OUT AND IS HIT BY VEH 1.

20952205 | 16/05/2020 | 1040 hrs | Sat | Daylight

Serious | Fine without high winds | Road Dry

A379 | 40 mph | E 294962 | N 90383

Veh No	Type	Manoeuvre	Direction	Casualty Info	
Veh 1	Car	Turning right	SW - SE	Casualty:	
Veh 2	M/C 50-125cc	Going ahead	NE - SW	Casualty:Dri	Serious

RYDON LANE (A379) AT JUNCTION WITH OLD RYDON LANE (A379)

VEH1 HAS TURNED RIGHT ACROSS A TWO LANE CARRIAGEWAY. VEH1 HAS PULLED ACROSS THE PATH OF VEH2(MOTORBIKE), CAUSING THEM TO COLLIDE AND INJURIES CAUSED.

20966597 | 17/07/2020 | 1235 hrs | Fri | Daylight

Serious | Fine without high winds | Road Dry

A379 | 50 mph | E 295551 | N 90832

Veh No	Type	Manoeuvre	Direction	Casualty Info	
Veh 1	M/C 500cc>	Going ahead	SE - SW	Casualty:Dri	Serious
Veh 2	Car	Turning left	S - SW	Casualty:Dri	Slight

A379 AT JUNCTION WITH NEWCOURT WAY

V1 RIDING ALONG THE A379 TOWARDS COUNTESS WEIR IN HEAVY TRAFFIC, V2 WAS TRAVELING FROM NEWCOURT WAY TURNING RIGHT ON THE A379 ON A GREEN LIGHT INTO LANE 3. V1 DROVE THROUGH THE LIGHTS IN LANE 3 AND HAS COLLIDED WITH THE REAR OFFSIDE QUARTER OF V2 WHICH HAS CAUSED V1 TO SPIN 180 DEGREES AND THE RIDER TO SOMERSAULT OVER THE TOP OF THE HANDLEBARS AND ONTO THE ROAD.

20984527 | 23/08/2020 | 2210 hrs | Sun | Daylight

Slight | Fine without high winds | Road Dry

U | 30 mph | E 295678 | N 90893

Veh No	Type	Manoeuvre	Direction	Casualty Info	
Veh 1	Car	Going ahead	W - E	Casualty:	
Veh 2	M/C 500cc>	Stopping	W - E	Casualty:Dri	Slight

RUSSELL WAY NEAR JUNCTION WITH A379, EXETER

VEH2 TRAVELLING EAST ALONG A379 APPROACHING RUSSELL WAY TRAFFIC LIGHT CONTROLLED JUNCTION - VEH2 SLOWS AND COMES TO A STOP AT THE RED LIGHT - VEH1 TRAVELLING BEHIND VEH2 FAILS TO SLOW IN TIME AND COLLIDED WITH THE REAR OF VEH2.

20985332 | 09/09/2020 | 1145 hrs | Wed | Daylight

Slight | Fine without high winds | Road Dry

A379 | 50 mph | E 295558 | N 90835

Veh No	Type	Manoeuvre	Direction	Casualty Info	
Veh 1	Car	Going ahead	W - E	Casualty:	
Veh 2	Car	Going ahead	E - W	Casualty:Dri	Slight

A379 AT JUNCTION WITH NEWCOURT WAY

VEH1 WAS TRAVELLING EAST ALONG A379 AND TURNED RIGHT AT THE TRAFFIC LIGHTS TO JOIN NEWCOURT WAY. VEH2 WAS TRAVELLING WEST ALONG THE A379 AND COLLIDED WITH THE SIDE OF VEH1. VEH1 IS BELIEVED TO HAVE GONE THROUGH A RED LIGHT AFTER MISTAKING THE GREEN LIGHT FOR VEHICLES GOING STRAIGHT ON.

Collisions between dates 01/01/2016 and 31/12/2020 - (60) months

; Refined using Accidents within selected Polygons -D_Data Requests Latest ("21_06_29_Stantec_Newcourt")

Notes: Collisions have been ordered from West to East to help align with the collision map.

LAYOUT					VEHICLE / CASUALTY DETAILS			
Police Ref. / Severity / Road No. Speed / Location Description / POLICE OFFICERS ACCOUNT OF COLLISION	Date / Weather / Grid Ref.	Time	Day / Rd cond	Darkness / Light	Veh No / Type	Manoeuvre	Direction	Casualty Info

201024550	12/10/2020	1336 hrs	Mon	Daylight	Veh 1 Goods <3.5t/Van	Going ahead LH bend	SE - S	Casualty:
Slight	Other		Road Wet/Damp		Veh 2 M/C 50-125cc	O/take on n/side	SW - S	Casualty:Dri Slight
C 541 30 mph	E 295065	N 90315						

OLD RYDON LANE

VEH 1 WAS DRIVING ALONG OLD RYDON LANE TOWARDS RYDON LANE. VEH 2 WAS DRIVING FROM RYDON LANE ON TO OLD RYDON LANE. AS VEH 1 AND VEH 2 HAVE REACHED THE BEND VEH 2 HAS CROSSED INTO THE PATH OF VEH 1 AND COLLIDED.

16DE2Q005	10/02/2016	2035 hrs	Wed	Dark: street lights lit	Veh 1 Car	Wait go ahead held up	W - E	Casualty:
Slight	Raining without high winds		Road Wet/Damp		Veh 2 Car	Wait go ahead held up	W - E	Casualty:Dri Slight
A 379 40 mph	E 295672	N 90892						

EXETER - A379 RYDON WAY J/W RUSSELL WAY

VEH2 STOPPED AT TEMPORARY TRAFFIC LIGHTS AT JUNCTION. VEH2 REAR ENDED BY VEH1. VEH1 THEN REVERSES AND LEAVES THE SCENE WITHOUT STOPPING/EXCHANGING DETS.

Collisions between dates 01/01/2016 and 31/12/2020 - (60) months

; Refined using Accidents within selected Polygons -D_Data Requests Latest ("21_06_29_Stantec_Newcourt")

Notes: Collisions have been ordered from West to East to help align with the collision map.

LAYOUT

Police Ref. | Date | Time | Day | Darkness / Light
Severity | Weather | | | Rd cond
Road No. Speed | Grid Ref.
Location Description
POLICE OFFICERS ACCOUNT OF COLLISION

VEHICLE / CASUALTY DETAILS: Veh No / Type | Manoeuvre | Direction | Casualty Info

Selected Polygon:21_06_29_Stantec_Newcourt

16DE2V001 | 28/04/2016 | 1230 hrs | Thu | Daylight
Serious | Fine without high winds | Road Dry
A379 50 mph | E 295027 | N 90593
EXETER - A379 - SPUR ROAD

Veh No	Type	Manoeuvre	Direction	Casualty	Severity
Veh 1	M/C 500cc>	Going ahead LH bend	N - S	Casualty:Dri	Serious

VEH1 NEGOTIATING SWEEPING LEFT HAND BEND. RDR LOST CONTROL AND LEFT CARRIAGEWAY ON THE OFFSIDE MOUNTING VERGE. RDR THROWN OFF AND COLLIDED WITH A TREE. VEH1 CAME TO REST ON VERGE.

16130455 | 16/11/2016 | 1815 hrs | Wed | Dark: street lights lit
Slight | Fine without high winds | Road Wet/Damp
A379 50 mph | E 295738 | N 90917
A379 RUSSELL WAY

Veh No	Type	Manoeuvre	Direction	Casualty	Severity
Veh 1	Car	Going ahead	N - S	Casualty:RSP	Slight
Veh 2	Car	Going ahead	W - E	Casualty:	

VEH1 WAS TRAVELLING ALONG A379. VEH2 TRAVELLING ALONG RUSSELL WAY AND APPROACHING TRAFFIC LIGHTS TO JOIN A379. VEH1 DROVE THROUGH RED LIGHT. VEH2 DROVE THROUGH GREEN LIGHT AND INTO THE SIDE OF VEH1.

16132454 | 18/11/2016 | 1710 hrs | Fri | Dark: street lights lit
Slight | Fine without high winds | Road Wet/Damp
A379 40 mph | E 295199 | N 90790
RYDON LANE A3015 SLIP ROAD A379

Veh No	Type	Manoeuvre	Direction	Casualty	Severity
Veh 1	Car	Change lane to right	SW - NE	Casualty:	
Veh 2	Car	Going ahead	SW - NE	Casualty:Dri	Slight

VEH 1 ENTERING THE A3015 FROM A379 SPUR VEH 2 SIGHTS VEH 1 MERGING AND MOVES ACROSS TO LANE 2. VEH 1 MERGES INTO LANE 1 BUT CONTINUES IN THE SAME DIRECTION AND COLLIDES WITH VEH 2 IN LANE 2. VEH 1 FAILS TO STOP AND EXCHANGE DETAILS.

17235814 | 24/10/2017 | 1820 hrs | Tue | Daylight
Slight | Fine without high winds | Road Dry
A379 40 mph | E 294974 | N 90392
RYDON LANE A379 AT JN WITH OLD RYDON LANE

Veh No	Type	Manoeuvre	Direction	Casualty	Severity
Veh 1	Car	Going ahead	S - N	Casualty:Dri	Slight

V1 HAS STRUCK KERB IN CENTRAL RESERVATION CAUSING A LOSS OF STEERING CONTROL. VEH HAS THEN SWERVED INTO CENTRAL RES, MOUNTED KERB AND STRUCK ROAD SIGN.

17257396 | 20/12/2017 | 1209 hrs | Wed | Daylight
Slight | Fine without high winds | Road Dry
A379 30 mph | E 295699 | N 90898
RUSSELL WAY AT JN WITH RUSSELL WAY

Veh No	Type	Manoeuvre	Direction	Casualty	Severity
Veh 1	Car	Starting	S - SW	Casualty:FSP	Slight
Veh 1	Car	Starting	S - SW	Casualty:RSP	Slight
Veh 2	Car	Going ahead	W - E	Casualty:FSP	Slight
Veh 2	Car	Going ahead	W - E	Casualty:Dri	Slight

V1 HAS BEEN WAITING AT THE JUNCTION OF RUSSELL WAY WITH RUSSELL WAY WAITING TO TURN RIGHT CROSSING ONE LANE OF TRAFFIC TO HEAD TOWARDS TESCO. AS THEY PULLED OUT ACROSS THE LANE THEY MISJUDGED V2 TRAVELLING TOWARDS THEM WHICH DID NOT HAVE SUFFICIENT TIMETO STOP AS V1 CROSSED ITS PATH, RESULTING IN V2 COLLIDING WITH V1.

18306012 | 17/06/2018 | 1800 hrs | Sun | Daylight
Slight | Fine without high winds | Road Dry
A379 50 mph | E 295553 | N 90834
A379 AT JN WITH NEWCOURT WAY, EXETER

Veh No	Type	Manoeuvre	Direction	Casualty	Severity
Veh 1	Car	Going ahead	N - S	Casualty:Dri	Slight
Veh 2	Car	Turning right	E - N	Casualty:Dri	Slight

VEH1 TRAVELLING STRAIGHT AHEAD ON THE A379 WHEN IT GOES THROUGH A RED TRAFFIC LIGHT AND COLLIDES WITH VEH2 WHICH IS TURNING RIGHT OUT OF NEWCOURT WAY THROUGH A GREEN TRAFFIC LIGHT.

18800393 | 07/09/2018 | 1345 hrs | Fri | Daylight
Slight | Fine without high winds | Road Dry
A379 30 mph | E 294979 | N 90691
A379

Veh No	Type	Manoeuvre	Direction	Casualty	Severity
Veh 1	M/C 50-125cc	Going ahead RH bend	S - NW	Casualty:Dri	Slight
Veh 2	Car	Going ahead RH bend	S - NW	Casualty:	

VEH1 MOTORCYCLE SWERVED TO AVOID VEH2.

Collisions between dates 01/01/2016 and 31/12/2020 - (60) months

; Refined using Accidents within selected Polygons -D_Data Requests Latest ("21_06_29_Stantec_Newcourt")

Notes: Collisions have been ordered from West to East to help align with the collision map.

LAYOUT: Police Ref. / Severity / Road No. Speed / Location Description / POLICE OFFICERS ACCOUNT OF COLLISION — Date / Weather / Grid Ref. — Time — Day / Rd cond — Darkness / Light — VEHICLE / CASUALTY DETAILS: Veh No / Type — Manoeuvre — Direction — Casualty Info

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18800487 | 10/09/2018 | 0745 hrs | Mon | Daylight

Serious | Fine without high winds | Road Dry

A379 | 40 mph | E 294977 | N 90395

Veh No	Type	Manoeuvre	Direction	Casualty Info	
Veh 1	Car	Turning right	N - W	Casualty:	
Veh 2	M/C 50-125cc	Going ahead	S - N	Casualty:Dri	Serious

RYDON LANE (A379) AT JUNCTION WITH OLD RYDON LANE, EXETER

VEH1 TRAVELLING ALONG RYDON LANE INTENTION TO TURN RIGHT INTO OLD RYDON LANE - TRAFFIC BUILT UP AND LEFT A GAP AT THE JUNCTION SO VEH1 STARTED TO MANOUVRE - VEH2 WAS OVERTAKING THE STATIONERY TRAFFIC AND COLLIDED WITH VEH1.

18801365 | 07/11/2018 | 1710 hrs | Wed | Daylight

Slight | Raining without high winds | Road Wet/Damp

A379 | 40 mph | E 295553 | N 90830

Veh No	Type	Manoeuvre	Direction	Casualty Info	
Veh 1	Car	Starting	N - S	Casualty:	
Veh 2	M/C 50-125cc	Going ahead	W - S	Casualty:Dri	Slight

NEWCOURT WAY NEAR JUNCTION WITH A379

VEH1 WAS AT THE TRAFFIC LIGHTS FROM NEWCOURT WAY AT RED LIGHTS STATIONARY WAITING TO TURN RIGHT IN THE DIRECTION OF GRENADA SERVICES. VEH2 (MOTORCYCLE) WAS ON THE A379 HEADING IN THE DIRECTION OF TORQUAY HEADING TOWARDS A RED LIGHT SIGNAL. VEH1 LIGHT HAS TURNED GREEN AND VEH1 HAS STARTED TO MOVE AWAY. VEH2 WENT THROUGH THE RED LIGHT AND COLLIDED WITH VEH1.

19858374 | 04/07/2019 | 1013 hrs | Thu | Daylight

Slight | Fine without high winds | Road Dry

A379 | 30 mph | E 295549 | N 90831

Veh No	Type	Manoeuvre	Direction	Casualty Info	
Veh 1	Car	Going ahead	NE - SW	Casualty:Dri	Slight
Veh 2	Car	Turning right	SE - NE	Casualty:	

A379 AT JUNCTION WITH NEWCOURT WAY

VEH 1 HAS BEEN APPROACHING THE TRAFFIC LIGHTS WHILST AT THE SAME TIME OBSERVING HIS REAR VIEW MIRROR. VEH 1 WAS TRAVELLING ALONG THE A379. VEH 2 HAS BEEN WAITING IN THE MIDDLE LANE TO PULL OUT OF NEWCOURT WAY ONTO THE A379. THERE WAS A LORRY IN THE LANETO THE RIGHT AND A CAR TO THE LEFT SO THE DRIVER HAD AN OBSTRUCTED VIEW OF TRAFFIC COMING FROM THE RIGHT ALTHOUGH THE JUNCTION IS TRAFFIC LIGHT CONTROLLED. AS THE LIGHTS GO GREEN VEH 2 PULLES OUT AND IS HIT BY VEH 1.

20952205 | 16/05/2020 | 1040 hrs | Sat | Daylight

Serious | Fine without high winds | Road Dry

A379 | 40 mph | E 294962 | N 90383

Veh No	Type	Manoeuvre	Direction	Casualty Info	
Veh 1	Car	Turning right	SW - SE	Casualty:	
Veh 2	M/C 50-125cc	Going ahead	NE - SW	Casualty:Dri	Serious

RYDON LANE (A379) AT JUNCTION WITH OLD RYDON LANE (A379)

VEH1 HAS TURNED RIGHT ACROSS A TWO LANE CARRIAGEWAY. VEH1 HAS PULLED ACROSS THE PATH OF VEH2(MOTORBIKE), CAUSING THEM TO COLLIDE AND INJURIES CAUSED.

20966597 | 17/07/2020 | 1235 hrs | Fri | Daylight

Serious | Fine without high winds | Road Dry

A379 | 50 mph | E 295551 | N 90832

Veh No	Type	Manoeuvre	Direction	Casualty Info	
Veh 1	M/C 500cc>	Going ahead	SE - SW	Casualty:Dri	Serious
Veh 2	Car	Turning left	S - SW	Casualty:Dri	Slight

A379 AT JUNCTION WITH NEWCOURT WAY

V1 RIDING ALONG THE A379 TOWARDS COUNTESS WEIR IN HEAVY TRAFFIC, V2 WAS TRAVELING FROM NEWCOURT WAY TURNING RIGHT ON THE A379 ON A GREEN LIGHT INTO LANE 3. V1 DROVE THROUGH THE LIGHTS IN LANE 3 AND HAS COLLIDED WITH THE REAR OFFSIDE QUARTER OF V2 WHICH HAS CAUSED V1 TO SPIN 180 DEGREES AND THE RIDER TO SOMERSAULT OVER THE TOP OF THE HANDLEBARS AND ONTO THE ROAD.

20984527 | 23/08/2020 | 2210 hrs | Sun | Daylight

Slight | Fine without high winds | Road Dry

U | 30 mph | E 295678 | N 90893

Veh No	Type	Manoeuvre	Direction	Casualty Info	
Veh 1	Car	Going ahead	W - E	Casualty:	
Veh 2	M/C 500cc>	Stopping	W - E	Casualty:Dri	Slight

RUSSELL WAY NEAR JUNCTION WITH A379, EXETER

VEH2 TRAVELLING EAST ALONG A379 APPROACHING RUSSELL WAY TRAFFIC LIGHT CONTROLLED JUNCTION - VEH2 SLOWS AND COMES TO A STOP AT THE RED LIGHT - VEH1 TRAVELLING BEHIND VEH2 FAILS TO SLOW IN TIME AND COLLIDED WITH THE REAR OF VEH2.

20985332 | 09/09/2020 | 1145 hrs | Wed | Daylight

Slight | Fine without high winds | Road Dry

A379 | 50 mph | E 295558 | N 90835

Veh No	Type	Manoeuvre	Direction	Casualty Info	
Veh 1	Car	Going ahead	W - E	Casualty:	
Veh 2	Car	Going ahead	E - W	Casualty:Dri	Slight

A379 AT JUNCTION WITH NEWCOURT WAY

VEH1 WAS TRAVELLING EAST ALONG A379 AND TURNED RIGHT AT THE TRAFFIC LIGHTS TO JOIN NEWCOURT WAY. VEH2 WAS TRAVELLING WEST ALONG THE A379 AND COLLIDED WITH THE SIDE OF VEH1. VEH1 IS BELIEVED TO HAVE GONE THROUGH A RED LIGHT AFTER MISTAKING THE GREEN LIGHT FOR VEHICLES GOING STRAIGHT ON.

Collisions between dates 01/01/2016 and 31/12/2020 - (60) months

; Refined using Accidents within selected Polygons -D_Data Requests Latest ("21_06_29_Stantec_Newcourt")

Notes: Collisions have been ordered from West to East to help align with the collision map.

LAYOUT

Police Ref. | Date | Time | Day | Darkness / Light
Severity | Weather | | Rd cond
Road No. Speed | Grid Ref.
Location Description
POLICE OFFICERS ACCOUNT OF COLLISION

VEHICLE / CASUALTY DETAILS: Veh No / Type | Manoeuvre | Direction | Casualty Info

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201024550 | 12/10/2020 | 1336 hrs | Mon | Daylight

Slight | Other | Road Wet/Damp

C 541 | 30 mph | E 295065 | N 90315

OLD RYDON LANE

Veh 1	Goods <3.5t/Van	Going ahead LH bend	SE - S	Casualty:
Veh 2	M/C 50-125cc	O/take on n/side	SW - S	Casualty:Dri Slight

VEH 1 WAS DRIVING ALONG OLD RYDON LANE TOWARDS RYDON LANE. VEH 2 WAS DRIVING FROM RYDON LANE ON TO OLD RYDON LANE. AS VEH 1 AND VEH 2 HAVE REACHED THE BEND VEH 2 HAS CROSSED INTO THE PATH OF VEH 1 AND COLLIDED.

16DE2Q005 | 10/02/2016 | 2035 hrs | Wed | Dark: street lights lit

Slight | Raining without high winds | Road Wet/Damp

A379 | 40 mph | E 295672 | N 90892

EXETER - A379 RYDON WAY J/W RUSSELL WAY

Veh 1	Car	Wait go ahead held up	W - E	Casualty:
Veh 2	Car	Wait go ahead held up	W - E	Casualty:Dri Slight

VEH2 STOPPED AT TEMPORARY TRAFFIC LIGHTS AT JUNCTION. VEH2 REAR ENDED BY VEH1. VEH1 THEN REVERSES AND LEAVES THE SCENE WITHOUT STOPPING/EXCHANGING DETS.

Appendix E Junction Safety Assessment

Job Name:	St Bridgets
Job Number:	47450 (332310070)
Title	2017 derived base flows

Growth Factor				
	Factor 1	Factor 2	Factor 3	Factor 4
		Rydon Lane	ORL	
Combined AM / PM to AADT		6.30	5.05	

Year of Count Data			2021

Stantec

Observed Accidents at Junctions

Junction Reference	Junction Description	Road Type	Total Observed Accidents	Junction Type	Coba Junction type	Coeff 'a'	Power 'b'	Formula Type	AM & PM peak inflow - Major Arm (s)	AM & PM peak inflow - Minor Arm (s)	Major Arm AADT	Minor Arm AADT	(f)	2016 BASE: (A) Predicted accidents per year	2016 BASE: Total Anticipated accidents in 5 years	Junction Type: COBA Junction Types Classification (A, B, C or D)	Junction Type: Desc.	Accident Rate (β)	2021: (A) Predicted accidents per year	2021: Total Anticipated accidents in 5 years
		Modern D2 Roads	5	4 Arm Signal controlled	43	0.494	0.42	C	5789	1865	33679	9409	316.90	5.5	28	C	Major, NBU	0.984	5	26
		Modern D2 Roads	3	3 Arm Priority	16	0.195	0.46	C	3246	26	20446	131	2.68	0.3	2	A	Major BU	0.991	0	1
1	Newcourt Way / A379 / Russell Way junction	Modern D2 Roads	1	4 Arm Signal controlled	43	0.494	0.42	C	5418	1745	31519	8806	277.55	5.2	26	C	Major, NBU	0.984	5	24
2	Rydon Lane / Old Rydon Lane junction	Modern D2 Roads	-1	3 Arm Priority	16	0.195	0.46	C	2994	24	33414	121	4.04	0.4	2	A	Major BU	0.991	0	2

Key:	
(red)	Higher than anticipated
(amber)	Higher than anticipated, but insignificant

FORMULA

Anticipated Accidents

$A_N =$ $A_0 \times \beta^N$

where:

β Accident Rate (Table XX)

$N =$ number of years

$A =$ $a\,(f)^b$

FORMULA TYPE

Reference		Description
C =	Cross product	combined inflow from two major opposing links multiplied by the sum of inflows on other one or two minor links in thousands of vehicles per annual average day
I =	Inflow	value of total inflow from all links in thousands of vehicles per annual average day

Rev Mark	Revision Description	Date	Check

Prepared by:	N Kataria
Checked by:	
Date of 1st Issue:	
Revision:	

Appendix F RSA Stage 1 and Designers Response

F1 – Project Details	
F.1	**Project Details:** • **Report Title:** Road Safety Audit Response Report • **Document reference and revision:** 47450 / TN003 • **Prepared by:** Stantec • **On behalf of:** Waddeton Park Limited
F.2	**Authorisation Sheet:** • **Project:** St. Bridget's Nursery, Newcourt, Exeter • **Report Title:** Safety Audit Response Report • **Prepared By:** o **Name:** Richard Mallett o **Position:** Principal Technician o **Organisation:** Stantec o **Date:** 18th August 2021 • **Approved for Client Issue by:** o **Name:** Neil Thorne o **Position:** Director o **Organisation:** Stantec o **Date:** 24th September 2021

F2 – Introduction

The purpose of the concept site access strategy is to provide access via two priority junctions to a residential site; one from the A379 Rydon Lane dual carriageway and the other from Newcourt Drive, located between the Countess Wear roundabout and the M5 junction 30.

The concept site access strategy shown on drawing **RSA Figure 1** provides:

- Retention of the existing priority right turn ghost island junction on the A379, as the main junction to the site.
- A new spine road through the development with a segregated footway/cycleway route on the northside and a footway on the south side.
- Downgrading of Old Rydon Lane to a Quiet Route with access for local residents only.
- Simple priority junctions connecting Old Rydon Lane to the new spine road.
- A new on-carriageway pedestrian route along the south side of Old Rydon Lane and;
- Retention of the existing priority junction and crossing point on Newcourt Way.

The development proposals are under review, however at this stage, the site is proposed for up to 350 residential dwellings with a mix of affordable and private housing.
A Stage 1 Road Safety Audit (RSA) was undertaken for the concept site access strategy by TMS Consultancy, dated 9th August 2021 (TMS Ref. 16488). A copy of the RSA is provided in **Appendix A**.

The RSA was undertaken on Stantec drawing no's 47450/5505/SK01A, SK02A, SK06, SK07 and SK09. Two sketches were also provided, these were Sketch A – Old Rydon Lane visibility splays – pedestrian and Sketch B – Old Rydon Lane visibility splays – cyclist. Copies of the drawings and sketches are provided in **Appendix B**.

	Our decisions in response to the RSA, are set out in the Road Safety Audit Decision Log (Section F4). The highway layout has now been amended where applicable, as shown on Stantec drawing no's **48583/5504/SK01 Rev B**, **48583/5504/SK02 Rev B**, **48583/5504/SK06 Rev A** and **48583/5504/SK09 Rev B**. Copies of the amended drawings are provided in **Appendix C**.
F3 – Key Personnel	
	• **Overseeing Organisation:** Devon County Council o **Highway Officer:** Alex A. Thomas • **RSA team:** TMS Consultancy o **Audit Team Leader:** Mark Steventon, Principal Engineer, TMS o **Audit Team Member:** Neal Roderick, Engineer, TMS • **Design organisation:** Stantec
F4 – Road Safety Audit Decision Log	
	Please see **Appendix D**.
F5 – Design Organisation and Overseeing Organisation Statements	
Please note, the road safety audit has not been discussed with the overseeing organisation, at this stage.	
F.5	~~**Design Organisation Statement**~~ ~~On behalf of the Design Organisation, I certify that:~~ • ~~The RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the Overseeing Organisation.~~ o ~~Name: N/A~~ o ~~Position:~~ o ~~Organisation:~~ o ~~Date:~~
F.6	~~**Overseeing Organisation Statement**~~ ~~On behalf of the Overseeing Organisation, I certify that:~~ • ~~The RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the design organisation; and~~ • ~~The agreed RSA actions will be progressed.~~ o ~~Name: N/A~~ o ~~Position:~~ o ~~Organisation:~~ o ~~Date~~

DOCUMENT ISSUE RECORD

Technical Note No	Rev	Date	Prepared	Checked	Reviewed (Discipline Lead)	Approved (Project Director)
TN003	-	18.08.21	Richard Mallett	-	Neil Thorne	Neil Thorne

Office Address: 10 Queen Square, Bristol, BS1 4NT

Appendix A – Stage 1 Road Safety Audit

safer roads for everyone

St. Bridget's Nursery, Newcourt, Exeter

Road Safety Audit Stage 1

on behalf of Stantec

TMS reference no: 16488

Date: 9th August 2021

THE CHARTERED INSTITUTION OF HIGHWAYS & TRANSPORTATION

IHE INSTITUTE OF HIGHWAY ENGINEERS

QMS ISO 9001 REGISTERED

Unit 36, Business Innovation Centre
Binley Business Park, Harry Weston Road,
Coventry, CV3 2TX

Tel: +44 (0)24 7669 0900
Email: info@tmsconsultancy.co.uk
Web: www.tmsconsultancy.co.uk

St. Bridget's Nursery, Newcourt, Exeter

Road Safety Audit Stage 1

1. Introduction

1.1 This report describes a Stage 1 Road Safety Audit carried out on proposed highway works in Old Rydon Lane, Newcourt, Exeter, on behalf of Stantec. The audit was carried out on 5th August 2021 in the offices of TMS Consultancy.

1.2 The audit team members were as follows:

Audit Team Leader

Mark Steventon – LLM, EngTech, MSoRSA
Highways England Approved RSA Certificate of Competency
Principal Engineer, TMS Consultancy

Audit Team Member

Neal Roderick – BEng (Hons)
Engineer, TMS Consultancy

1.3 The audit comprised an examination of the documents listed in **Appendix A**. The Road Safety Audit was undertaken in accordance with the Brief provided Richard Mallett and approved by Alex Thomas of Devon County Council. Design details of the spine road were not available at the time of this audit.

1.4 The site was visited by the Audit Team together at 1pm on Monday 2nd August 2021. The weather was fine and dry. Traffic flows were moderate. Pedestrian and cycle flows were low.

1.5 The terms of reference of the Road Safety Audit are as described in DMRB Standard GG 119. The team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the design to any other criteria.

1.6 All of the problems described in this report are considered by the audit team to require action to improve the safety of the scheme and minimise collision occurrence.

1.7 A scheme drawing is included in **Appendix B**, where the locations of specific problems are referenced. A location plan of the scheme is also included in **Appendix B**.

1.8 The scheme consists of the realignment of Old Rydon Lane to accommodate access arrangements to a new residential development of up to 350 dwellings. The scheme comprises:

- Retention of the existing priority right turn ghost island junction on the A379 as the main access to the site.
- A new development spine road with a segregated footway/cycleway route on the north side and a footway on the south side (indicative alignment only)
- Downgrading of Old Rydon Lane to a 'quiet route' with access for local residents only.
- Two new simple priority junctions connecting Old Rydon Lane to the new spine road.
- A new on-carriageway pedestrian route along the south side of Old Rydon Lane.
- Retention of the existing priority junction and crossing point on Newcourt Way.

1.9 **Road Safety Audit Response Report**

Following the completion of the road safety audit, the design team should prepare a road safety audit response report in collaboration with the Overseeing Organisation.

The response report should incorporate the following:

- **Decision Log** spreadsheet, where each Problem and Recommendation in the Safety Audit report is reiterated

- In the Decision Log, a response should be provided by the Design Team and Overseeing Organisation for each problem raised in the RSA report, together with an agreed action

Further information is provided in **GG 119 Sections 4.11 to 4.19** and **Appendix F** (where a road safety audit response report template is available).

The response report should be produced and finalised within *one month* of the issue of the RSA report. A copy of the response report should be issued to the Safety Audit Team for information.

2. Items resulting from this Stage 1 Audit

2.1 PROBLEM

Location – Right turn lane A379 Rydon Lane junction with Old Rydon Lane

Summary: Increased risk of collisions involving right turn manoeuvres from the A379 Rydon Lane into Old Rydon Lane

Forward visibility from the northeast-bound right turn lane is restricted by the vertical alignment (crest) north of the junction. The new development will generate more right turn manoeuvres at this junction, which is likely to increase the risk of collisions between right turning vehicles and oncoming southbound vehicles.

RECOMMENDATION

It should be ensured that there is adequate visibility at this junction for right turning traffic into Old Rydon Lane. If not, a left-in left-out only junction should be provided, and the right turn lane eliminated.

2.2 PROBLEM

Location – Junction of Old Rydon Lane and Newcourt Drive.

Summary: Risk of head-on collisions

Old Rydon Lane is currently two-way at the junction with Newcourt Drive. It is proposed that Old Rydon Lane will become one-way through this junction. Drivers exiting Newcourt drive may turn left at the junction to travel westwards through the development, which could result in head-on collisions with eastbound vehicles.

RECOMMENDATION

The junction should be realigned to enforce a right turn only and appropriate road markings and signs should be provided.

2.3 PROBLEM

Location – Proposed two new priority junctions on Old Rydon Lane with the spinal road at eastern and western end of the development.

Summary: Risk of pull-out type collisions if vehicles stall or are slow moving when entering the development spine road.

The existing ground levels slope downhill away from the proposed development spine road onto Old Rydon Lane. A steep incline at the new junctions could present a risk of collisions if road users stall during a hill start or are slow moving when entering the new spine road.

RECOMMENDATION

A level dwell area with a maximum gradient of 2% should be provided on the approach to the spine road at the new priority junctions.

2.4 PROBLEM

Location – Old Rydon Lane proposed green lane quiet route

Summary: Increased risk of conflict between pedestrians/cyclists and motor vehicles

With the redesignation of Old Rydon Lane as a pedestrian / cycle and local access only route, there will be an increase in pedestrian and cycle traffic which could come into conflict with motor vehicles travelling at the 30mph limit along the narrow carriageway which could result in an increased risk of collisions.

RECOMMENDATION

A 20mph speed limit should be introduced along Old Rydon Lane and the extents of the newly designated quiet route.

2.5 PROBLEM

Location – Eastern access to development

Summary: Access for cyclists

Access to the development for westbound cyclists is not clear, as it is proposed to extend the existing one-way system as far as the new spine road junction with Old Rydon Lane. Westbound cyclists are likely to cycle on carriageway and could collide with oncoming vehicles.

RECOMMENDATION

Access arrangements for westbound cyclists should be clarified.

2.6 PROBLEM

Location – Development spine road (currently indicative only)

Summary: Risks associated with shared use cycle facilities

A shared use footway / cycleway is proposed along the development spine road. Shared use facilities are not recommended in most circumstances (see LTN 1/20 Cycle Infrastructure Design) as they are unlikely to meet the core design principles. Conflicts could occur between pedestrians and cyclists and collisions could occur at junctions where cyclists are required to give way to vehicles at multiple side road junctions along a route.

RECOMMENDATION

Separate facilities should be provided for cyclists and pedestrians.

3. Audit Team Statement

We certify that the terms of reference of the road safety audit are as described in DMRB Standard GG 119.

Audit Team Leader

Mark Steventon – LLM, EngTech, MSoRSA
Highways England Approved RSA Certificate of Competency
Principal Engineer, TMS Consultancy

Signed

Date 9th August 2021

Audit Team Member

Neal Roderick – BEng (Hons)
Engineer, TMS Consultancy

Signed

Date 9th August 2021

TMS Consultancy
Unit 36, Business Innovation Centre
Binley Business Park
Harry Weston Road
Coventry, CV3 2TX

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✉ info@tmsconsultancy.co.uk
www.tmsconsultancy.co.uk

Appendix A

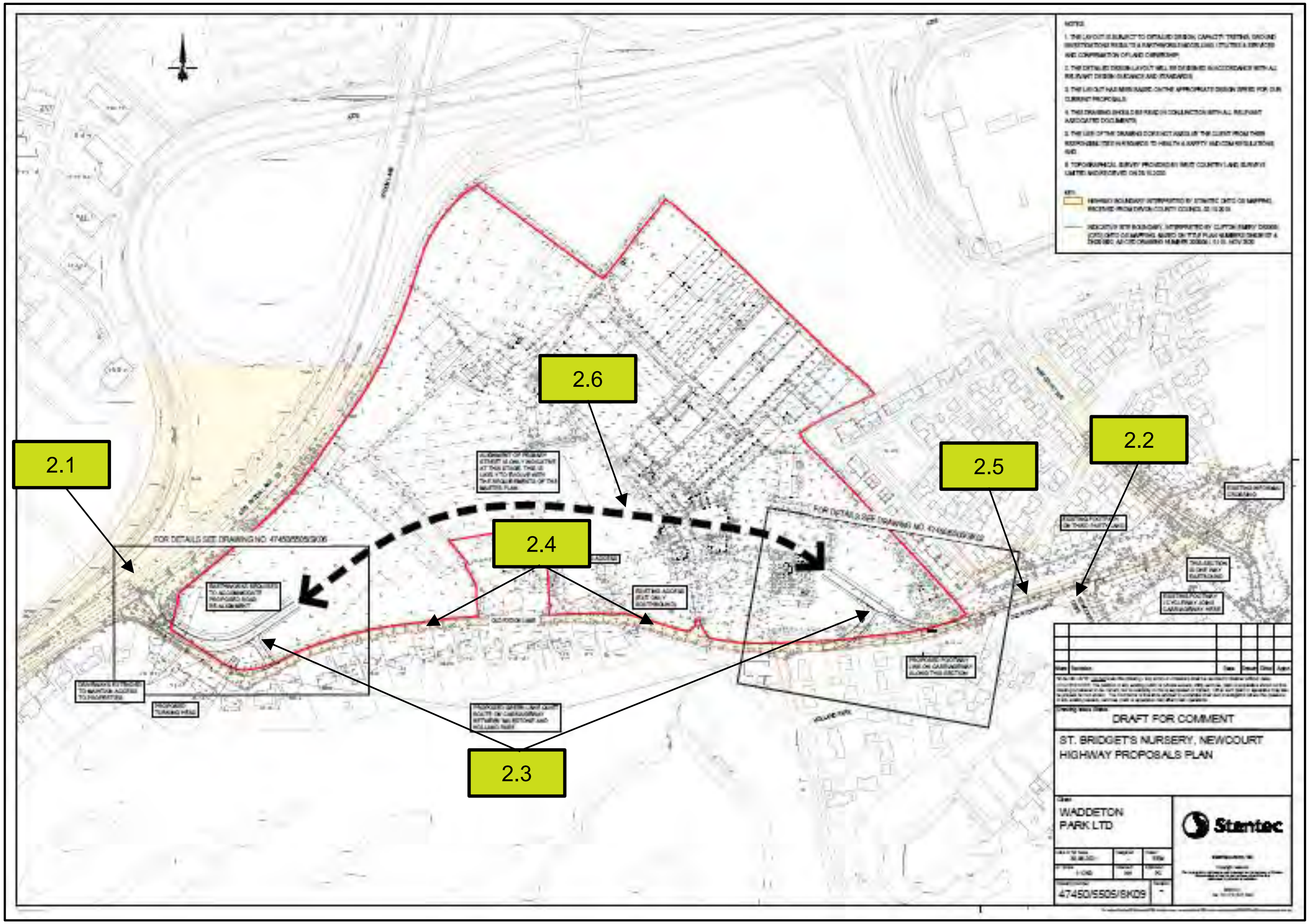
Documents Examined:

- Drawing No. 47450/5505/SK01/A
- Drawing No. 47450/5505/SK02/A
- Drawing No. 47450/5505/SK06
- Drawing No. 47450/5505/SK07
- Drawing No. 47450/5505/SK09
- Sketch A – Old Rydon Lane visibility splays – pedestrian
- Sketch B – Old Rydon Lane visibility splays - cyclist

Appendix B

Please refer to the following page for a plan illustrating the locations of the problems identified as part of this audit (location numbers refer to paragraph numbers in the report).

The location of the scheme is shown below:


2.1
2.2
2.3
2.4
2.5
2.6
FOR DETAILS SEE DRAWING NO. 47450/5505/SK06
DRAFT FOR COMMENT
ST. BRIDGET'S NURSERY, NEWCOURT
HIGHWAY PROPOSALS PLAN
WADDETON PARK LTD
Stantec
47450/5505/SK09

Appendix B

Appendix B – Highway Layout (Drawing no's 47450/5505/SK01A, SK02A, SK06, SK07 and SK09. Also sketches Sketch A – Old Rydon Lane visibility splays - pedestrian and Sketch B – Old Rydon Lane visibility splays - cyclist)

NOTES:

1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, CAPACITY TESTING, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP;

2. THE DETAILED DESIGN LAYOUT WILL BE DESIGNED IN ACCORDANCE WITH ALL RELEVANT DESIGN GUIDANCE AND STANDARDS;

3. THE LAYOUT HAS BEEN BASED ON THE APPROPRIATE DESIGN SPEED FOR OUR CURRENT PROPOSALS;

4. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT ASSOCIATED DOCUMENTS;

5. THE USE OF THE DRAWING DOES NOT ABSOLVE THE CLIENT FROM THEIR RESPONSIBILITIES IN REGARDS TO HEALTH & SAFETY AND CDM REGULATIONS; AND

6. TOPOGRAPHICAL SURVEY PROVIDED BY WEST COUNTRY LAND SURVEYS LIMITED AND RECEIVED ON 28.10.2020.

KEY:

HIGHWAY BOUNDARY INTERPRETED BY STANTEC ONTO OS MAPPING. RECEIVED FROM DEVON COUNTY COUNCIL 02.10.2019

INDICATIVE SITE BOUNDARY, INTERPRETED BY CLIFTON EMERY DESIGN (CED) ONTO OS MAPPING, BASED ON TITLE PLAN NUMBERS DN626137 & DN291892, AS CED DRAWING NUMBER 200909 L 01 01, NOV 2020

2.4M X 43M VISIBILITY SPLAY FOR JUNCTION OF NEWCOURT DRIVE (IN ACCORDANCE WITH MfS FOR 30MPH ROAD)

Mark	Revision	Date	Drawn	Chkd	Appd
A	UPDATED LAYOUT FOLLOWING CLIENT TEAM COMMENTS	14.05.21	PC	NK	NK

SCALING NOTE: Do not scale this drawing - any errors or omissions shall be reported to Stantec without delay.

UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or equipment shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or equipment may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or equipment may affect their operations.

Drawing Issue Status

FOR INFORMATION

LAND AT ST. BRIDGET'S NURSERY OLD RYDON LANE - EASTERN SITE ACCESS EXISTING ONE-WAY LAYOUT WITH 'LIGHT SEGREGATION' FOOTWAY

Client

WADDETON PARK LTD

Stantec

stantec.com/uk

Date of 1st Issue	Designed	Drawn
09.12.20	PC	PC
A1 Scale	Checked	Approved
1:250	NK	NT
Drawing Number	Revision	
47450/5505/SK01	A	

BRISTOL
Tel: 01173 327 840

NOTES:

1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, CAPACITY TESTING, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP;

2. THE DETAILED DESIGN LAYOUT WILL BE DESIGNED IN ACCORDANCE WITH ALL RELEVANT DESIGN GUIDANCE AND STANDARDS;

3. THE LAYOUT HAS BEEN BASED ON THE APPROPRIATE DESIGN SPEED FOR OUR CURRENT PROPOSALS;

4. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT ASSOCIATED DOCUMENTS;

5. THE USE OF THE DRAWING DOES NOT ABSOLVE THE CLIENT FROM THEIR RESPONSIBILITIES IN REGARDS TO HEALTH & SAFETY AND CDM REGULATIONS; AND

6. TOPOGRAPHICAL SURVEY PROVIDED BY WEST COUNTRY LAND SURVEYS LIMITED AND RECEIVED ON 28.10.2020.

KEY:

HIGHWAY BOUNDARY INTERPRETED BY STANTEC ONTO OS MAPPING. RECEIVED FROM DEVON COUNTY COUNCIL 02.10.2019

INDICATIVE SITE BOUNDARY, INTERPRETED BY CLIFTON EMERY DESIGN (CED) ONTO OS MAPPING, BASED ON TITLE PLAN NUMBERS DN626137 & DN291892, AS CED DRAWING NUMBER 200909 L 01 01, NOV 2020

2.4M X 43M VISIBILITY SPLAY FOR JUNCTION OF NEWCOURT DRIVE (IN ACCORDANCE WITH MfS FOR 30MPH ROAD)

Mark	Revision	Date	Drawn	Chkd	Appd
A	UPDATED LAYOUT FOLLOWING CLIENT TEAM COMMENTS	14.05.21	PC	NK	NK

SCALING NOTE: Do not scale this drawing - any errors or omissions shall be reported to Stantec without delay.

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Drawing Issue Status

FOR INFORMATION

LAND AT ST. BRIDGET'S NURSERY
OLD RYDON LANE - EASTERN SITE ACCESS WITH DOWNGRADED OLD RYDON LANE AND CHANGE OF PRIORITY WITH PRIMARY STREET

Client

WADDETON PARK LTD

Date of 1st Issue	Designed	Drawn
09.12.20	PC	PC
A1 Scale 1:250	Checked NK	Approved NT

Drawing Number: 47450/5505/SK02 — Revision: A

Stantec

stantec.com/uk

BRISTOL
Tel: 01173 327 840

LOCATION INFORMATION

Grid Reference: SX 95423 90474

Grid Reference (6 figure): SX954904

X (Easting) , Y (Northing): 295423,090474

Latitude , Longitude (decimal):
50.704467,-3.4823164

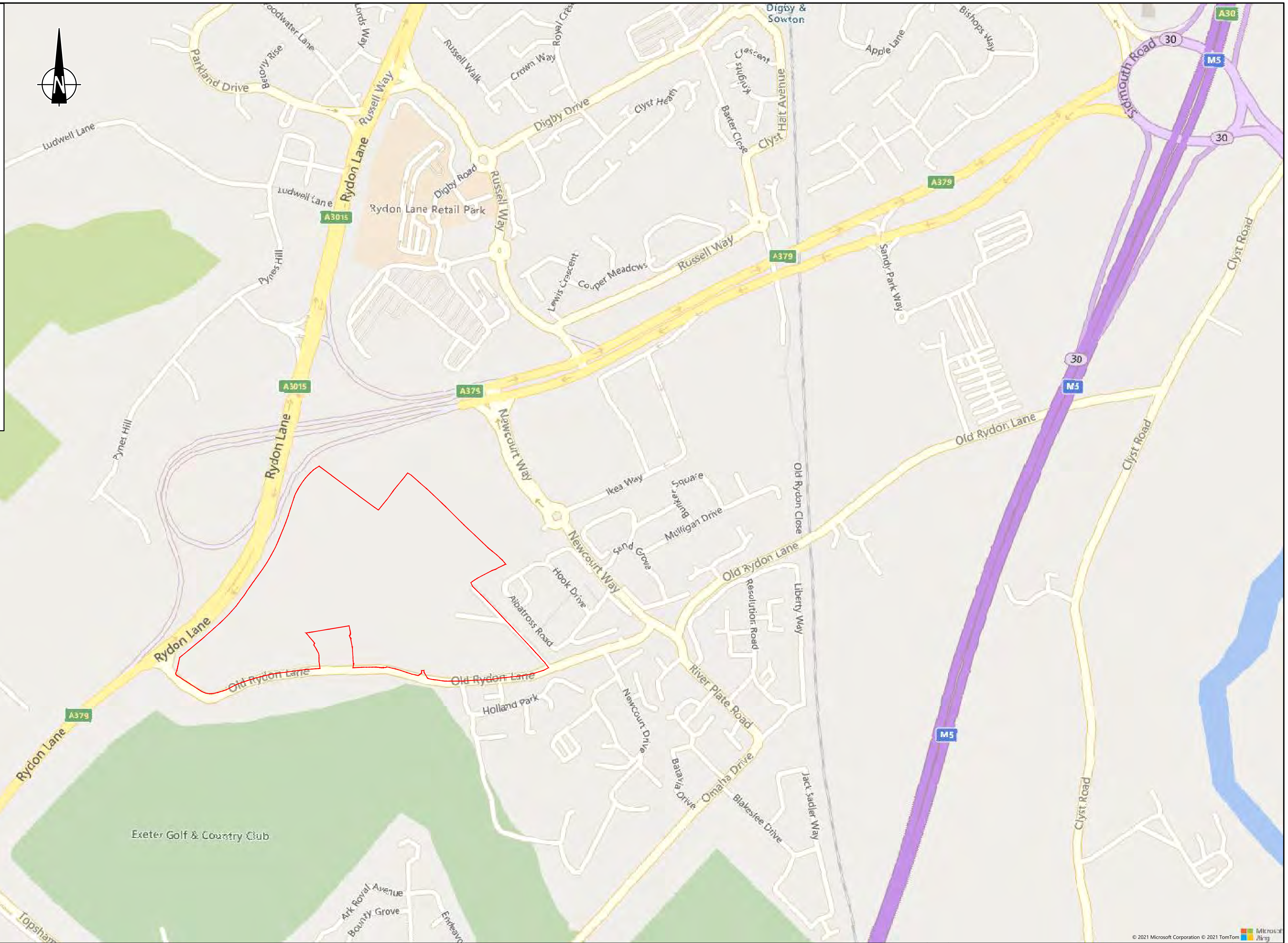
Latitude , Longitude (degs, mins, secs):
50°42'16"N , 003°28'56"W

What3Words : fool.chains.pasta

Address (near) :

St Bridget Nurseries, Old Rydon Lane,
Countess Wear, Topsham, Exeter, Devon.

Postcode (nearest): EX2 7JZ



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BRISTOL
Tel: 01173 327 840

Client
WADDETON PARK LTD

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

ST. BRIDGET'S NURSERY, NEWCOURT, EXETER
SITE LOCATION PLAN

Mark	Revision	Date	Drawn	Chkd	Appd

Drawing Status
DRAFT FOR COMMENT

Date of 1st Issue	30.06.2021	Drawing Number	Revision
A3 Scale	NOT TO SCALE	47450/5505/SK07	-
Design -	Drawn REM		
Chkd NH	Appd PC		

user name: mallett, richard

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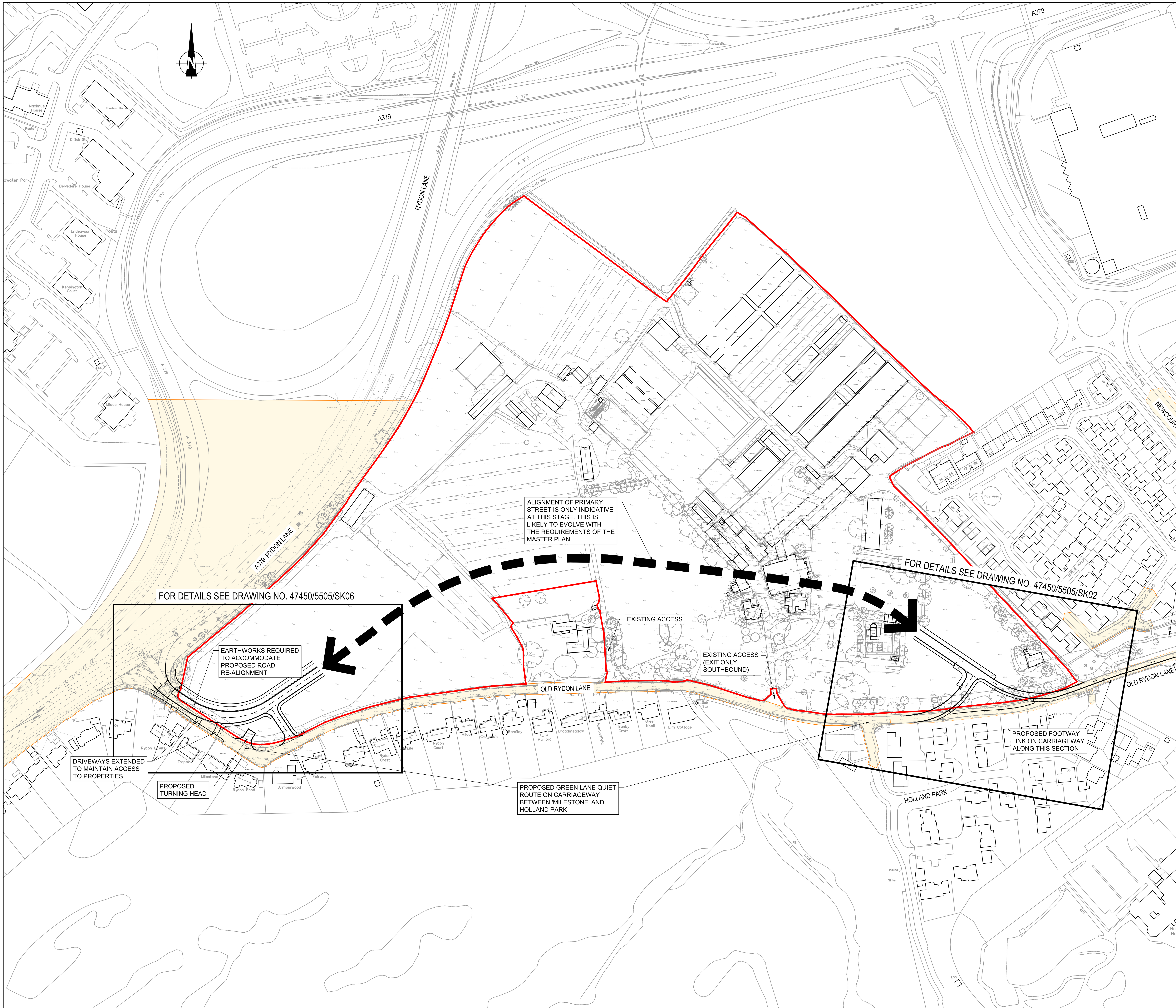

NOTES:

1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, CAPACITY TESTING, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP;

2. THE DETAILED DESIGN LAYOUT WILL BE DESIGNED IN ACCORDANCE WITH ALL RELEVANT DESIGN GUIDANCE AND STANDARDS;

3. THE LAYOUT HAS BEEN BASED ON THE APPROPRIATE DESIGN SPEED FOR OUR CURRENT PROPOSALS;

4. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT ASSOCIATED DOCUMENTS;

5. THE USE OF THE DRAWING DOES NOT ABSOLVE THE CLIENT FROM THEIR RESPONSIBILITIES IN REGARDS TO HEALTH & SAFETY AND CDM REGULATIONS; AND

6. TOPOGRAPHICAL SURVEY PROVIDED BY WEST COUNTRY LAND SURVEYS LIMITED AND RECEIVED ON 28.10.2020.

KEY:

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INDICATIVE SITE BOUNDARY, INTERPRETED BY CLIFTON EMERY DESIGN (CED) ONTO OS MAPPING, BASED ON TITLE PLAN NUMBERS DN626137 & DN291892, AS CED DRAWING NUMBER 200909 L 01 01, NOV 2020

Mark	Revision	Date	Drawn	Chkd	Appd

SCALING NOTE: Do not scale this drawing - any errors or omissions shall be reported to Stantec without delay.

UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

Drawing Issue Status

DRAFT FOR COMMENT

ST. BRIDGET'S NURSERY, NEWCOURT
HIGHWAY PROPOSALS PLAN

Client

WADDETON PARK LTD

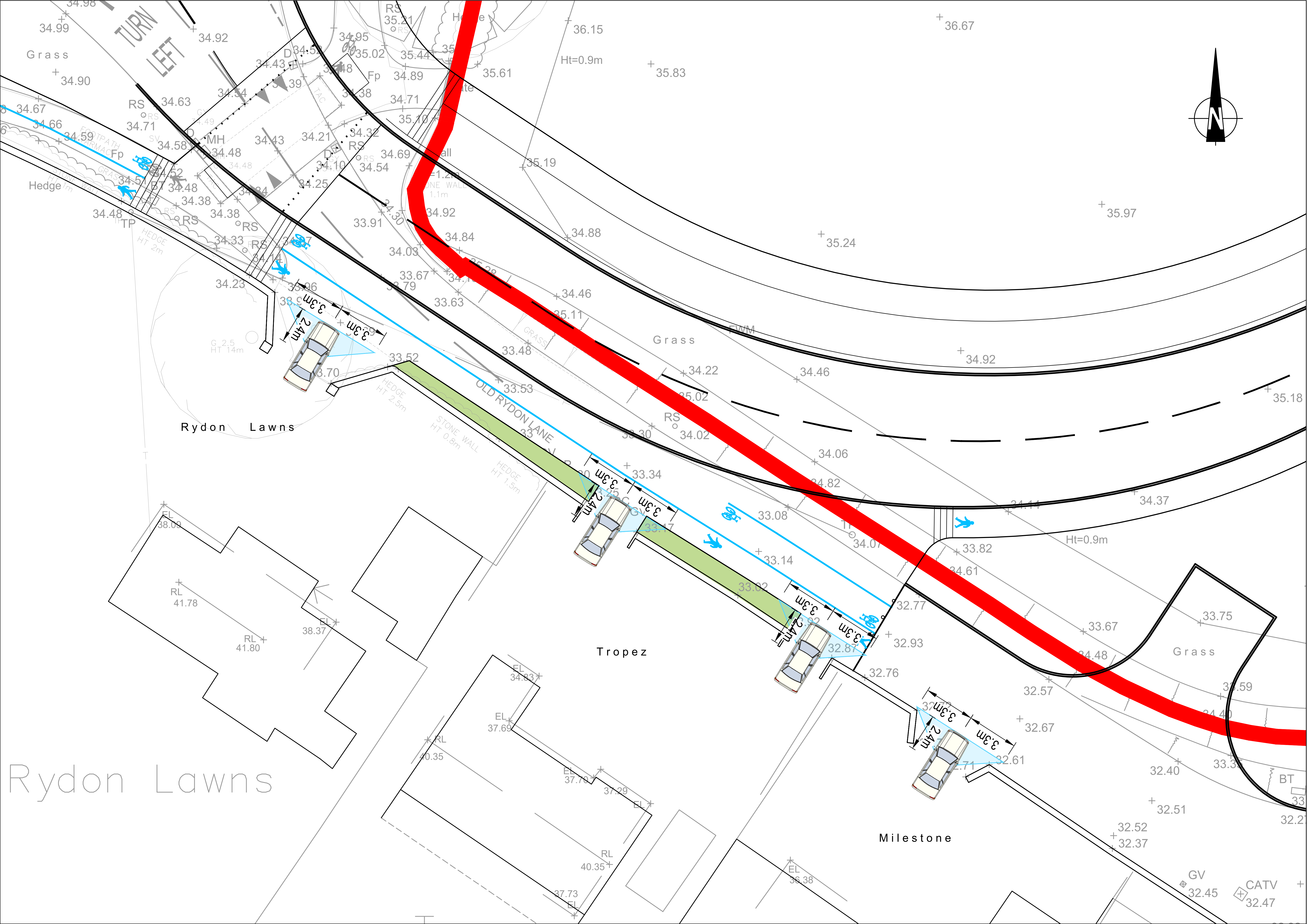
Date of 1st Issue	Designed	Drawn
30.06.2021	-	REM
A1 Scale	**Checked**	**Approved**
1:1250	NH	PC

Drawing Number	Revision
47450/5505/SK09	-

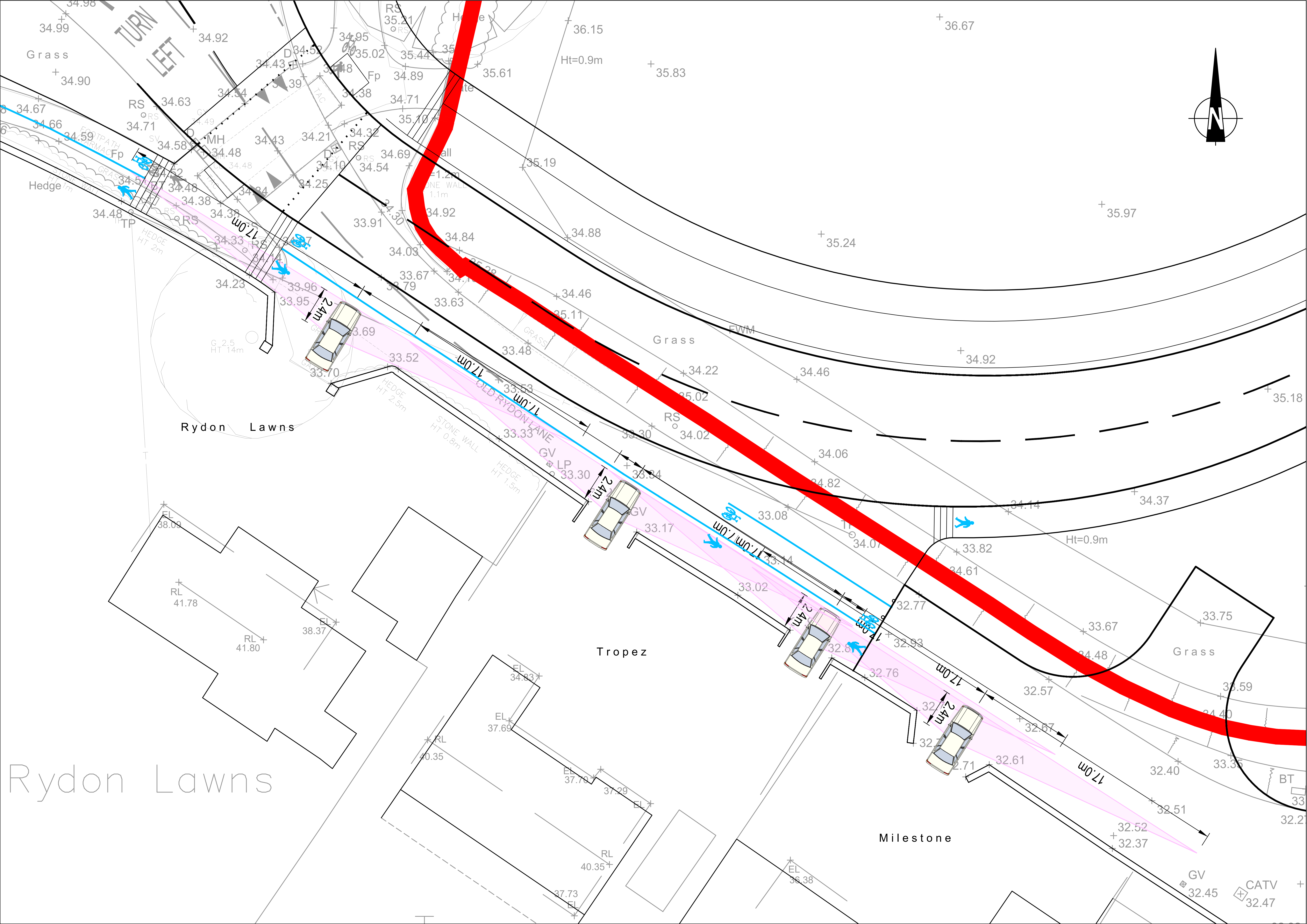
stantec.com/uk

BRISTOL
Tel: 01173 327 840

File Location: \\bri-vfps-001\bri\projects\47450 st bridget nursery, newcourt\cad\brief 5505 vehicle access\sketches\47450-5505-sk09 highway proposals plan.dwg



TURN LEFT
Grass
Hedge
OLD RYDON LANE
Rydon Lawns
Tropez
Milestone
Rydon Lawns
Grass
Grass
Ht=0.9m
Ht=0.9m
3.3m
2.4m
STONE WALL HT 0.8m
HEDGE HT 2.5m
HEDGE HT 1.5m



TURN LEFT
Grass
Hedge
Rydon Lawns
OLD RYDON LANE
Tropez
Milestone
Rydon Lawns
17.0m
2.4m
Ht=0.9m
STONE WALL HT 0.8m
HEDGE HT 2.5m
HEDGE HT 1.5m
N

Appendix C – Revised Highway Layout (Drawing no's 48583/5504/SK02 Rev B, 48583/5504/SK02 Rev B, 48583/5504/SK06 Rev A and 47450/5501/SK09 Rev B)

NOTES:

1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, CAPACITY TESTING, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP;

2. THE DETAILED DESIGN LAYOUT WILL BE DESIGNED IN ACCORDANCE WITH ALL RELEVANT DESIGN GUIDANCE AND STANDARDS;

3. THE LAYOUT HAS BEEN BASED ON THE APPROPRIATE DESIGN SPEED FOR OUR CURRENT PROPOSALS;

4. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT ASSOCIATED DOCUMENTS;

5. THE USE OF THE DRAWING DOES NOT ABSOLVE THE CLIENT FROM THEIR RESPONSIBILITIES IN REGARDS TO HEALTH & SAFETY AND CDM REGULATIONS; AND

6. TOPOGRAPHICAL SURVEY PROVIDED BY WEST COUNTRY LAND SURVEYS LIMITED AND RECEIVED ON 28.10.2020.

KEY:

- HIGHWAY BOUNDARY INTERPRETED BY STANTEC ONTO OS MAPPING. RECEIVED FROM DEVON COUNTY COUNCIL 02.10.2019
- INDICATIVE SITE BOUNDARY, INTERPRETED BY CLIFTON EMERY DESIGN (CED) ONTO OS MAPPING, BASED ON TITLE PLAN NUMBERS DN626137 & DN291892, AS CED DRAWING NUMBER 200909 L 01 01, NOV 2020
- 2.4M X 43M VISIBILITY SPLAY FOR JUNCTION OF NEWCOURT DRIVE (IN ACCORDANCE WITH MfS FOR 30MPH ROAD)

Mark	Revision	Date	Drawn	Chkd	Appd
B	Proposed layout updated in response to RSA comments	24.09.21	REM	PC	NT
A	Updated layout following client team comments	14.05.21	PC	NK	NK

SCALING NOTE: Do not scale this drawing - any errors or omissions shall be reported to Stantec without delay.
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

Drawing Issue Status
FOR INFORMATION

LAND AT ST. BRIDGET'S NURSERY OLD RYDON LANE - EASTERN SITE ACCESS EXISTING ONE-WAY LAYOUT WITH 'LIGHT SEGREGATION' FOOTWAY

Client
WADDETON PARK LTD

Stantec

stantec.com/uk

Date of 1st Issue	Designed	Drawn
09.12.20	PC	PC
A1 Scale	Checked	Approved
1:250	NK	NT

Drawing Number: 47450/5505/SK01
Revision: B

BRISTOL
Tel: 01173 327 840

NOTES:

1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, CAPACITY TESTING, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP;

2. THE DETAILED DESIGN LAYOUT WILL BE DESIGNED IN ACCORDANCE WITH ALL RELEVANT DESIGN GUIDANCE AND STANDARDS;

3. THE LAYOUT HAS BEEN BASED ON THE APPROPRIATE DESIGN SPEED FOR OUR CURRENT PROPOSALS;

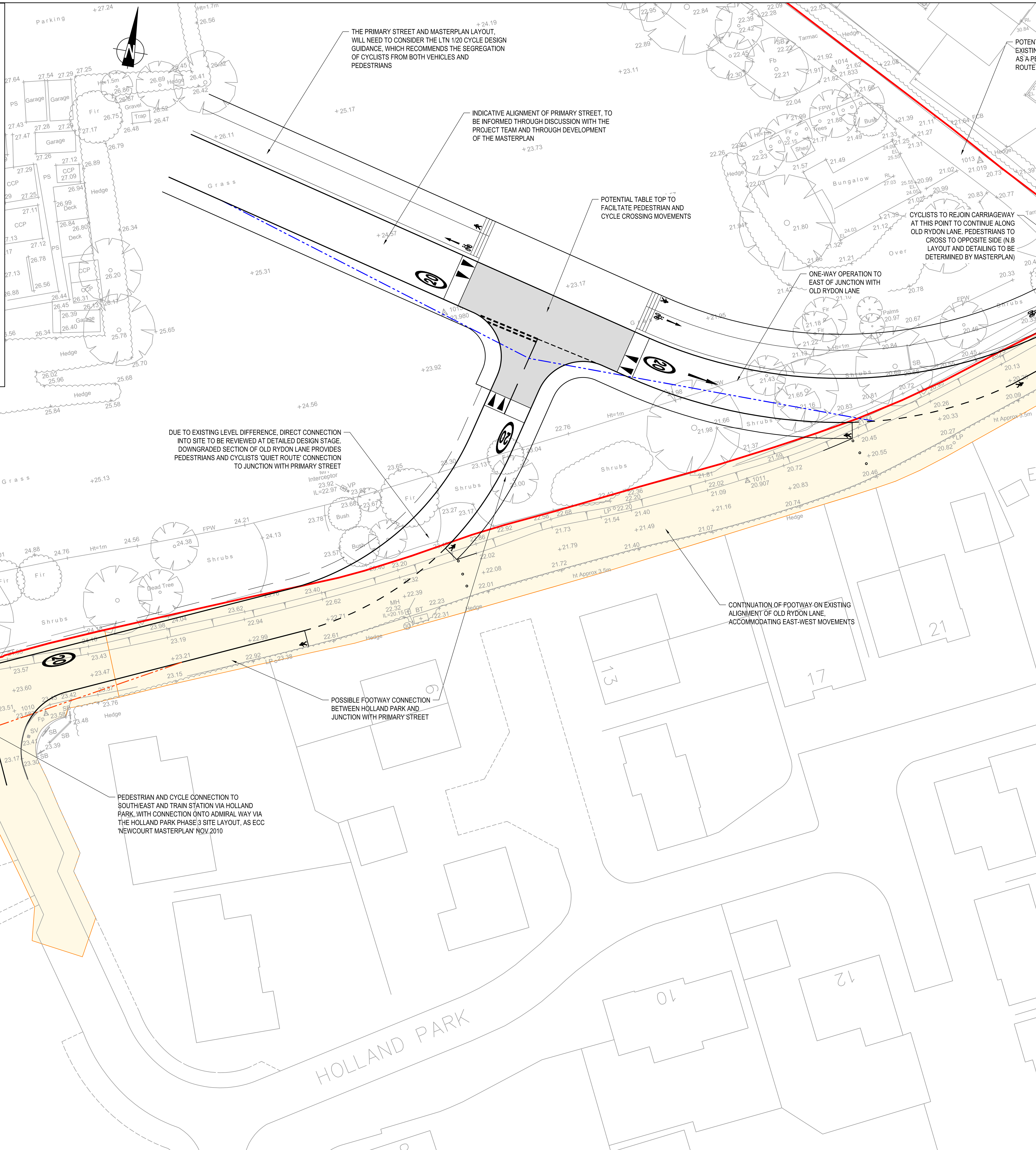
4. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT ASSOCIATED DOCUMENTS;

5. THE USE OF THE DRAWING DOES NOT ABSOLVE THE CLIENT FROM THEIR RESPONSIBILITIES IN REGARDS TO HEALTH & SAFETY AND CDM REGULATIONS; AND

6. TOPOGRAPHICAL SURVEY PROVIDED BY WEST COUNTRY LAND SURVEYS LIMITED AND RECEIVED ON 28.10.2020.

KEY:

- HIGHWAY BOUNDARY INTERPRETED BY STANTEC ONTO OS MAPPING. RECEIVED FROM DEVON COUNTY COUNCIL 02.10.2019
- INDICATIVE SITE BOUNDARY, INTERPRETED BY CLIFTON EMERY DESIGN (CED) ONTO OS MAPPING, BASED ON TITLE PLAN NUMBERS DN626137 & DN291892, AS CED DRAWING NUMBER 200909 L 01 01, NOV 2020
- 2.4m X 43m VISIBILITY SPLAY FOR JUNCTION OF NEWCOURT DRIVE (IN ACCORDANCE WITH MfS FOR 30MPH ROAD)
- 2.4m X 25m VISIBILITY SPLAY FOR JUNCTION OF HOLLAND PARK (IN ACCORDANCE WITH MfS FOR 20MPH ROAD)



Mark	Revision	Date	Drawn	Chkd	Appd
B	UPDATED LAYOUT FOLLOWING RSA STAGE 1 REPORT COMMENTS	13.09.21	REM	PC	NT
A	UPDATED LAYOUT FOLLOWING CLIENT TEAM COMMENTS	14.05.21	PC	NK	NK

SCALING NOTE: Do not scale this drawing - any errors or omissions shall be reported to Stantec without delay.
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

Drawing Issue Status
FOR INFORMATION

LAND AT ST. BRIDGET'S NURSERY OLD RYDON LANE - EASTERN SITE ACCESS WITH DOWNGRADED OLD RYDON LANE AND CHANGE OF PRIORITY WITH PRIMARY STREET

Client
WADDETON PARK LTD

Stantec

Date of 1st Issue	Designed	Drawn
09.12.20	PC	PC
A1 Scale	Checked	Approved
1:250	NK	NT

Drawing Number	Revision
47450/5505/SK02	B

stantec.com/uk

BRISTOL
Tel: 01173 327 840

NOTES:

1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, CAPACITY TESTING, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP;

2. THE DETAILED DESIGN LAYOUT WILL BE DESIGNED IN ACCORDANCE WITH ALL RELEVANT DESIGN GUIDANCE AND STANDARDS;

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6. TOPOGRAPHICAL SURVEY PROVIDED BY WEST COUNTRY LAND SURVEYS LIMITED AND RECEIVED ON 28.10.2020.

KEY:

HIGHWAY BOUNDARY INTERPRETED BY STANTEC ONTO OS MAPPING. RECEIVED FROM DEVON COUNTY COUNCIL 02.10.2019, WITH UPDATE ALONG OLD RYDON LANE RECEIVED ON 03.02.21

INDICATIVE SITE BOUNDARY, INTERPRETED BY CLIFTON EMERY DESIGN (CED) ONTO OS MAPPING, BASED ON TITLE PLAN NUMBERS DN626137 & DN291892, AS CED DRAWING NUMBER 200909 L 01 01, NOV 2020

60m SIGHT STOPPING DISTANCE FOR BENDS (IN ACCORDANCE WITH DEVON DESIGN GUIDANCE FOR 30MPH ROAD)

PROPOSED CONTOURS

EXTENT OF INDICATIVE EARTHWORKS (SUBJECT TO DETAILED DESIGN). WORKS ASSUME A 1:3 GRADIENT TO TIE INTO EXISTING GROUND LEVEL WITH 0.5M BERM

Mark	Revision	Date	Drawn	Chkd	Appd
A	LTN 1/20 segregated footway/cycleways added, earthworks removed and title changed	08.10.21	REM	PC	NT

SCALING NOTE: Do not scale this drawing - any errors or omissions shall be reported to Stantec without delay.
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

Drawing Issue Status
DRAFT FOR COMMENT

LAND AT ST. BRIDGET'S NURSERY

A379 / OLD RYDON LANE JUNCTION LAYOUT AND PRIMARY STREET SITE ACCESS

Client
WADDETON PARK LTD

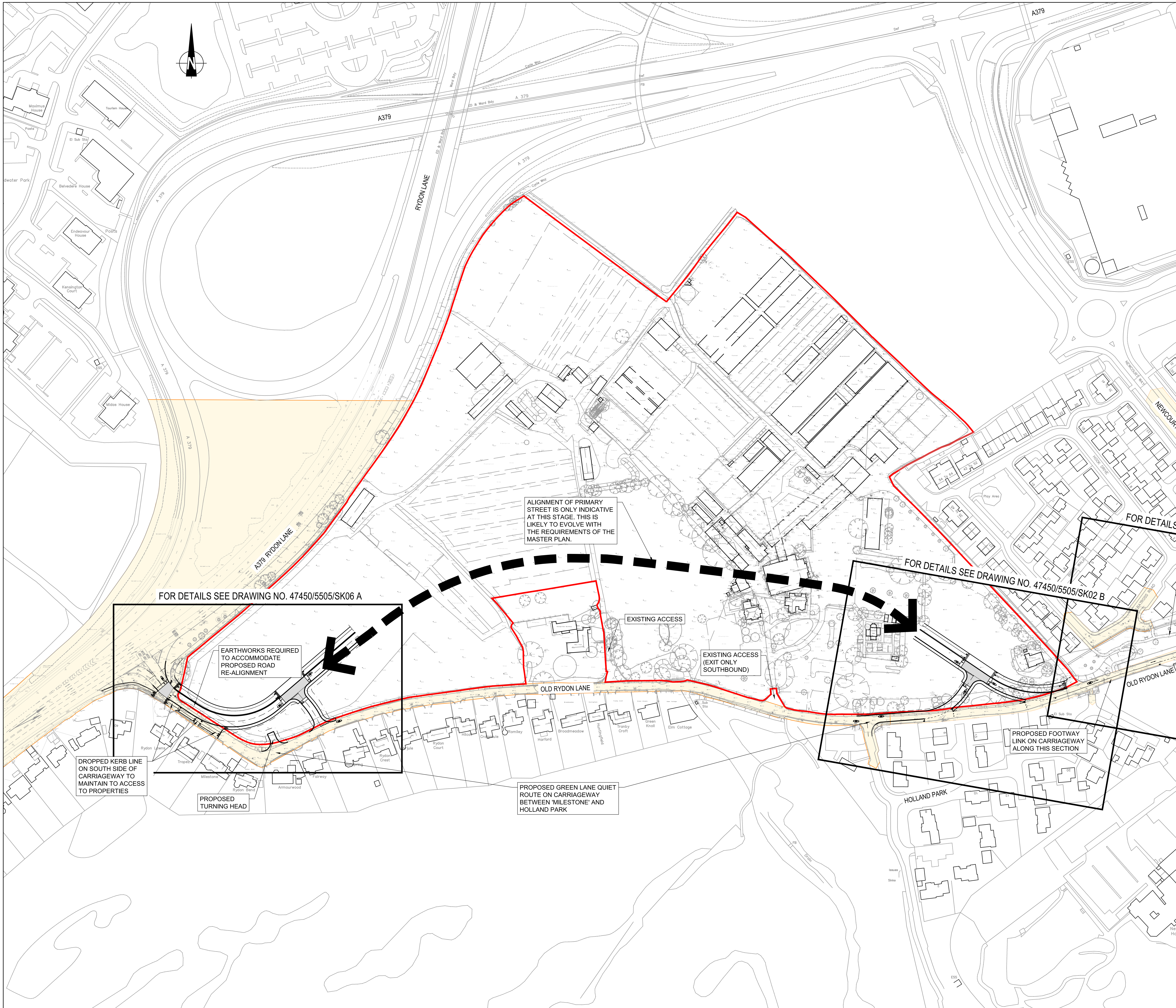
Stantec

Date of 1st Issue	Designed	Drawn
01.04.2021	ET	ET
A1 Scale	Checked	Approved
1:250	RAS	NK

Drawing Number: 47450/5505/SK06
Revision: A

stantec.com/uk

BRISTOL
Tel: 01173 327 840



NOTES:

1. THE LAYOUT IS SUBJECT TO DETAILED DESIGN, CAPACITY TESTING, GROUND INVESTIGATIONS RESULTS & EARTHWORKS MODELLING, UTILITIES & SERVICES AND CONFIRMATION OF LAND OWNERSHIP;

2. THE DETAILED DESIGN LAYOUT WILL BE DESIGNED IN ACCORDANCE WITH ALL RELEVANT DESIGN GUIDANCE AND STANDARDS;

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4. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT ASSOCIATED DOCUMENTS;

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6. TOPOGRAPHICAL SURVEY PROVIDED BY WEST COUNTRY LAND SURVEYS LIMITED AND RECEIVED ON 28.10.2020.

KEY:

HIGHWAY BOUNDARY INTERPRETED BY STANTEC ONTO OS MAPPING. RECEIVED FROM DEVON COUNTY COUNCIL 02.10.2019

INDICATIVE SITE BOUNDARY, INTERPRETED BY CLIFTON EMERY DESIGN (CED) ONTO OS MAPPING, BASED ON TITLE PLAN NUMBERS DN626137 & DN291892, AS CED DRAWING NUMBER 200909 L 01 01, NOV 2020

Mark	Revision	Date	Drawn	Chkd	Appd
B	A379/ Old Rydon Lane access layout updated	08.10.21	REM	NK	NT
A	Proposed layout updated in response to RSA comments	13.09.21	REM	PC	NT

SCALING NOTE: Do not scale this drawing - any errors or omissions shall be reported to Stantec without delay.
UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake their own investigation where the presence of any existing sewers, services, plant or apparatus may affect their operations.

Drawing Issue Status
DRAFT FOR COMMENT

ST. BRIDGET'S NURSERY, NEWCOURT
HIGHWAY PROPOSALS PLAN

Client
WADDETON PARK LTD

Stantec

stantec.com/uk

BRISTOL
Tel: 01173 327 840

Date of 1st Issue	Designed	Drawn
30.06.2021	-	REM
A1 Scale	**Checked**	**Approved**
1:1250	NH	PC
Drawing Number		**Revision**
47450/5505/SK09		B

Appendix D – Road Safety Audit Decision Log

ROAD SAFETY AUDIT RESPONSE REPORT

ROAD SAFETY AUDIT DECISION LOG

Prepared By: Richard Mallett
Date: 18th August 2021

RSA Problem	RSA Recommendation	Design Organisation Response	Overseeing Organisation Response	Agreed RSA Action
2.1 Problem Location – Right turn lane A379 Rydon Lane junction with Old Rydon Lane Summary: Increased risk of collisions involving right turn manoeuvres from the A379 Rydon Lane into Old Rydon Lane Forward visibility from the northeast-bound right turn lane is restricted by the vertical alignment (crest) north of the junction. The new development will generate more right turn manoeuvres at this junction, which is likely to increase the risk of collisions between right turning vehicles and oncoming southbound vehicles.	It should be ensured that there is adequate visibility at this junction for right turning traffic into Old Rydon Lane. If not, a left-in left-out only junction should be provided, and the right turn lane eliminated.	The recommendation to Problem 2.1 is acknowledged. The Design Team has reviewed the visibility for the right turn movement into Old Rydon Lane in both horizontal and vertical planes. We can confirm that this complies with DMRB CD109 as follows: • 70kph Design Speed • 120m Desirable Minimum SSD • Drivers eye height of 1.05m to a height of 0.26m.	DCC to provide comments.	N/A
2.2 Problem Location – Junction of Old Rydon Lane and Newcourt Drive. Summary: Risk of head-on collisions Old Rydon Lane is currently two-way at the junction with Newcourt Drive. It is proposed that Old Rydon Lane will become one-way through this junction. Drivers exiting Newcourt Drive may turn left at the junction to travel westwards through the development, which could result in head-on collisions with eastbound vehicles.	The junction should be realigned to enforce a right turn only and appropriate road markings and signs should be provided.	The recommendation to Problem 2.2 is acknowledged. As shown on Stantec drawing **47450/5501/SK01 Rev B**, proposals are shown for enhanced road markings and No Entry road signage which would enforce right turns only from Newcourt Drive, as suggested.		
2.3 Problem Location – Proposed two new priority junctions on Old Rydon Lane with the spinal road at eastern and western end of the development. Summary: Risk of pull-out type collisions if vehicles stall or are slow moving when entering the development spine road. The existing ground levels slope downhill away from the proposed development spine road onto Old Rydon Lane. A steep incline at the new junctions could present a risk of collisions if road users stall during a hill start or are slow moving when entering the new spine road.	A level dwell area with a maximum gradient of 2% should be provided on the approach to the spine road at the new priority junctions.	The recommendation to Problem 2.3 is acknowledged. This can be considered further at the detailed design stage, with the vertical design of these junctions in accordance with highway design standards.		
2.4 Problem Location – Old Rydon Lane proposed green lane quiet route Summary: Increased risk of conflict between pedestrians/cyclists and motor vehicles With the redesignation of Old Rydon Lane as a pedestrian / cycle and local access only route, there will be an increase in pedestrian and cycle traffic which	A 20mph speed limit should be introduced along Old Rydon Lane and the extents of the newly designated quiet route.	Old Rydon Lane will be used for local access only (residential properties fronting) and peds / cyclists and therefore it is considered that vehicle speeds will be low as drivers respond to the character of the road. Notwithstanding, the Design Team agree that the opportunity to review speed limits in Old Rydon Lane should be taken and will be explored with DCC.		

could come into conflict with motor vehicles travelling at the 30mph limit along the narrow carriageway which could result in an increased risk of collisions.				
2.5 Problem Location – Eastern access to development Summary: Access for cyclists Access to the development for westbound cyclists is not clear, as it is proposed to extend the existing one-way system as far as the new spine road junction with Old Rydon Lane. Westbound cyclists are likely to cycle on carriageway and could collide with oncoming vehicles.	Access arrangements for westbound cyclists should be clarified.	The recommendation to Problem 2.5 is acknowledged. As shown on Stantec drawing **47450/5501/SK02 Rev B,** proposals are shown for enhanced road markings and footway improvements. To clarify access arrangements for westbound cyclists; it is the intention that cyclists should use the North/South cycle route via Holland Park and Admiral Way as shown on RSA Figure 1, not Old Rydon Lane. This strategy forms part of Exeter City Council's Newcourt Masterplan published in 2010. All potential development sites in this area are expected to conform to this masterplan, including pedestrian and cycle links. As such, the City Council is responsible for co-ordinating links between sites in the masterplan and the wider area. These measures are subject to development as part of the master plan process and specific measures will need to be agreed with Devon County Council highway officers.		
2.6 Problem Location – Development spine road (currently indicative only) Summary: Risks associated with shared use cycle facilities A shared use footway / cycleway is proposed along the development spine road. Shared use facilities are not recommended in most circumstances (see LTN 1/20 Cycle Infrastructure Design) as they are unlikely to meet the core design principles. Conflicts could occur between pedestrians and cyclists and collisions could occur at junctions where cyclists are required to give way to vehicles at multiple side road junctions along a route.	Separate facilities should be provided for cyclists and pedestrians.	The recommendation to Issue 2.6 is acknowledged. It is the intention of the Design Team to consider the provision of segregated pedestrian and cycle facilities as suggested. Stantec drawing no's **47450/5501/SK02 Rev B** and **47450/5501/SK06 Rev A** show how these facilities can be provided. These measures are subject to development as part of the master plan process and specific measures will need to be agreed with Devon County Council highway officers.		

Appendix G Junction Capacity Output Reports

Junctions 10

PICADY 10 - Priority Intersection Module

Version: 10.0.0.1499

For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

Filename: A379 Rydon Lane_Old Rydon Lane_Priority_Exist Align.j10
Path: Z:\47450 St Bridget Nursery, Newcourt\Technical\Transport\Junction Assessments\Models for TA
Report generation date: 26/10/2021 11:28:41

Summary of junction performance

	AM		PM	
	Queue (PCU)	RFC	Queue (PCU)	RFC
	2021 Survey Flows			
Stream B-AC	0.0	0.01	0.0	0.04
Stream C-AB	0.1	0.09	0.1	0.10
	2021 COVID-19 Adjustments			
Stream B-AC	0.0	0.01	0.1	0.05
Stream C-AB	0.1	0.11	0.2	0.14

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	A379 Rydon Lane / Old Rydon Lane
Location	Exeter
Site number	
Date	20/09/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	47450
Enumerator	CORP\nlovell
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2021 Survey Flows	AM	ONE HOUR	07:45	09:15	15	✓
D2	2021 Survey Flows	PM	ONE HOUR	16:45	18:15	15	✓
D3	2021 COVID-19 Adjustments	AM	ONE HOUR	07:45	09:15	15	✓
D4	2021 COVID-19 Adjustments	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2021 Survey Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A379 Rydon Lane / Old Rydon Lane	T-Junction	Two-way	Two-way	Two-way		0.25	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.25	A

Arms

Arms

Arm	Name	Description	Arm type
A	A379 Rydon Lane - North		Major
B	Old Rydon Lane		Minor
C	A379 Rydon Lane - South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - A379 Rydon Lane - South	14.41		✓	2.80	150.0	✓	17.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Old Rydon Lane	One lane	4.88	78	120

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	669	0.077	0.195	0.123	0.279
B-C	831	0.081	0.204	-	-
C-B	704	0.173	0.173	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2021 Survey Flows	AM	ONE HOUR	07:45	09:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A379 Rydon Lane - North		ONE HOUR	✓	1070	100.000
B - Old Rydon Lane		ONE HOUR	✓	6	100.000
C - A379 Rydon Lane - South		ONE HOUR	✓	481	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A379 Rydon Lane - North	B - Old Rydon Lane	C - A379 Rydon Lane - South
From	A - A379 Rydon Lane - North	0	57	1013
	B - Old Rydon Lane	0	0	6
	C - A379 Rydon Lane - South	441	40	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A379 Rydon Lane - North	B - Old Rydon Lane	C - A379 Rydon Lane - South
From	A - A379 Rydon Lane - North	10	10	10
	B - Old Rydon Lane	10	10	10
	C - A379 Rydon Lane - South	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.01	6.69	0.0	A	6	8
C-AB	0.09	8.68	0.1	A	37	55
C-A					405	607
A-B					52	78
A-C					930	1394

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	5	1	672	0.007	4	0.0	0.0	5.932	A
C-AB	30	8	565	0.053	30	0.0	0.1	7.401	A
C-A	332	83			332				
A-B	43	11			43				
A-C	763	191			763				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	5	1	641	0.008	5	0.0	0.0	6.229	A
C-AB	36	9	538	0.067	36	0.1	0.1	7.891	A
C-A	396	99			396				
A-B	51	13			51				
A-C	911	228			911				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	7	2	598	0.011	7	0.0	0.0	6.691	A
C-AB	44	11	500	0.088	44	0.1	0.1	8.676	A
C-A	486	121			486				
A-B	63	16			63				
A-C	1115	279			1115				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	7	2	598	0.011	7	0.0	0.0	6.691	A
C-AB	44	11	500	0.088	44	0.1	0.1	8.680	A
C-A	486	121			486				
A-B	63	16			63				
A-C	1115	279			1115				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	5	1	641	0.008	5	0.0	0.0	6.231	A
C-AB	36	9	538	0.067	36	0.1	0.1	7.898	A
C-A	396	99			396				
A-B	51	13			51				
A-C	911	228			911				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	5	1	672	0.007	5	0.0	0.0	5.934	A
C-AB	30	8	565	0.053	30	0.1	0.1	7.411	A
C-A	332	83			332				
A-B	43	11			43				
A-C	763	191			763				

2021 Survey Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A379 Rydon Lane / Old Rydon Lane	T-Junction	Two-way	Two-way	Two-way		0.29	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.29	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2021 Survey Flows	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A379 Rydon Lane - North		ONE HOUR	✓	1049	100.000
B - Old Rydon Lane		ONE HOUR	✓	20	100.000
C - A379 Rydon Lane - South		ONE HOUR	✓	646	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A379 Rydon Lane - North	B - Old Rydon Lane	C - A379 Rydon Lane - South
From	A - A379 Rydon Lane - North	0	19	1030
	B - Old Rydon Lane	0	0	20
	C - A379 Rydon Lane - South	599	47	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A379 Rydon Lane - North	B - Old Rydon Lane	C - A379 Rydon Lane - South
From	A - A379 Rydon Lane - North	0	0	0
	B - Old Rydon Lane	0	0	0
	C - A379 Rydon Lane - South	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.04	6.25	0.0	A	18	28
C-AB	0.10	7.96	0.1	A	43	65
C-A					550	824
A-B					17	26
A-C					945	1418

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15	4	672	0.022	15	0.0	0.0	5.482	A
C-AB	35	9	567	0.062	35	0.0	0.1	6.760	A
C-A	451	113			451				
A-B	14	4			14				
A-C	775	194			775				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	18	4	641	0.028	18	0.0	0.0	5.780	A
C-AB	42	11	541	0.078	42	0.1	0.1	7.218	A
C-A	538	135			538				
A-B	17	4			17				
A-C	926	231			926				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	6	598	0.037	22	0.0	0.0	6.250	A
C-AB	52	13	504	0.103	52	0.1	0.1	7.952	A
C-A	660	165			660				
A-B	21	5			21				
A-C	1134	284			1134				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	6	598	0.037	22	0.0	0.0	6.250	A
C-AB	52	13	504	0.103	52	0.1	0.1	7.955	A
C-A	660	165			660				
A-B	21	5			21				
A-C	1134	284			1134				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	18	4	641	0.028	18	0.0	0.0	5.781	A
C-AB	42	11	541	0.078	42	0.1	0.1	7.224	A
C-A	538	135			538				
A-B	17	4			17				
A-C	926	231			926				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	15	4	672	0.022	15	0.0	0.0	5.484	A
C-AB	35	9	567	0.062	35	0.1	0.1	6.767	A
C-A	451	113			451				
A-B	14	4			14				
A-C	775	194			775				

2021 COVID-19 Adjustments, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A379 Rydon Lane / Old Rydon Lane	T-Junction	Two-way	Two-way	Two-way		0.36	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.36	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2021 COVID-19 Adjustments	AM	ONE HOUR	07:45	09:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A379 Rydon Lane - North		ONE HOUR	✓	1221	100.000
B - Old Rydon Lane		ONE HOUR	✓	7	100.000
C - A379 Rydon Lane - South		ONE HOUR	✓	99	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A379 Rydon Lane - North	B - Old Rydon Lane	C - A379 Rydon Lane - South
From	A - A379 Rydon Lane - North	0	65	1156
	B - Old Rydon Lane	0	0	7
	C - A379 Rydon Lane - South	53	46	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A379 Rydon Lane - North	B - Old Rydon Lane	C - A379 Rydon Lane - South
From	A - A379 Rydon Lane - North	10	10	10
	B - Old Rydon Lane	10	10	10
	C - A379 Rydon Lane - South	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.01	7.10	0.0	A	6	10
C-AB	0.11	9.41	0.1	A	42	63
C-A					49	73
A-B					60	89
A-C					1061	1591

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	5	1	649	0.008	5	0.0	0.0	6.146	A
C-AB	35	9	545	0.064	34	0.0	0.1	7.751	A
C-A	40	10			40				
A-B	49	12			49				
A-C	870	218			870				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	6	2	614	0.010	6	0.0	0.0	6.513	A
C-AB	41	10	514	0.080	41	0.1	0.1	8.373	A
C-A	48	12			48				
A-B	58	15			58				
A-C	1039	260			1039				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	8	2	565	0.014	8	0.0	0.0	7.098	A
C-AB	51	13	471	0.107	51	0.1	0.1	9.404	A
C-A	58	15			58				
A-B	72	18			72				
A-C	1273	318			1273				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	8	2	565	0.014	8	0.0	0.0	7.098	A
C-AB	51	13	471	0.107	51	0.1	0.1	9.409	A
C-A	58	15			58				
A-B	72	18			72				
A-C	1273	318			1273				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	6	2	614	0.010	6	0.0	0.0	6.516	A
C-AB	41	10	514	0.080	41	0.1	0.1	8.382	A
C-A	48	12			48				
A-B	58	15			58				
A-C	1039	260			1039				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	5	1	649	0.008	5	0.0	0.0	6.146	A
C-AB	35	9	545	0.064	35	0.1	0.1	7.763	A
C-A	40	10			40				
A-B	49	12			49				
A-C	870	218			870				

2021 COVID-19 Adjustments, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A379 Rydon Lane / Old Rydon Lane	T-Junction	Two-way	Two-way	Two-way		0.34	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.34	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2021 COVID-19 Adjustments	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A379 Rydon Lane - North		ONE HOUR	✓	1317	100.000
B - Old Rydon Lane		ONE HOUR	✓	25	100.000
C - A379 Rydon Lane - South		ONE HOUR	✓	811	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A379 Rydon Lane - North	B - Old Rydon Lane	C - A379 Rydon Lane - South
From	A - A379 Rydon Lane - North	0	24	1293
	B - Old Rydon Lane	0	0	25
	C - A379 Rydon Lane - South	752	59	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A379 Rydon Lane - North	B - Old Rydon Lane	C - A379 Rydon Lane - South
From	A - A379 Rydon Lane - North	0	0	0
	B - Old Rydon Lane	0	0	0
	C - A379 Rydon Lane - South	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.05	7.05	0.1	A	23	34
C-AB	0.14	9.27	0.2	A	54	81
C-A					690	1035
A-B					22	33
A-C					1186	1780

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	19	5	631	0.030	19	0.0	0.0	5.878	A
C-AB	44	11	533	0.083	44	0.0	0.1	7.366	A
C-A	566	142			566				
A-B	18	5			18				
A-C	973	243			973				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	6	592	0.038	22	0.0	0.0	6.319	A
C-AB	53	13	499	0.106	53	0.1	0.1	8.065	A
C-A	676	169			676				
A-B	22	5			22				
A-C	1162	291			1162				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28	7	538	0.051	27	0.0	0.1	7.047	A
C-AB	65	16	453	0.143	65	0.1	0.2	9.263	A
C-A	828	207			828				
A-B	26	7			26				
A-C	1424	356			1424				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28	7	538	0.051	28	0.1	0.1	7.047	A
C-AB	65	16	453	0.143	65	0.2	0.2	9.272	A
C-A	828	207			828				
A-B	26	7			26				
A-C	1424	356			1424				

Junctions 10

PICADY 10 - Priority Intersection Module

Filename: A379 Rydon Lane_Old Rydon Lane_Priority_Prop Align.j10
Path: Z:\47450 St Bridget Nursery, Newcourt\Technical\Transport\Junction Assessments\Models for TA
Report generation date: 26/10/2021 11:26:40

Summary of junction performance

	AM		PM	
	Queue (PCU)	RFC	Queue (PCU)	RFC
	2027 Future Baseline			
Stream B-AC	0.0	0.01	0.1	0.05
Stream C-AB	0.1	0.11	0.2	0.15
	2027 Test Case			
Stream B-AC	0.1	0.09	0.1	0.06
Stream C-AB	0.2	0.13	0.3	0.22

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	A379 Rydon Lane / Old Rydon Lane
Location	Exeter
Site number	
Date	20/09/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	47450
Enumerator	CORP\nlovell
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2027 Future Baseline	AM	ONE HOUR	07:45	09:15	15	✓
D2	2027 Future Baseline	PM	ONE HOUR	16:45	18:15	15	✓
D3	2027 Test Case	AM	ONE HOUR	07:45	09:15	15	✓
D4	2027 Test Case	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2027 Future Baseline, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A379 Rydon Lane / Old Rydon Lane	T-Junction	Two-way	Two-way	Two-way		0.28	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.28	A

Arms

Arms

Arm	Name	Description	Arm type
A	A379 Rydon Lane - North		Major
B	Old Rydon Lane		Minor
C	A379 Rydon Lane - South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - A379 Rydon Lane - South	14.41		✓	2.80	150.0	✓	17.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Old Rydon Lane	One lane	5.00	78	120

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	676	0.078	0.197	0.124	0.282
B-C	840	0.082	0.206	-	-
C-B	704	0.173	0.173	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2027 Future Baseline	AM	ONE HOUR	07:45	09:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A379 Rydon Lane - North		ONE HOUR	✓	1280	100.000
B - Old Rydon Lane		ONE HOUR	✓	7	100.000
C - A379 Rydon Lane - South		ONE HOUR	✓	575	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A379 Rydon Lane - North	B - Old Rydon Lane	C - A379 Rydon Lane - South
From	A - A379 Rydon Lane - North	0	68	1212
	B - Old Rydon Lane	0	0	7
	C - A379 Rydon Lane - South	527	48	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A379 Rydon Lane - North	B - Old Rydon Lane	C - A379 Rydon Lane - South
From	A - A379 Rydon Lane - North	10	10	10
	B - Old Rydon Lane	10	10	10
	C - A379 Rydon Lane - South	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.01	7.19	0.0	A	6	10
C-AB	0.11	9.72	0.1	A	44	66
C-A					484	725
A-B					62	94
A-C					1112	1668

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	5	1	647	0.008	5	0.0	0.0	6.168	A
C-AB	36	9	537	0.067	36	0.0	0.1	7.891	A
C-A	397	99			397				
A-B	51	13			51				
A-C	912	228			912				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	6	2	610	0.010	6	0.0	0.0	6.560	A
C-AB	43	11	505	0.085	43	0.1	0.1	8.571	A
C-A	474	118			474				
A-B	61	15			61				
A-C	1090	272			1090				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	8	2	558	0.014	8	0.0	0.0	7.192	A
C-AB	53	13	460	0.115	53	0.1	0.1	9.709	A
C-A	580	145			580				
A-B	75	19			75				
A-C	1334	334			1334				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	8	2	558	0.014	8	0.0	0.0	7.192	A
C-AB	53	13	460	0.115	53	0.1	0.1	9.719	A
C-A	580	145			580				
A-B	75	19			75				
A-C	1334	334			1334				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	6	2	610	0.010	6	0.0	0.0	6.563	A
C-AB	43	11	505	0.085	43	0.1	0.1	8.581	A
C-A	474	118			474				
A-B	61	15			61				
A-C	1090	272			1090				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	5	1	647	0.008	5	0.0	0.0	6.168	A
C-AB	36	9	537	0.067	36	0.1	0.1	7.904	A
C-A	397	99			397				
A-B	51	13			51				
A-C	912	228			912				

2027 Future Baseline, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A379 Rydon Lane / Old Rydon Lane	T-Junction	Two-way	Two-way	Two-way		0.35	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.35	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2027 Future Baseline	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A379 Rydon Lane - North		ONE HOUR	✓	1379	100.000
B - Old Rydon Lane		ONE HOUR	✓	26	100.000
C - A379 Rydon Lane - South		ONE HOUR	✓	850	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A379 Rydon Lane - North	B - Old Rydon Lane	C - A379 Rydon Lane - South
From	A - A379 Rydon Lane - North	0	25	1354
	B - Old Rydon Lane	0	0	26
	C - A379 Rydon Lane - South	788	62	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A379 Rydon Lane - North	B - Old Rydon Lane	C - A379 Rydon Lane - South
From	A - A379 Rydon Lane - North	0	0	0
	B - Old Rydon Lane	0	0	0
	C - A379 Rydon Lane - South	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.05	7.18	0.1	A	24	36
C-AB	0.15	9.65	0.2	A	57	85
C-A					723	1085
A-B					23	34
A-C					1242	1864

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	5	628	0.031	19	0.0	0.0	5.916	A
C-AB	47	12	524	0.089	46	0.0	0.1	7.522	A
C-A	593	148			593				
A-B	19	5			19				
A-C	1019	255			1019				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	6	587	0.040	23	0.0	0.0	6.390	A
C-AB	56	14	490	0.114	56	0.1	0.1	8.294	A
C-A	708	177			708				
A-B	22	6			22				
A-C	1217	304			1217				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	29	7	530	0.054	29	0.0	0.1	7.182	A
C-AB	68	17	441	0.155	68	0.1	0.2	9.639	A
C-A	868	217			868				
A-B	28	7			28				
A-C	1491	373			1491				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	29	7	530	0.054	29	0.1	0.1	7.182	A
C-AB	68	17	441	0.155	68	0.2	0.2	9.647	A
C-A	868	217			868				
A-B	28	7			28				
A-C	1491	373			1491				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	6	587	0.040	23	0.1	0.0	6.394	A
C-AB	56	14	490	0.114	56	0.2	0.1	8.305	A
C-A	708	177			708				
A-B	22	6			22				
A-C	1217	304			1217				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	5	628	0.031	20	0.0	0.0	5.919	A
C-AB	47	12	524	0.089	47	0.1	0.1	7.541	A
C-A	593	148			593				
A-B	19	5			19				
A-C	1019	255			1019				

2027 Test Case, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A379 Rydon Lane / Old Rydon Lane	T-Junction	Two-way	Two-way	Two-way		0.48	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.48	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2027 Test Case	AM	ONE HOUR	07:45	09:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A379 Rydon Lane - North		ONE HOUR	✓	1295	100.000
B - Old Rydon Lane		ONE HOUR	✓	47	100.000
C - A379 Rydon Lane - South		ONE HOUR	✓	583	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A379 Rydon Lane - North	B - Old Rydon Lane	C - A379 Rydon Lane - South
From	A - A379 Rydon Lane - North	0	83	1212
	B - Old Rydon Lane	0	0	47
	C - A379 Rydon Lane - South	527	56	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A379 Rydon Lane - North	B - Old Rydon Lane	C - A379 Rydon Lane - South
From	A - A379 Rydon Lane - North	10	10	10
	B - Old Rydon Lane	10	10	10
	C - A379 Rydon Lane - South	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.09	7.84	0.1	A	43	65
C-AB	0.13	10.01	0.2	B	51	77
C-A					484	725
A-B					76	114
A-C					1112	1668

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	35	9	646	0.055	35	0.0	0.1	6.476	A
C-AB	42	11	535	0.079	42	0.0	0.1	8.017	A
C-A	397	99			397				
A-B	62	16			62				
A-C	912	228			912				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	42	11	609	0.069	42	0.1	0.1	6.989	A
C-AB	50	13	503	0.100	50	0.1	0.1	8.751	A
C-A	474	118			474				
A-B	75	19			75				
A-C	1090	272			1090				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	52	13	557	0.093	52	0.1	0.1	7.836	A
C-AB	62	15	457	0.135	61	0.1	0.2	9.996	A
C-A	580	145			580				
A-B	91	23			91				
A-C	1334	334			1334				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	52	13	557	0.093	52	0.1	0.1	7.839	A
C-AB	62	15	457	0.135	62	0.2	0.2	10.006	B
C-A	580	145			580				
A-B	91	23			91				
A-C	1334	334			1334				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	42	11	609	0.069	42	0.1	0.1	6.995	A
C-AB	50	13	503	0.100	51	0.2	0.1	8.763	A
C-A	474	118			474				
A-B	75	19			75				
A-C	1090	272			1090				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	35	9	646	0.055	35	0.1	0.1	6.486	A
C-AB	42	11	535	0.079	42	0.1	0.1	8.032	A
C-A	397	99			397				
A-B	62	16			62				
A-C	912	228			912				

2027 Test Case, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A379 Rydon Lane / Old Rydon Lane	T-Junction	Two-way	Two-way	Two-way		0.50	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.50	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2027 Test Case	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A379 Rydon Lane - North		ONE HOUR	✓	1427	100.000
B - Old Rydon Lane		ONE HOUR	✓	31	100.000
C - A379 Rydon Lane - South		ONE HOUR	✓	876	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - A379 Rydon Lane - North	B - Old Rydon Lane	C - A379 Rydon Lane - South
From	A - A379 Rydon Lane - North	0	73	1354
	B - Old Rydon Lane	0	0	31
	C - A379 Rydon Lane - South	788	88	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - A379 Rydon Lane - North	B - Old Rydon Lane	C - A379 Rydon Lane - South
From	A - A379 Rydon Lane - North	0	0	0
	B - Old Rydon Lane	0	0	0
	C - A379 Rydon Lane - South	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.06	7.32	0.1	A	28	43
C-AB	0.22	10.73	0.3	B	81	121
C-A					723	1085
A-B					67	100
A-C					1242	1864

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	6	625	0.037	23	0.0	0.0	5.982	A
C-AB	66	17	518	0.128	66	0.0	0.1	7.946	A
C-A	593	148			593				
A-B	55	14			55				
A-C	1019	255			1019				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28	7	583	0.048	28	0.0	0.0	6.482	A
C-AB	79	20	482	0.164	79	0.1	0.2	8.923	A
C-A	708	177			708				
A-B	66	16			66				
A-C	1217	304			1217				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	34	9	526	0.065	34	0.0	0.1	7.325	A
C-AB	97	24	432	0.224	97	0.2	0.3	10.711	B
C-A	868	217			868				
A-B	80	20			80				
A-C	1491	373			1491				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	34	9	526	0.065	34	0.1	0.1	7.325	A
C-AB	97	24	432	0.224	97	0.3	0.3	10.734	B
C-A	868	217			868				
A-B	80	20			80				
A-C	1491	373			1491				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28	7	583	0.048	28	0.1	0.1	6.486	A
C-AB	79	20	482	0.164	79	0.3	0.2	8.949	A
C-A	708	177			708				
A-B	66	16			66				
A-C	1217	304			1217				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	6	625	0.037	23	0.1	0.0	5.985	A
C-AB	66	17	518	0.128	66	0.2	0.1	7.972	A
C-A	593	148			593				
A-B	55	14			55				
A-C	1019	255			1019				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	6	592	0.038	23	0.1	0.0	6.323	A
C-AB	53	13	499	0.106	53	0.2	0.1	8.074	A
C-A	676	169			676				
A-B	22	5			22				
A-C	1162	291			1162				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	19	5	631	0.030	19	0.0	0.0	5.881	A
C-AB	44	11	533	0.083	45	0.1	0.1	7.378	A
C-A	566	142			566				
A-B	18	5			18				
A-C	973	243			973				

Junctions 10

ARCADY 10 - Roundabout Module

Filename: Newcourt Way_Ikea Way Roundabout.j10
Path: Z:\47450 St Bridget Nursery, Newcourt\Technical\Transport\Junction Assessments\Models for TA
Report generation date: 20/09/2021 09:29:24

Summary of junction performance

	AM		PM	
	Queue (PCU)	RFC	Queue (PCU)	RFC
	Calibration / Checks			
1 - Newcourt Way (N)	0.2	0.15	0.4	0.26
2 - Ikea Way	0.1	0.09	0.4	0.25
3 - Newcourt Way (S)	1.3	0.55	0.3	0.23
4 - Access Arm	0.0	0.00	0.0	0.00
	2027 Future Baseline			
1 - Newcourt Way (N)	0.1	0.06	0.2	0.18
2 - Ikea Way	0.1	0.08	0.2	0.15
3 - Newcourt Way (S)	0.8	0.41	0.4	0.24
4 - Access Arm	0.0	0.00	0.0	0.00
	2027 Test Case			
1 - Newcourt Way (N)	0.1	0.06	0.2	0.18
2 - Ikea Way	0.1	0.08	0.2	0.15
3 - Newcourt Way (S)	1.0	0.47	0.4	0.25
4 - Access Arm	0.0	0.00	0.0	0.00

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	Newcourt Way / Ikea Way Roundabout
Location	Exeter
Site number	
Date	13/08/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	CORP\nlovell
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	Calibration / Checks	AM	ONE HOUR	07:45	09:15	15	✓
D2	Calibration / Checks	PM	ONE HOUR	16:45	18:15	15	✓
D3	2027 Future Baseline	AM	ONE HOUR	07:45	09:15	15	✓
D4	2027 Future Baseline	PM	ONE HOUR	16:45	18:15	15	✓
D5	2027 Test Case	AM	ONE HOUR	07:45	09:15	15	✓
D6	2027 Test Case	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

Calibration / Checks, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Newcourt Way / Ikea Way Roundabout	Standard Roundabout		1, 2, 3, 4	5.24	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.24	A

Arms

Arms

Arm	Name	Description	No give-way line
1	Newcourt Way (N)		
2	Ikea Way		
3	Newcourt Way (S)		
4	Access Arm		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - Newcourt Way (N)	7.03	7.92	2.1	17.8	40.3	6.5		
2 - Ikea Way	2.79	4.99	5.7	20.1	40.3	14.0		
3 - Newcourt Way (S)	3.10	5.08	5.5	23.2	40.3	17.0		
4 - Access Arm	3.00	4.76	5.3	21.0	40.3	17.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Newcourt Way (N)	0.806	2414
2 - Ikea Way	0.560	1207
3 - Newcourt Way (S)	0.573	1281
4 - Access Arm	0.560	1223

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	Calibration / Checks	AM	ONE HOUR	07:45	09:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Newcourt Way (N)		ONE HOUR	✓	320	100.000
2 - Ikea Way		ONE HOUR	✓	85	100.000
3 - Newcourt Way (S)		ONE HOUR	✓	612	100.000
4 - Access Arm		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Newcourt Way (N)	2 - Ikea Way	3 - Newcourt Way (S)	4 - Access Arm
From	1 - Newcourt Way (N)	0	23	297	0
	2 - Ikea Way	81	0	4	0
	3 - Newcourt Way (S)	611	0.89	0	0
	4 - Access Arm	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Newcourt Way (N)	2 - Ikea Way	3 - Newcourt Way (S)	4 - Access Arm
From	1 - Newcourt Way (N)	10	10	10	10
	2 - Ikea Way	10	10	10	10
	3 - Newcourt Way (S)	10	10	10	10
	4 - Access Arm	10	10	10	10

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Newcourt Way (N)	0.15	1.92	0.2	A	294	440
2 - Ikea Way	0.09	4.25	0.1	A	78	117
3 - Newcourt Way (S)	0.55	7.12	1.3	A	561	842
4 - Access Arm	0.00	0.00	0.0	A	0	0

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	241	60	0.67	2413	0.100	240	518	0.0	0.1	1.821	A
2 - Ikea Way	64	16	223	1082	0.059	64	18	0.0	0.1	3.886	A
3 - Newcourt Way (S)	461	115	61	1246	0.370	458	226	0.0	0.6	5.007	A
4 - Access Arm	0	0	519	932	0.000	0	0	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	288	72	0.80	2413	0.119	288	621	0.1	0.1	1.861	A
2 - Ikea Way	76	19	267	1058	0.072	76	21	0.1	0.1	4.034	A
3 - Newcourt Way (S)	550	138	73	1240	0.444	549	270	0.6	0.9	5.729	A
4 - Access Arm	0	0	622	874	0.000	0	0	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	352	88	0.98	2413	0.146	352	760	0.1	0.2	1.921	A
2 - Ikea Way	94	23	327	1024	0.091	93	26	0.1	0.1	4.253	A
3 - Newcourt Way (S)	674	168	89	1230	0.548	672	331	0.9	1.3	7.071	A
4 - Access Arm	0	0	761	796	0.000	0	0	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	352	88	0.98	2413	0.146	352	762	0.2	0.2	1.921	A
2 - Ikea Way	94	23	327	1024	0.091	94	26	0.1	0.1	4.254	A
3 - Newcourt Way (S)	674	168	89	1230	0.548	674	331	1.3	1.3	7.116	A
4 - Access Arm	0	0	763	795	0.000	0	0	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	288	72	0.80	2413	0.119	288	624	0.2	0.1	1.862	A
2 - Ikea Way	76	19	267	1058	0.072	77	21	0.1	0.1	4.035	A
3 - Newcourt Way (S)	550	138	73	1239	0.444	552	271	1.3	0.9	5.772	A
4 - Access Arm	0	0	625	873	0.000	0	0	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	241	60	0.67	2413	0.100	241	522	0.1	0.1	1.822	A
2 - Ikea Way	64	16	224	1082	0.059	64	18	0.1	0.1	3.891	A
3 - Newcourt Way (S)	461	115	61	1246	0.370	462	227	0.9	0.7	5.052	A
4 - Access Arm	0	0	523	930	0.000	0	0	0.0	0.0	0.000	A

Calibration / Checks, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Newcourt Way / Ikea Way Roundabout	Standard Roundabout		1, 2, 3, 4	3.46	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.46	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	Calibration / Checks	PM	ONE HOUR	16:45	18:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Newcourt Way (N)		ONE HOUR	✓	565	100.000
2 - Ikea Way		ONE HOUR	✓	210	100.000
3 - Newcourt Way (S)		ONE HOUR	✓	237	100.000
4 - Access Arm		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Newcourt Way (N)	2 - Ikea Way	3 - Newcourt Way (S)	4 - Access Arm
From	1 - Newcourt Way (N)	0	111	454	0
	2 - Ikea Way	209	0	1	0
	3 - Newcourt Way (S)	234	3	0	0
	4 - Access Arm	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Newcourt Way (N)	2 - Ikea Way	3 - Newcourt Way (S)	4 - Access Arm
From	1 - Newcourt Way (N)	10	10	10	10
	2 - Ikea Way	10	10	10	10
	3 - Newcourt Way (S)	10	10	10	10
	4 - Access Arm	10	10	10	10

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Newcourt Way (N)	0.26	2.21	0.4	A	518	778
2 - Ikea Way	0.25	5.69	0.4	A	193	289
3 - Newcourt Way (S)	0.23	4.46	0.3	A	217	326
4 - Access Arm	0.00	0.00	0.0	A	0	0

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	425	106	2	2412	0.176	424	332	0.0	0.2	1.991	A
2 - Ikea Way	158	40	341	1016	0.156	157	86	0.0	0.2	4.605	A
3 - Newcourt Way (S)	178	45	157	1191	0.150	178	342	0.0	0.2	3.904	A
4 - Access Arm	0	0	334	1036	0.000	0	0	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	508	127	3	2412	0.211	508	398	0.2	0.3	2.079	A
2 - Ikea Way	189	47	408	979	0.193	189	102	0.2	0.3	5.008	A
3 - Newcourt Way (S)	213	53	188	1174	0.182	213	409	0.2	0.2	4.120	A
4 - Access Arm	0	0	401	998	0.000	0	0	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	622	156	3	2411	0.258	622	487	0.3	0.4	2.212	A
2 - Ikea Way	231	58	500	928	0.249	231	125	0.3	0.4	5.678	A
3 - Newcourt Way (S)	261	65	230	1150	0.227	261	501	0.2	0.3	4.454	A
4 - Access Arm	0	0	490	948	0.000	0	0	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	622	156	3	2411	0.258	622	488	0.4	0.4	2.212	A
2 - Ikea Way	231	58	500	928	0.249	231	126	0.4	0.4	5.686	A
3 - Newcourt Way (S)	261	65	230	1149	0.227	261	501	0.3	0.3	4.457	A
4 - Access Arm	0	0	491	948	0.000	0	0	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	508	127	3	2412	0.211	508	399	0.4	0.3	2.080	A
2 - Ikea Way	189	47	408	979	0.193	189	103	0.4	0.3	5.017	A
3 - Newcourt Way (S)	213	53	188	1173	0.182	213	409	0.3	0.2	4.126	A
4 - Access Arm	0	0	402	998	0.000	0	0	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	425	106	2	2412	0.176	426	334	0.3	0.2	1.993	A
2 - Ikea Way	158	40	342	1016	0.156	158	86	0.3	0.2	4.618	A
3 - Newcourt Way (S)	178	45	158	1191	0.150	179	343	0.2	0.2	3.912	A
4 - Access Arm	0	0	336	1035	0.000	0	0	0.0	0.0	0.000	A

2027 Future Baseline, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Newcourt Way / Ikea Way Roundabout	Standard Roundabout		1, 2, 3, 4	4.53	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.53	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2027 Future Baseline	AM	ONE HOUR	07:45	09:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Newcourt Way (N)		ONE HOUR	✓	128	100.000
2 - Ikea Way		ONE HOUR	✓	84	100.000
3 - Newcourt Way (S)		ONE HOUR	✓	460	100.000
4 - Access Arm		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Newcourt Way (N)	2 - Ikea Way	3 - Newcourt Way (S)	4 - Access Arm
From	1 - Newcourt Way (N)	0	28	100	0
	2 - Ikea Way	75	0	9	0
	3 - Newcourt Way (S)	455	5	0	0
	4 - Access Arm	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Newcourt Way (N)	2 - Ikea Way	3 - Newcourt Way (S)	4 - Access Arm
From	1 - Newcourt Way (N)	10	10	10	10
	2 - Ikea Way	10	10	10	10
	3 - Newcourt Way (S)	10	10	10	10
	4 - Access Arm	10	10	10	10

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Newcourt Way (N)	0.06	1.74	0.1	A	117	176
2 - Ikea Way	0.08	3.76	0.1	A	77	116
3 - Newcourt Way (S)	0.41	5.44	0.8	A	422	633
4 - Access Arm	0.00	0.00	0.0	A	0	0

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	96	24	4	2411	0.040	96	397	0.0	0.0	1.710	A
2 - Ikea Way	63	16	75	1165	0.054	63	25	0.0	0.1	3.592	A
3 - Newcourt Way (S)	346	87	56	1249	0.277	345	82	0.0	0.4	4.371	A
4 - Access Arm	0	0	401	998	0.000	0	0	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	115	29	4	2410	0.048	115	476	0.0	0.1	1.724	A
2 - Ikea Way	76	19	90	1157	0.065	75	30	0.1	0.1	3.660	A
3 - Newcourt Way (S)	414	103	67	1243	0.333	413	98	0.4	0.5	4.770	A
4 - Access Arm	0	0	480	954	0.000	0	0	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	141	35	5	2410	0.058	141	583	0.1	0.1	1.744	A
2 - Ikea Way	92	23	110	1146	0.081	92	36	0.1	0.1	3.758	A
3 - Newcourt Way (S)	506	127	83	1234	0.410	506	120	0.5	0.8	5.430	A
4 - Access Arm	0	0	588	893	0.000	0	0	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	141	35	6	2410	0.058	141	584	0.1	0.1	1.744	A
2 - Ikea Way	92	23	110	1146	0.081	92	36	0.1	0.1	3.758	A
3 - Newcourt Way (S)	506	127	83	1234	0.410	506	120	0.8	0.8	5.443	A
4 - Access Arm	0	0	589	893	0.000	0	0	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	115	29	5	2410	0.048	115	477	0.1	0.1	1.727	A
2 - Ikea Way	76	19	90	1157	0.065	76	30	0.1	0.1	3.661	A
3 - Newcourt Way (S)	414	103	67	1243	0.333	414	98	0.8	0.6	4.787	A
4 - Access Arm	0	0	482	953	0.000	0	0	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	96	24	4	2411	0.040	96	400	0.1	0.0	1.710	A
2 - Ikea Way	63	16	75	1165	0.054	63	25	0.1	0.1	3.592	A
3 - Newcourt Way (S)	346	87	57	1249	0.277	347	82	0.6	0.4	4.394	A
4 - Access Arm	0	0	403	997	0.000	0	0	0.0	0.0	0.000	A

2027 Future Baseline, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Newcourt Way / Ikea Way Roundabout	Standard Roundabout		1, 2, 3, 4	3.23	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.23	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2027 Future Baseline	PM	ONE HOUR	16:45	18:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Newcourt Way (N)		ONE HOUR	✓	387	100.000
2 - Ikea Way		ONE HOUR	✓	139	100.000
3 - Newcourt Way (S)		ONE HOUR	✓	265	100.000
4 - Access Arm		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Newcourt Way (N)	2 - Ikea Way	3 - Newcourt Way (S)	4 - Access Arm
From	1 - Newcourt Way (N)	0	129	258	0
	2 - Ikea Way	136	0	3	0
	3 - Newcourt Way (S)	249	16	0	0
	4 - Access Arm	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Newcourt Way (N)	2 - Ikea Way	3 - Newcourt Way (S)	4 - Access Arm
From	1 - Newcourt Way (N)	10	10	10	10
	2 - Ikea Way	10	10	10	10
	3 - Newcourt Way (S)	10	10	10	10
	4 - Access Arm	10	10	10	10

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Newcourt Way (N)	0.18	2.01	0.2	A	355	533
2 - Ikea Way	0.15	4.42	0.2	A	128	191
3 - Newcourt Way (S)	0.24	4.38	0.4	A	243	365
4 - Access Arm	0.00	0.00	0.0	A	0	0

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	291	73	12	2404	0.121	291	289	0.0	0.2	1.873	A
2 - Ikea Way	105	26	194	1099	0.095	104	109	0.0	0.1	3.979	A
3 - Newcourt Way (S)	200	50	102	1223	0.163	199	196	0.0	0.2	3.863	A
4 - Access Arm	0	0	301	1054	0.000	0	0	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	348	87	14	2402	0.145	348	346	0.2	0.2	1.927	A
2 - Ikea Way	125	31	232	1078	0.116	125	130	0.1	0.1	4.156	A
3 - Newcourt Way (S)	238	60	122	1211	0.197	238	235	0.2	0.3	4.068	A
4 - Access Arm	0	0	360	1021	0.000	0	0	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	426	107	18	2400	0.178	426	423	0.2	0.2	2.006	A
2 - Ikea Way	153	38	284	1048	0.146	153	160	0.1	0.2	4.420	A
3 - Newcourt Way (S)	292	73	150	1195	0.244	291	287	0.3	0.4	4.379	A
4 - Access Arm	0	0	441	976	0.000	0	0	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	426	107	18	2400	0.178	426	424	0.2	0.2	2.006	A
2 - Ikea Way	153	38	284	1048	0.146	153	160	0.2	0.2	4.422	A
3 - Newcourt Way (S)	292	73	150	1195	0.244	292	287	0.4	0.4	4.382	A
4 - Access Arm	0	0	442	976	0.000	0	0	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	348	87	14	2402	0.145	348	347	0.2	0.2	1.929	A
2 - Ikea Way	125	31	232	1077	0.116	125	130	0.2	0.1	4.158	A
3 - Newcourt Way (S)	238	60	122	1211	0.197	239	235	0.4	0.3	4.074	A
4 - Access Arm	0	0	361	1021	0.000	0	0	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	291	73	12	2404	0.121	291	290	0.2	0.2	1.873	A
2 - Ikea Way	105	26	194	1099	0.095	105	109	0.1	0.1	3.986	A
3 - Newcourt Way (S)	200	50	103	1222	0.163	200	197	0.3	0.2	3.874	A
4 - Access Arm	0	0	302	1054	0.000	0	0	0.0	0.0	0.000	A

2027 Test Case, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Newcourt Way / Ikea Way Roundabout	Standard Roundabout		1, 2, 3, 4	5.08	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.08	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2027 Test Case	AM	ONE HOUR	07:45	09:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Newcourt Way (N)		ONE HOUR	✓	128	100.000
2 - Ikea Way		ONE HOUR	✓	84	100.000
3 - Newcourt Way (S)		ONE HOUR	✓	531	100.000
4 - Access Arm		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Newcourt Way (N)	2 - Ikea Way	3 - Newcourt Way (S)	4 - Access Arm
From	1 - Newcourt Way (N)	0	28	100	0
	2 - Ikea Way	75	0	9	0
	3 - Newcourt Way (S)	526	5	0	0
	4 - Access Arm	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Newcourt Way (N)	2 - Ikea Way	3 - Newcourt Way (S)	4 - Access Arm
From	1 - Newcourt Way (N)	10	10	10	10
	2 - Ikea Way	10	10	10	10
	3 - Newcourt Way (S)	10	10	10	10
	4 - Access Arm	10	10	10	10

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Newcourt Way (N)	0.06	1.74	0.1	A	117	176
2 - Ikea Way	0.08	3.76	0.1	A	77	116
3 - Newcourt Way (S)	0.47	6.10	1.0	A	487	731
4 - Access Arm	0.00	0.00	0.0	A	0	0

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	96	24	4	2411	0.040	96	450	0.0	0.0	1.710	A
2 - Ikea Way	63	16	75	1165	0.054	63	25	0.0	0.1	3.592	A
3 - Newcourt Way (S)	400	100	56	1249	0.320	398	82	0.0	0.5	4.640	A
4 - Access Arm	0	0	454	969	0.000	0	0	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	115	29	4	2410	0.048	115	540	0.0	0.1	1.724	A
2 - Ikea Way	76	19	90	1157	0.065	75	30	0.1	0.1	3.660	A
3 - Newcourt Way (S)	477	119	67	1243	0.384	477	98	0.5	0.7	5.166	A
4 - Access Arm	0	0	544	918	0.000	0	0	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	141	35	5	2410	0.058	141	660	0.1	0.1	1.744	A
2 - Ikea Way	92	23	110	1146	0.081	92	36	0.1	0.1	3.758	A
3 - Newcourt Way (S)	585	146	83	1234	0.474	583	120	0.7	1.0	6.076	A
4 - Access Arm	0	0	666	850	0.000	0	0	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	141	35	6	2410	0.058	141	662	0.1	0.1	1.744	A
2 - Ikea Way	92	23	110	1146	0.081	92	36	0.1	0.1	3.758	A
3 - Newcourt Way (S)	585	146	83	1234	0.474	585	120	1.0	1.0	6.098	A
4 - Access Arm	0	0	667	849	0.000	0	0	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	115	29	5	2410	0.048	115	542	0.1	0.1	1.724	A
2 - Ikea Way	76	19	90	1157	0.065	76	30	0.1	0.1	3.663	A
3 - Newcourt Way (S)	477	119	67	1243	0.384	479	98	1.0	0.7	5.192	A
4 - Access Arm	0	0	546	917	0.000	0	0	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	96	24	4	2411	0.040	96	453	0.1	0.0	1.712	A
2 - Ikea Way	63	16	75	1165	0.054	63	25	0.1	0.1	3.592	A
3 - Newcourt Way (S)	400	100	57	1249	0.320	400	82	0.7	0.5	4.672	A
4 - Access Arm	0	0	457	967	0.000	0	0	0.0	0.0	0.000	A

2027 Test Case, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Newcourt Way / Ikea Way Roundabout	Standard Roundabout		1, 2, 3, 4	3.26	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.26	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2027 Test Case	PM	ONE HOUR	16:45	18:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Newcourt Way (N)		ONE HOUR	✓	387	100.000
2 - Ikea Way		ONE HOUR	✓	139	100.000
3 - Newcourt Way (S)		ONE HOUR	✓	276	100.000
4 - Access Arm		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Newcourt Way (N)	2 - Ikea Way	3 - Newcourt Way (S)	4 - Access Arm
From	1 - Newcourt Way (N)	0	129	258	0
	2 - Ikea Way	136	0	3	0
	3 - Newcourt Way (S)	260	16	0	0
	4 - Access Arm	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Newcourt Way (N)	2 - Ikea Way	3 - Newcourt Way (S)	4 - Access Arm
From	1 - Newcourt Way (N)	10	10	10	10
	2 - Ikea Way	10	10	10	10
	3 - Newcourt Way (S)	10	10	10	10
	4 - Access Arm	10	10	10	10

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Newcourt Way (N)	0.18	2.01	0.2	A	355	533
2 - Ikea Way	0.15	4.42	0.2	A	128	191
3 - Newcourt Way (S)	0.25	4.44	0.4	A	253	380
4 - Access Arm	0.00	0.00	0.0	A	0	0

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	291	73	12	2404	0.121	291	297	0.0	0.2	1.873	A
2 - Ikea Way	105	26	194	1099	0.095	104	109	0.0	0.1	3.979	A
3 - Newcourt Way (S)	208	52	102	1223	0.170	207	196	0.0	0.2	3.895	A
4 - Access Arm	0	0	309	1050	0.000	0	0	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	348	87	14	2402	0.145	348	356	0.2	0.2	1.927	A
2 - Ikea Way	125	31	232	1078	0.116	125	130	0.1	0.1	4.156	A
3 - Newcourt Way (S)	248	62	122	1211	0.205	248	235	0.2	0.3	4.109	A
4 - Access Arm	0	0	370	1016	0.000	0	0	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	426	107	18	2400	0.178	426	435	0.2	0.2	2.006	A
2 - Ikea Way	153	38	284	1048	0.146	153	160	0.1	0.2	4.420	A
3 - Newcourt Way (S)	304	76	150	1195	0.254	304	287	0.3	0.4	4.437	A
4 - Access Arm	0	0	453	969	0.000	0	0	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	426	107	18	2400	0.178	426	436	0.2	0.2	2.006	A
2 - Ikea Way	153	38	284	1048	0.146	153	160	0.2	0.2	4.422	A
3 - Newcourt Way (S)	304	76	150	1195	0.254	304	287	0.4	0.4	4.441	A
4 - Access Arm	0	0	454	969	0.000	0	0	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	348	87	14	2402	0.145	348	356	0.2	0.2	1.927	A
2 - Ikea Way	125	31	232	1077	0.116	125	130	0.2	0.1	4.160	A
3 - Newcourt Way (S)	248	62	122	1211	0.205	248	235	0.4	0.3	4.116	A
4 - Access Arm	0	0	371	1015	0.000	0	0	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - Newcourt Way (N)	291	73	12	2404	0.121	291	298	0.2	0.2	1.873	A
2 - Ikea Way	105	26	194	1099	0.095	105	109	0.1	0.1	3.986	A
3 - Newcourt Way (S)	208	52	103	1222	0.170	208	197	0.3	0.2	3.904	A
4 - Access Arm	0	0	311	1049	0.000	0	0	0.0	0.0	0.000	A

Junctions 10

PICADY 10 - Priority Intersection Module

Filename: Old Rydon Ln_Newcourt Way_River Plate Rd Stagger.j10
Path: Z:\47450 St Bridget Nursery, Newcourt\Technical\Transport\Junction Assessments\Models for TA
Report generation date: 20/09/2021 09:24:39

Summary of junction performance

	AM		PM	
	Queue (PCU)	RFC	Queue (PCU)	RFC
	2027 Future Baseline			
Stream B-C	0.1	0.09	0.1	0.11
Stream B-AD	0.1	0.07	0.8	0.42
Stream A-BCD	0.0	0.00	0.0	0.00
Stream D-A	0.0	0.00	0.0	0.00
Stream D-BC	0.0	0.00	0.0	0.00
Stream C-ABD	0.0	0.00	0.0	0.00
	2027 Test Case			
Stream B-C	0.3	0.21	0.2	0.12
Stream B-AD	0.1	0.09	0.8	0.42
Stream A-BCD	0.0	0.00	0.0	0.00
Stream D-A	0.0	0.00	0.0	0.00
Stream D-BC	0.0	0.00	0.0	0.00
Stream C-ABD	0.0	0.00	0.0	0.00

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	07/09/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	CORP\nlovell
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2027 Future Baseline	AM	ONE HOUR	07:45	09:15	15	✓
D2	2027 Future Baseline	PM	ONE HOUR	16:45	18:15	15	✓
D3	2027 Test Case	AM	ONE HOUR	07:45	09:15	15	✓
D4	2027 Test Case	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2027 Future Baseline, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Old Rydon Lane / Newcourt Way / River Plate Road	Right-Left Stagger	Two-way	Entry Only	Two-way	Two-way		0.96	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.96	A

Arms

Arms

Arm	Name	Description	Arm type
A	River Plate Road		Major
B	Old Rydon Lane (South)		Minor
C	Newcourt Way		Major
D	Old Rydon Lane (North)		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A - River Plate Road	6.30			150.0	✓	0.00
C - Newcourt Way	6.10			150.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Old Rydon Lane (South)	One lane plus flare	10.00	4.60	3.50	3.50	3.40	✓	1.00	150	150
D - Old Rydon Lane (North)	One lane plus flare	10.00	7.50	5.80	5.40	5.30	✓	3.00	95	150

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-B	Slope for D-C
A-D	661	-	-	-	0.253	0.253	0.253	-	0.253	-	-
B-AD	626	0.113	0.287	-	-	-	0.180	0.410	0.180	0.113	0.287
B-C	787	0.120	0.304	-	-	-	-	-	-	0.120	0.304
C-B	661	0.255	0.255	-	-	-	-	-	-	0.255	0.255
D-A	747	-	-	-	0.286	0.113	0.286	-	0.113	-	-
D-BC	608	0.174	0.174	0.395	0.276	0.109	0.276	-	0.109	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2027 Future Baseline	AM	ONE HOUR	07:45	09:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - River Plate Road		ONE HOUR	✓	382	100.000
B - Old Rydon Lane (South)		ONE HOUR	✓	84	100.000
C - Newcourt Way		ONE HOUR	✓	204	100.000
D - Old Rydon Lane (North)		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - River Plate Road	B - Old Rydon Lane (South)	C - Newcourt Way	D - Old Rydon Lane (North)
From	A - River Plate Road	0	0	382	0
	B - Old Rydon Lane (South)	7	0	53	24
	C - Newcourt Way	43	0	0	161
	D - Old Rydon Lane (North)	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - River Plate Road	B - Old Rydon Lane (South)	C - Newcourt Way	D - Old Rydon Lane (North)
From	A - River Plate Road	10	10	10	10
	B - Old Rydon Lane (South)	10	10	10	10
	C - Newcourt Way	10	10	10	10
	D - Old Rydon Lane (North)	10	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.09	6.73	0.1	A	49	73
B-AD	0.07	9.21	0.1	A	28	43
A-BCD	0.00	0.00	0.0	A	0	0
A-B					0	0
A-C					351	526
D-A	0.00	0.00	0.0	A	0	0
D-BC	0.00	0.00	0.0	A	0	0
C-ABD	0.00	0.00	0.0	A	0	0
C-D					148	222
C-A					39	59

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	40	10	691	0.058	40	0.0	0.1	6.072	A
B-AD	23	6	515	0.045	23	0.0	0.1	8.041	A
A-BCD	0	0	616	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	288	72			288				
D-A	0	0	721	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	532	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	588	0.000	0	0.0	0.0	0.000	A
C-D	121	30			121				
C-A	32	8			32				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	48	12	673	0.071	48	0.1	0.1	6.335	A
B-AD	28	7	494	0.056	28	0.1	0.1	8.494	A
A-BCD	0	0	607	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	343	86			343				
D-A	0	0	715	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	518	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	573	0.000	0	0.0	0.0	0.000	A
C-D	145	36			145				
C-A	39	10			39				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	15	646	0.090	58	0.1	0.1	6.733	A
B-AD	34	9	464	0.074	34	0.1	0.1	9.204	A
A-BCD	0	0	595	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	421	105			421				
D-A	0	0	708	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	497	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	554	0.000	0	0.0	0.0	0.000	A
C-D	177	44			177				
C-A	47	12			47				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	15	646	0.090	58	0.1	0.1	6.733	A
B-AD	34	9	464	0.074	34	0.1	0.1	9.208	A
A-BCD	0	0	595	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	421	105			421				
D-A	0	0	708	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	497	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	554	0.000	0	0.0	0.0	0.000	A
C-D	177	44			177				
C-A	47	12			47				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	48	12	672	0.071	48	0.1	0.1	6.341	A
B-AD	28	7	494	0.056	28	0.1	0.1	8.500	A
A-BCD	0	0	607	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	343	86			343				
D-A	0	0	715	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	518	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	573	0.000	0	0.0	0.0	0.000	A
C-D	145	36			145				
C-A	39	10			39				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	40	10	691	0.058	40	0.1	0.1	6.080	A
B-AD	23	6	515	0.045	23	0.1	0.1	8.048	A
A-BCD	0	0	616	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	288	72			288				
D-A	0	0	721	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	532	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	588	0.000	0	0.0	0.0	0.000	A
C-D	121	30			121				
C-A	32	8			32				

2027 Future Baseline, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Old Rydon Lane / Newcourt Way / River Plate Road	Right-Left Stagger	Two-way	Entry Only	Two-way	Two-way		4.07	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.07	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2027 Future Baseline	PM	ONE HOUR	16:45	18:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - River Plate Road		ONE HOUR	✓	133	100.000
B - Old Rydon Lane (South)		ONE HOUR	✓	257	100.000
C - Newcourt Way		ONE HOUR	✓	348	100.000
D - Old Rydon Lane (North)		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - River Plate Road	B - Old Rydon Lane (South)	C - Newcourt Way	D - Old Rydon Lane (North)
From	A - River Plate Road	0	0	133	0
	B - Old Rydon Lane (South)	9	0	54	194
	C - Newcourt Way	16	0	0	332
	D - Old Rydon Lane (North)	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - River Plate Road	B - Old Rydon Lane (South)	C - Newcourt Way	D - Old Rydon Lane (North)
From	A - River Plate Road	10	10	10	10
	B - Old Rydon Lane (South)	10	10	10	10
	C - Newcourt Way	10	10	10	10
	D - Old Rydon Lane (North)	10	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.11	7.89	0.1	A	50	74
B-AD	0.42	12.71	0.8	B	186	279
A-BCD	0.00	0.00	0.0	A	0	0
A-B					0	0
A-C					122	183
D-A	0.00	0.00	0.0	A	0	0
D-BC	0.00	0.00	0.0	A	0	0
C-ABD	0.00	0.00	0.0	A	0	0
C-D					305	457
C-A					15	22

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41	10	631	0.064	40	0.0	0.1	6.698	A
B-AD	153	38	573	0.267	151	0.0	0.4	9.348	A
A-BCD	0	0	556	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	100	25			100				
D-A	0	0	697	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	542	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	635	0.000	0	0.0	0.0	0.000	A
C-D	250	62			250				
C-A	12	3			12				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	12	605	0.080	48	0.1	0.1	7.110	A
B-AD	182	46	557	0.327	182	0.4	0.5	10.532	B
A-BCD	0	0	535	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	120	30			120				
D-A	0	0	687	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	529	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	630	0.000	0	0.0	0.0	0.000	A
C-D	298	75			298				
C-A	14	4			14				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	59	15	562	0.106	59	0.1	0.1	7.876	A
B-AD	224	56	535	0.418	223	0.5	0.8	12.635	B
A-BCD	0	0	507	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	146	37			146				
D-A	0	0	674	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	511	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	623	0.000	0	0.0	0.0	0.000	A
C-D	366	91			366				
C-A	18	4			18				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	59	15	561	0.106	59	0.1	0.1	7.893	A
B-AD	224	56	535	0.418	223	0.8	0.8	12.710	B
A-BCD	0	0	507	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	146	37			146				
D-A	0	0	673	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	511	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	623	0.000	0	0.0	0.0	0.000	A
C-D	366	91			366				
C-A	18	4			18				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	12	604	0.080	49	0.1	0.1	7.130	A
B-AD	182	46	557	0.327	183	0.8	0.5	10.617	B
A-BCD	0	0	535	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	120	30			120				
D-A	0	0	687	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	529	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	630	0.000	0	0.0	0.0	0.000	A
C-D	298	75			298				
C-A	14	4			14				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41	10	630	0.065	41	0.1	0.1	6.722	A
B-AD	153	38	573	0.267	153	0.5	0.4	9.441	A
A-BCD	0	0	555	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	100	25			100				
D-A	0	0	697	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	542	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	635	0.000	0	0.0	0.0	0.000	A
C-D	250	62			250				
C-A	12	3			12				

2027 Test Case, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Old Rydon Lane / Newcourt Way / River Plate Road	Right-Left Stagger	Two-way	Entry Only	Two-way	Two-way		1.78	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.78	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2027 Test Case	AM	ONE HOUR	07:45	09:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - River Plate Road		ONE HOUR	✓	383	100.000
B - Old Rydon Lane (South)		ONE HOUR	✓	159	100.000
C - Newcourt Way		ONE HOUR	✓	204	100.000
D - Old Rydon Lane (North)		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - River Plate Road	B - Old Rydon Lane (South)	C - Newcourt Way	D - Old Rydon Lane (North)
From	A - River Plate Road	0	0	383	0
	B - Old Rydon Lane (South)	12	0	123	24
	C - Newcourt Way	43	0	0	161
	D - Old Rydon Lane (North)	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - River Plate Road	B - Old Rydon Lane (South)	C - Newcourt Way	D - Old Rydon Lane (North)
From	A - River Plate Road	10	10	10	10
	B - Old Rydon Lane (South)	10	10	10	10
	C - Newcourt Way	10	10	10	10
	D - Old Rydon Lane (North)	10	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.21	7.95	0.3	A	113	169
B-AD	0.09	9.77	0.1	A	33	50
A-BCD	0.00	0.00	0.0	A	0	0
A-B					0	0
A-C					351	527
D-A	0.00	0.00	0.0	A	0	0
D-BC	0.00	0.00	0.0	A	0	0
C-ABD	0.00	0.00	0.0	A	0	0
C-D					148	222
C-A					39	59

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	93	23	679	0.136	92	0.0	0.2	6.734	A
B-AD	27	7	498	0.054	27	0.0	0.1	8.408	A
A-BCD	0	0	615	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	288	72			288				
D-A	0	0	720	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	531	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	587	0.000	0	0.0	0.0	0.000	A
C-D	121	30			121				
C-A	32	8			32				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	111	28	660	0.167	110	0.2	0.2	7.200	A
B-AD	32	8	476	0.068	32	0.1	0.1	8.928	A
A-BCD	0	0	606	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	344	86			344				
D-A	0	0	714	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	516	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	573	0.000	0	0.0	0.0	0.000	A
C-D	145	36			145				
C-A	39	10			39				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	135	34	634	0.214	135	0.2	0.3	7.940	A
B-AD	40	10	445	0.089	40	0.1	0.1	9.768	A
A-BCD	0	0	594	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	422	105			422				
D-A	0	0	707	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	496	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	553	0.000	0	0.0	0.0	0.000	A
C-D	177	44			177				
C-A	47	12			47				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	135	34	633	0.214	135	0.3	0.3	7.950	A
B-AD	40	10	445	0.089	40	0.1	0.1	9.772	A
A-BCD	0	0	594	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	422	105			422				
D-A	0	0	707	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	496	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	553	0.000	0	0.0	0.0	0.000	A
C-D	177	44			177				
C-A	47	12			47				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	111	28	660	0.167	111	0.3	0.2	7.215	A
B-AD	32	8	476	0.068	32	0.1	0.1	8.935	A
A-BCD	0	0	606	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	344	86			344				
D-A	0	0	714	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	516	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	573	0.000	0	0.0	0.0	0.000	A
C-D	145	36			145				
C-A	39	10			39				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	93	23	679	0.136	93	0.2	0.2	6.756	A
B-AD	27	7	498	0.054	27	0.1	0.1	8.421	A
A-BCD	0	0	615	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	288	72			288				
D-A	0	0	720	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	531	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	587	0.000	0	0.0	0.0	0.000	A
C-D	121	30			121				
C-A	32	8			32				

2027 Test Case, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Old Rydon Lane / Newcourt Way / River Plate Road	Right-Left Stagger	Two-way	Entry Only	Two-way	Two-way		4.16	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.16	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2027 Test Case	PM	ONE HOUR	16:45	18:15	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - River Plate Road		ONE HOUR	✓	136	100.000
B - Old Rydon Lane (South)		ONE HOUR	✓	266	100.000
C - Newcourt Way		ONE HOUR	✓	348	100.000
D - Old Rydon Lane (North)		ONE HOUR	✓	0	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		A - River Plate Road	B - Old Rydon Lane (South)	C - Newcourt Way	D - Old Rydon Lane (North)
From	A - River Plate Road	0	0	136	0
	B - Old Rydon Lane (South)	10	0	62	194
	C - Newcourt Way	16	0	0	332
	D - Old Rydon Lane (North)	0	0	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		A - River Plate Road	B - Old Rydon Lane (South)	C - Newcourt Way	D - Old Rydon Lane (North)
From	A - River Plate Road	10	10	10	10
	B - Old Rydon Lane (South)	10	10	10	10
	C - Newcourt Way	10	10	10	10
	D - Old Rydon Lane (North)	10	10	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.12	8.03	0.2	A	57	85
B-AD	0.42	12.87	0.8	B	187	281
A-BCD	0.00	0.00	0.0	A	0	0
A-B					0	0
A-C					125	187
D-A	0.00	0.00	0.0	A	0	0
D-BC	0.00	0.00	0.0	A	0	0
C-ABD	0.00	0.00	0.0	A	0	0
C-D					305	457
C-A					15	22

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	47	12	633	0.074	46	0.0	0.1	6.740	A
B-AD	154	38	571	0.269	152	0.0	0.4	9.408	A
A-BCD	0	0	556	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	102	26			102				
D-A	0	0	697	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	542	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	635	0.000	0	0.0	0.0	0.000	A
C-D	250	62			250				
C-A	12	3			12				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	14	607	0.092	56	0.1	0.1	7.183	A
B-AD	183	46	555	0.330	183	0.4	0.5	10.620	B
A-BCD	0	0	535	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	122	31			122				
D-A	0	0	687	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	528	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	630	0.000	0	0.0	0.0	0.000	A
C-D	298	75			298				
C-A	14	4			14				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	68	17	563	0.121	68	0.1	0.2	8.006	A
B-AD	225	56	532	0.422	224	0.5	0.8	12.787	B
A-BCD	0	0	507	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	150	37			150				
D-A	0	0	673	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	511	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	623	0.000	0	0.0	0.0	0.000	A
C-D	366	91			366				
C-A	18	4			18				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	68	17	562	0.122	68	0.2	0.2	8.026	A
B-AD	225	56	532	0.422	225	0.8	0.8	12.870	B
A-BCD	0	0	506	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	150	37			150				
D-A	0	0	673	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	510	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	623	0.000	0	0.0	0.0	0.000	A
C-D	366	91			366				
C-A	18	4			18				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	14	606	0.092	56	0.2	0.1	7.205	A
B-AD	183	46	555	0.330	184	0.8	0.6	10.707	B
A-BCD	0	0	535	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	122	31			122				
D-A	0	0	687	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	528	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	630	0.000	0	0.0	0.0	0.000	A
C-D	298	75			298				
C-A	14	4			14				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	47	12	632	0.074	47	0.1	0.1	6.765	A
B-AD	154	38	571	0.269	154	0.6	0.4	9.506	A
A-BCD	0	0	555	0.000	0	0.0	0.0	0.000	A
A-B	0	0			0				
A-C	102	26			102				
D-A	0	0	697	0.000	0	0.0	0.0	0.000	A
D-BC	0	0	541	0.000	0	0.0	0.0	0.000	A
C-ABD	0	0	635	0.000	0	0.0	0.0	0.000	A
C-D	250	62			250				
C-A	12	3			12				