Transport Assessment

Great Cauldham Park, Capel-le-Ferne

18-027-004 Rev B

February 2024

Charles & Associates

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1 Introduction

1.1 Overview

1.1.1 Charles & Associates (C&A) have prepared this Transport Assessment on behalf of Quinn Estates for the proposed Great Cauldham Park residential development in Capel-le-Ferne. The local planning authority is Dover District Council (DDC) and the local highway authority is Kent County Council (KCC).

1.1.2 This is an outline planning application for the erection of up to 90 dwellings with associated parking and infrastructure following demolition of an existing dwelling; with all matters reserved except access.

1.1.3 The site is located between Cauldham Lane and Capel Street in Capel-le-Ferne and it forms an allocation for residential development in the Regulation 19 Dover Local Plan. A site location plan is shown in **Figure 1.1**.

Figure 1.1: Site Location Plan

1.1.4 This report has been prepared in accordance with the National Planning Policy Framework. It has been developed following extensive engagement with KCC Highways and a public consultation exercise in early 2024.

1.1.5 This TA considers the travel implications of the proposed development; in particular, its accessibility to surrounding facilities and sustainable forms of transport, as well as its connection and potential impact on the existing highway network.

1.2 Report Structure

1.2.1 This report provides further information in the following chapters:

- Chapter 2: Policy Review and Planning Background – this section sets out the national, regional and local development and planning policies relevant to the proposed development;
- Chapter 3: Baseline Conditions – provides a review of the local highway network, traffic conditions and local accessibility;
- Chapter 4: Development Proposals – details the proposals for the development in terms of land uses as well as parking provision;
- Chapter 5: Development Trips – details the forecast trip generation and distribution associated with the development;
- Chapter 6: Traffic Impact Assessment – details the tools and methodology used for the assessment of the traffic impact of the proposed development and provides the outcomes of the assessment; and
- Chapter 7: Summary and Conclusions – summarises the findings of the report.

2 Transport Policy

2.1 Overview

2.1.1 This section of the TA reviews the development proposals in the context of relevant planning policy relating to transport and appropriate design guidance.

2.2 National Policy

2.2.1 The National Planning Policy Framework (NPPF), updated in December 2023, recognises the need to pursue sustainable development in a constructive way. This is summarised in paragraph 9 of NPPF which states "*Planning policies and decisions should play an active role in guiding development towards sustainable solutions, but in doing so should take local circumstances into account, to reflect the character, needs and opportunities of each area*."

2.2.2 In paragraph 108, the NPPF indicates that "*Transport issues should be considered from the earliest stages of plan-making and development proposals*".

2.2.3 Paragraph 109 indicates how the active management of growth patterns is advocated as it can "*help to reduce congestion and emissions, and improve air quality and public health*" whilst emphasising that "*opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making*."

2.2.4 Paragraph 110 (d) recommends that planning policies "*provide for attractive and well-designed walking and cycling networks with supporting facilities such as secure cycle parking (drawing on Local Cycling and Walking Infrastructure Plans)*".

2.2.5 In terms of assessing development impacts NPPF paragraph 114 states *"…it should be ensured that:*

a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
b) safe and suitable access to the site can be achieved for all users;
c) 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 48; and
d) *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.*

2.2.6 Furthermore, NPPF paragraph 115 states: *"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."*

2.2.7 Paragraph 117 of the NPPF addresses the requirement that *"all developments 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."*

2.2.8 The NPPF is supported by Planning Practice Guidance including guidance on the preparation of Transport Assessments. This TA has been prepared in accordance with that guidance.

2.3 Local Policy

Local Transport Plan 4

2.3.2 KCC's Local Transport Plan 4 sets out the current priorities for local transport investment for the period 2016-31. The ambition of the LTP is:

"To deliver safe and effective transport, ensuring that all Kent's communities and businesses benefit, the environment is enhanced, and economic growth is supported."

2.3.3 Five objectives support the above vision. These are:

- *"Economic growth and minimised congestion*

  Policy: Deliver resilient transport infrastructure and schemes that reduce congestion and improve journey time reliability to enable economic growth and appropriate development, meeting demand from a growing population.

- *Affordable and accessible door-to-door journeys*

  Policy: Promote affordable, accessible, and connected transport to enable access for all to jobs, education, health, and other services.

- *Safer travel*

  Policy: Provide a safer road, footway, and cycleway network to reduce the likelihood of casualties and encourage other transport providers to improve safety on their networks.

- *Enhanced environment*

  Policy: Deliver schemes to reduce the environmental footprint of transport and enhance the historic and natural environment.

- *Better health and wellbeing*

Policy: Provide and promote active travel choices for all members of the community to encourage good health and wellbeing and implement measures to improve local air quality."

Dover Core Strategy

2.3.4 The Dover Core Strategy was adopted in 2010 and includes the following policies in relation to transport.

2.3.5 Policy DM11 Location of Development and Managing Travel Demand states:

"Planning applications for development that would increase travel demand should be supported by a systematic assessment to quantify the amount and type of travel likely to be generated and include measures that satisfy demand to maximise walking, cycling and the use of public transport. Development that would generate travel will not be permitted outside the urban boundaries and rural settlement confines unless justified by development plan policies. Development that would generate high levels of travel will only be permitted within the urban areas in locations that are, or can be made to be, well served by a range of means of transport."

2.3.6 In addition, policy DM13 sets out parking standards for new developments, as discussed in section 4 of the report.

2.3.7 The Local Plan policy requirements for site CAP006 - Land to the east of Great Cauldham Farm include:

- *"Point d - Primary vehicular, pedestrian and cycle access to the site shall be provided from Capel Street. Access should not be taken from Cauldham Lane."*
- *…*
- *"Point i - A Transport Assessment is required in accordance with Policy TI2 to identify off-site highway improvements and sustainable transport measures that are necessary to serve the development. The transport assessment must consider and identify mitigation for Capel Street/Dover Road, also taking into account the cumulative impact of other sites allocated in this Plan. "*

3 Baseline Conditions

3.1 Introduction

3.1.1 The site lies in the village of Capel-le-Ferne which is approximately 2km to the east of Folkestone and 8km west of Dover on the Kent coast. The site is currently agricultural land and is proposed to be accessed from Capel Street. It is bounded by agricultural land to the north and west, and residential development to the south and east.

3.1.2 The site is located within reasonable walking and cycling distance of various amenities, while vehicle connectivity to the wider road network is through New Dover Road and the A20.

3.2 Active Travel

3.2.1 “Active travel” broadly refers to human-powered modes of transport including walking, cycling, scooting and wheelchair travel - these modes combine the health benefits of movement with a minimal per-journey cost to the user. With appropriate and attractive provision, these modes of transport will become the natural choice for shorter journeys.

3.2.2 Walking is the most important mode of transport for local trips. The Chartered Institution of Highways and Transportation (CIHT) Planning for Walking guidance reports that approximately 80% of journeys shorter than 1 mile (1.6km) are made wholly on foot. The

3.2.3 On Capel Street there is a footway beginning at Capel-Le-Ferne Primary School which continues on the east side of the road as far as Alexandra Road. From here it continues on the west side alongside the proposed site access (as shown in **Figure 3.1**) to New Dover Road. Side roads have dropped kerbs for crossing and the 20mph speed limit creates a comfortable environment for walking. There is some street lighting on Capel Street.

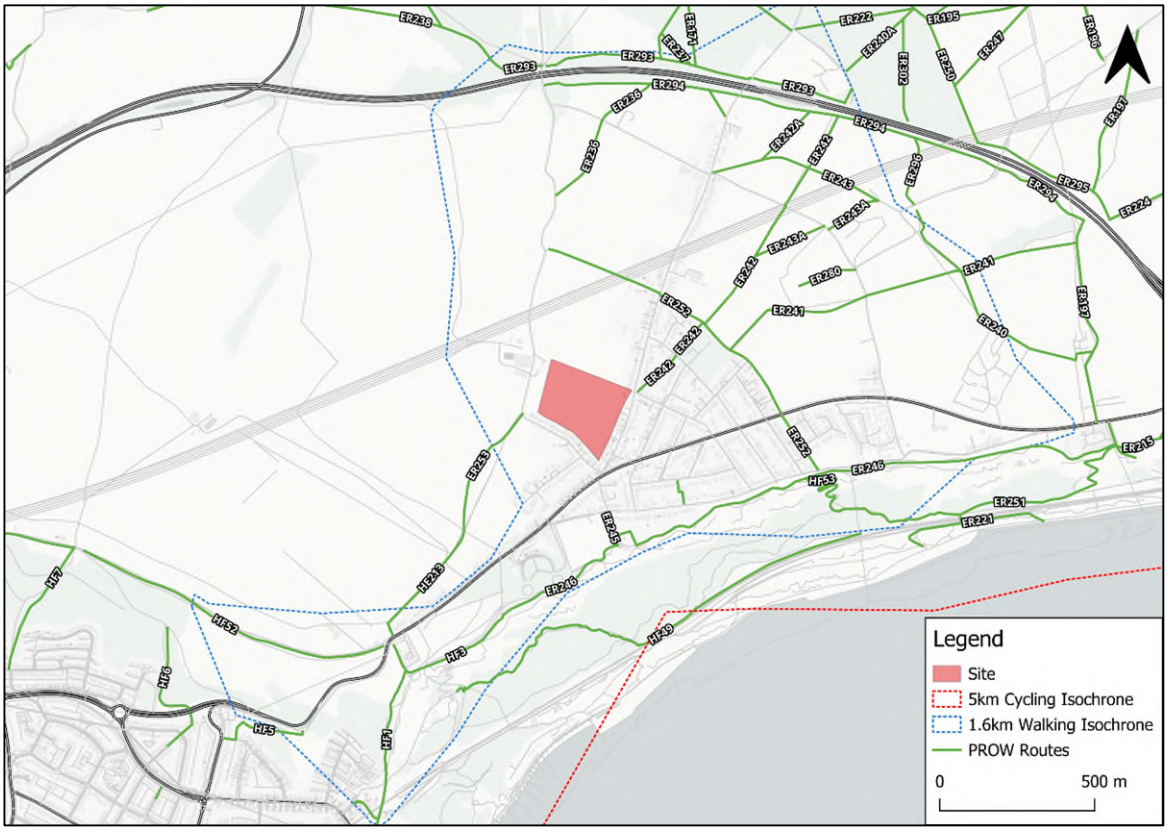
Figure 3.1: Footway on Capel Street

3.2.4 New Dover Road has footways on both sides of the road as well as street lighting. There are central reservations with tactile paving for crossing at regular intervals, including two either side of the Capel Street/New Dover Road priority junction.

3.2.5 **Figure 3.2** shows the Public Right of Way (PROW) routes available close to the site that residents would be able to use in addition to roadside footways. This shows the site is well connected to the PROW network, providing good accessibility to the Folkestone suburbs to the southwest of the site and throughout the 1.6km suitable walking distance from the site location.

3.2.6 With regard to cycling, the CIHT Planning for Cycling guidance also reports that the majority of cycling trips made are for short distances, with 80% being less than five miles (8km) and with 40% being less than two miles (3.2km). On this basis a 5km distance has been taken as the starting point for typical cycling journeys. It is commonly accepted that trips made by cycle have the potential to substitute for car journeys for distances up to 5 km.

Figure 3.2: Local PROW Routes



3.2.7 There is a shared footway/cycleway along New Dover Road leading towards Folkestone town centre.

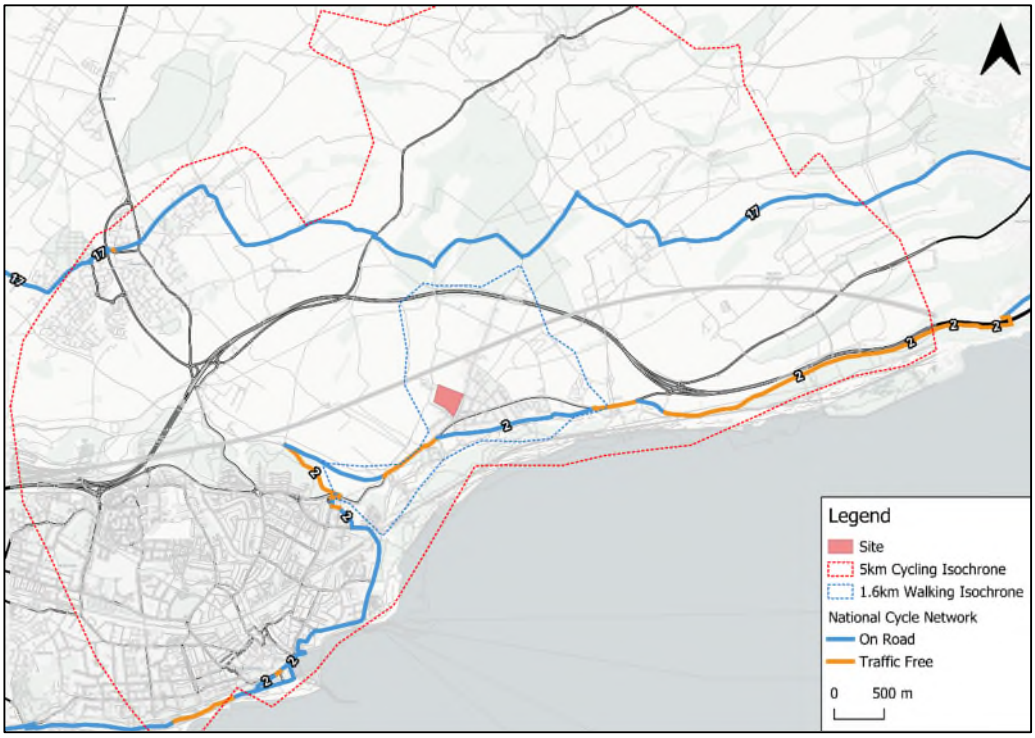
3.2.8 Old Dover Road leads east along the cliffs towards Dover and can be considered 'cycle friendly', as traffic volumes are low and the road surface is paved, overlooked, of suitable width, and street-lit. The view is also particularly picturesque, which would make this an attractive leisure route.

3.2.9 This is part of National Cycle Route (NCR) between Folkestone and Dover. A section of NCR 2 known as the Lydden Spout Coast Path has also recently been upgraded from an unmade track to a high-quality paved walking and cycling route, as shown in **Figure 3.3**.

Figure 3.3: National Cycle Route 2 east of Capel

3.2.10 NCR 17 runs north of the site and within the 5km maximum recommended cycling distance, leading east into Dover and onto Canterbury. The NCRs in the vicinity of the site are shown in **Figure 3.4**.

Figure 3.4: National Cycle Routes



Committed Development Infrastructure Improvements

3.2.11 Two developments (**Figures 3.3** and **3.4**) are committed on Cauldham Lane for the development of 16 residential dwellings[1] and 15 independent living flats[2], alongside access, landscaping, parking, and highways works. These will both provide further infrastructure that will improve the connectivity and safety of active travel for new and existing residents on Cauldham Lane and New Dover Road.

3.2.12 Improvements confirmed to be brought forward alongside these committed developments include a 1.8m wide footway on Cauldham Lane leading south and continuing onto Capel Street, with uncontrolled tactile crossing points. These will link in with the existing footways on New Dover Road and Capel Street. Local widening will also be provided to allow for vehicles to pass more safely. The improvements are shown in **Figure 3.5** and **3.6**.

[1] Dover DC ref 23/00401
[2] Dover DC ref 20/01569

Figure 3.5: Proposed improvements on Cauldham Lane (ref: 23/00401)

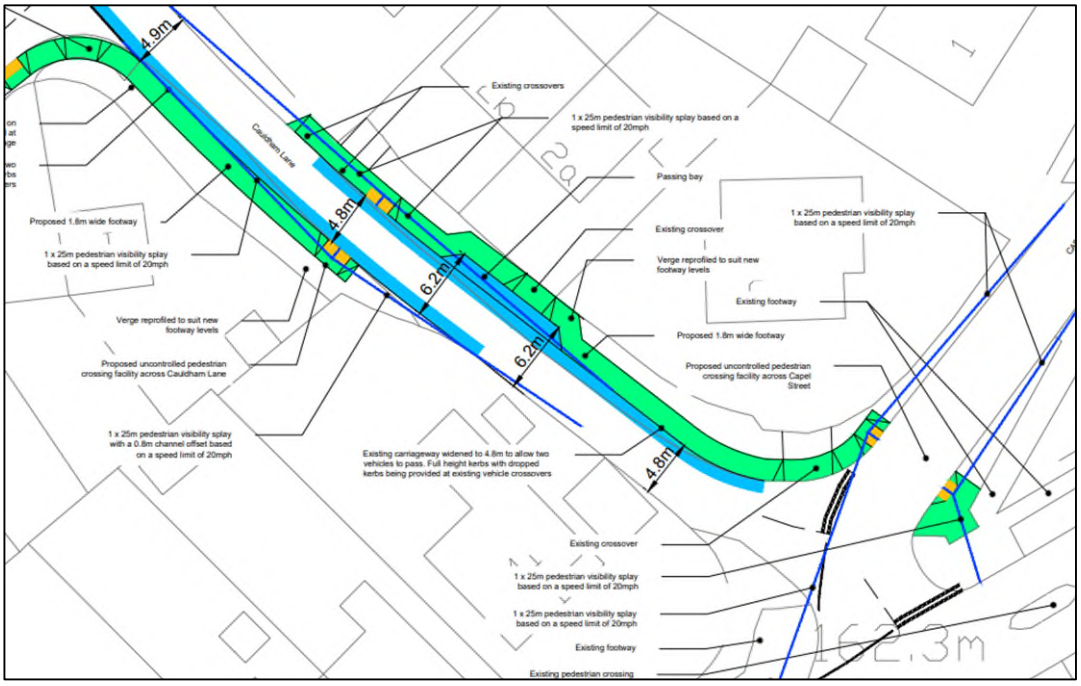
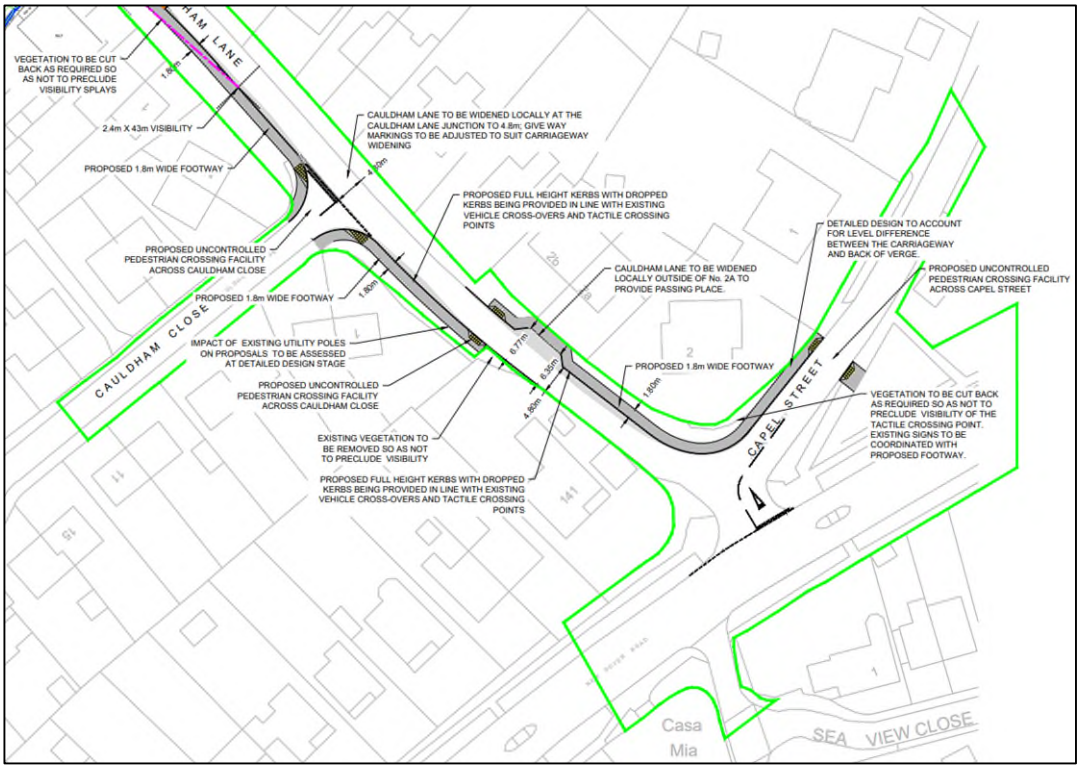


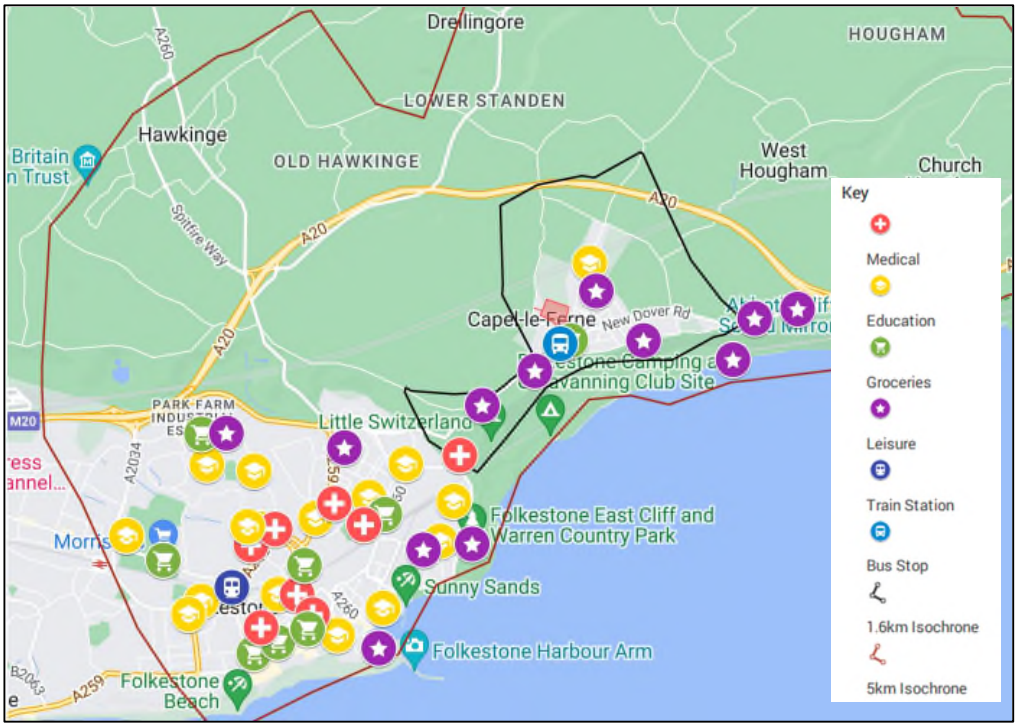
Figure 3.6: Proposed improvements on Cauldham Lane (ref: 20/01569)



3.3 Local Amenities

3.3.1 There are several local amenities in the village within the 1.6km and 5km catchment areas as shown in **Figure 3.7**.

Figure 3.7: Amenities Map



3.3.2 A comprehensive list of local amenities within walking and cycling distances from the site is displayed in Error! Reference source not found. below.

Table 3.1: Distance and Journey Time to Local Amenities

Amenity Type	Amenity	Distance from Site	Approximate Walking Time	Approximate Cycle Time
Education	Capel-Le-Ferne Primary School	<800m	7 mins	1 min
	Little Acorns Pre-School	2km	28 mins	7 mins
	St Mary's C of E Primary Academy and Nursery	3km	36 mins	10 mins
	Castle Hill Community Primary School	3km	37 mins	9 mins
	Martello Primary	3km	39 mins	11 mins
	Folkestone Academy	4km	55 mins	14 mins
	The Beacon Folkestone	4km	48 mins	11 mins
Medical	Dr G Roberts	3km	37 mins	9 mins
	McArdle Pharmacy	3km	37 mins	9 mins
	The New Surgery	3km	38 mins	9 mins
	Royal Victoria Hospital	4km	51 mins	14 mins

Amenity Type	Amenity	Distance from Site	Approximate Walking Time	Approximate Cycle Time
Grocery	Food Market	<800m	3 mins	1 min
	Tesco Express	3km	37 mins	9 mins
	Park Farm Industrial Estate	4km	50 mins	13 mins
Leisure	Village Hall	<800m	5 mins	1 min
	Clifftop Cafe	900m	11 mins	2 mins
	The Valiant Sailor	1km	14 mins	3 mins
	The Royal Oak	2km	22 mins	5 mins
	Folkestone Harbour	5km	52 mins	15 mins

3.4 Public Transport

3.4.1 Public transport allows people to travel further afield in a way that makes efficient use of energy and network capacity. **Table 3.2** summarises the routes available from the 'Capel Street' bus stops, which lie approximately 300m from the edge of the proposed development. Buses are operated by Stagecoach.

Table 3.2: Bus Services

No	Route	Typical frequency		
		Mon-Fri	Saturday	Sunday
102	Dover – Capel – Folkestone - Lydd	Every 15 minutes	Every 15 minutes	Every 15 minutes
991 (School Service)	Cheriton – Capel - Dover	Once per day	-	-

3.4.2 These service provide regular and direct connections to the amenities in Folkestone and Dover town centres. Contactless payment is available on the buses.

3.4.3 The Capel Street bus stops have shelters, seating, litter bins and printed timetable information as shown in **Figure 3.8** below.

Figure 3.8: Westbound bus stop (Google Maps)

3.4.4 Folkestone Central train station lies 4.2km to the southwest of the site, which equates to an 18-minute cycle. The available services from Folkestone Central are summarised in **Table 3.3**.

Table 3.3: Train Services

Destination	Journey time	Typical weekday frequency
Ramsgate	48 minutes	Hourly
Ashford International	16 minutes	30 minutes
London St Pancras (high speed)	58 minutes	Hourly
Dover Priory	10 minutes	30 minutes
London Charing Cross via Tonbridge	1 hr 45 minutes	Hourly

3.4.5 Folkestone Central station has 58 bicycle parking stands. It also has step-free access to all platforms, train access, toilets, ticket machines, and full-time staff. It is considered that Folkestone provides excellent connections throughout Kent and London.

3.5 Highway Network

3.5.1 The site lies south of the A20 connecting Folkestone with Dover. This can be accessed by travelling west on New Dover Road and Folkestone Road. The A20 leads into the M20 to the west providing a connection to the north into the rest of Kent and towards London.

3.5.2 Capel Street is a single carriageway road without central lane markings. It forms a priority junction with New Dover Road to the south and becomes a rural lane to the north of Capel.

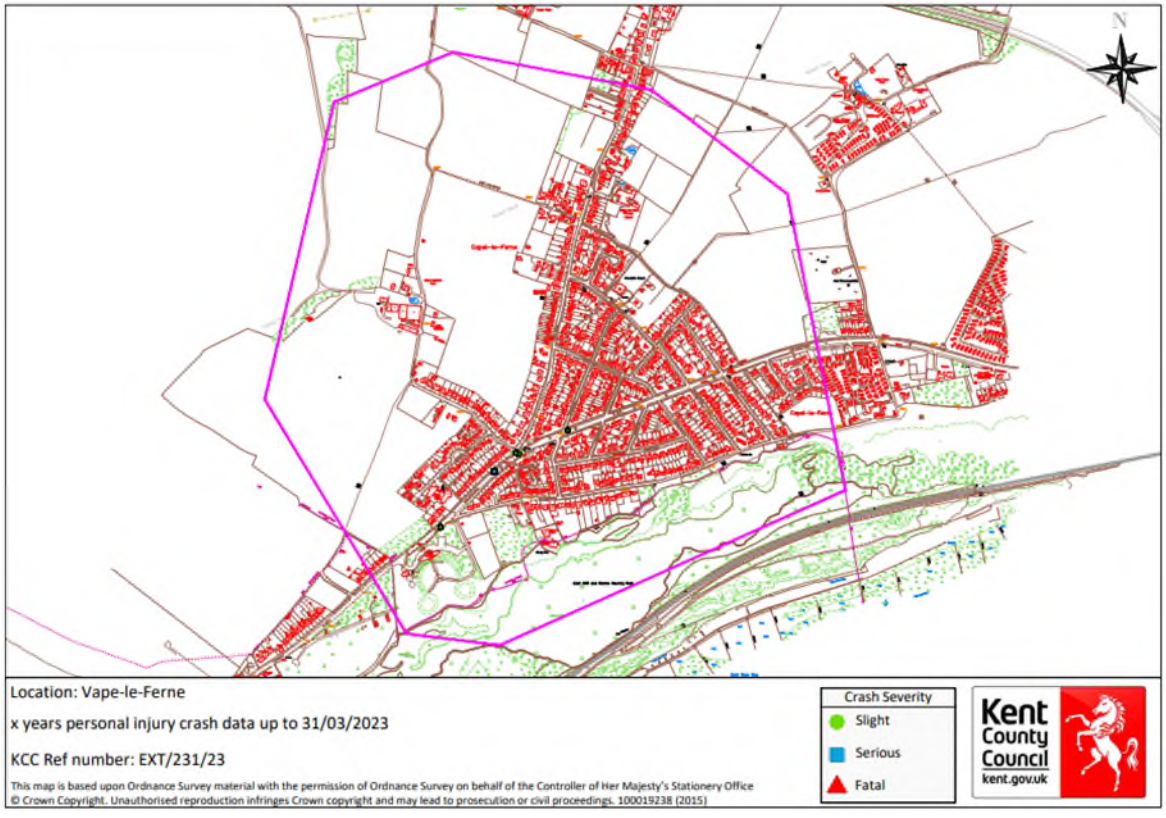
3.5.3 Cauldham Lane is a narrow single carriageway, rural in nature, subject to a 20mph speed limit. It has a northwest-southeast orientation, connecting to Capel Street just prior to the junction with New Dover Road, while continuing further north to agricultural land and other minor rural lanes.

3.5.4 New Dover Road is the former route of the A20 until the Capel bypass was constructed in the 1990s. It is a single carriageway road with an east-west orientation that runs through Capel-le-Ferne. Eastbound, it becomes Folkestone Road before connecting to the A20, with Folkestone Road continuing northeast into Dover. To the southwest, it transitions into Dover Hill before reaching the A260 and connecting into Folkestone.

3.6 Road Safety

3.6.1 Collision data has been obtained from KCC for the most recent five-year period available. The area of interest is shown below in **Figure 3.9** and the full data is in **Appendix A.**

Figure 3.9: Collision Data (KCC)



3.6.2 There were a total of six collisions that took place within the surveyed area in the 5-year study period. Of these, one collision was classified as Fatal, one as Serious and four as Slight.

3.6.3 The fatal collision occurred between a pedestrian who was walking their dog across the road into the path of an oncoming vehicle travelling east along New Dover Road. The collision occurred outside of daylight hours with streetlights present and lit, in dry weather conditions.

3.6.4 The serious incident occurred due to a vehicle performing a U-turn from a layby into the path of a vehicle travelling normally along the carriageway.

3.6.5 Overall, there were two accidents that occurred in dark conditions with streetlights present, one with unknown streetlight conditions, and two incidents that occurred in wet/damp conditions. There were no significant trends or clusters of collisions that would indicate a highway safety issue on this section of the network.

3.7 Traffic Data

3.7.1 A classified traffic count was undertaken at the New Dover Road / Cauldham Lane / Capel Street junction on 30 January 2019. The survey data is provided in **Appendix B**.

3.8 Summary

3.8.1 The proposed development is considered to have suitable access for walking, cycling, and public transport in accordance with the NPPF. The frequency of bus and train services are considered to be good and suitable for the size of the development proposed and provide sufficient options for medium and long-distance travel.

3.8.2 The proposed development gains access from Capel Lane, with good connectivity to both local and strategic road network. There seem to be no underlying safety concerns for the study network, while traffic counts along Capel Lane indicated low volumes during the peak periods.

4 Development Proposals

4.1 Overview

4.1.1 This is an outline application for 90 residential dwellings, and the indicative layout is shown in **Appendix C**.

4.2 Access Arrangements

4.2.1 The layout will include an all-modes access from Capel Street using land from the demolition of one dwelling. In accordance with the Kent Design Guide, the access includes a 5.5m carriageway and 2m footways. The proposed access is shown in **Drawing 18-027-001 Rev E** including swept paths for a refuse vehicle and appropriate visibility splays for the 20mph speed limit.

4.2.2 A Stage 1 Road Safety Audit has been carried out and has been provided alongside the Designer's Response from C&A in **Appendix D.** Following this process the proposed highways layouts are shown in **Appendix E**.

4.2.3 Some public parking bays will be provided on the initial section of the access road, in addition to residents and visitor parking explained below.

4.2.4 As the development includes more than 50 dwellings, a second access for emergency access, walking and cycling will be provided from Cauldham Lane to the development west boundary as shown in **Drawing 18-027-006**. This would not be used by everyday traffic.

4.2.5 At the New Dover Road / Capel Street / Cauldham Lane junction there are committed improvements from the two development sites on Cauldham Lane, and this application would provide further improvements to the junction as follows.

4.2.6 Following feedback from the public consultation exercise and concerns regarding the speed of vehicles entering New Dover Road, the proposed include changes to the junction including reductions corner radii and road markings will be introduced to reduce the speed of vehicles turning into and out of Capel Street and Cauldham Lane.

4.2.7 A 3m shared footway/cycleway is proposed to connect Capel Street with National Cycle Route 2 (on Old Dover Road) and the westbound bus stop. The refuge crossing on New Dover Road will be repositioned and this will also increase the space available for vehicles waiting to turn right into New Dover Road.

4.2.8 These amendments are shown in **Drawing 18-027-005 Rev C**. Together with the improvements already committed, there will be safe access for pedestrians and cyclists moving between Cauldham Lane, Capel Street and the bus stops in each direction. This will encourage active travel and the use of public transport.

4.3 Parking and Servicing

4.3.1 Residential parking will be allocated to each dwelling and details will be confirmed at reserved matters stage. The parking provision will broadly align with KCC guidance as shown in **Table 4.1** and each dwelling will have an EV charger. Visitor parking will also be provided.

Table 4.1: KCC Parking Guidance

Bedrooms	Maximum Spaces
1	1
2 or 3	2
4 or more	3

4.3.2 Cycle parking will be provided as 1 space per bedroom or 1 space per unit for flats.

4.3.3 The internal layout will be confirmed at reserved matters stage, but would conform to the following design principles:

- Neither refuse nor fire tender vehicles would be required to reverse a distance greater than 20m.
- Carry distances for bins and hose distances will be within the parameters set out in Building Standards.
- Internal road widths will be a minimum of 3.7m to allow for fire tender vehicles to navigate through the development.

4.3.4 The committed developments will include the extension of the 20mph zone and footways which will connect to Cauldham Close to the south and Capel Street with associated crossing points, improving connectivity and aligning with the development proposals relevant to this application.

5 Development Trips

5.1 Overview

5.1.1 In order to assess the impact of the proposed development on the local highway network, it is first necessary to forecast the travel demand. The forecasted vehicle trips are then distributed and assigned to appropriate routes on the surrounding highway network.

5.1.2 This section discusses the methodology applied to forecast the vehicle trip generation of the proposed development and the distribution of these trips on to the local highway network.

5.2 Trip Generation

5.2.1 As a first step, vehicle trip rates from the TRICS database[3] were derived for the proposed development.

5.2.2 TRICS is a database of surveys of development across the country that provides an empirical source of evidence of typical trip generation from developments. The database can be used to select a range of sites considered to be comparable to that being proposed. This survey data is then used to derive a statistical estimate of the number of vehicle trips, per dwelling, to be applied to the proposals.

5.2.3 This 'vetrip rate' is a combination of all trips, regardless of purpose, and can be derived specifically for the busiest or 'peak' hour (in the morning and afternoon periods). This approach reflects the fact that while car ownership is a contributing factor in the propensity for driving, not all vehicle trips take place at the same time.

5.2.4 The database has been filtered to achieve the most representative sites. The parameters are summarised in **Table 5.1.**

[3] TRICS https://trics.org/system.html

Table 5.1: Parameter Selection

TRICS Parameters	Residential
Category	03A - Houses Privately Owned
Region	South East South West East Anglia East Midlands North West North Leinster Ulster
Number of dwellings	From 24 to 125
GFA (sqm)	-
No. of Doctors	-
Day of week	Weekday
Location Types	Suburban Area Edge of Town Neighbourhood Centre
Sub-categories	Residential Zone Village
Population within 1 mile	1,000 to 10,000
Population within 5 miles	50,000 to 125,000
Sites Deselected	0
Total sites included	16

5.2.5 The above parameters have been selected to filter for survey sites that are representative of the development site, including developments of an approximately equivalent size as the development site, with a similar population size and demographic. Weekend surveys were deselected to receive peak hour results and generate a robust trip generation assessment. The filtered survey sites were then reviewed to ensure they offered as close to accurate a representation of the development site as possible. Any outliers that could adversely affect the trip rate output were removed.

5.2.6 Vehicle trip rates have been derived from TRICS. The summary of the trip rates and derived trip generation is presented in **Table 5.2** and the detailed report is included in **Appendix F**.

Table 5.2: Vehicle Trip Generation

	AM Peak (0800 – 0900)			PM Peak (1700 – 1800)		
	Arr	Dep	Total	Arr	Dep	Total
Vehicle trip rate per dwelling	0.162	0.353	0.515	0.363	0.203	0.566
Vehicle trips for 90 dwellings	15	32	46	33	18	51

5.2.7 This shows that the proposed development would generate around 50 two-way vehicle trips in each peak hour.

5.3 Trip Distribution and Assignment

5.3.1 To inform the traffic impact assessment, it is necessary to distribute the forecast vehicle trips onto the highway network, making reasonable and appropriate assumptions of assignment of traffic to particular routes.

5.3.2 A large proportion of weekday morning and evening peak hour traffic is comprised of people travelling to work by car or van, which may also include combined trips incorporating school drop-offs/pick-ups or to/from other local facilities. As such, trip distribution based upon Census 2011 Travel to Work data provides a suitable means of identifying the AM and PM peak hour residential trips onto the road network. The assumed catchment for residential trips from the site to work is Kent, primarily Ashford, Canterbury, Dover and Folkestone & Hythe.

5.3.3 Using this data, the trips have been assigned on the road network using the typical journey times during peak periods as indicated in Google Maps, and selecting the fastest route suggested. The trip assignment is summarised in **Table 5.3** below and the full calculation is provided in **Appendix G**.

Table 5.3: Trip Assignment

Location	Proportion from 2011 Census Data	Proportion from 2019 Junction Counts
New Dover Road SW	40%	49%
New Dover Road NE	42%	43%
Capel Street	18%	8%
Total	**100%**	**100%**

5.3.4 **Table 5.3** also provides a comparison between the results of the trip generation exercise undertaken and the proportion of traffic using each route as taken from the 2019 Junction Count Surveys. As the proportion of traffic volumes using each route is broadly similar between the junction count surveys and the census data, it is considered that this method of traffic assignment is appropriate.

5.3.5 The assigned flows are shown on the local network in **Appendix H - Figures 5.2 and 5.3**.

6 Traffic Impact Assessment

6.1 Overview

6.1.1 This chapter analyses the development traffic impact on the local highway network with reference to the diagrams in **Appendix H**.

6.1.2 The network peak hours have been assumed to align with the development peak hours of 0800-0900 in the AM peak and 1700-1800 in the PM peak. However, where the peak hour at any junction was observed within 30 minutes of these hours, the junction peak hour flow was adopted to ensure a robust assessment.

6.1.3 The peak hour surveyed flows are shown in **Figures 6.1 and 6.2**. These are shown in Passenger Car Units (PCUs) using values of 1 PCU for light vehicles and 2 PCUs for heavy vehicles.

6.2 Background Growth

6.2.1 Tempro v8 and the National Trip End Model database have been used to calculate the growth expected within the Middle Super Output Area (MSOA) Dover 014: E0200505 (**Figure 6.0)** for 10 years between the 2019 traffic survey and proposed year of completion in 2029. This is shown on the diagrams in **Figures 6.3 and 6.4**.

MSOA Dover 014:E0200505

6.3 Committed Developments

6.3.1 The three committed developments in the vicinity of the site have been considered below.

Land South of Cauldham Lane (Ref: 23/00401)

6.3.2 Trips for this site have been extracted from the Transport Statement[4] and reproduced in **Figures 6.5 and 6.6**.

Longships, Cauldham Lane (Ref: 20/01569)

6.3.3 Trips for this site were estimated using the same residential trip rates and assignment as for the proposed development; this is considered robust for journeys associated with retirement properties, which are less likely to generate peak hour trips. These trips are shown in **Figure 6.7 and 6.8**.

Land at 107-127 Capel Street (Ref: 19/00669)

6.3.4 This is a development of 36 dwellings at the north end of Capel Street. Trips for this site were estimated using the same residential trip rates and assignment as for the proposed development, as shown in **Figures 6.9 and 6.10**.

6.3.5 The total committed development flows are shown in **Figures 6.11 and 6.12**.

6.4 Forecast Scenarios

6.4.1 The 2029 Do Minimum scenario includes the 2019 surveyed flows with 10-years of background growth, plus flows for the two committed developments These flows are shown in **Figures 6.13 and 6.14.**

6.4.2 The 2029 Do Something scenario includes the 2029 Do Minimum flows plus the vehicle trips for the proposed development, as shown in **Figures 6.15 and 6.16.**

6.5 Junction Assessments

6.5.1 The capacity assessment has been undertaken using industry standard computer programme PICADY in the Junctions software developed by Transport Research Laboratory (TRL).

[4] DHA Transport ref PL/TV/19064

6.5.2 The PICADY results are expressed in terms of the predicted Ratio of Flow to Capacity (RFC) for each arm of the junction. The RFC of a junction is one of the main factors influencing delays and queues and is the primary measure of an arm's performance. An RFC below 85% indicates stable performance and adequate capacity; between 85% and 99% indicates potentially unstable performance as the junction approaches capacity; and an RFC above 100% shows that the junction is above capacity.

6.5.3 The capacity assessment outputs for each junction for the 2029 Do Minimum and Do Something scenarios are provided below, with the full reports in **Appendix I**.

Capel Street / New Dover Road

6.5.4 The Capel Street/New Road priority junction has been modelled in PICADY and the results are shown in **Table 6.1**.

Table 6.1: Capel Street / New Dover Road Junction Assessment Results

	AM Peak Hour			PM Peak Hour		
	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)
	2029 Do Minimum					
Capel Street	0.33	1	13	0.25	0	12
New Dover Road	0.05	0	6	0.05	0	7
	2029 Do Something					
Capel Street	0.39	1	14	0.28	0	13
New Dover Road	0.06	0	6	0.07	0	7

6.5.5 The results show that the junction is expected to operate well within capacity in both Do Minimum and Do Something scenarios, with slight increases in delay in the Do Something scenario.

6.5.6 To ensure a robust assessment, it is assumed that all eastbound vehicular traffic will turn right out of the site onto New Dover Road; however, these vehicles could also turn left and use Alexandra Road or Lancaster Avenue if heading east towards Dover. In consideration of the fact that the Capel Street/New Dover Road junction is operating well within capacity even in this robust assessment, this is further evidence that the junction will not suffer capacity issues with further development and is not cause for concern.

Site Access / Capel Street

6.5.7 The proposed site access junction has been modelled in PICADY and the assessment results are presented in **Table 6.2**. This junction is designed to facilitate the movements generated from the development and therefore only the Do Something scenario has been modelled.

Table 6.2: Site Access / Capel Street Junction Assessment Results

	AM Peak Hour			PM Peak Hour		
	RFC	Queue (PCU)	Delay (s)	RFC	Queue (PCU)	Delay (s)
	2029 Do Something					
Site Access	0.08	0	8	0.04	0	8
Capel Street	0.01	0	5	0.01	0	5

6.5.8 The results indicate that the junction will continue to operate well within capacity in the Do Something scenario.

6.6 Summary

6.6.1 The above assessment uses a series of robust assumptions and demonstrates that the development will not have a severe impact on the local highway network.

7 Summary and Conclusions

7.1.1 Charles & Associates (C&A) have prepared this Transport Assessment for a proposed residential development in Capel-le-Ferne, Dover, for a proposed 90 dwellings and associated parking and landscaping.

7.1.2 The site benefits from a sustainable location close to Folkestone and within walking and cycling distance to several key local amenities, and connections to bus and train travel to facilitate longer distance journeys to Folkestone and Dover.

7.1.3 Safe and suitable access can be achieved through active modes and by refuse and fire tender vehicles. The site would take main access from Capel Street and emergency access from Cauldham Lane in line with the draft Local Plan policy. Improvements would be provided at the New Dover Road / Capel Street junction to promote road safety and encourage sustainable travel.

7.1.4 While the development will generate some vehicle trips, the cumulative impact of local growth, committed developments and the proposed development on the local highway network would not be severe.

7.1.5 The proposed development would therefore be acceptable in relation to adopted transport and highways policy.

Appendix A Collision Data

Date: 19-September-2023
Time: 13:37:06

Title: **Capel-le-Ferne**

Requested output:**D - Print Crash Report**

Date: 19-September-2023

Accident Date BETWEEN '01-Apr-2018' AND '31-Mar-2023'

There were 6 reported crashes resulting in injury

D-PRINT CRASH REPORT

19-Sep-2023
13:37:06

Capel-le-Ferne
Accident Date BETWEEN '01-Apr-2018' AND '31-Mar-2023'

No	Location	Severity	Date	Day	Time	Street Lighting	Road Surface	Weather	Pedestrian Direction	Factors	Involved
1	**Road No B2011 Grid 624886E** **Section 053 Ref 138505N**	SLIGHT	22/05/2019	4	09:15	L	Dry	Fine		R.TURN	
	B2011 NEW DOVER RD J/W VICTORIA RD, CAPEL-LE-FERNE								Dover		
	V2 was waiting to turn right into Victoria Rd when V1 collided with the rear of V2.						Veh1, car, NE -> SW Veh2, car, NE -> N				Casualties 1 Vehicles 2
2	**Road No B2011 Grid 624762E** **Section 053 Ref 138446N**	SLIGHT	12/06/2019	4	12:42	L	Wet/Damp	Rain		R.TURN	M/C
	B2011 NEW DOVER RD J/W C228 CAPEL ST, CAPEL-LE-FERNE								Dover		
	V2 been waiting to turn right out of Capel St. A van on New Dover Rd waved V2 out. V2 started to pull out when V1 overtook the van on its offside. V2 could not see V1 and a collision occurred.						Veh1, m/cycle 50 - 125cc, SW -> NE Veh2, car, NW -> SW				Casualties 1 Vehicles 2
3	**Road No B2011 Grid 624755E** **Section 053 Ref 138448N**	SLIGHT	16/12/2019	2	06:43	DRK STL	Wet/Damp	Other		R.TURN	M/C
	B2011 NEW DOVER RD J/W C228 CAPEL ST, CAPEL-LE-FERNE (MAPPED TO COORDS)								Dover		
	R2 was travelling northeast on New Dover Rd when V1 turned right out of Capel St in front of R2 and collided with them. (No age or postcode for V1).						Veh1, car, NW -> SW Veh2, m/cycle 50 - 125cc, SW -> NE				Casualties 1 Vehicles 2
4	**Road No B2011 Grid 624700E** **Section 053 Ref 138401N**	SERIOUS	06/07/2020	2	17:01	L	Dry	Fine			GV
	B2011, NEW DOVER RD, CAPEL-LE-FERNE (MAPPED TO COORDS)								Dover		
	V1 pulled into layby behind burger van, manoeuvred back out into road to do a U turn, colliding with V2 which was driving along the road. (Postcodes for C3 & C4 unknown).						Veh1, car, SW -> SW Veh2, goods < 3.5t, SW -> NE				Casualties 4 Vehicles 2

Key

Involved

PED	*Pedestrian*
HGV	*Heavy Goods Vehicle*
GV	*Goods Vehicle*
M/C	*Motor Cycle*
P/C	*Pedal Cycle*
PSV	*Bus/Coach*

Street Lighting

L	*Daylight*
STL	*Street Lights*
USL	*Street LIghts Unlit*
NSL	*No Street Lights*
STU	*Street Lights Unknown*

FACTORS

+VE	*Positive Breath Test*
R.TURN	*Right Turn Manoeuvre*
O/TAKE	*Overtaking Manoeuvre*
S.VEH	*Single Vehicle*

Special Conditions

ATS OUT	*Traffic Lights Not Working*
ATS DEF	*Traffic Lights Defective*
SIGNS	*Road Signs Defective or Obscurred*
RD WRKS	*Road Works*
Surface	*Road Surface Defective*

D-PRINT CRASH REPORT

19-Sep-2023
13:37:06

Capel-le-Ferne
Accident Date BETWEEN '01-Apr-2018' AND '31-Mar-2023'

No	Location	Severity	Date	Day	Time	Street Lighting	Road Surface	Weather	Pedestrian Direction	Factors	Involved
5	**Road No B2011 Grid 625300E** **Section 053 Ref 138657N**	FATAL	03/02/2021	4	17:05	DRK STL	Dry	Fine	N	S.VEH	
	B2011 NEW DOVER ROAD - 22 METRES FROM J/W HELENA ROAD, CAPEL-LE-FERNE								Dover		PED
	Pedestrian walking their dog has crossed the road into the path of V1 travelling east along the New Dover Road.						Veh1, car, W -> E			Casualties 1 Vehicles 1	
6	**Road No B2011 Grid 624564E** **Section 053 Ref 138260N**	SLIGHT	02/02/2023	5	17:52	DRK STU	Dry	Fine		S.VEH	
	B2011, NEW DOVER RD, CAPEL-LE-FERNE, (MAPPED TO COORDS).								Dover		
	V1 travelling towards Folkestone down Dover Hill. V1 has swerved to miss what is described as an obstruction or pothole. V1 has hit vegetation on the side and the rear and has spun into the wall so the driver could not recover.						Veh1, car, NE -> SW			Casualties 2 Vehicles 1	

Key

Involved

PED	*Pedestrian*
HGV	*Heavy Goods Vehicle*
GV	*Goods Vehicle*
M/C	*Motor Cycle*
P/C	*Pedal Cycle*
PSV	*Bus/Coach*

Street Lighting

L	*Daylight*
STL	*Street Lights*
USL	*Street LIghts Unlit*
NSL	*No Street Lights*
STU	*Street Lights Unknown*

FACTORS

+VE	*Positive Breath Test*
R.TURN	*Right Turn Manoeuvre*
O/TAKE	*Overtaking Manoeuvre*
S.VEH	*Single Vehicle*

Special Conditions

ATS OUT	*Traffic Lights Not Working*
ATS DEF	*Traffic Lights Defective*
SIGNS	*Road Signs Defective or Obscurred*
RD WRKS	*Road Works*
Surface	*Road Surface Defective*

Appendix B Traffic Data

ADVANCED TRANSPORT RESEARCH

Job Number & Name: 20181 Capel-le-Ferne, Folkstone

Site Number/Name: Capel Street/ B2011 New Dover Road/ Cauldham Lane

Client: C&A Consulting

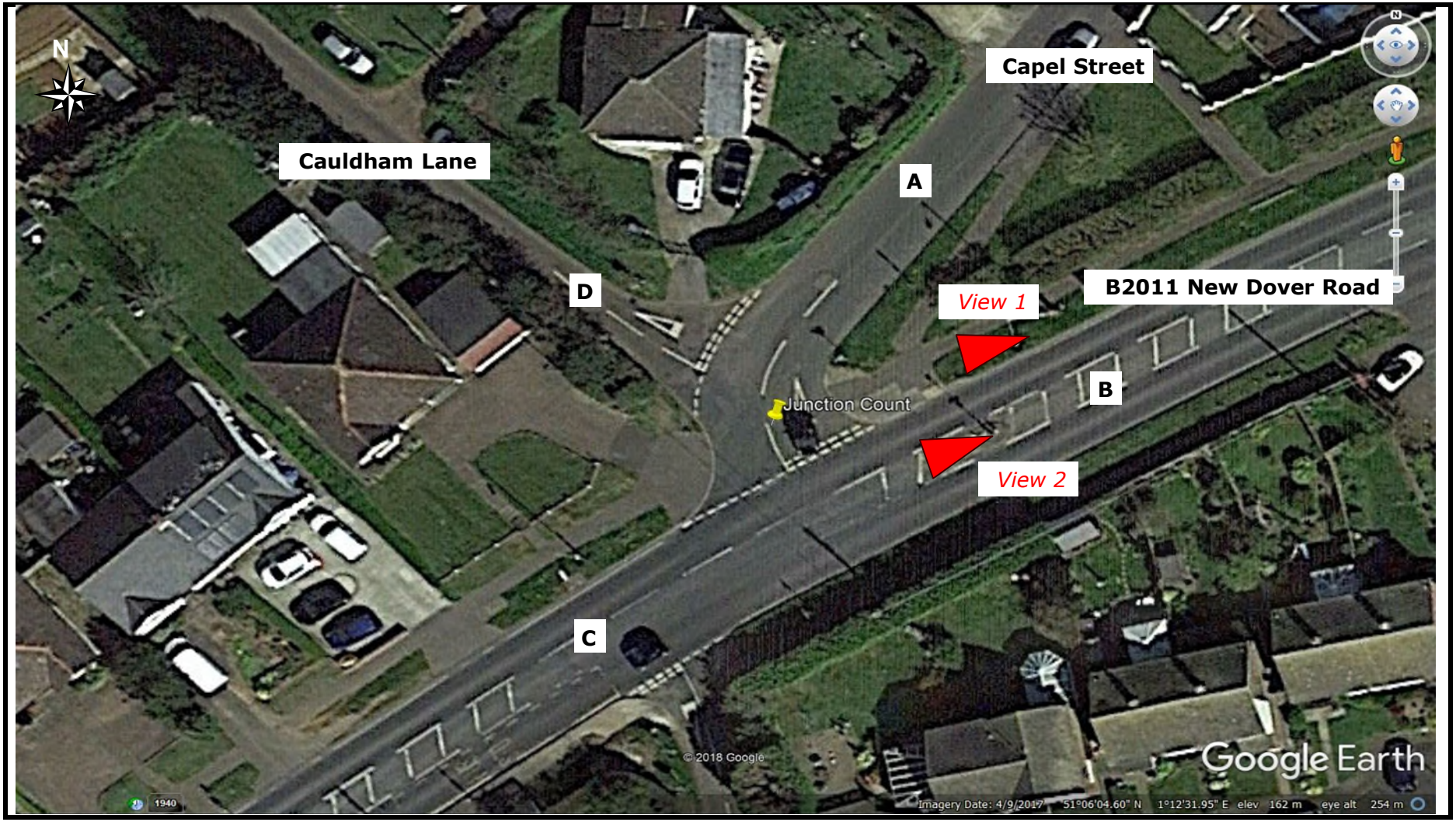
Date: 30/01/2019

Weather: Cold, Dry

Comments: None

Advanced Transport Research		Job Number & Name:	20181 Capel-le-Ferne, Folkstone
Capel Street/ B2011 New Dover Road/ Cauldham Lane		Date:	Wednesday 30 Jan 2019

Job Type:	Junction Count				
Co-ordinates:	51° 6'4.56"N,1°12'32.13"E	Postcode:	CT18 7JR	Times:	0700-1000 1600-1900



Advanced Transport Research

Capel Street/ B2011 New Dover Road/ Cauldham Lane

Classified Counts

	A to A							A to B							A to C							A to D						
Times	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc
07:00 - 07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 - 07:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	8	1	0	0	0	0	0	0	0	0	0	0	0	0
07:30 - 07:45	0	0	0	0	0	0	0	2	0	0	0	0	0	0	5	0	0	0	0	0	0	1	0	0	0	0	0	0
07:45 - 08:00	0	0	0	0	0	0	0	4	0	0	0	0	0	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0
08:00 - 08:15	0	0	0	0	0	0	0	4	1	0	0	0	0	0	11	2	1	0	0	0	0	0	0	0	0	0	0	0
08:15 - 08:30	0	0	0	0	0	0	0	1	1	0	0	0	0	0	12	2	0	0	0	0	0	0	1	0	0	0	0	0
08:30 - 08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	1	0	0	0	0	0	2	0	0	0	0	0	0
08:45 - 09:00	0	0	0	0	0	0	0	5	0	0	0	0	0	0	19	2	0	0	0	0	0	1	1	0	0	0	0	0
09:00 - 09:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 - 09:30	0	0	0	0	0	0	0	2	2	0	0	0	0	0	9	1	0	0	0	1	0	2	0	0	0	0	0	0
09:30 - 09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	1	0	0	0	0	0	0	0	0	0	0	0	0
09:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00 - 16:15	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4	3	0	0	0	0	0	2	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	8	2	0	0	0	0	0	2	0	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	12	4	0	0	0	0	0	0	0	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	2	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0	0	1	0	0	0	0	0	0	10	2	0	0	0	0	0	0	0	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0	0	0	2	0	0	0	0	0	0	10	2	0	0	0	0	0	1	0	0	0	0	0	0
17:30 - 17:45	0	1	0	0	0	0	0	2	0	0	0	0	0	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	0	0	0	0	0	0	0	0	0	0	0	0
18:00 - 18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15 - 18:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30 - 18:45	0	0	0	0	0	0	0	1	0	0	0	0	0	0	7	1	0	0	0	0	0	1	0	0	0	0	0	0
18:45 - 19:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	0	0	0	0	0	0	1	0	0	0	0	0	0

B to A							B to B							B to C							B to D						
Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc
0	0	0	0	0	0	0	0	1	0	0	0	0	0	30	3	1	1	1	0	0	1	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	41	12	0	0	1	0	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	9	2	0	0	0	0	0	1	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	1	0	0	0	79	17	2	2	1	1	0	0	1	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	74	7	0	0	0	0	0	0	1	1	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	86	8	1	0	1	1	0	0	1	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	100	5	0	0	1	0	0	5	0	0	0	0	0	0
1	1	0	0	0	0	0	0	0	0	0	0	0	0	71	10	1	2	2	0	1	1	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	56	16	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	6	2	0	2	0	0	0	1	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	8	2	0	1	0	0	1	1	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	38	3	1	0	1	0	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	9	2	0	2	0	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	10	0	0	1	1	0	1	0	1	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	19	0	0	1	1	0	2	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	52	7	0	0	1	0	1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	49	9	1	0	0	0	0	2	1	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	69	8	0	0	1	0	0	0	1	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	60	6	0	0	1	0	0	2	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	0	0	49	4	0	0	1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	5	0	0	1	0	0	2	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	3	0	0	2	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	4	0	0	1	0	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	6	0	0	1	0	0	2	0	0	0	0	0	0

C to A							C to B							C to C							C to D						
Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc
1	3	0	0	0	0	0	25	9	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	23	9	2	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
5	1	0	0	0	0	0	40	10	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
11	0	0	0	0	1	0	53	10	2	0	1	1	0	0	0	0	0	0	0	0	2	3	0	1	0	0	0
11	4	0	0	0	0	0	55	8	1	1	2	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0
20	3	0	0	0	0	0	60	7	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	1	0	0	0	0	0	33	8	2	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
10	1	0	1	0	0	0	49	10	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
4	3	0	0	0	0	0	45	11	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
10	2	0	0	0	0	0	40	7	2	0	1	1	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0
12	0	0	0	0	0	0	34	11	3	0	1	0	0	0	0	0	0	0	0	0	2	1	0	1	0	0	0
5	2	0	0	0	0	0	33	5	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
7	2	0	0	0	0	1	57	15	3	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
11	4	0	0	0	0	0	79	12	1	0	1	1	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
11	0	0	0	0	0	0	70	8	2	0	1	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0
15	0	0	0	0	0	0	73	7	0	1	1	0	0	0	0	0	0	0	0	0	6	2	1	0	0	0	0
16	3	0	0	0	0	0	90	10	1	0	0	1	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0
9	1	0	0	0	0	0	96	6	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
10	0	0	0	0	0	0	80	11	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
9	1	0	0	0	0	0	90	3	0	0	1	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0
11	1	0	0	0	0	0	49	6	0	0	0	0	1	1	0	0	0	0	0	0	3	0	0	0	0	0	0
6	1	0	0	0	0	0	37	5	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
8	2	0	0	0	0	0	40	6	1	0	1	1	0	0	0	0	0	0	0	0	3	0	0	0	0	1	0
3	1	0	0	0	0	0	44	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Job Number & Name:	20181 Capel-le-Ferne, Folkstone
Client:	C&A Consulting
Date:	Wednesday 30 January 2019

D to A							D to B							D to C							D to D						
Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc
0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	3	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix C Indicative Layout

Quinn Estates

NOTE. Subject to Survey

23395A_SK109F_Site Layout Plan_With Neighboring Developments

Proposed development at Great Cauldham Farm, Capel Le Ferne

0m 10m 20m 30m 40m 50m

1:500 at A1

CLAGUE ARCHITECTS 62 Burgate Canterbury CT1 2BH t: 01227 762060

Appendix D Stage 1 Road Safety Audit

M & S Traffic

Road Safety Audit Stage 1

Proposed Site Access Arrangements

Capel Street

Capel-le-Ferne

Kent

Date: 15th February 2024

Report produced for: Charles & Associates

Report produced by: M & S Traffic

Registered Office: 32 Hamelin Road, Gillingham, Kent ME7 3EX Company Reg. No. 06730905

DOCUMENT CONTROL SHEET

M&S Traffic has prepared this report in accordance with the instructions from Charles & Associates. M&S Traffic shall not be liable for the use of any information contained herein for any purpose other than the sole and specific use for which it was prepared.

Report Title:	Capel St - Capel Le Ferne Road Safety Audit Stage 1
Document reference:	CA/24/18-027/1/BS
Prepared by:	M & S Traffic
On behalf of:	Kent County Council

Revision Status	Prepared by: (Name)	Checked by: (Name)	Approved by (Signature)	Date Approved
Original	Bryan Shawyer	Martin Morris		15th February 2024

Distribution

Organisation	Contact	Copies
Charles & Associates	Olivia McGarrick	-

CONTENTS

1 INTRODUCTION

1.1 This report describes a Stage 1 Road Safety Audit carried on proposed access arrangements associated with a 90-unit residential development off Capel Street, Capel-le-Ferne, as detailed below:

Capel Street:

- A priority junction, within a 20mph speed limit, on the western side of the carriageway with footways on both sides of the access road and a pedestrian crossing point at the junction.

Capel Street junction with New Dover Road:

- At the Church Lane junction with Canterbury Road, hatching and a Keep Left bollard are proposed to separate junction movements.
- To the immediate east of the junction of Capel Street (north) junction with New Dover Road, relocate the existing pedestrian crossing point by 5m.

The Audit was requested by the design organisation, Charles & Associates, Park House, Park Farm, East Malling Trust Estate, Bradbourne Lane, Aylesford, Kent ME20 6SN on behalf of Kent County Council as the Overseeing Organisation.

1.2 The Audit Team membership was as follows:

Bryan Shawyer BEng (Hons), MSc, MCIHT, MSoRSA – Audit Team Leader
Highways England Approved RSA Certificate of Competency

Martin Morris, PGD, MCIHT, MSoRSA – Audit Team Member
Highways England Approved RSA Certificate of Competency

1.3 The audit was carried out following the principles of GG119, The Design Manual for Roads and Bridges. The documents available at the time of the report are detailed in Appendix A.

1.4 The Audit took place at the Gillingham offices of M&S Traffic during February 2024 and comprised an examination of the documents provided as listed in Appendix A. A joint site visit and inspection was undertaken on the 13th February 2024 between 09:00 and 09:45 hours. Weather conditions at the time were overcast and the road surfaces were dry. Traffic flows and free flow speeds on Capel Street were low. Traffic flows and free flow speeds on New Dover Road were moderate to high. There were low-level pedestrian flows and no cycle movements observed.

1.5 The report has been compiled, only with regards to the safety implications for road users of the layout presented in the supplied drawings. It has not been examined or verified for compliance with any other standards or criteria. This safety audit does not perform any “Technical Check” function on these proposals. It is assumed that the Project Sponsor is satisfied that such a “Technical Check” has been successfully completed prior to requesting this safety audit.

1.6 The auditors have not been informed of any Departures from Standards in this scheme construction.

1.7 All comments and recommendations are referenced to the detailed drawings and the locations have been detailed relating to the plans supplied with the audit brief, Appendix B.

2 SAFETY ISSUES RAISED AT PREVIOUS AUDITS

2.1 No previous safety audits were submitted for assessment.

3 ITEMS RAISED AT THE STAGE 1 AUDIT – CAPEL STREET

3.1 General

3.1.1 PROBLEM

Location: Proposed access road junction with Capel Street.

Summary: Ponding of surface water could lead to loss of control collisions.

No details have been provided regarding the proposed carriageway drainage, where on site it was noted that the ground level for the access road was higher than Capel Street. Inadequate drainage provision could lead to surface water across the carriageway or possible ponding, which could lead to loss of control collisions.

RECOMMENDATION

It is recommended that drainage details and carriageway profiles should be such that surface water is shed to an appropriate surface water system, where details should be supplied for assessment.

3.2 Local Alignment

3.2.1 No Problems identified in this category at this Stage 1 Road Safety Audit.

3.3 Junctions

3.3.1 PROBLEM

Location: Proposed junction with Capel Street.

Summary: Restricted visibility could lead to side-impact collisions.

At the proposed accesses, visibility splays have been provided at 2.4m by 43m, where this section of Capel Street is subject to a 20mph restriction. There is currently on-street parking on the western side of the carriageway that may restrict visibility at the junction. Restricted visibility at the access could lead to side impact collisions.

RECOMMENDATION

It is recommended that parking control measures should be employed to keep the visibility splays clear, where a parking transference to the eastern side of the carriageway should also be monitored.

3.4 Non-Motorised User (NMU) Provision

3.4.1 PROBLEM

Location. Proposed junction with Capel Street, proposed pedestrian crossing point.

Summary: Restricted visibility could lead to vehicle to pedestrian collisions.

No pedestrian / traffic intervisibility splays were provide for assessment at the crossing point, where there was on-street parking on the western side of the carriageway observed during the site visit. Parked vehicles could mask a child pedestrian at the crossing, where restricted intervisibility could lead to vehicle to pedestrian collisions.

RECOMMENDATION

It is recommended that parking control measures should be introduced to ensure that pedestrian / traffic intervisibility splays are not restricted at the crossing point.

3.5 Road Signs, Carriageway Markings and Lighting

3.5.1 PROBLEM

Location: Proposed access with Capel Street.

Summary: Insufficient road markings on approach to junction could lead to overshoot collisions.

At the junction with Capel Street only two warning lines to diagram 1004 are proposed on the approach to the junction. Insufficient warning of the junction approach could lead overshoot collisions.

RECOMMENDATION

It is recommended that the additional longitudinal markings should be installed in accordance with Table 5-1 of Traffic Signs Manual, Chapter 5, Road Markings.

4 ITEMS RAISED AT THE STAGE 1 AUDIT – CAPEL STREET JUNCTION WITH NEW DOVER ROAD

4.1 General

4.1.1 **PROBLEM**

Location: Proposed shared use footway / cycleway links.

Summary: Insufficient construction details could lead to overshoot at junctions or cyclist loss of control collisions.

No construction details for the proposed footway / cycleway links were provided. Surfacing with an insufficient Polished Stone Value (PSV) could lead to overshoot at junctions or cyclist loss of control collisions in the event of sudden braking manoeuvres.

RECOMMENDATION

It is recommended that the PSV of the footway / cycleway link surface material should be a minimum of 50PSV.

4.2 Local Alignment

4.2.1 No Problems identified in this category at this Stage 1 Road Safety Audit.

4.3 Junctions

4.3.1 No Problems identified in this category at this Stage 1 Road Safety Audit.

4.4 Non-Motorised User (NMU) Provision

4.4.1 **PROBLEM**

Summary: Lack of pedestrian facilities could lead to pedestrian injury.

There is no tactile paving at the pedestrian crossing point across the junction mouth, where this is likely to be a pedestrian desire line, see figure 1 overleaf. This may present difficulties particularly for visually impaired pedestrians, which may lead to pedestrian trips and falls.


Figure 1: No tactile paving at pedestrian crossing point.

RECOMMENDATION

It is recommended that tactile paving is provided at the pedestrian crossing point.

4.4.2 **PROBLEM**

Location: Proposed crossing point, northeastern side of the carriageway.

Summary: Utility cabinets near crossing could compromise pedestrian safety.

On the northeastern side of the carriageway there is a post box and lamp column at the location of the proposed pedestrian crossing, see figure 2 below. These may restrict pedestrian movement to the northeastern footway, particularly for the visually and mobility impaired, which could lead to pedestrian collisions with street furniture.


Figure 2: Street furniture on the northeastern side of the carriageway.

RECOMMENDATION

It is recommended that the post box and lamp column should be relocated if they are in the path of the crossing.

4.4.3 **PROBLEM**

Location. Capel Street (southern) junction with New Dover Road.

Summary: Restricted visibility could lead to vehicle to pedestrian / cyclist collisions.

A 3.0m shared use footway / cycleway is proposed on the southeastern side of the carriageway, where no details relating to the pedestrian / cyclist / traffic intervisibility splays at the junction with Capel Street (southern) have been provided for assessment. There is concern that the fencing on the southeastern side of the carriageway may restrict intervisibility, see figure 3 below. Restricted intervisibility could lead to vehicle to pedestrian / cyclist collisions.

Figure 3: Fencing restricting visibility at crossing point.

RECOMMENDATION

It is recommended that measures including but not restricted to should be installed:

- That the fencing should be relocated to achieve the required intervisibility splay.
- That the shared use footway / cycleway should cease before the junction.

4.4.4 **PROBLEM**

Location: Proposed shared use footway / cycleway.

Summary: Lack of continuity of cycleway could lead to vehicle to cyclist collisions or cyclist to pedestrian collisions.

A shared use footway / cycleway is proposed; however, no facilities are shown to enable cyclists to join or exit the route to continue their journeys. A lack of suitable facilities and a lack of joined up cycle network could lead to confusion and vehicle to cyclist collisions or cyclist to pedestrian collisions should the cyclist remain on the narrower footways.

RECOMMENDATIONS

It is recommended facilities to exit the cycleways should be provided, and that joining facilities should also be provided.

4.5 Road Signs, Carriageway Markings and Lighting

4.5.1 **PROBLEM**

Location: Proposed pedestrian refuge.

Summary: Absence of high mounted 'Keep left' signs and illuminated bollards could lead to loss of control collisions.

The proposed pedestrian refuge does not have high mounted signs to diagram 610, where the pedestrian refuge is on a sweeping bend and this section of New Dover Road has a 40mph speed restriction. Observed speeds were moderate to high and there is concern that vehicle spray and detritus may obscure the bollards and may lead to the island being inconspicuous, where a lack of conspicuity, particularly in conditions of poor visibility may cause kerb strikes and possible loss of control collisions.

RECOMMENDATION

It is recommended that 'Keep left' bollards should be installed and that high mast mounted signs to diagram 610 (Keep left) should also be installed, further that the signage aspect to diagram 610 should be illuminated.

5 ISSUES IDENTIFIED DURING THE ROAD SAFETY AUDIT THAT ARE OUTSIDE THE TERMS OF REFERENCE

5.1 Safety issues identified during the audit and site inspection that are outside the Terms of Reference, but which the Audit Team wishes to draw to the attention of the Client Organisation, are set out in this section. It is to be understood that, in raising these issues, the Audit Team in no way warrant that a full review of the highway environment has been undertaken beyond that necessary to undertake the Audit as commissioned.

5.2 **PROBLEM**

Location: Proposed right turn lanes.

Summary: Lack of separation between right turn lanes could increase the risk of head on collisions.

There are right turn lanes into Capel Street, north and south with no separation. There is concern that the lack of separation could lead to infrequent or new visitors entering the opposing right turn lane. This could increase the risk of head on collisions.

RECOMMENDATION

It is recommended that a degree of separation i.e. through chevron road markings, should be introduced between the opposing right turn lanes.

6 AUDITOR TEAM STATEMENT

6.1 We certify that this audit has been carried out following the principles of GG 119.

Audit Team Member

Bryan Shawyer
BEng (Hons), MSc, MCIHT, MSoRSA
Highways England Approved RSA Certificate of Competency

Signed:  Date: 15/02/2024

Audit Team Leader

Martin Morris
PGD, MCIHT, MSoRSA
Highways England Approved RSA Certificate of Competency

Signed:  Date: 15/02/2024

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APPENDIX A

List of drawings and documentation submitted for auditing:

Drawing Number	Title
18-027-001 D	Proposed Site Access
18-027-005 B	Proposed Improvement on New Dover Road

Supporting documentation:

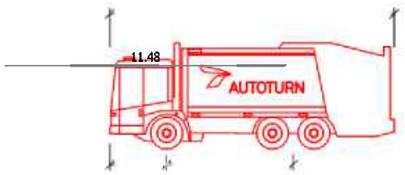
- Covering emails Charles & Associates

APPENDIX B

Plan attached showing the locations of the problems identified as part of this audit (location numbers refer to paragraph numbers in the report).

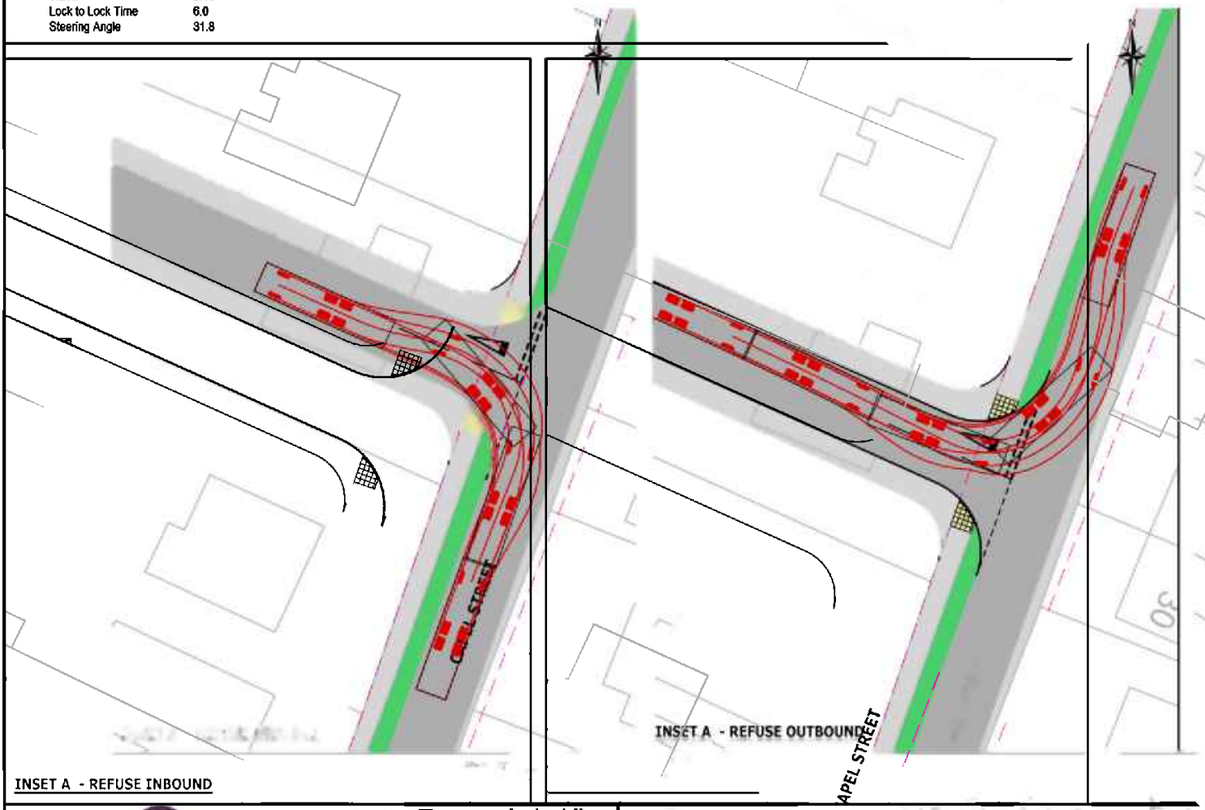
2.4m x 43m Junction Visibility for 30mph road speed

Highway Boundary



KCC Pantechnicon 32T

	meters
Width	2.55
Track	2.15
Lock to Lock Time	6.0
Steering Angle	31.8



Rev	Amendments	Drn	Chk	App	Date
D	Swept paths added	DH	DH	JW	Feb 24
C	Colour added	OM	DH	JW	Jan 24
B	Measurements to adjacent properties added	PL	SW	SW	July 20
A	Title Block updated	GW	JW	JW	July 20

Issued by

Charles & Associates

Landmark House
Station Road
Hook
Hampshire
RG27 9HA
01256 630420

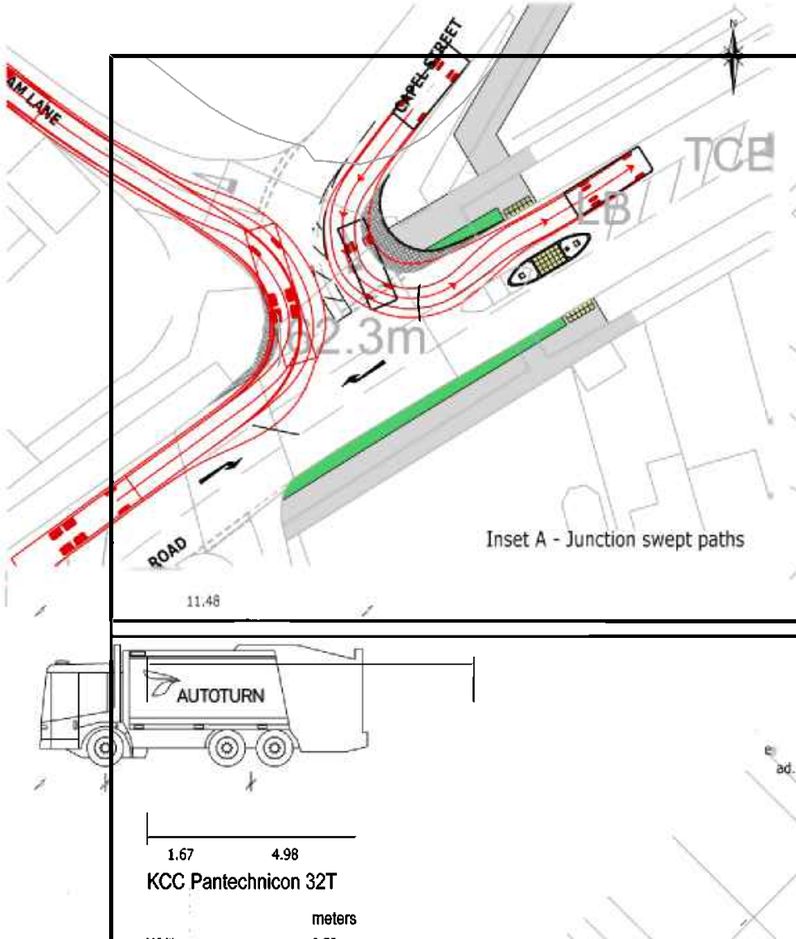
Park House, Park Farm
East Malling Trust Estate
Bradbourne Lane
Aylesford Kent ME20 6SN
01732 448120

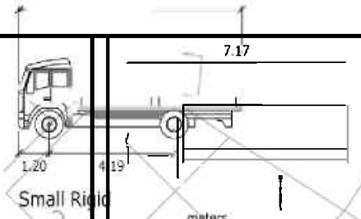
Job Title: Capel St - Capel Le Ferne

Drawing Title: Proposed Site Access

Client: Quinn Estates

Scale	Date	Designed
1:500 @ A3	23/01/2024	DH
Drawn: DH	Checked: JW	Approved: JW
Job No: 18-027	Drawing No: 18-027-001	Rev: D





General: 4.1.1

Footway for Cauldham Lane to be provided by other development

Proposed 3m Shared Footway/Cycleway

CAULDHAM LANE

CAPEL STREET

Bus stop for routes to Dover

Shelter

Pedestria ea

n refuge island shifted 5m st to provide additional length for vehicles turning into Capel St.

4.4.2

Shared way

Proposed 3m ootway/Cycle

mendments and mmodate larger ew Dover

Proposed kerbline a granite setts to acco vehicl s turn left into N Ro (Se nset A for

Right turn arrows added

Leading to National Cycle Route 2

4.5.1

5.2

NEW DOVER ROAD

Bus stop for routes to

4.4.1 & 4.4.3

Highway Boundary

2.4 x 90m for 40mph In accordance with DMRB Table 7/.1

0m 10m 20m 30m

Scale 1:500

Rev					
B	Road marking & swept path added	DH	CG	JW	Feb 2024
A	Title Block Updated	GW	JW	JW	July 2020
Rev	Amendments	Dm	Chk	App	Date

Issue

Client

1:500 23/01/2024

Charles & Associates
Landmark House
Station Road
Hook
Hampshire
RG27 9HA
01256 630420
Park House, Park Farm
East Malling Trust Estate
Bradbourne Lane
Aylesford Kent ME20 6SN
01732 448120

Job Title: Capel Street, Capel Le Ferne

Drawing Title: Proposed Improvement on New Dover Road

Quinn Estates

Drawn	Checked	Designed
DH	CG	DH
Job No	Drawing No	Approved
18-027	18-027-005 B	JW

Charles & Associates

CAPEL STREET, CAPEL LE-FERNE

Designer's Response to the Stage 1 Safety Audit

Project No. 18-027
February 2024

CAPEL STREET, CAPEL LE-FERNE

Designer's Response to the Stage 1 Safety Audit

C & A Consulting Engineers
Park House
Park Farm
East Malling Trust Estate
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Project No. 18-027
February 2024

DOCUMENT CONTROL SHEET

REV	ISSUE PURPOSE	AUTHOR	CHECKED	REVIEWED	APPROVED	DATE
-	For Approval	DH	CG	CG	JW	Feb 2024

DESIGNER'S STATEMENT

C & A Consulting Engineers have prepared access proposals and junction improvements in Capel-le-Ferne, Kent. The Stage 1 Road Safety Audit was carried out on the design shown on drawings 18-027-001_Rev D & 18-027-005_Rev B.

The audit was undertaken by M&S Traffic and the Auditor Team identified a few issues. I have considered the issues and problems raised in the Safety Audit and have appended my comments, which set out:

- the changes to the design which I propose to make, or
- the reasons why I do not propose to make any changes

Signed: Daniel Hughes

Date: February 2024

Audit Team No.	Audit Team Observation	Audit Team Recommendation	C&A Designers Response	Client Comment
3.1 General				
3.1.1	**Location:** Proposed access road junction with Capel Street. **Summary:** Ponding of surface water could lead to loss of control collisions. No details have been provided regarding the proposed carriageway drainage, where on site it was noted that the ground level for the access road was higher than Capel Street. Inadequate drainage provision could lead to surface water across the carriageway or possible ponding, which could lead to loss of control collisions.	**Recommendation:** It is recommended that drainage details and carriageway profiles should be such that surface water is shed to an appropriate surface water system, where details should be supplied for assessment.	**Agree:** Drainage details to be provided at stage 2.	
3.2 – Local Alignment				
3.2.1	No Problems identified in this category at this Stage 1 Road Safety Audit.			
3.3 - Junctions				
3.3.1	**Location:** Proposed junction with Capel Street. **Summary:** Restricted visibility could lead to side-impact collisions. At the proposed accesses, visibility splays have been provided at 2.4m by 43m, where this section of Capel Street is subject to a 20mph restriction. There is currently on-street parking	**Recommendation:** It is recommended that parking control measures should be employed to keep the visibility splays clear, where a parking transference to the eastern side of the carriageway should also be monitored.	**Partially agree:** Visibility splays adjusted to 20mph speed limit. Parking added where space is available due to existing driveways in surrounding dwellings. See **drawing 18-027-001_Rev E** for details. Manual for Streets states *Obstacles to visibility 7.8.5 Parking in visibility*	

	on the western side of the carriageway that may restrict visibility at the junction. Restricted visibility at the access could lead to side impact collisions.		*splays in built-up areas is quite common, yet it does not appear to create significant problems in practice. Ideally, defined parking bays should be provided outside the visibility splay. However, in some circumstances, where speeds are low, some encroachment may be acceptable.* Noting that this section of Capel Street is 20mph and parking activity is generally limited, given the propensity for driveways within dwellings, it is not considered necessary to impose parking restrictions. Some additional parking has also been created within the application site to mitigate losses and further discourage parking in the visibility splays. The eastern side of the carriageway has a long line of driveways which limits parking opportunities and therefore it is not considered practical for parking to be displaced on to the eastern side in the vicinity of the proposed access.	
3.4 – Non-Motorised User (NMU) Provision				

3.4.1	**Location:** Proposed junction with Capel Street, proposed pedestrian crossing point. **Summary:** Restricted visibility could lead to vehicle to pedestrian collisions. No pedestrian / traffic intervisibility splays were provide for assessment at the crossing point, where there was on-street parking on the western side of the carriageway observed during the site visit. Parked vehicles could mask a child pedestrian at the crossing, where restricted intervisibility could lead to vehicle to pedestrian collisions.	**Recommendation:** It is recommended that parking control measures should be introduced to ensure that pedestrian / traffic intervisibility splays are not restricted at the crossing point.	**Disagree:** See comment above regarding obstructions to visibility. Motorists should take extra care at junctions and drive responsibly as per Rule 170 of the Highway Code. It is considered that excessive visibility will encourage speeding.	
3.5 – Road Signs, Carriageway, Markings and Lighting				
3.5.1	**Location:** Proposed access with Capel Street. **Summary:** Insufficient road markings on approach to junction could lead to overshoot collisions. At the junction with Capel Street only two warning lines to diagram 1004 are proposed on the approach to the junction. Insufficient warning of the junction approach could lead overshoot collisions.	**Recommendation:** It is recommended that the additional longitudinal markings should be installed in accordance with Table 5-1 of Traffic Signs Manual, Chapter 5, Road Markings.	**Agree:** Additional markings added for 20mph speed limit.	

4 – Items raised at the Stage 1 Audit – Capel Street junction with New Dover Road				
4.1 - General				
4.1.1	**Location:** Proposed shared use footway / cycleway links. **Summary:** Insufficient construction details could lead to overshoot at junctions or cyclist loss of control collisions. No construction details for the proposed footway / cycleway links were provided. Surfacing with an insufficient Polished Stone Value (PSV) could lead to overshoot at junctions or cyclist loss of control collisions in the event of sudden braking manoeuvres.	**Recommendation:** It is recommended that the PSV of the footway / cycleway link surface material should be a minimum of 50PSV.	**Agree:** Material details to be confirmed at Stage 2.	
4.2 – Local Alignment				
4.2.1	No Problems identified in this category at this Stage 1 Road Safety Audit.			
4.3 - Junctions				
4.3.1.	No Problems identified in this category at this Stage 1 Road Safety Audit.			
4.4 - Non-Motorised User (NMU) Provision				
4.4.1	**Summary:** Lack of pedestrian facilities could lead to pedestrian injury.	**Recommendation:** It is recommended that tactile paving is provided at the pedestrian crossing point.	**Agree:** Shared footway/cycleway terminated before crossing, and tactile paving added to improve existing	

	There is no tactile paving at the pedestrian crossing point across the junction mouth, where this is likely to be a pedestrian desire line, see figure 1 overleaf. This may present difficulties particularly for visually impaired pedestrians, which may lead to pedestrian trips and falls.  **Figure 1:** No tactile paving at pedestrian crossing point.		visibility issues. See **Drawing 18-027-005_Rev C**	
4.4.2	**Location:** Proposed crossing point, northeastern side of the carriageway. **Summary:** Utility cabinets near crossing could compromise pedestrian safety. On the northeastern side of the carriageway there is a post box and lamp column at the location of the proposed pedestrian crossing, see figure 2 below. These may restrict pedestrian movement to the northeastern footway, particularly for the visually and mobility impaired,	**Recommendation:** It is recommended that the post box and lamp column should be relocated if they are in the path of the crossing.	**Disagree:** The pedestrian crossing is not in line with lighting column or post box.	

	which could lead to pedestrian collisions with street furniture.  **Figure 2:** Street furniture on the northeastern side of the carriageway.			
4.4.3	**Location.** Capel Street (southern) junction with New Dover Road. **Summary:** Restricted visibility could lead to vehicle to pedestrian / cyclist collisions. A 3.0m shared use footway / cycleway is proposed on the southeastern side of the carriageway, where no details relating to the pedestrian / cyclist / traffic intervisibility splays at the junction with Capel Street (southern) have been provided for assessment. There is concern that the fencing on the southeastern side of the carriageway may restrict intervisibility, see figure 3 below. Restricted intervisibility could lead to vehicle to pedestrian / cyclist collisions.	**Recommendation:** It is recommended that measures including but not restricted to should be installed: •That the fencing should be relocated to achieve the required intervisibility splay. •That the shared use footway / cycleway should cease before the junction.	**Agree:** Shared footway/cycleway terminated before crossing. Fencing to remain as existing.	

	 **Figure 3:** Fencing restricting visibility at crossing point.			
4.4.4	**Location:** Proposed shared use footway / cycleway. **Summary:** Lack of continuity of cycleway could lead to vehicle to cyclist collisions or cyclist to pedestrian collisions. A shared use footway / cycleway is proposed; however, no facilities are shown to enable cyclists to join or exit the route to continue their journeys. A lack of suitable facilities and a lack of joined up cycle network could lead to confusion and vehicle to cyclist collisions or cyclist to pedestrian collisions should the cyclist remain on the narrower footways.	**Recommendation:** It is recommended facilities to exit the cycleways should be provided, and that joining facilities should also be provided.	**Agree:** Cycle transitions to and from carriageway provided - see drawing 18-027-005_Rev C for details.	

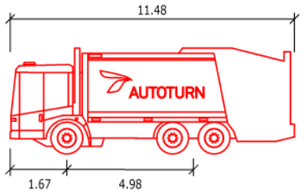
4.5 - Road Signs, Carriageway Markings and Lighting				
4.5.1	**Location:** Proposed pedestrian refuge. **Summary:** Absence of high mounted 'Keep left' signs and illuminated bollards could lead to loss of control collisions. The proposed pedestrian refuge does not have high mounted signs to diagram 610, where the pedestrian refuge is on a sweeping bend and this section of New Dover Road has a 40mph speed restriction. Observed speeds were moderate to high and there is concern that vehicle spray and detritus may obscure the bollards and may lead to the island being inconspicuous, where a lack of conspicuity, particularly in conditions of poor visibility may cause kerb strikes and possible loss of control collisions.	**Recommendation:** It is recommended that 'Keep left' bollards should be installed and that high mast mounted signs to diagram 610 (Keep left) should also be installed, further that the signage aspect to diagram 610 should be illuminated.	**Agree:** Bollards to be added to refuge island.	
5 - ISSUES IDENTIFIED DURING THE ROAD SAFETY AUDIT THAT ARE OUTSIDE THE TERMS OF REFERENCE				
5.1	Safety issues identified during the audit and site inspection that are outside the Terms of Reference, but which the Audit Team wishes to draw to the attention of the Client Organisation, are set out in this section. It is to be understood that, in raising these issues, the Audit Team in no way warrant that a full review of the highway environment has been undertaken beyond that necessary to undertake the Audit as commissioned.			

5.2	**Location:** Proposed right turn lanes. **Summary:** Lack of separation between right turn lanes could increase the risk of head on collisions. There are right turn lanes into Capel Street, north and south with no separation. There is concern that the lack of separation could lead to infrequent or new visitors entering the opposing right turn lane. This could increase the risk of head on collisions.	**Recommendation:** It is recommended that a degree of separation i.e. through chevron road markings, should be introduced between the opposing right turn lanes.	**Agree:** Hatched area provided to separate right turners.	

Appendix E Highways Drawings

2.4m x 25m Junction Visibility for 20mph road speed

Highway Boundary



KCC Pantechnicon 32T

		meters
Width	:	2.55
Track	:	2.15
Lock to Lock Time	:	6.0
Steering Angle	:	31.8

All modes access into site with additonal on-street parking

Existing driveway access points

5.20

5.30

4.84

40

30

CAPEL STREET

Existing driveway access points

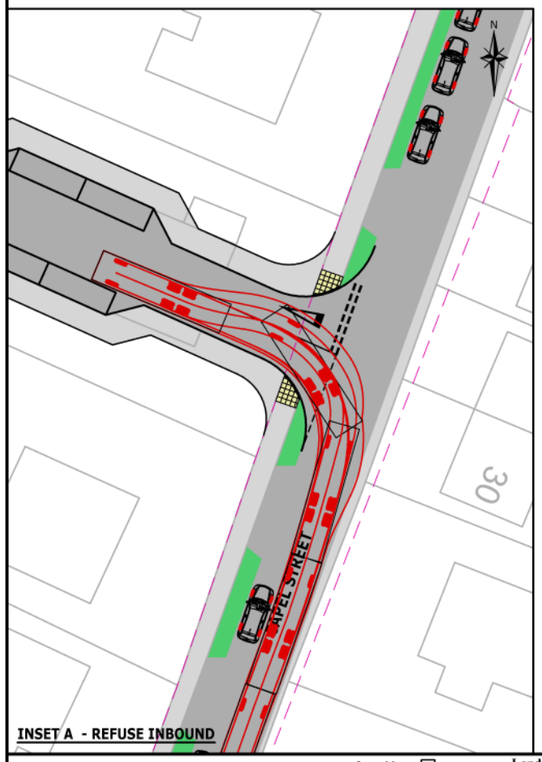
4.99

158.6m

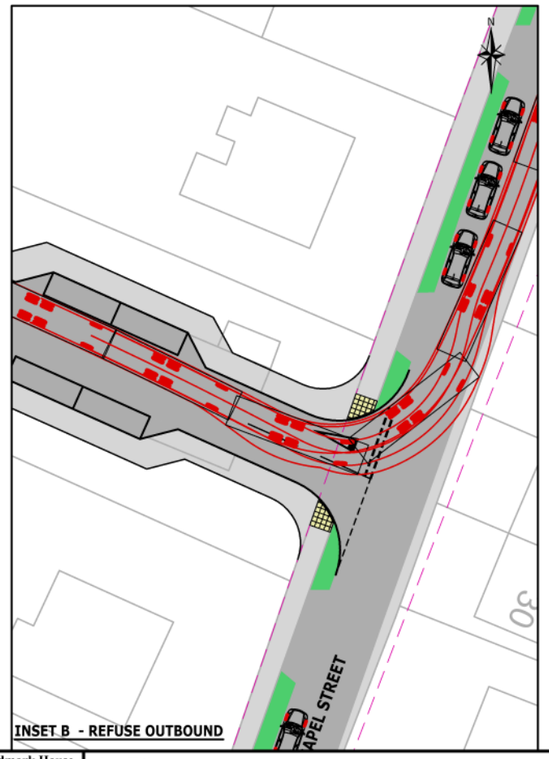
19

0m 10m 20m 30m

Scale 1:500



INSET A - REFUSE INBOUND



INSET B - REFUSE OUTBOUND

Rev	Amendments	Drn	Chk	App	Date
E	Vis splay & swept paths amended	DH	CG	JW	Feb 24
D	Swept paths added	DH	DH	JW	Feb 24
C	Colour added	OM	DH	JW	Jan 24
B	Measurements to adjacent properties added	PL	SW	SW	July 20
A	Title Block updated	GW	JW	JW	July 20

Issued by ☐

Charles & Associates

Landmark House
Station Road
Hook
Hampshire
RG27 9HA
01256 630420

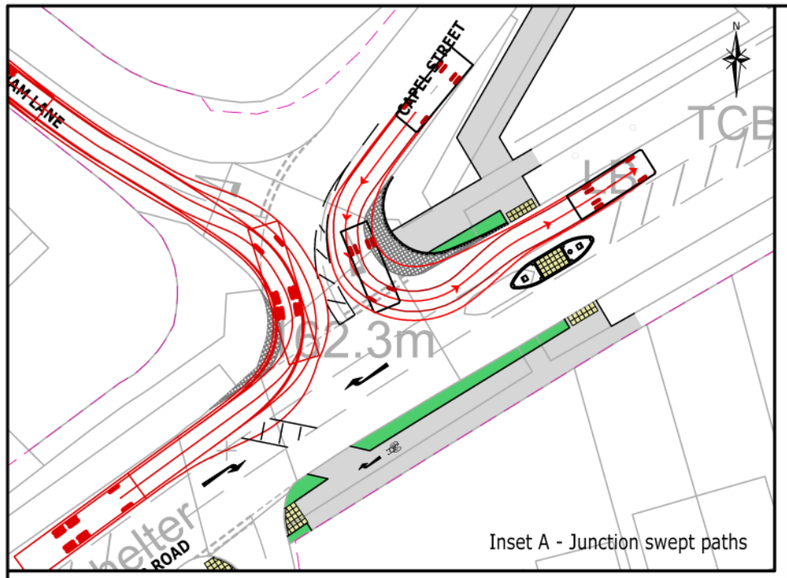
☐ Park House, Park Farm
East Malling Trust Estate
Bradbourne Lane
Aylesford Kent ME20 6SN
01732 448120

Job Title: Capel St - Capel Le Ferne

Drawing Title: Proposed Site Access

Client: Quinn Estates

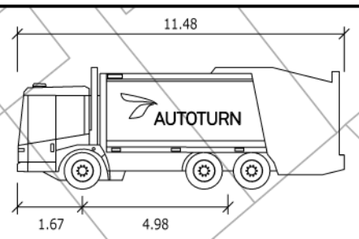
Scale	Date	Designed
1:500 @ A3	23/01/2024	DH
Drawn	**Checked**	**Approved**
DH	JW	JW
Job No	**Drawing No**	**Rev**
18-027	18-027-001	E



Inset A - Junction swept paths

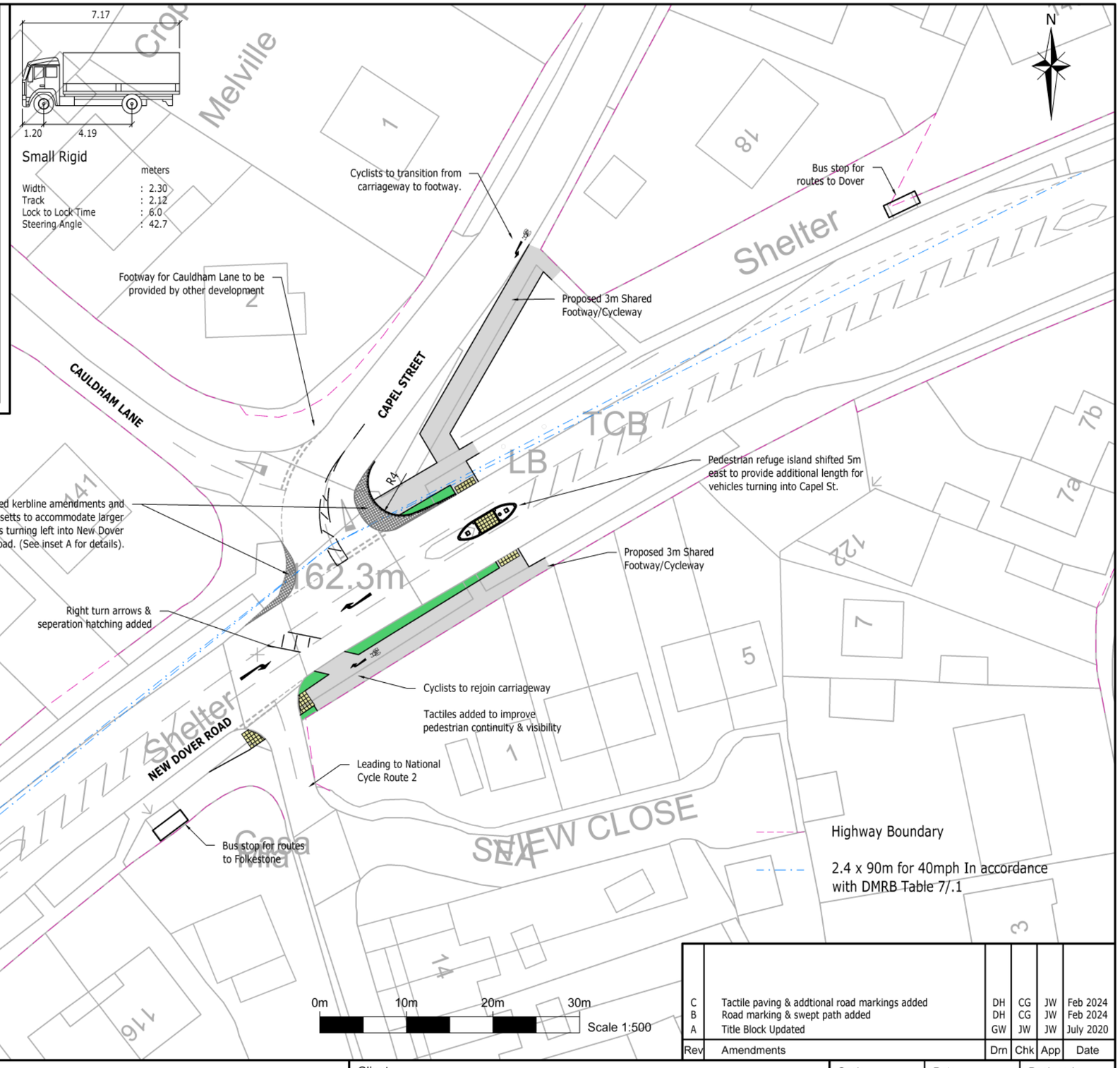
Small Rigid

	meters
Width	: 2.30
Track	: 2.12
Lock to Lock Time	: 6.0
Steering Angle	: 42.7



KCC Pantechnicon 32T

	meters
Width	: 2.55
Track	: 2.15
Lock to Lock Time	: 6.0
Steering Angle	: 31.8



Rev	Amendments	Drn	Chk	App	Date
C	Tactile paving & addtional road markings added	DH	CG	JW	Feb 2024
B	Road marking & swept path added	DH	CG	JW	Feb 2024
A	Title Block Updated	GW	JW	JW	July 2020

Issued by

Charles & Associates

Landmark House
Station Road
Hook
Hampshire
RG27 9HA
01256 630420

Park House, Park Farm
East Malling Trust Estate
Bradbourne Lane
Aylesford Kent ME20 6SN
01732 448120

Job Title: Capel Street, Capel Le Ferne

Drawing Title: Proposed Improvement on New Dover Road

Client: Quinn Estates

Scale	Date	Designed
1:500	23/01/2024	DH
Drawn	Checked	Approved
DH	CG	JW
Job No	Drawing No	Rev
18-027	18-027-005	C

Proposed emergency access (width = 3.7m)with retractable bollard.

Over-run area

155.7m

Little Caldham Farmhouse

CAULDHAM LANE

Episode

38

26

16

6

167.0m

158.6m

CROP FIELD

NOTES

Rev	Amendments	Drn	Chk	App	Date

Charles & Associates

Issued by

Landmark House
Station Road
Hook
Hampshire
RG27 9HA
01256 630420

Park House
Park Farm
East Malling Trust Estate
Bradbourne Lane
Aylesford
Kent
ME20 6SN
01732 448120

enquiries@c-a.uk.com
www.c-a.uk.com

Job Title

Capel Street, Capel-Le-Ferne

Drawing Title

Proposed Emergency Access

Client

Quinn Estates Ltd.

Scale	Date	Designed
1:500	27/11/23	OM
Drawn	Checked	Approved
OM	CG	SW
Job No	Drawing No	Rev
18-027	18-027-006	-

Appendix F TRICS Assessment

Calculation Reference: AUDIT-657801-230818-0859

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	CT	CENTRAL BEDFORDSHIRE	1 days
	ES	EAST SUSSEX	1 days
	HC	HAMPSHIRE	1 days
	WS	WEST SUSSEX	1 days
03	SOUTH WEST		
	SM	SOMERSET	2 days
04	EAST ANGLIA		
	NF	NORFOLK	2 days
	SF	SUFFOLK	1 days
05	EAST MIDLANDS		
	LE	LEICESTERSHIRE	1 days
08	NORTH WEST		
	AC	CHESHIRE WEST & CHESTER	3 days
09	NORTH		
	DH	DURHAM	1 days
14	LEINSTER		
	LU	LOUTH	1 days
16	ULSTER (REPUBLIC OF IRELAND)		
	MG	MONAGHAN	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
Actual Range: 24 to 125 (units:)
Range Selected by User: 20 to 200 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/15 to 01/03/23

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

Selected survey days:

Tuesday	5 days
Wednesday	4 days
Thursday	4 days
Friday	3 days

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

Selected survey types:

Manual count	15 days
Directional ATC Count	1 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	3
Edge of Town	4
Neighbourhood Centre (PPS6 Local Centre)	9

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

Selected Location Sub Categories:

Residential Zone	8
Village	8

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

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	29 days - Selected
Servicing vehicles Excluded	96 days - Selected

Secondary Filtering selection:

Use Class:

C3	16 days

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

Population within 500m Range:
All Surveys Included
Population within 1 mile:

1,001 to 5,000	6 days
5,001 to 10,000	10 days

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

Population within 5 miles:

50,001 to 75,000	9 days
75,001 to 100,000	4 days
100,001 to 125,000	3 days

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

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	12 days
1.6 to 2.0	1 days

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

Travel Plan:

Yes	8 days
No	8 days

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

PTAL Rating:

No PTAL Present	16 days

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

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

LIST OF SITES relevant to selection parameters

1 AC-03-A-04 TOWN HOUSES CHESHIRE WEST & CHESTER
LONDON ROAD
NORTHWICH
LEFTWICH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 24
Survey date: THURSDAY *06/06/19* *Survey Type: MANUAL*

2 AC-03-A-05 SEMI-DETACHED & TERRACED CHESHIRE WEST & CHESTER
MEADOW DRIVE
NORTHWICH
BARNTON
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 40
Survey date: FRIDAY *30/04/21* *Survey Type: MANUAL*

3 AC-03-A-06 DETACHED HOUSES CHESHIRE WEST & CHESTER
COMMON LANE
NEAR CHESTER
WAVERTON
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 99
Survey date: FRIDAY *29/04/22* *Survey Type: MANUAL*

4 CT-03-A-01 MIXED HOUSES CENTRAL BEDFORDSHIRE
ARLESEY ROAD
STOTFOLD

Edge of Town
Residential Zone
Total No of Dwellings: 46
Survey date: WEDNESDAY *22/06/22* *Survey Type: MANUAL*

5 DH-03-A-01 SEMI DETACHED DURHAM
GREENFIELDS ROAD
BISHOP AUCKLAND

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 50
Survey date: TUESDAY *28/03/17* *Survey Type: MANUAL*

6 ES-03-A-07 MIXED HOUSES & FLATS EAST SUSSEX
NEW ROAD
HAILSHAM
HELLINGLY
Edge of Town
Residential Zone
Total No of Dwellings: 91
Survey date: THURSDAY *07/11/19* *Survey Type: MANUAL*

7 HC-03-A-31 MIXED HOUSES & FLATS HAMPSHIRE
KILN ROAD
LIPHOOK

Edge of Town
Residential Zone
Total No of Dwellings: 44
Survey date: FRIDAY *07/10/22* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

8 LE-03-A-02 DETACHED & OTHERS LEICESTERSHIRE
MELBOURNE ROAD
IBSTOCK

Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 85
Survey date: THURSDAY *28/06/18* *Survey Type: MANUAL*

9 LU-03-A-01 TERRACED & SEMI-DETACHED LOUTH
RATHMULLAN ROAD
DROGHEDA

Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total No of Dwellings: 111
Survey date: TUESDAY *21/09/21* *Survey Type: MANUAL*

10 MG-03-A-01 SEMI-DETACHED HOUSES MONAGHAN
ORIEL WAY
MONAGHAN

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 49
Survey date: TUESDAY *12/10/21* *Survey Type: MANUAL*

11 NF-03-A-27 MIXED HOUSES & FLATS NORFOLK
YARMOUTH ROAD
NEAR NORWICH
BLOFIELD
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 93
Survey date: THURSDAY *16/09/21* *Survey Type: MANUAL*

12 NF-03-A-44 MIXED HOUSES NORFOLK
MILL LANE
NEAR NORWICH
HORSFORD
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 125
Survey date: WEDNESDAY *21/09/22* *Survey Type: DIRECTIONAL ATC COUNT*

13 SF-03-A-08 MIXED HOUSES SUFFOLK
STANNINGFIELD ROAD
NEAR BURY ST EDMUNDS
GREAT WHELNETHAM
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 34
Survey date: WEDNESDAY *16/09/20* *Survey Type: MANUAL*

14 SM-03-A-02 MIXED HOUSES SOMERSET
HYDE LANE
NEAR TAUNTON
CREECH SAINT MICHAEL
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 42
Survey date: TUESDAY *25/09/18* *Survey Type: MANUAL*

15 SM-03-A-03 MIXED HOUSES SOMERSET
HYDE LANE
NEAR TAUNTON
CREECH ST MICHAEL
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 41
Survey date: TUESDAY *25/09/18* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

16 WS-03-A-17 MIXED HOUSES & FLATS WEST SUSSEX
SHOPWHYKE ROAD
CHICHESTER

Edge of Town
Residential Zone
Total No of Dwellings: 86
Survey date: WEDNESDAY *01/03/23* *Survey Type: MANUAL*

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	16	66	0.091	16	66	0.307	16	66	0.398
08:00 - 09:00	16	66	0.162	16	66	0.353	16	66	0.515
09:00 - 10:00	16	66	0.156	16	66	0.208	16	66	0.364
10:00 - 11:00	16	66	0.128	16	66	0.143	16	66	0.271
11:00 - 12:00	16	66	0.136	16	66	0.157	16	66	0.293
12:00 - 13:00	16	66	0.163	16	66	0.166	16	66	0.329
13:00 - 14:00	16	66	0.188	16	66	0.183	16	66	0.371
14:00 - 15:00	16	66	0.196	16	66	0.231	16	66	0.427
15:00 - 16:00	16	66	0.285	16	66	0.199	16	66	0.484
16:00 - 17:00	16	66	0.293	16	66	0.188	16	66	0.481
17:00 - 18:00	16	66	0.363	16	66	0.203	16	66	0.566
18:00 - 19:00	16	66	0.286	16	66	0.167	16	66	0.453
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.447			2.505			4.952

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

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

Parameter summary

Trip rate parameter range selected:	24 - 125 (units:)
Survey date date range:	01/01/15 - 01/03/23
Number of weekdays (Monday-Friday):	16
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	9
Surveys manually removed from selection:	0

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

Appendix G Trip Assignment

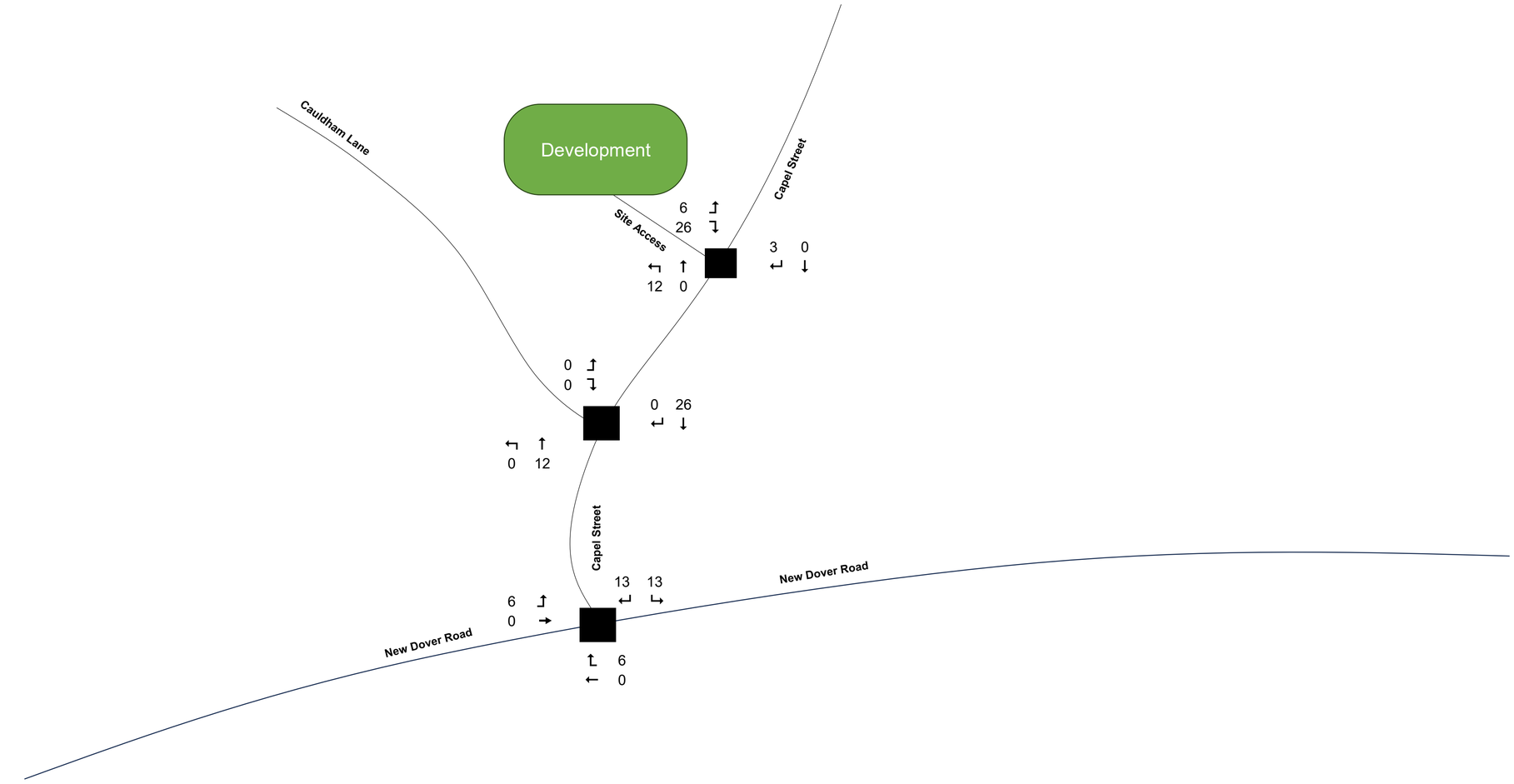
	currently residing in		AM		PM		Route %						Route Trips AM - Arrive			Route Trips AM - Depart			Route Trips PM - Arrive			Route Trips PM - Depart		
place of work : 2011 super output area - middle layer	**E02005054 : Dover 014**	% Distribution	Trips Arr	Trips Dep	Trips Arr	Trips Dep	New Dover Road SW	New Dover Road NE	Capel Street	New Dover Road SW	New Dover Road NE	Capel Street	New Dover Road SW	New Dover Road NE	Capel Street	New Dover Road SW	New Dover Road NE	Capel Street	New Dover Road SW	New Dover Road NE	Capel Street	New Dover Road SW	New Dover Road NE	Capel Street
E02005000 : Ashford 005	45	2%	0	1	1	0	100%			2%	0%	0%	0	0	0	1	0	0	1	0	0	0	0	0
E02005001 : Ashford 006	35	2%	0	1	1	0	100%			2%	0%	0%	0	0	0	1	0	0	1	0	0	0	0	0
E02005023 : Canterbury 014	37	2%	0	1	1	0	100%			2%	0%	0%	0	0	0	1	0	0	1	0	0	0	0	0
E02005025 : Canterbury 016	66	3%	0	1	1	1	100%			3%	0%	0%	0	0	0	1	0	0	1	0	0	1	0	0
E02006856 : Canterbury 020	42	2%	0	1	1	0	100%			2%	0%	0%	0	0	0	1	0	0	1	0	0	0	0	0
E02005042 : Dover 002	29	1%	0	0	0	0		50%	50%	0%	1%	1%	0	0	0	0	0	0	0	0	0	0	0	0
E02005048 : Dover 008	35	2%	0	1	1	0			100%	0%	0%	2%	0	0	0	0	0	1	0	0	1	0	0	0
E02005050 : Dover 010	207	10%	1	3	3	2			100%	0%	0%	10%	0	0	1	0	0	3	0	0	3	0	0	2
E02005051 : Dover 011	140	7%	1	2	2	1		100%		0%	7%	0%	0	1	0	0	2	0	0	2	0	0	1	0
E02005052 : Dover 012	324	16%	2	5	5	3		100%		0%	16%	0%	0	2	0	0	5	0	0	5	0	0	3	0
E02005053 : Dover 013	398	19%	3	6	6	4		100%		0%	19%	0%	0	3	0	0	6	0	0	6	0	0	4	0
E02005054 : Dover 014	112	5%	1	2	2	1			100%	0%	0%	5%	0	0	1	0	0	2	0	0	2	0	0	1
E02005104 : Shepway 003	58	3%	0	1	1	1	100%			3%	0%	0%	0	0	0	1	0	0	1	0	0	1	0	0
E02005106 : Shepway 005	31	1%	0	0	0	0	100%			1%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0
E02005107 : Shepway 006	202	10%	1	3	3	2	100%			10%	0%	0%	1	0	0	3	0	0	3	0	0	2	0	0
E02005109 : Shepway 008	81	4%	1	1	1	1	100%			4%	0%	0%	1	0	0	1	0	0	1	0	0	1	0	0
E02006879 : Shepway 014	128	6%	1	2	2	1	100%			6%	0%	0%	1	0	0	2	0	0	2	0	0	1	0	0
E02006880 : Shepway 015	102	5%	1	2	2	1	100%			5%	0%	0%	1	0	0	2	0	0	2	0	0	1	0	0
	2,072	100%	15	32	33	18				0%	0%	0%	6	6	3	13	13	6	13	14	6	7	8	3
										40%	42%	18%	15			32			33			18		

	From 2019 Junction Counts			
AM	759	653	146	1558
	49%	42%	9%	100%
PM	740	659	99	1498
	49%	44%	7%	100%

2019 Junction Counts Summary

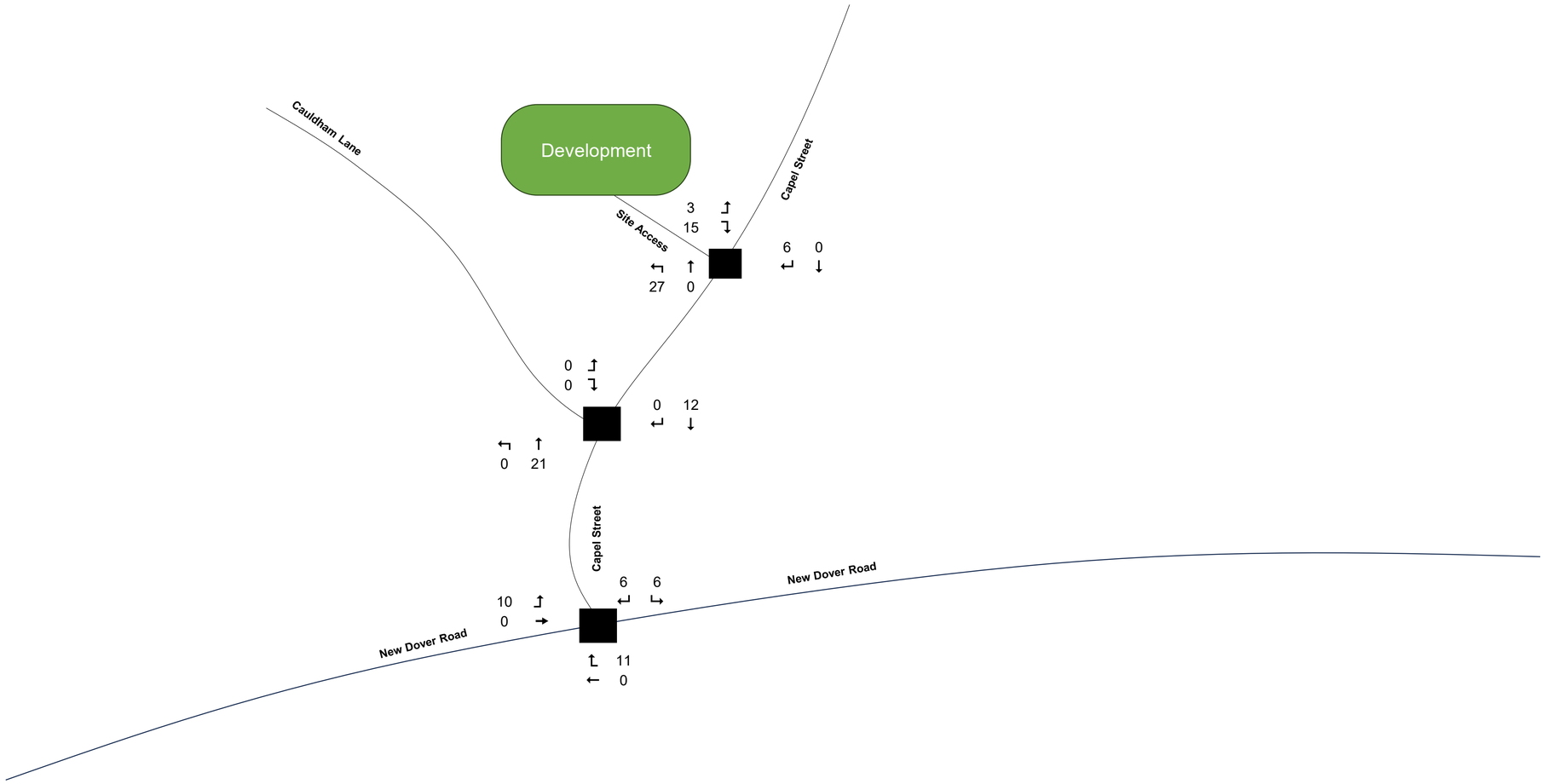
Route	AM (0745-1	PM (1700-1800)		
Capel Street – Ne	11	5	1%	1%
Capel Street – Ne	56	41	7%	5%
Capel Street – Ca	3	1	0%	0%
New Dover Road	9	4	1%	1%
New Dover Road	386	258	47%	32%
New Dover Road	9	6	1%	1%
New Dover Road	70	49	8%	6%
New Dover Road	247	392	30%	49%
New Dover Road	12	17	1%	2%
Cauldham Lane –	4	1	0%	0%
Cauldham Lane –	9	8	1%	1%
Cauldham Lane –	14	18	2%	2%
Total	830	800	100%	100%

Appendix H Traffic Flow Diagrams



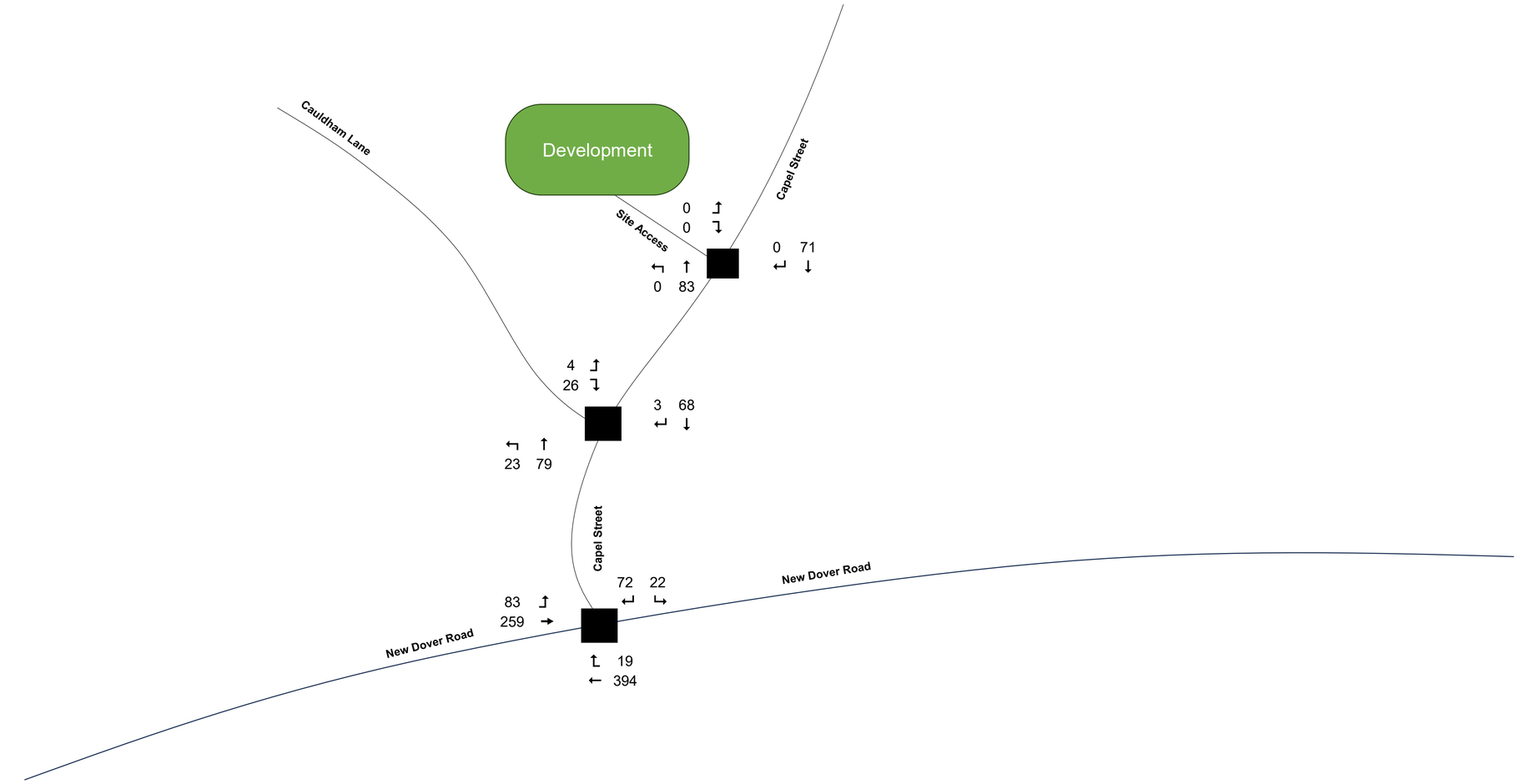
All values are in Passenger Car Units (PCUs) unless stated otherwise.

Charles & Associates	File: 18-027-EXL-004	Project: Capel Street, Capel Le Ferne
	Date: 15/02/2024	Scenario: AM Residential Trips
		Figure: Figure 5.2



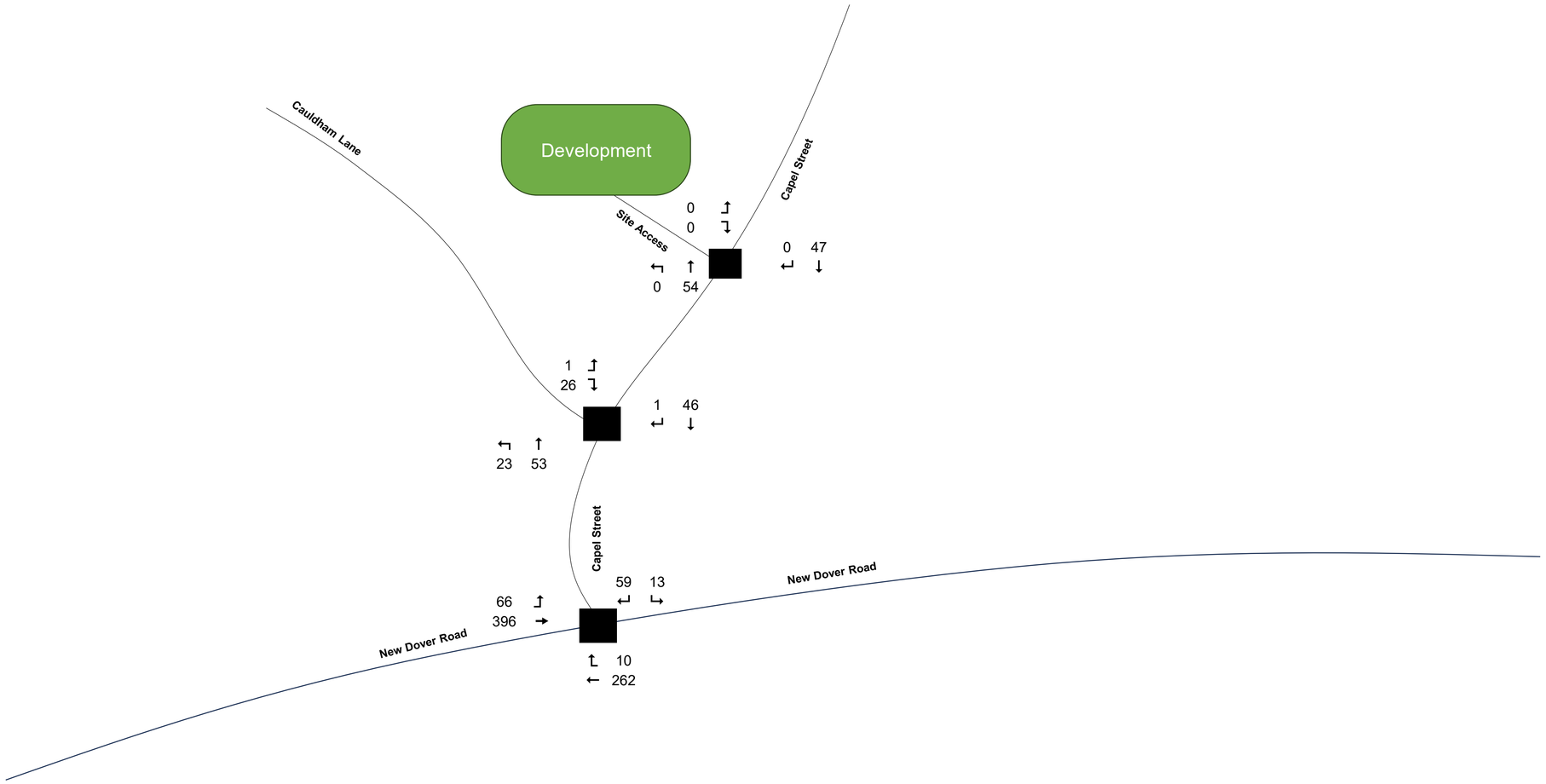
All values are in Passenger Car Units (PCUs) unless stated otherwise.

Charles & Associates	File: 18-027-EXL-004	Project: Capel Street, Capel Le Ferne
	Date: 15/02/2024	Scenario: PM Residential Trips
		Figure: Figure 5.3



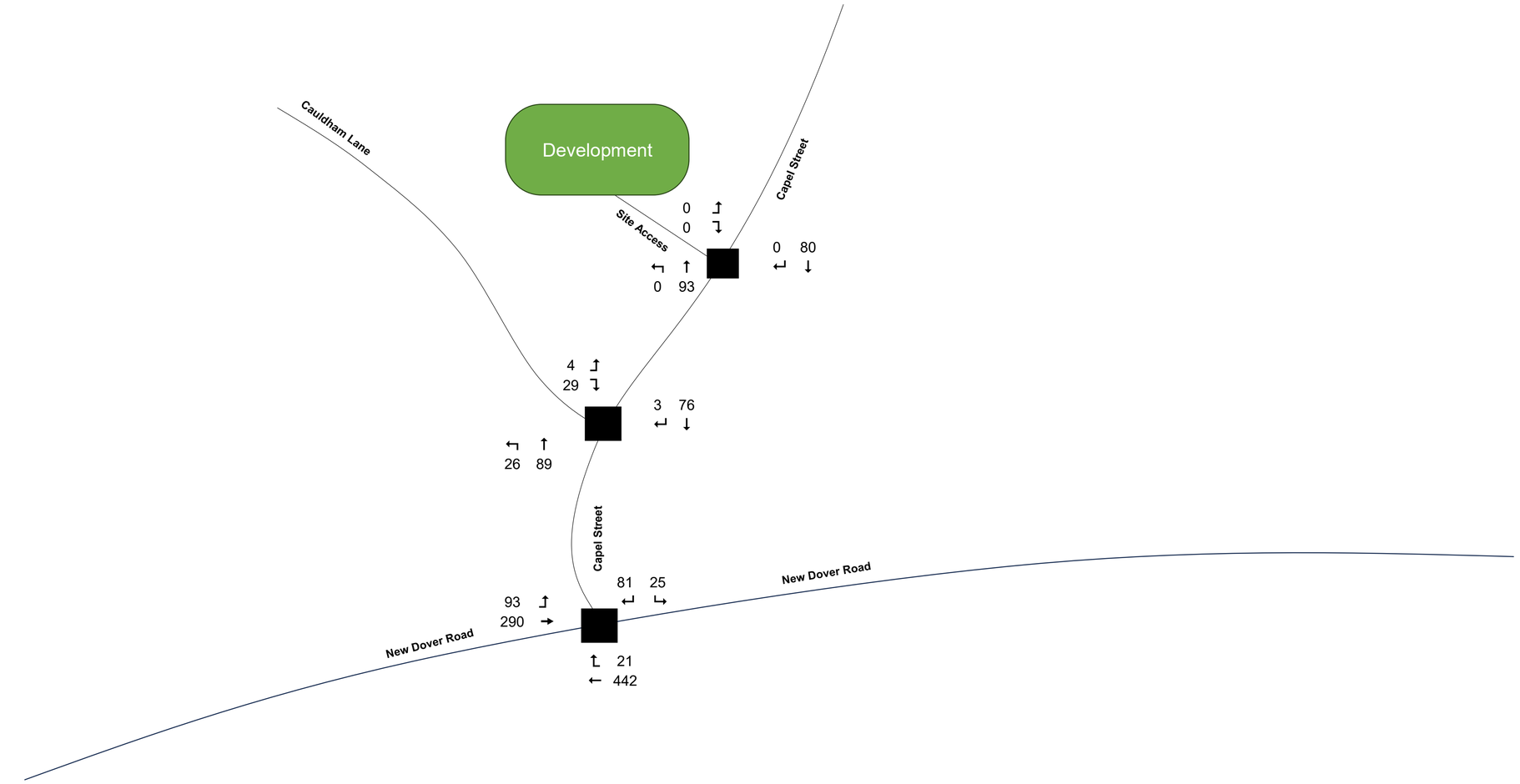
All values are in Passenger Car Units (PCUs) unless stated otherwise.

Charles & Associates	File: 18-027-EXL-004	Project: Capel Street, Capel Le Ferne
	Date: 15/02/2024	Scenario: AM 2019 Surveyed Flows (PCU)
		Figure: Figure 6.1



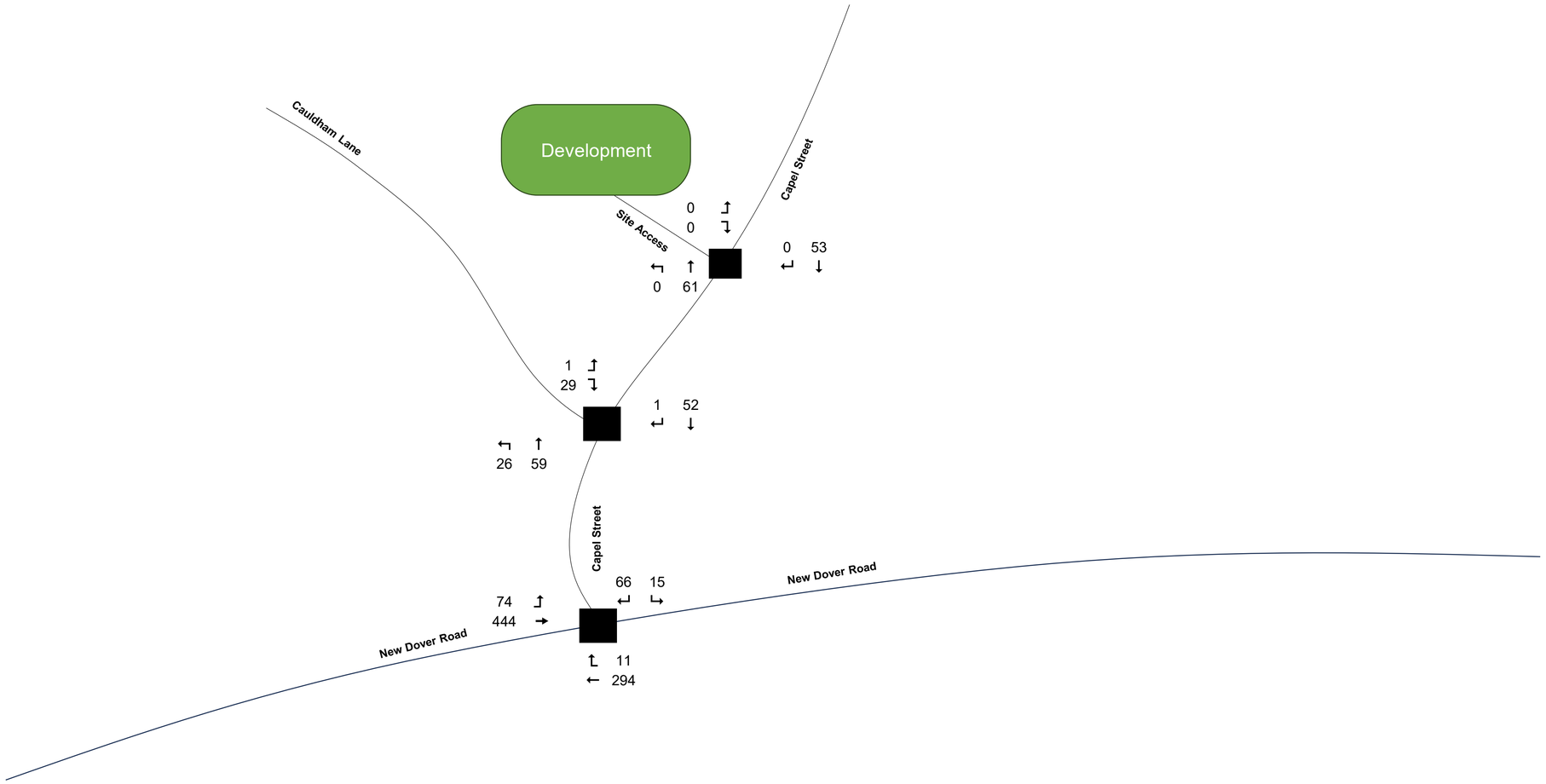
All values are in Passenger Car Units (PCUs) unless stated otherwise.

Charles & Associates	File: 18-027-EXL-004	Project: Capel Street, Capel Le Ferne
	Date: 15/02/2024	Scenario: PM 2019 Surveyed Flows (PCU)
		Figure: Figure 6.2



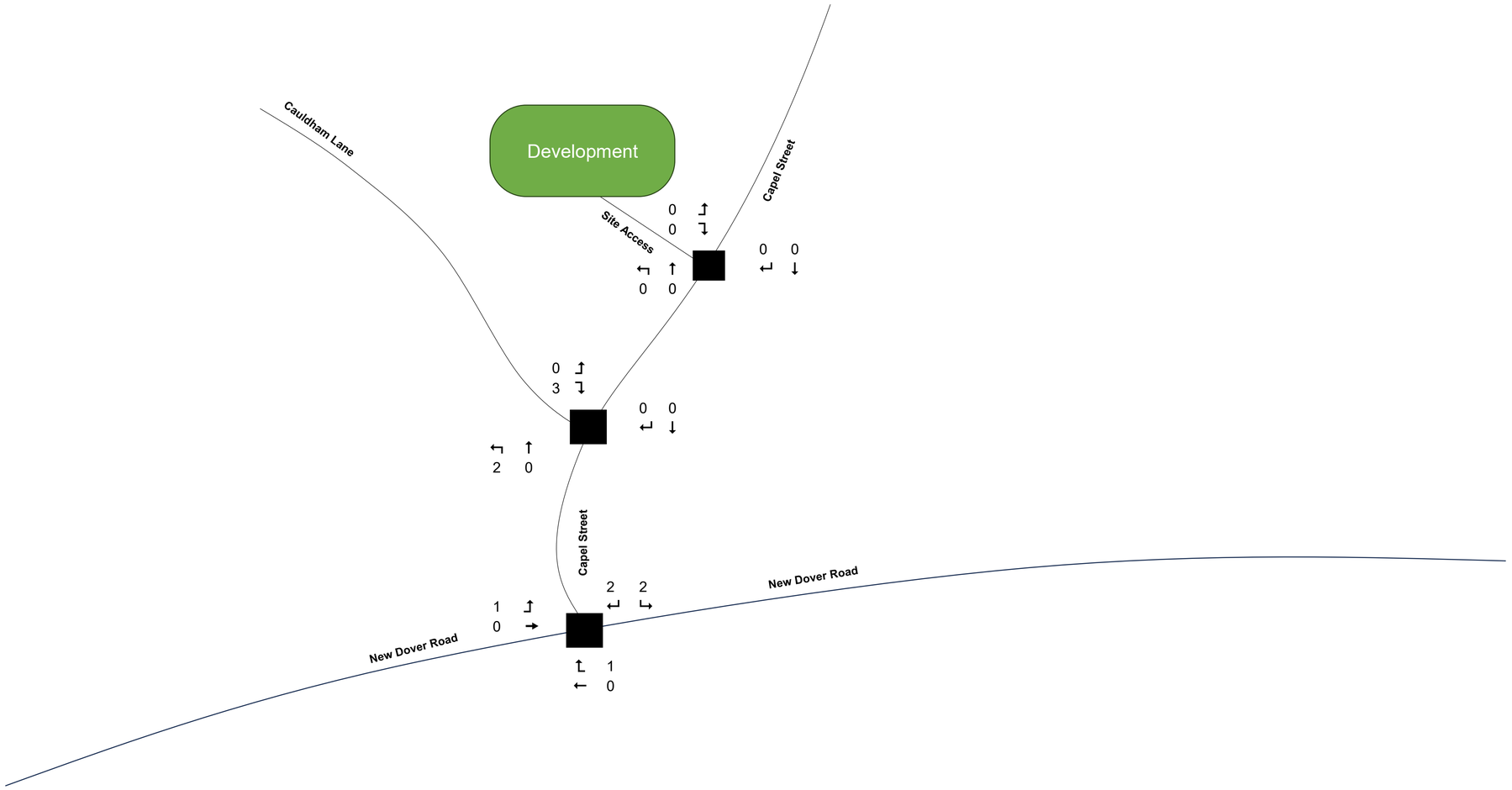
All values are in Passenger Car Units (PCUs) unless stated otherwise.

Charles & Associates	File: 18-027-EXL-004	Project: Capel Street, Capel Le Ferne
	Date: 15/02/2024	Scenario: AM Background Growth to 2029
		Figure: Figure 6.3



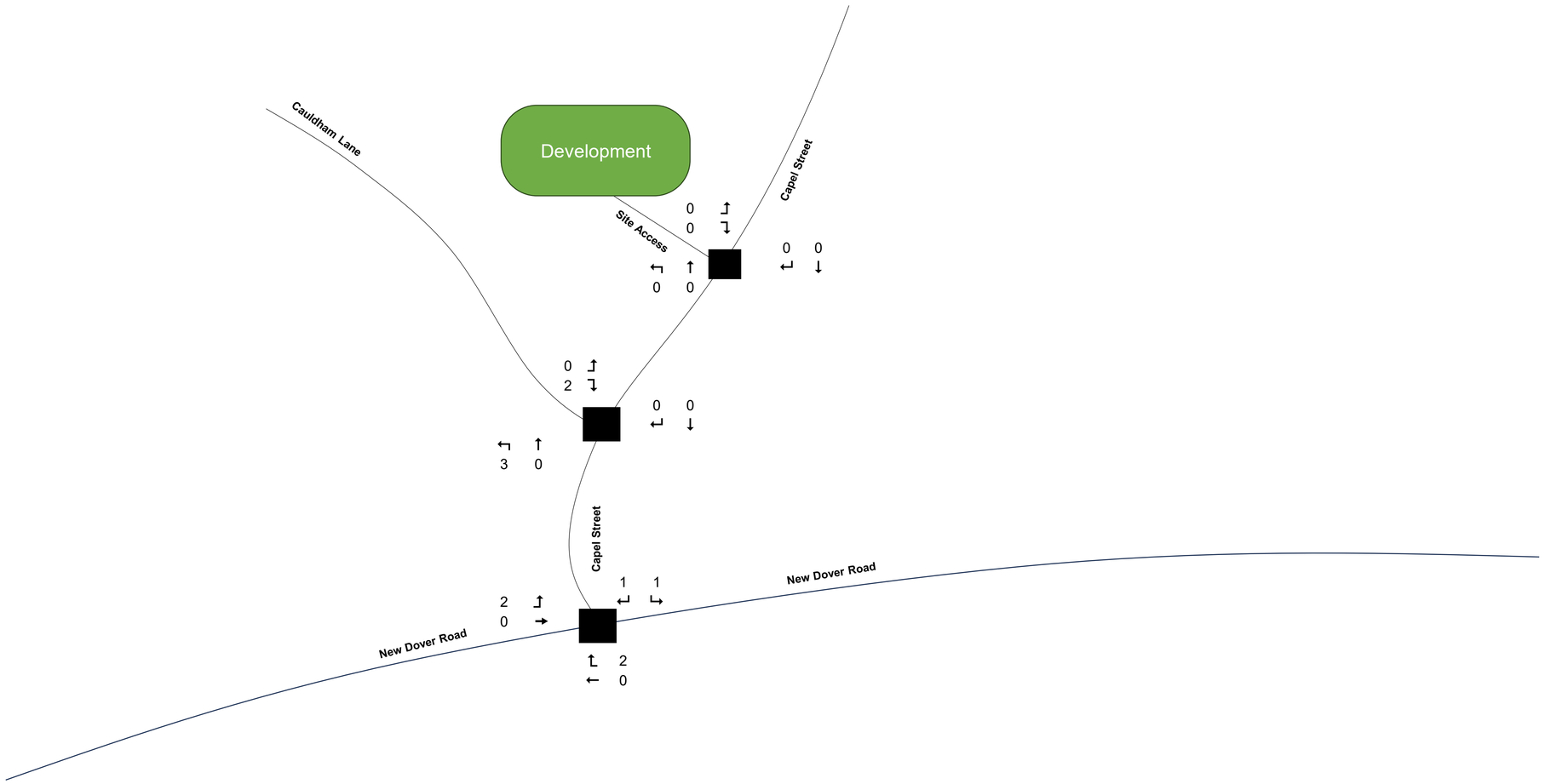
All values are in Passenger Car Units (PCUs) unless stated otherwise.

Charles & Associates	File: 18-027-EXL-004	Project: Capel Street, Capel Le Ferne
	Date: 15/02/2024	Scenario: PM Background Growth to 2029
		Figure: Figure 6.4



All values are in Passenger Car Units (PCUs) unless stated otherwise.

Charles & Associates	File: 18-027-EXL-004	Project: Capel Street, Capel Le Ferne
	Date: 15/02/2024	Scenario: AM 23/00401 Committed Development Flows
		Figure: Figure 6.5



All values are in Passenger Car Units (PCUs) unless stated otherwise.

Charles & Associates	File: 18-027-EXL-004	Project: Capel Street, Capel Le Ferne
	Date: 15/02/2024	Scenario: PM 23/00401 Committed Development Flows
		Figure: Figure 6.6