



**Land At Hartford End  
Proposed Residential  
Development**

**Transport Statement**

**on behalf**

**Stockplace  
Investments Ltd**

**September 2023**

**INTERMODAL TRANSPORTATION**

Hunters Court, Debden Road, Saffron Walden, Essex CB11 4AA Tel: 01799 529529 Fax: 01799 529530 e-mail: enquiries@inter-modal.co.uk

IT2259



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## 1 INTRODUCTION

- 1.1 Intermodal Transportation Ltd (ITL), an independent consultancy specialising in highway engineering and transportation planning, have been appointed by SPD Studio on behalf of Stockplace Investments Ltd to produce a Transport Statement (TS) report to support an outline planning application for a residential scheme on land to the west of the B1417 in Hartford End, Felsted.
- 1.2 The development proposal would involve the provision of up to 50 residential dwellings and vehicular access would be achieved from the B1417. ITL have previously provided advice in relation to highway and access matters relating to small scale residential development at the site including the preparation of Access Statements confirming the access arrangements for those schemes, which have not been implemented.
- 1.3 Pre-application scoping discussions were held with Essex Highways in relation to the proposed layout / position of the access junction for the current proposals and the scope of this study. As part of the pre-application scoping discussions, Essex Highways confirmed that, subject to the findings of a stage 1 road safety audit and the provision of the required visibility splays within highway land / land controlled by the Client, the proposed simple priority junction access would be suitable to serve the proposed scheme.
- 1.4 A copy of the pre-application scoping correspondence is contained in Appendix A of this report and as a result of the scoping discussions this Transport Statement (TS) includes the following:
- A description of the local road network in the vicinity of the site;
  - A description of the development proposal;
  - Consideration of the accessibility of the site by alternative transport modes, i.e. walking, cycling and public transport;
  - Calculation of the level of traffic that would be generated by the development proposal during the typical weekday AM and PM peak hours using the TRICS database;
  - Confirmation of the adequacy of the vehicular access arrangements including the achievable visibility splays;
  - Consideration of the refuse collection arrangements for the proposal with reference to AutoTrack swept path assessments; and



- Consideration of the proposed parking provision at the development in the context of the relevant local parking standards.



## 2 SITE LOCATION AND LOCAL ROAD NETWORK

### Site Access

2.1 The site is located in the village of Hartford End, within the Uttlesford District Council area of Essex. The site covers an area of approximately 2.4 hectares and is located approximately 8km to the west of Braintree centre and 10km north of Chelmsford.

2.2 The site is bounded to the north mainly by arable land and to the south by residential properties. To the west of the proposed dwellings is arable land. The B1417 runs along the eastern boundary. Drawing IT2259/TS/01 shows the site location in the local and wider context.

### Local Road Network

2.3 Vehicular access to the site would be achieved from the B1417, which runs in a north to south alignment and is subject to a speed limit of 40mph within the vicinity of the site. Plates 1 and 2 show the B1417 within the vicinity of the site.

**Plate 1: A View North On B1417**

**Plate 2: A View South On B1417**



2.4 The carriageway does not support a street lighting system and there are no separate footways. The carriageway varies in width between 4.9m and 5.2m in the vicinity of the application site and there are grassed verges located on both sides. Boundary hedges are typically located at the rear of the grassed verges.

2.5 Approximately 140m to the south of the site access the B1417 forms a priority junction with Mill Lane which is a private access road. The B1417 forms a bridge above river Chelmer to the south of Mill Lane. The speed limit along the B1417 changes to the



national speed limit for a single carriageway road, which is 60mph, at a point south of the bridge.

- 2.6 To the north of the site, the B1417 continues towards Felsted. To the south it joins the B1008 which forms part of Essex Regiment Way providing a link to Chelmsford.



### **3 PROPOSED DEVELOPMENT**

- 3.1 The proposed development involves the provision of up to 50 residential dwellings on land to the west of the B1417 in Hartford End. The indicative site layout plan is contained in Appendix B of this report.
- 3.2 The residential units would be a mix of detached and semi-detached dwellings. Each dwelling would be provided with a garden.
- 3.3 The vehicular access to the site would be achieved via a new access which would form a priority junction with B1417. In accordance with the requirements of the Essex Design Guide, the access would be provided at a width of 5.5m with 2m footways on either side. The southern footway would be connected to the existing footway on the western side of the B1417 which leads to the Ridley Green development. The provision of that footway link would enable residents at the Ridley Green development to access the proposed public open space on site along with the proposed bus stops that are discussed later in this chapter.
- 3.4 To the south / right of the proposed access, a splay of 2.4m x 120m, i.e. the DMRB requirement for the posted speed limit of 40mph, is achievable within highway land / land controlled by the client as shown in Drawing IT2259/SK/03.
- 3.5 As part of previous preliminary work undertaken by ITL in relation to access options for this site, a speed recording Automatic Traffic Counter (ATC) was installed on the B1417 for 7 days commencing 11<sup>th</sup> June 2021. The ATC was placed to the north of the location of the proposed site access. The results from the ATC survey are contained in Appendix C and confirm that the 7 day average unadjusted 85th %tile southbound speed recorded by the ATC was 41mph.
- 3.6 As part of the pre-application discussions with ECC they indicated that, in accordance with paragraph 3.1.1 of CA185: Vehicle Speed Measurement of the Design Manual for Roads and Bridges (DMRB), if it was not dry during the full period of the ATC survey then the recorded speeds should be adjusted such that they can be regarded as wet weather speeds.



- 3.7 Perusal of the 'timeanddate.com' website confirmed that there was little rain during the ATC survey period with light rain only recorded during the evenings / nights of Wednesday 16th and Thursday 17th June. Furthermore, paragraph 3.1.1 of CA185 indicates that "*Where speed measurements have been taken either partially or entirely in wet weather conditions...*" the adjustment values "*...should be added to each individual speed recorded in wet weather.*"
- 3.8 As such, ITL considers that there is a credible case not to apply the DMRB wet weather correction of +2.5mph (rounded) to the 7 day average 85th %tile speeds provided by the ATC and rather that the speeds obtained for 16<sup>th</sup> and 17<sup>th</sup> June only could be adjusted and the 7 day average 85<sup>th</sup> %tile speed recalculated. However, for simplicity / robustness the wet weather correction of +2.5mph has been added to the recorded 7 day average 85<sup>th</sup> %tile speed. It is considered that adopting that approach should be regarded to provide a very comfortable solution from a highway safety perspective.
- 3.9 Manual for Streets (MfS) and MfS2 provides a formula for calculating appropriate visibility distances based on the speed limit, driver reaction time, deceleration rate and gradient depending on the mix of vehicle types using the road.
- 3.10 Further to the guidance contained in MfS a deceleration 'g' factor of 0.375 and a driver reaction time of 2 seconds have been utilised to calculate the visibility splay requirement to the left at the proposed site access. In addition, a gradient of -5.7%, which was calculated from available OS data, with an adjusted speed of 43.5mph was utilised. On that basis, it was calculated that the provision of a visibility 'y' distance of 102m to the left (north) at the proposed access junction, would provide a safe solution.
- 3.11 Drawing IT2259/TS/02 shows that a visibility splay of 2.4m x 102m is achievable within the limit of the adopted highway, although the clearance / trimming of vegetation and hedges at the frontage of Hillside, would be required to achieve the visibility splay. It should be recognised that clearance / trimming of vegetation at the frontage to Hillside would improve the achievable visibility from the access points for that property and as such wider highway safety benefits would accrue from the clearance / trimming of the vegetation.
- 3.12 Drawing IT2259/TS/02 also shows the suggested location for new north and southbound bus stops on the B1417 within the vicinity of the site along with a proposed uncontrolled pedestrian crossing point, which would provide access to the proposed southbound bus stop. The new bus stops would be conveniently located for residents of the proposed





- development as well as those living at Ridley Green to the south and other existing nearby residential properties.
- 3.13 As requested by Essex Highways as part of the pre-application scoping discussions for this project, the vehicular access and other external highway arrangements shown on drawing IT2259/TS/02 were subjected to a Stage 1 road safety audit. A copy of the stage 1 road safety audit report and ITL's designer's response is contained at Appendix D of this report.
- 3.14 AutoTrack swept path sketches showing a large 4 axle refuse vehicle accessing / egressing the development at the proposed access junction are contained at Appendix E of this report. The swept path sketches were also provided as part of the design material.
- 3.15 As stated within the Road Safety Audit designer's response, Manual for Streets indicates that there should not be highway concerns if infrequent larger vehicles cross the centreline of minor roads when entering / existing those roads. Furthermore, it is considered that drivers of infrequent large vehicles would wait for gaps in the main road traffic flow, which would be relatively frequent in this rural location, before potentially entering the opposing traffic lane as part of a turning manoeuvre.
- 3.16 It should also be noted that refuse collection vehicles currently entering and existing Ridley Green do oversail the centre line of the B1417. We note that there were no accidents recorded at this junction within the latest available 5 year period.



## 4 ACCESSIBILITY BY ALTERNATIVE MODES

### Walking

- 4.1 The 2021 National Travel Survey indicates that 83% of journeys under one mile (1.609km) are undertaken on foot and as such this distance is considered as acceptable in order to provide an indication of the likely walk-in catchment for the development proposal. However, it is acknowledged that the lack of footways within the vicinity of the site is likely to result in only relatively low numbers of trips on foot to / from the site.
- 4.2 Notwithstanding the above, it should be recognised that the Compasses public house on Littlely Green Road to the east of the site is approximately 1.35km from the site, via the local road network, and could be accessed on foot. Leez Priory hotel / wedding venue is a little further afield at approximately 1.82km, via a combination of the local road network and Bridleway 53 Great Waltham / Felsted 106.
- 4.3 There are a number of Public Rights of Way (PRoWs) within the vicinity of the site with Bridleway 49 Great Waltham representing the closest and running parallel to the river Chelmer to the south of the development and leading westwards towards Ford End.

### Cycling

- 4.4 The former national planning guidance PPG13 paragraph 77 states that "*Cycling also has potential to substitute for short car trips, particularly those less than 5 kilometres, and to form part of a longer journey by public transport*".
- 4.5 Taking into account the 5km cycle distance, which equates to approximately 20 minutes cycling time, the catchment area of the site by cycle would include Felsted, Ford End, Great Notley, Great Dunmow and the northern part of Chelmsford as well as the public house and hotel discussed above. Felsted is approximately 3km from the site, i.e. comfortably within the 5km threshold, and provides local shops, schooling, pubs and local employment opportunities.
- 4.6 The site is located approximately 1km to the west of NCN (National Cycle Network) Route 50, which in the local context routes along Littlely Green Road.
- 4.7 NCN Route 50 connects with Stansted Airport in the northwest via a local route and Maldon in the southeast via NCN route 1.



## Bus

- 4.8 Guidance from the Institution of Highways and Transportation generally recognises that walking distances to access bus services should lie between a desirable distance of 400m and acceptable distance of 800m. Furthermore, it is generally recognised that the maximum convenient walking distance in order to access urban bus services is around 500m. This walking distance to a bus stop has emerged from theoretical studies and has been supported by research undertaken for the National Travel Survey (NTS).
- 4.9 The nearest bus stops to the site are the Brewery bus stops located 335m north of the approximate site centroid. Bus service 16 calls at these stops and a summary of the service is shown in Table 4.1.

**Table 4.1: Bus Services Operating Within the Vicinity of the Site**

Bus Number	Route Summary	Monday to Friday		Saturday	
		*Operating Times	Frequency	*Operating Times	Frequency
16	Chelmsford–Broomfield– Hartford End–Felsted– Waltham	11:00–17:59	2 Hours	10:33–17:57	2 Hours

\* Operating times shown relate to buses leaving Chelmsford

- 4.10 Notwithstanding that the Brewery stops are located within an acceptable walking distance of the site, due to the lack of footways within the vicinity of the site, as indicated in the previous chapter it is proposed that new north and southbound stops be provided within the vicinity of the site. The proposed location for the bus stops is shown on drawing IT2259/TS/02 of this report.

## Train

- 4.11 The generally recognised maximum convenient walking distance in order to access heavy rail / underground services is 1km. Chelmsford railway station is the nearest station to the site but is located approximately 10km as the crow flies to the south of the site and is therefore outside the walking catchment for access to rail services. The station could be accessed via bus service 16 which calls at the coach station which is located next to the railway station but it is considered that the proportion of residents from the proposed development that would be likely to make a multi-modal trip from the site incorporating bus service 16 and heavy rail would be low.



### **Accessibility Summary**

- 4.12 Due to the lack of facilities available within walking distance and limited bus stops, the accessibility for existing residents within Hartford End is modest. The development proposal would improve the accessibility profile through the provision of the bus stops and footway links.



## 5 TRAFFIC GENERATION

### Traffic Generation

- 5.1 Within this section the likely level of traffic generated by the proposed development is considered. In that regard, the TRICS (Trip Rate Information Computer System) database was interrogated in order to establish appropriate trip rates for calculating the likely level of traffic generated by the proposed development.
- 5.2 The 'Houses Privately Owned' category within the 'Residential' land use type of the TRICS database was interrogated. The range of number of dwellings was set to 5 and 100 units. The date range for the search was from 01 January 2010 to 01 March 2023. Only sites in the 'Village' sub location were included. The search criteria resulted in the identification of 11 surveyed sites within the TRICS database.
- 5.3 The TRICS printouts from the interrogations are contained at Appendix F, whilst Table 5.1 summarises the weekday AM and PM peak hour trip rates extracted from the database.

**Table 5.1: TRICS Weekday Residential Trip Rates per Dwelling**

Use	AM Peak Hour (08:00–09:00)		PM Peak Hour (17:00–18:00)	
	Arrivals	Departures	Arrivals	Departures
Houses Privately Owned	0.164	0.305	0.326	0.149

- 5.4 Application of the above TRICS trip rates to the maximum number of dwellings likely at the site, i.e. 50, results in the calculation of the likely number of vehicular trips generated by the proposed development. The resulting modest calculated development traffic flows are shown in Table 5.2 below.

**Table 5.2: Likely level of traffic generated by the proposed development**

Use	Number of Dwellings	AM Peak Hour (08:00–09:00)		PM Peak Hour (17:00–18:00)	
		Arrivals	Departures	Arrivals	Departures
Houses Privately Owned	50	8	15	16	8
Total Two-Way Traffic		23		24	



- 5.5 Table 5.2 above shows that 23 and 24 two way vehicle movements per hour are likely to be generated by the proposed development during the typical weekday AM and PM peak hours respectively. In the context of the National Planning Policy Framework (NPPF) the expected moderate development traffic flows would in no way be expected to have a severe cumulative impact on the operation of the local road network.



## 6 CAR PARKING PROVISION

6.1 The relevant parking standards in the context of the development proposal that are contained in the September 2009 ECC publication: Parking Standards Design and Good Practice are reproduced below in Table 6.1. In addition, the UDC specific standard for 4 plus bedroom properties is also shown in Table 6.1

**Table 6.1: Relevant parking Standards**

Use	Vehicle Minimum	Cycle Minimum	Power Two Wheeler Minimum	Disabled Minimum
1 Bedroom	1 space per dwelling*	1 secure covered space per dwelling. None if garage or secure area is provided within curtilage of dwelling	N/A	N/A if parking is in curtilage of dwelling, otherwise as visitor/ unallocated
2+ Bedroom	2 spaces per dwelling*			
Uttlesford Specific Standard				
4+ Bedroom	3 spaces per dwelling	-	--	-

6.2 The Essex parking standards also indicate that a minimum of 0.25 visitor parking spaces per dwelling should be provided.

6.3 Based on the scale of the development and the above parking standards, the number of resident's car parking spaces that should be provided at the proposed development are shown in Table 6.2.

**Table 6.2: Permissible Parking Provision for the Proposed Development.**

Use	No of Dwellings	Car (Minimum)
1 Bedroom Dwelling	3	3
2 Bedroom Dwelling	25	50
3 Bedroom Dwelling	13	26
4 Bedroom Dwelling	6	18
5 Bedroom Dwelling	3	9
Total	50	106

6.4 The indicative layout plan contained at Appendix B of this report shows a total of 115 resident's car parking spaces which exceeds the minimum car parking requirements shown in Table 6.2. In addition, the layout plan also shows that, in accordance with the ECC standards, 12 visitor car parking spaces would be provided. As such, it is concluded that the proposed car parking provision should be regarded as acceptable.



- 6.5 Each dwelling would be provided with a garden where a shed for the storage of bicycles could be provided. Hence formal designated cycle storage spaces would not be required at the development.





## 7 CONCLUSIONS

- 7.1 Intermodal Transportation Ltd (ITL), an independent consultancy specialising in highway engineering and transportation planning, have been appointed by SPD Studio on behalf of Stockplace Investments Ltd to produce a Transport Statement (TS) report to support an outline planning application for a residential scheme on land to the west of the B1417 in Hartford End, Felsted.
- 7.2 The development proposal would involve the provision of up to 50 residential dwellings and vehicular access would be provided from the B1417. Pre-application scoping discussions were held with Essex Highways in relation to the proposed layout / position of the access junction for the current proposals and the scope of this study.
- 7.3 Essex Highways confirmed within the pre-application scoping discussions that, subject to the findings of a stage 1 road safety audit and the provision of the required visibility splays within highway land / land controlled by the Client, the proposed simple priority junction access would be suitable to serve the proposed scheme. It is demonstrated within this report that the proposed vehicular access arrangements for the development should be regarded as acceptable.
- 7.4 Due to the rural location of the site, there are a limited number of facilities within walking distance of the site. However, there are facilities within walking and cycling distance and the site is located on a bus route. In order to enhance the accessibility credentials of the site it is proposed that new north and southbound bus stops be provided adjacent to the site on the B1417.
- 7.5 Using the TRICS database the likely levels of traffic generated by the proposed development during the typical weekday peak hours were calculated as part of this study. It has been demonstrated that the level of traffic generated by the proposed scheme would be moderate during the critical weekday AM and PM peak hours.
- 7.6 The requirements of the local car parking standards in the context of the development proposal have been examined within this report and it has been demonstrated that the proposal would comply with the standards.



- 7.7 It is therefore concluded that the development proposal should be regarded as acceptable from a highways and transportation perspective. Furthermore, it is considered that in the context of the final bullet point of paragraph 111 (page 32) of the National Planning Policy Framework 2023 (NPPF), which indicates that “*Development should only be prevented or refused on highway grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.*”

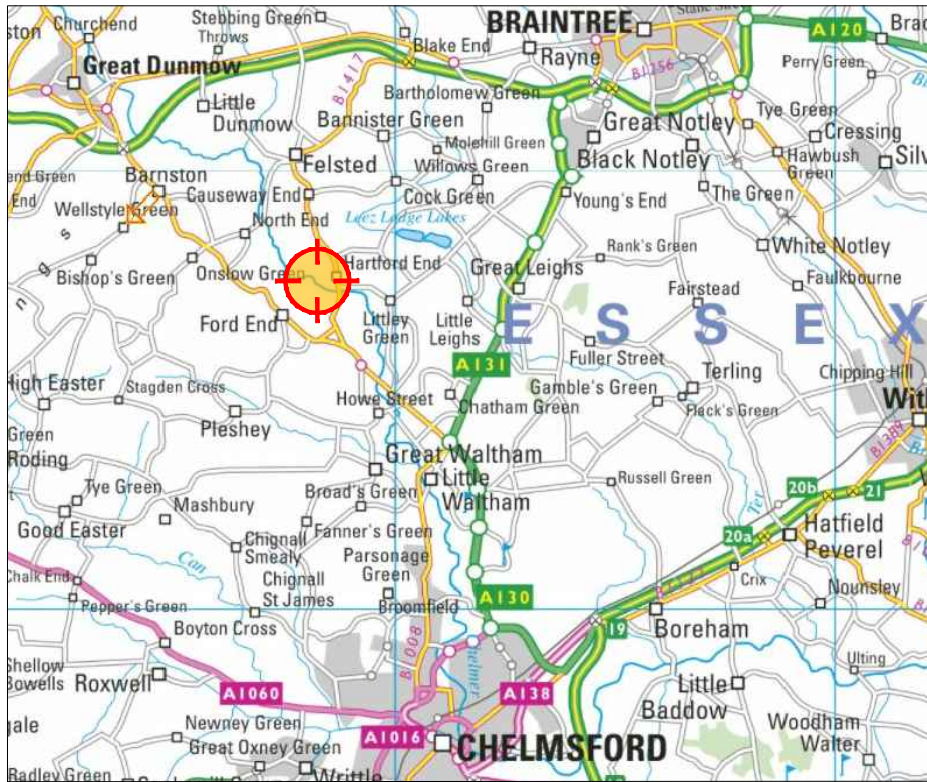


## **DRAWINGS**

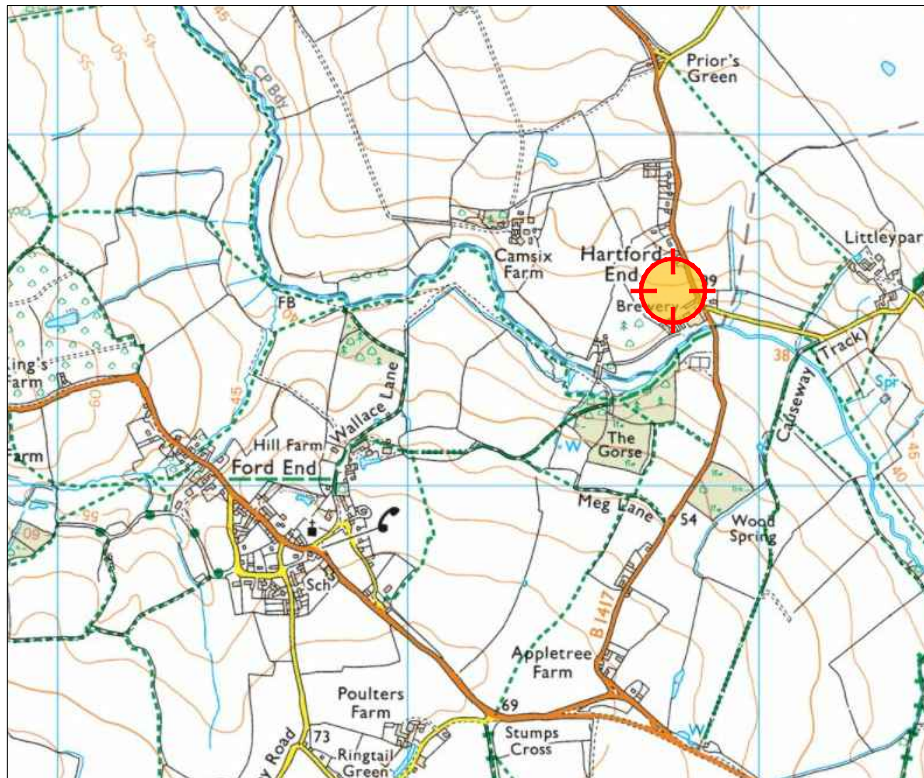
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# WIDER CONTEXT



# LOCAL CONTEXT



**SITE LOCATION**

IT Project: **LAND AT HARTFORD END**

Drawing Title: **SITE LOCATION IN LOCAL AND WIDER CONTEXT**

Sheet 1 of 1

Rev	Description	Date
Client:	<b>STOCK LACE INVESTMENTS LTD</b>	

Drawn By: **DS**

Approved By: **B**

Drawing No: **IT2259 TS.01**

CAD File: **IT2259 TS.01.DWG**

**A4**

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Date: **JULY 2021**

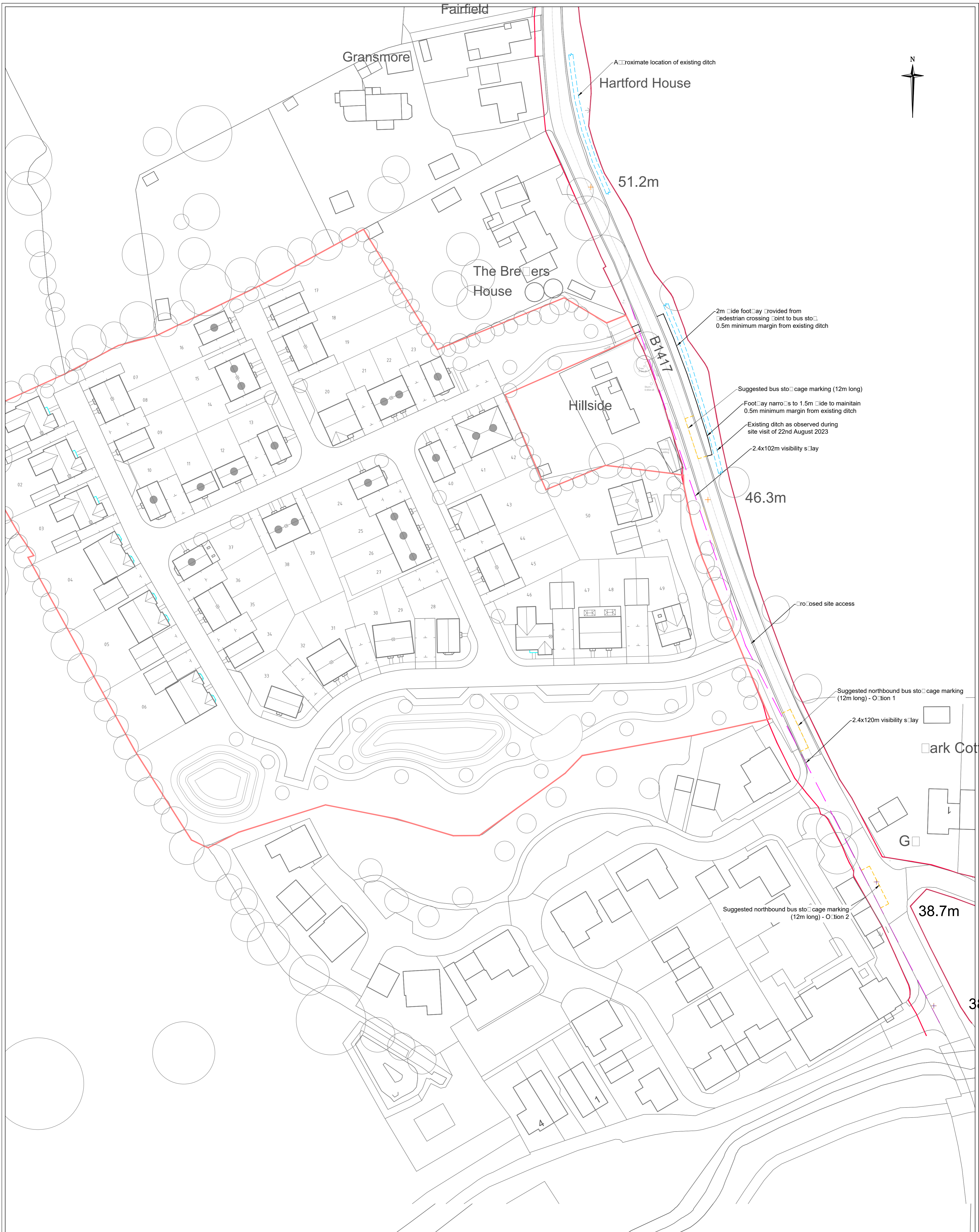
Scale: **NTS**



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Drawing Title: <b>PROPOSED SITE ACCESS BUS STOP AND CROSSING POINT LAYOUT</b>		Rev: <b>A</b>
IT Project: <b>LAND AT HARTFORD END</b>		Sheet 1 of 1
Client: <b>STOCKLACE INVESTMENTS LTD</b>		<b>A1</b>

Drawing No: <b>IT2259.TS.02</b>	CAD File: <b>IT2259_SK_01A.dwg</b>
Date: <b>AUG 2023</b>	Scale: <b>1:500</b>
Drawn by: <b>LS</b>	Approved by: <b>LB</b>
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## **Appendix A**

Pre-application Correspondence with ECC

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## Devesh Shrivastava

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**From:** Martin Mason - Strategic Development Engineer [REDACTED] >  
**Sent:** 14 March 2023 08:46  
**To:** Devesh Shrivastava  
**Cc:** Justin Bass; Paul Denney  
**Subject:** RE: Pre App Scoping Advice, Hartford End

Hi Devesh,

Subject to you being able to provide the proposed visibility splays within highway and/or land under your clients' control, I'm content a simple priority junction should be sufficient to serve the number of dwellings proposed without being detrimental to highway capacity and safety.

Hope this helps.

Best wishes.

Martin

**Martin Mason | Strategic Development Engineer**

**Strategic Development**



**SAFER GREENER HEALTHIER**

[REDACTED]  
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**From:** Devesh Shrivastava [REDACTED]  
**Sent:** 13 March 2023 15:04  
**To:** Martin Mason - Strategic Development Engineer <[REDACTED]>  
**Cc:** Justin Bass [REDACTED] Paul Denney <[REDACTED]>  
**Subject:** RE: Pre App Scoping Advice, Hartford End

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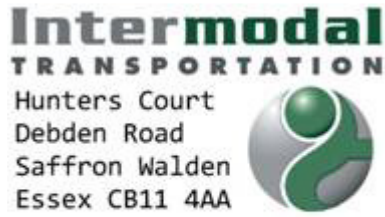
Hi Martin

Thank you for your response.

Please could you advise whether the site access would be acceptable in principle to serve the proposed number of units, if it is demonstrated that the visibility splays would be achievable within highway land and the client's land.

Regards  
Devesh

Devesh Shrivastava  
Assistant Transport Planner  
on behalf of



tel: 01799 529529

fax: 01799 529530

Mob: [REDACTED]

e: [REDACTED]

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**From:** Martin Mason - Strategic Development Engineer <[REDACTED]>  
**Sent:** 13 March 2023 11:41  
**To:** Devesh Shrivastava <[REDACTED]>  
**Cc:** Paul Denney <[REDACTED]> Justin Bass <[REDACTED]>  
**Subject:** RE: Pre App Scoping Advice, Hartford End

Hi Devesh,

Having now had time to review your submission, I note it includes reference to UTT/20/3368/OP. I think you probably meant UTT/21/3088/OP.

Where there is a roadside ditch or pond, that ditch or pond (even if it has been piped or infilled) would not in the majority of circumstances form part of the highway. Often, roadside ditches, which are apparent on the ground are not indicated on the Ordnance Survey Mapping. The same applies to historic ditches. Therefore, please can you add any ditches (including historical) and ponds to your visibility drawing.

Please can you also add the planning application red/blue line.

Your proposed Transport Statement scope is acceptable.

I will arrange for an invoice for our pre-application fee to be sent shortly.

Best wishes.

Martin

**Martin Mason | Strategic Development Engineer**

**Strategic Development**





SAFER GREENER HEALTHIER

[Redacted]

[www.essex.gov.uk/highways](http://www.essex.gov.uk/highways)



---

**From:** Martin Mason - Strategic Development Engineer

**Sent:** 03 March 2023 13:59

**To:** Devesh Shrivastava <[Redacted]>

**Cc:** Paul Denney <[Redacted]> Katherine Wilkinson - Strategic Development Engineer <[Redacted]>; Justin Bass <[Redacted]>

**Subject:** RE: Pre App Scoping Advice, Hartford End

Hi Devesh,

I should be ok to review and comment on your request for pre-application advice next week.

Hope this helps.

Best wishes.

Martin

**Martin Mason | Strategic Development Engineer**

**Strategic Development**



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[Redacted]

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---

**From:** Katherine Wilkinson - Strategic Development Engineer <[Redacted]>

**Sent:** 02 March 2023 11:07

**To:** Devesh Shrivastava <[Redacted]>

**Cc:** Paul Denney <[Redacted]> Justin Bass <[Redacted]> Martin Mason - Strategic Development Engineer <[Redacted]>

**Subject:** RE: Pre App Scoping Advice, Hartford End

Hi Devesh,

Sorry for the delay in getting back to you. I am leaving ECC shortly and so some of my work load has been passed to Martin Mason who I have copied into this e-mail. He will let you know when he is able to response fully.

Kind regards

Katherine

**Katherine Wilkinson | Strategic Development Engineer  
Strategic Development**



**SAFER / GREENER / HEALTHIER**

T: [REDACTED]  
E: [REDACTED]  
W: [www.essex.gov.uk/highways](http://www.essex.gov.uk/highways)

*Please note I work Tuesday - Thursday*

---

**From:** Devesh Shrivastava <[REDACTED]>  
**Sent:** 02 March 2023 11:04  
**To:** Katherine Wilkinson - Strategic Development Engineer <[REDACTED]>  
**Cc:** Paul Denney <[REDACTED]> Justin Bass <[REDACTED]>  
**Subject:** FW: Pre App Scoping Advice, Hartford End

**CAUTION:** This is an external email.

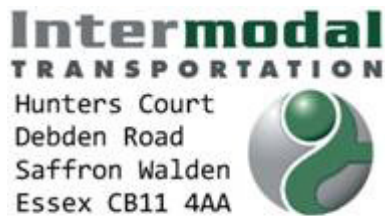
Hi Katherine

Further to my previous emails below, please could you provide your pre app comments for this site at the earliest opportunity.

We are more than happy to discuss this matter with you if required.

Regards  
Devesh

Devesh Shrivastava  
Assistant Transport Planner  
on behalf of



tel: 01799 529529  
fax: 01799 529530

Mob: [REDACTED]  
e: [REDACTED]

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**From:** Devesh Shrivastava  
**Sent:** 16 February 2023 12:50  
**To:** 'Katherine.Wilkinson@essex.gov.uk' <[REDACTED]>  
**Cc:** Justin Bass [REDACTED] 'Paul Denney' [REDACTED]  
**Subject:** FW: Pre App Scoping Advice, Hartford End

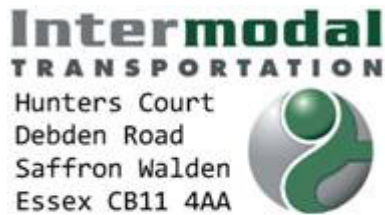
Hi Katherine

Further to Sophie's email below, please could you advise whether you had the opportunity to consider the pre app request.

Please contact us if you have any queries.

Regards  
Devesh

Devesh Shrivastava  
Assistant Transport Planner  
on behalf of



tel: 01799 529529  
fax: 01799 529530  
Mob: [REDACTED]  
e: [REDACTED]

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**From:** Sophie Currey - Strategic Development Engineer <[REDACTED]>  
**Sent:** 21 December 2022 13:24  
**To:** Devesh Shrivastava <[REDACTED]>  
**Cc:** [REDACTED] Justin Bass <[REDACTED]>  
**Subject:** RE: Pre App Scoping Advice, Hertford End

Hi Devesh,

My colleague Katherine Wilkinson has received the pre-application request. She will be in contact, probably after Christmas now, to discuss.

Kind regards,

Sophie Currey | Strategic Development Engineer



**SAFER / GREENER / HEALTHIER**

T: 03330 133058  
E: [REDACTED]  
W: [www.essex.gov.uk/highways](http://www.essex.gov.uk/highways)

---

**From:** Devesh Shrivastava <[REDACTED]>  
**Sent:** 20 December 2022 10:36  
**To:** Sophie Currey - Strategic Development Engineer <[REDACTED]>  
**Cc:** [REDACTED] Justin Bass <[REDACTED]>  
**Subject:** Pre App Scoping Advice, Hertford End

CAUTION: This is an external email.

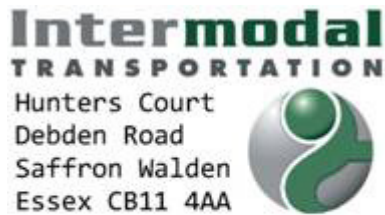
Hi Sophie

We had submitted a pre app request for a site at Hertford End, reference number: FS465555848. Please could you advise whether this was passed onto you to consider.

We trust that this information is sufficient and welcome your earliest response. Please contact us if you have any queries.

Regards  
Devesh

Devesh Shrivastava  
Assistant Transport Planner  
on behalf of



tel: 01799 529529  
fax: 01799 529530  
Mob: [REDACTED]  
e: [REDACTED]

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## **Appendix B**

### Indicative Layout Plan

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The copyright in all designs, drawings, schedules, specifications and any other documentation prepared by Sustainable Planning Design Studio Ltd (SPD Studio) in relation to this project shall remain the property of Sustainable Planning Design Studio Ltd and must not be reissued, loaned or copied without prior written consent.

This drawing is to be read in conjunction with all architectural drawings, schedules and specifications, and all relevant consultants' information relating to the project. Refer any found discrepancies to Sustainable Planning Design Studio Ltd.



MIX						
	1B	2B	3B	4B	5B	Total
Private Sale	0	14	7	6	3	30
Affordable Rent	3	7	4	0	0	14
Shared Ownership	0	1	0	0	0	1
First Home	0	3	2	0	0	5
<b>Total:</b>						<b>50 houses</b>

Key:

V Visitor Parking Space



PROPOSED ILLUSTRATIVE SITE LAYOUT PLAN

Rev.	Amendment	Date
<b>SPD STUDIO</b> SUSTAINABLE . PLANNING . DESIGN		
<b>RESIDENTIAL DEVELOPMENT</b>		
PROP ILLUSTRATIVE SITE LAYOUT PLAN		
STOCKPLACE INVESTMENTS LTD		
LAND AT CHELMSFORD ROAD HARTFORD END CM3 1JY		
SPD306.300.01 1:1000 @ A3 07.07.2023		
WWW.SPDSSTUDIO.CO.UK		



## **Appendix C**

### ATC Survey Results

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**PCC** B1417, Hartford End (ATC 2 - Middle Site)  
Traffic Information Consultancy

Site No. 548302 Site Ref. 548302

Middle Site

Speed Report (Speed Limit 40 Mph)

Week Begin: 11 June 2021

Channel: Northbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10Mph	Bin 2 10-<15	Bin 3 15-<20	Bin 4 20-<25	Bin 5 25-<30	Bin 6 30-<35	Bin 7 35-<40	Bin 8 40-<45	Bin 9 45-<50	Bin 10 50-<55	Bin 11 55-<60	Bin 12 60-<65	Bin 13 =>65
Fri 11 Jun	1357	38	33	6	9	14	13	53	267	520	396	69	14	2	0	0	0
Sat 12 Jun	1177	38	32	6	19	16	12	46	234	493	276	67	11	2	0	1	0
Sun 13 Jun	849	39	33	6	19	19	6	15	131	338	243	55	20	3	0	0	0
Mon 14 Jun	1246	39	33	6	13	10	9	44	220	520	343	76	11	0	0	0	0
Tue 15 Jun	1283	38	33	6	7	20	8	56	231	528	345	78	8	2	0	0	0
Wed 16 Jun	1438	38	33	6	17	19	15	58	253	592	401	64	17	2	0	0	0
Thu 17 Jun	1363	38	33	6	7	6	15	55	275	556	361	77	9	1	1	0	0
5 Day Ave.	1337	38	33	6	11	14	12	53	249	543	369	73	12	1	0	0	0
7 Day Ave.	1245	39	33	6	13	15	11	47	230	507	338	69	13	2	0	0	0

PCC Traffic Information Consultancy Ltd.

Site No. 548302 Site Ref. 548302

Middle Site

Speed Report (Speed Limit 40 Mph)

Week Begin: 11 June 2021

Channel: Southbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10Mph	Bin 2 10-<15	Bin 3 15-<20	Bin 4 20-<25	Bin 5 25-<30	Bin 6 30-<35	Bin 7 35-<40	Bin 8 40-<45	Bin 9 45-<50	Bin 10 50-<55	Bin 11 55-<60	Bin 12 60-<65	Bin 13 =>65
Fri 11 Jun	1359	41	36	5	0	1	5	25	80	401	584	217	40	3	3	0	0
Sat 12 Jun	1194	41	36	6	0	0	8	34	108	358	464	178	39	3	1	1	0
Sun 13 Jun	827	42	36	6	1	0	9	35	72	203	311	148	42	4	2	0	0
Mon 14 Jun	1255	42	36	5	0	0	4	14	93	336	544	217	42	5	0	0	0
Tue 15 Jun	1278	42	36	5	0	1	9	18	85	349	542	224	42	8	0	0	0
Wed 16 Jun	1439	41	36	5	0	3	11	30	106	397	620	231	35	5	1	0	0
Thu 17 Jun	1360	40	36	5	0	0	8	31	89	401	611	181	34	3	1	0	1
5 Day Ave.	1338	41	36	5	0	1	7	24	91	377	580	214	39	5	1	0	0
7 Day Ave.	1245	41	36	5	0	1	8	27	90	349	525	199	39	4	1	0	0

PCC Traffic Information Consultancy Ltd.



Site No. 548302

Site Ref. 548302

Middle Site

Speed Report (Speed Limit 40 Mph)

Week Begin: 11 June 2021

Channel: Total Flow

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10Mph	Bin 2 10-<15	Bin 3 15-<20	Bin 4 20-<25	Bin 5 25-<30	Bin 6 30-<35	Bin 7 35-<40	Bin 8 40-<45	Bin 9 45-<50	Bin 10 50-<55	Bin 11 55-<60	Bin 12 60-<65	Bin 13 =>65
Fri 11 Jun	2716	40	35	5	9	15	18	78	347	921	980	286	54	5	3	0	0
Sat 12 Jun	2371	40	34	6	19	16	20	80	342	851	740	245	50	5	1	2	0
Sun 13 Jun	1676	41	34	6	20	19	15	50	203	541	554	203	62	7	2	0	0
Mon 14 Jun	2501	40	35	5	13	10	13	58	313	856	887	293	53	5	0	0	0
Tue 15 Jun	2561	40	35	5	7	21	17	74	316	877	887	302	50	10	0	0	0
Wed 16 Jun	2877	40	34	5	17	22	26	88	359	989	1021	295	52	7	1	0	0
Thu 17 Jun	2723	39	34	5	7	6	23	86	364	957	972	258	43	4	2	0	1
5 Day Ave.	2676	40	35	5	11	15	19	77	340	920	949	287	50	6	1	0	0
7 Day Ave.	2489	40	34	5	13	16	19	73	321	856	863	269	52	6	1	0	0

PCC Traffic Information Consultancy Ltd.



## **Appendix D**

### Stage 1 Road Safety Audit

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**Allen Transport Consultancy Ltd**

**B1417 Hartford End, Chelmsford, Essex**

**Proposed Site Access and Off Site Highway Improvements**

**Stage 1 Road Safety Audit**

**Date: September 2023**

**Report produced for: [Intermodal Transportation Ltd](#)**

**Report produced by: Allen Transport Consultancy Ltd**



Allen Transport Consultancy Ltd  
Minerva House  
139 Chatham Road  
Maidstone  
Kent ME14 2NB

Tel: [REDACTED]

## CONTENTS

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1	Introduction	4
2	Items raised at this Stage 1 Road Safety Audit	6
3	Audit Team Statement	13
Appendix A	List of drawings and documents	
Appendix B	Problem location plan	

## DOCUMENT CONTROL SHEET

This report was produced by Allen Transport Consultancy in accordance with the instructions from Intermodal Transportation Ltd, for the specific purpose of undertaking the Stage 1 Road Safety Audit. Allen Transport Consultancy 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.

### Project Details:

<b>Report title</b>	B1417 Hartford End, Chelmsford, Essex Proposed Site Access and Off Site Highway Improvements Stage 1 Road Safety Audit
<b>Date</b>	14 <sup>th</sup> September 2023
<b>Document reference and revision</b>	ATC/860/ITL/1 Rev 1
<b>Prepared by</b>	Allen Transport Consultancy Ltd
<b>On behalf of</b>	Intermodal Transportation Ltd

### Record of Issue:

Issue	Status	Author	Date	Checked	Date	Authorised	Date
1	Final	LA	12/09/23	ABC	14/09/23	LA	14/09/23

### Distribution:

Organisation	Contact	Copies
Intermodal Transportation Ltd	Devesh Shrivastava	-

## 1 INTRODUCTION

- 1.1 This report has been produced as a result of a Stage 1 Road Safety Audit carried out on the proposed site access and off site highway improvement works associated with land west of the B1417 Hartford End, Chelmsford in Essex. The proposed redevelopment consists of the provision for up to 50 residential dwellings.
- 1.2 The Road Safety Audit was undertaken at the request of the Overseeing Organisation, i.e. the Local Highway Authority, Essex County Council, 653 The Crescent, Colchester Business Park, Colchester, Essex, CO4 6YQ. The Design Organisation is Intermodal Transportation Ltd, Hunters Court, Debden Road, Saffron Walden, CB11 4AA. The Third Party Organisation is Stockplace Investors Ltd.
- 1.3 In summary, the works considered as part of this Stage 1 Road Safety Audit are as follows:
- Provision of a priority junction on the western side of the B1417 Hartford End to the north of Ridley Green;
  - Provision of footways on the eastern and western sides of the B1417 Hartford End;
  - Provision of an uncontrolled pedestrian crossing facility near the northern end of the development site;
  - Provision of a southbound and northbound bus stop, (two options have been submitted for the northbound bus stop location);
- 1.4 The Audit Team membership was as follows:
- Lisa Allen - BEng (Hons), MSc, MCIHT, MSoRSA, HA RSA Cert Comp - Audit Team Leader
  - Adriano B. Cappella - IEng, FIHE, MSoRSA, MCIHT, HA RSA Cert Comp - Audit Team Member
- 1.5 The Audit was undertaken in accordance with the Audit Brief supplied by Intermodal Transportation Ltd dated 29<sup>th</sup> August 2023. The Road Safety Audit comprised an examination of the drawings and documents provided, as listed in Appendix A.
- 1.6 The Audit took place at the Maidstone office of Allen Transport Consultancy during September 2023. The Audit Team members visited the site together on 12<sup>th</sup> September 2023, between 11:50 and 12:45 hours. During the site visit the weather was mild, cloudy and the existing road surface was dry. Vehicular traffic conditions at the time of the site visit were light on the B1417 Hartford End. No pedestrians or pedal cyclists were observed during the site visit.
- 1.7 The terms of reference of the Audit are as described in DMRB GG 119 Road Safety Audit. The Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria.

However, to explain clearly a safety problem or the recommendation made to resolve the identified problem, the Audit Team may, on occasion, have referred to a Design Standard without touching on technical audit.

- 1.8 No Departures from Design Standards have been reported by the Design Organisation.
- 1.9 A plan showing the locations of Problems raised in this report is included in Appendix B.
- 1.10 Issues identified and observations made during this Stage 1 Road Safety Audit and site inspection which the Terms of Reference exclude from this report, but which the Audit Team wishes to draw to the attention of the Overseeing Organisation, i.e. the Local Highway Authority, Essex County Council, will be set out in a separate letter. These issues could include maintenance items and operational issues. In this regard, the Audit Team have made reference to one issue identified and observation made as referred to in the Covering Letter to Intermodal Transportation Ltd dated 14<sup>th</sup> September 2023. The Covering Letter should be supplied to the Overseeing Organisation, Essex County Council and be considered in conjunction with this Stage 1 Road Safety Audit.

## **2 ITEMS RAISED AT THIS STAGE 1 ROAD SAFETY AUDIT**

### **2.1 LOCAL ALIGNMENT**

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

### **2.2 GENERAL**

#### **2.2.1 PROBLEM**

**Location: A** – Development site access junction (Drawing No: IT2259-TS-02).

**Summary:** Existing telegraph pole located near the proposed access junction could result in a potential increased risk of vehicles striking the telegraph pole or vehicular and pedestrian collisions occurring, whereby vehicle occupants and pedestrians could sustain personal injury.

The scheme drawing indicates that a new access junction is proposed on the western side of the B1417 Hartford End. The scheme drawing also indicates that the proposed footway on the western side of the B1417 connects with the footway leading to and from the junction with Ridley Green.

The site visit has established the presence of an existing telegraph pole within the vicinity of the proposed access junction and western footway.

Concern arises that the location of the existing telegraph pole may impact upon the operation of the proposed access junction. As a result, this situation could lead to a potential increased risk of vehicles striking the telegraph pole when manoeuvring within the access junction, whereby vehicle occupants could sustain personal injury.

Additionally, concern arises that the existing telegraph pole may impact upon the available width of the proposed western footway, which could result in pedestrians having to step out into the northbound carriageway in order to pass one another. As a result, this situation could lead to a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.

#### **RECOMMENDATION**

It is recommended that the existing telegraph pole should be annotated on the scheme drawing.

Should the existing telegraph pole impact upon the proposed access junction or proposed western footway, it is further recommended that the telegraph pole should be shown to be relocated.

### **2.3 JUNCTIONS**

#### **2.3.1 PROBLEM**

**Location: B** – Development site access junction (Drawing No: IT2259-TS-02).



**Summary:** Potential vertical alignment issues at the proposed site access junction with the B1417 Hartford End could result in a potential increased risk of side impact vehicular collisions occurring, whereby vehicle occupants could sustain personal injury.

The scheme drawing indicates that a new access junction is proposed on the western side of the B1417 Hartford End.

The site visit has established that there is a reasonable difference in levels between the proposed development site area and the adjacent B1417 Hartford End carriageway.

Concern arises that due to the identified difference in levels, vehicular traffic could inadvertently roll forward into the B1417 Hartford End carriageway when giving way to vehicular traffic on the B1417 Hartford End. This situation could lead to a potential increased risk of side impact vehicular collisions occurring between vehicles emerging from the access road junction and northbound vehicular traffic, whereby vehicle occupants could sustain personal injury.

### **RECOMMENDATION**

It is recommended that a proposed dwell area / flat plateau should be provided where the access road junction meets the B1417 Hartford End carriageway. Ideally, the approach gradient of the access road should be 2% or a gradient of 1:50. Additionally, where possible, the design should seek to achieve a level section of at least 15m length adjacent to the B1417 Hartford End carriageway.

## **2.3.2 PROBLEM**

**Locations:** **C** and **D** – Development site access junction (Drawing No: IT2259-TS-02).

**Summary:** Location of the proposed access junction in relation to Ridley Green could increase the potential risk of side impact collisions occurring, whereby vehicle occupants could sustain personal injury.

The scheme drawing indicates that the location of the proposed access junction for the development site will be located in close proximity to the existing access junction of Ridley Green.

Concern arises that vehicular traffic heading northbound on the B1417 Hartford End and indicating left to turn into proposed development site, may result in right turning vehicular traffic pulling out of the Ridley Green junction, as drivers may incorrectly assume the left turning vehicle will be turning into the Ridley Green junction.

As a result, misinterpretation of the left turning signal could lead to a potential increased risk of side impact vehicular collisions occurring, between vehicles turning right of the Ridley Green and northbound vehicular traffic intending to turn left into the proposed development site, whereby vehicle occupants could sustain personal injury.

Additionally, concern arises that a vehicle intending to turn left into the proposed development site could brake heavily in order to avoid a right turning vehicle emerging from the Ridley Green junction. As a result, this situation could lead to a potential increased risk of nose to tail shunt type collisions occurring, between the left turning leading vehicle and any following vehicular traffic on the B1417 Hartford End, whereby vehicle occupants could sustain personal injury.

## RECOMMENDATION

It is recommended that the location of the proposed access junction should be in line with Local Authority policies on junction spacing.

If for whatever reasons the above cannot be achieved, then it is recommended that approval for the current proposals should be sought and agreed with the Overseeing Organisation, i.e. the Local Highway Authority, Essex County Council.

### 2.3.3 PROBLEM

**Location:** E – Development site access junction (Drawing No: IT2259-TS-02).

**Summary:** Restricted visibility could result in a potential increased risk of side impact collisions occurring, whereby vehicle occupants could sustain personal injury.

The scheme drawing indicates that a new access junction is proposed on the western side of the B1417 Hartford End. The scheme drawing also indicates visibility splays of 2.4 x 120m to the south and 2.4m x 102m to the north, whereby the northern visibility splay is in accordance with a speed survey undertaken in June 2021.

The site visit has established the presence of an existing hedge along the site frontage of the property known as 'Hillside', located to the north of the proposed development site access junction.

Concern arises that restricted visibility for drivers emerging from the proposed access junction could lead to a potential increased risk of side impact collisions occurring, between drivers emerging from the development site and southbound vehicular traffic on the B1417 Hartford End, whereby vehicle occupants could sustain personal injury.

## RECOMMENDATION

It is recommended that the proposed visibility splay should be kept clear of any impediments in order to mitigate the above described potential collision scenario.

If for whatever reasons the above cannot be achieved, then it is recommended that approval for the current proposals should be sought and agreed with the Overseeing Organisation, i.e. the Local Highway Authority, Essex County Council.

### 2.3.4 PROBLEM

**Locations:** F and G – Development site access junction and Ridley Green access junction (Drawing No: IT2259-TS-02).

**Summary:** Stationary buses located within the either of the proposed northbound bus stop locations impact upon the visibility splays between drivers emerging from either the proposed access junction or the existing Ridley Green junction and vehicular traffic on the B1417 Hartford End. This situation could result in a potential increased risk of side impact collisions occurring, whereby vehicle occupants could sustain personal injury.

The scheme drawing indicates that a new access junction is proposed on the western side of the B1417 Hartford End. The scheme drawing also proposes two options for the location of the northbound bus stop on the western side of the B1417 Hartford End.

Concern arises that when occupied both the proposed northbound bus stop location options impact upon the visibility splays of the proposed access junction and the existing adjacent Ridley Green junction.

As a result, this situation could lead to a potential increased risk of side impact vehicular collisions occurring, between drivers emerging from the proposed access junction or the adjacent Ridley Green junction and vehicular traffic on the B1417 Hartford End, whereby vehicle occupants could sustain personal injury.

### **RECOMMENDATION**

It is recommended that either the northbound bus stop should be located outside the visibility splays for the proposed development site access junction and the existing junction of Ridley Green or a bus stop layby should be provided, in order to mitigate the above described potential collision scenario.

#### **2.3.5 PROBLEM**

**Location:** H – Development site access junction (Drawing No: IT2259-TS-02).

**Summary:** Potential swept path requirements of vehicles entering and exiting the proposed development site access junction could result in a potential increased risk of head or side swipe type collisions occurring, whereby vehicle occupants could sustain personal injury.

The scheme drawing indicates that a new access junction is proposed on the western side of the B1417 Hartford End.

Concern arises that the potential swept path requirements of vehicles entering and exiting the proposed development site access junction, including refuse vehicles, supermarket delivery vehicles and long wheel base panel vans may cross the centre lines within the proposed access junction and the centre lines on the B1417 Hartford End. As a result, this situation could lead to a potential increased risk of head on or side swipe type collisions occurring between opposing flows of vehicular traffic, whereby vehicle occupants could sustain personal injury.

### **RECOMMENDATION**

It is recommended that swept path analysis exercises should be undertaken in order to assist with the required geometry of the development site access junction.

Should the swept path analysis exercises indicate that the current access junction proposals impact upon the swept path requirements, whereby vehicular collisions could occur, then it is further recommended that the junction geometry should be modified, in order to mitigate the above described potential collision scenarios.

## **2.4 WALKING, CYCLING AND HORSE RIDING**

### **2.4.1 PROBLEM**

**Location: I** – Development site access junction (Drawing No: IT2259-TS-02).

**Summary:** Assumed kerb heights could result in a potential increased risk of pedestrian trips and falls occurring, especially for those pedestrians who are blind, visually or mobility impaired, whereby pedestrians could sustain personal injury.

The scheme drawing indicates that a new access junction is proposed on the western side of the B1417 Hartford End. The scheme drawing also indicates that the proposed footway on the western side of the B1417 connects with the footway leading to and from the junction with Ridley Green.

It is noted from the scheme drawing that dropped kerbs have not been indicated across the proposed access junction. As a result, concern arises that pedestrians negotiating the assumed full height kerbs at this location could lead to a potential increased risk of pedestrian trips and falls occurring, especially for those pedestrians who may be blind, visually or mobility impaired, whereby pedestrians could sustain personal injury.

#### **RECOMMENDATION**

It is recommended that dropped kerbs and tactile paving should be provided across the access junction, in order to mitigate the above described potential injury scenario.

### **2.4.2 PROBLEM**

**Location: J** – Development site uncontrolled pedestrian crossing provision (Drawing No: IT2259-TS-02).

**Summary:** Potential restricted inter-visibility at the uncontrolled pedestrian crossing facility could result in a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.

The scheme drawing indicates that a new access junction is proposed on the western side of the B1417 Hartford End. The scheme drawing also indicates a short section of proposed footway on the eastern side of the B1417 Hartford End, which connects with proposed southbound bus stop.

The site visit has established the presence of vegetation either side of the B1417 Hartford End, which is likely to impact upon the inter-visibility between pedestrians and vehicular traffic at the proposed uncontrolled pedestrian crossing facility.

Concern arises that potential restricted inter-visibility between pedestrians crossing the B1417 Hartford End from east to west and vice-versa and vehicular and traffic on the B1417 Hartford End could lead to a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.

#### **RECOMMENDATION**

It is recommended that the inter-visibility should be kept clear of any impediments, in order to mitigate the above described potential collision scenario. This is likely to require the removal of existing vegetation.

### 2.4.3 PROBLEM

**Location: K** – Proposed eastern footway (Drawing No: IT2259-TS-02).

**Summary:** An existing ditch is present near the proposed footway, which could result in a potential increased risk of pedestrian slips and falls occurring, especially during the hours of darkness at the B1417 is unlit, whereby pedestrians could sustain personal injury.

The scheme drawing indicates that a new access junction is proposed on the western side of the B1417 Hartford End. The scheme drawing also indicates a 2m wide short section of footway is proposed on the eastern side of the B1417, which connects with the proposed southbound bus stop. To the rear of the proposed footway, the site visit has established the presence of an existing ditch.

Concern arises that users of the proposed eastern footway could inadvertently trip, slip and fall into the adjacent ditch, especially during the hours of darkness, as the B1417 Hartford End is unlit, whereby pedestrians could sustain personal injury.

#### RECOMMENDATION

It is recommended that suitable and adequate measures, such as fencing or a culvert, should be provided, in order to mitigate the above described potential injury scenario.

### 2.4.4 PROBLEM

**Location: L** – Proposed eastern footway (Drawing No: IT2259-TS-02).

**Summary:** Lack of pedestrian continuity for pedestrians seeking to access the southbound bus stop could result in a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.

The scheme drawing indicates that a new access junction is proposed on the western side of the B1417 Hartford End. The scheme drawing also indicates a short section of footway is proposed on the eastern side of the B1417, which connects with the proposed southbound bus stop.

Concern arises that whilst a footway provision is available for pedestrians seeking to access the proposed northbound bus stop, there is a lack of footway provision to the proposed southbound bus stop when walking northbound along the B1417 Hartford End, as the western footway ends to the immediate north of the proposed development site access junction. This results in pedestrians having to walk within the vehicular carriageway, as there is a lack of continuity of the footway network.

As a result, a lack of footway continuity to and from the southbound bus stop could lead to a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.

#### RECOMMENDATION

It is recommended that a continuous footway should be provided in order for local residents to access the southbound bus stop, without having to walk within the existing carriageway, in order to mitigate the above described potential collision scenario.

#### 2.4.5 **PROBLEM**

**Location: M** – Proposed eastern footway (Drawing No: IT2259-TS-02).

**Summary:** Existing telegraph pole located within the proposed eastern footway could result in a potential increased risk of vehicular and pedestrian collisions occurring, whereby vehicle occupants and pedestrians could sustain personal injury.

The scheme drawing indicates a proposed short section of footway on the eastern side of the B1417 Hartford End, which connects to the proposed southbound bus stop.

The site visit has established the presence of an existing telegraph pole housing a mirror within the vicinity of the proposed eastern footway provision.

Concern arises that the existing telegraph pole may impact upon the available width of the proposed eastern footway, which could result in pedestrians having to step out into the southbound carriageway in order to pass one another. As a result, this situation could lead to a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.

#### **RECOMMENDATION**

It is recommended that the existing telegraph pole should be annotated on the scheme drawing.

Should the existing telegraph pole impact upon the proposed eastern footway, it is further recommended that the telegraph pole should be shown to be relocated.

### 2.5 **TRAFFIC SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING**

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

**END OF PROBLEMS IDENTIFIED AND RECOMMENDATIONS OFFERED IN THIS STAGE 1 ROAD SAFETY AUDIT**

### 3 AUDIT TEAM STATEMENT

We certify that this audit has been carried out in accordance with DMRB GG 119.

#### Road Safety Audit Team Leader

Lisa Allen, BEng (Hons), MSc, MCIHT, MSoRSA, HA RSA Cert Comp

Signed 

Director  
Allen Transport Consultancy Ltd  
Minerva House  
139 Chatham Road  
Maidstone  
Kent ME14 2NB

**Date:** 14<sup>th</sup> September 2023

#### Road Safety Audit Team Member

Adriano B. Cappella, IEng, FIHE, MSoRSA, MCIHT, HA RSA Cert Comp

Signed 

Road Safety Consultant  
Allen Transport Consultancy Ltd  
Minerva House  
139 Chatham Road  
Maidstone  
Kent ME14 2NB

**Date:** 14<sup>th</sup> September 2023

## **APPENDIX A**

List of drawings and documentation submitted for auditing:

<b>Drawing Number</b>	<b>Title</b>
IT2259-TS-01	Site Location in Local and Wider Context
IT2259-TS-02 Rev A	Proposed Site Access, Bus Stop and Crossing Point Layout
SPD306-300-01	Proposed Illustrative Site Layout Plan

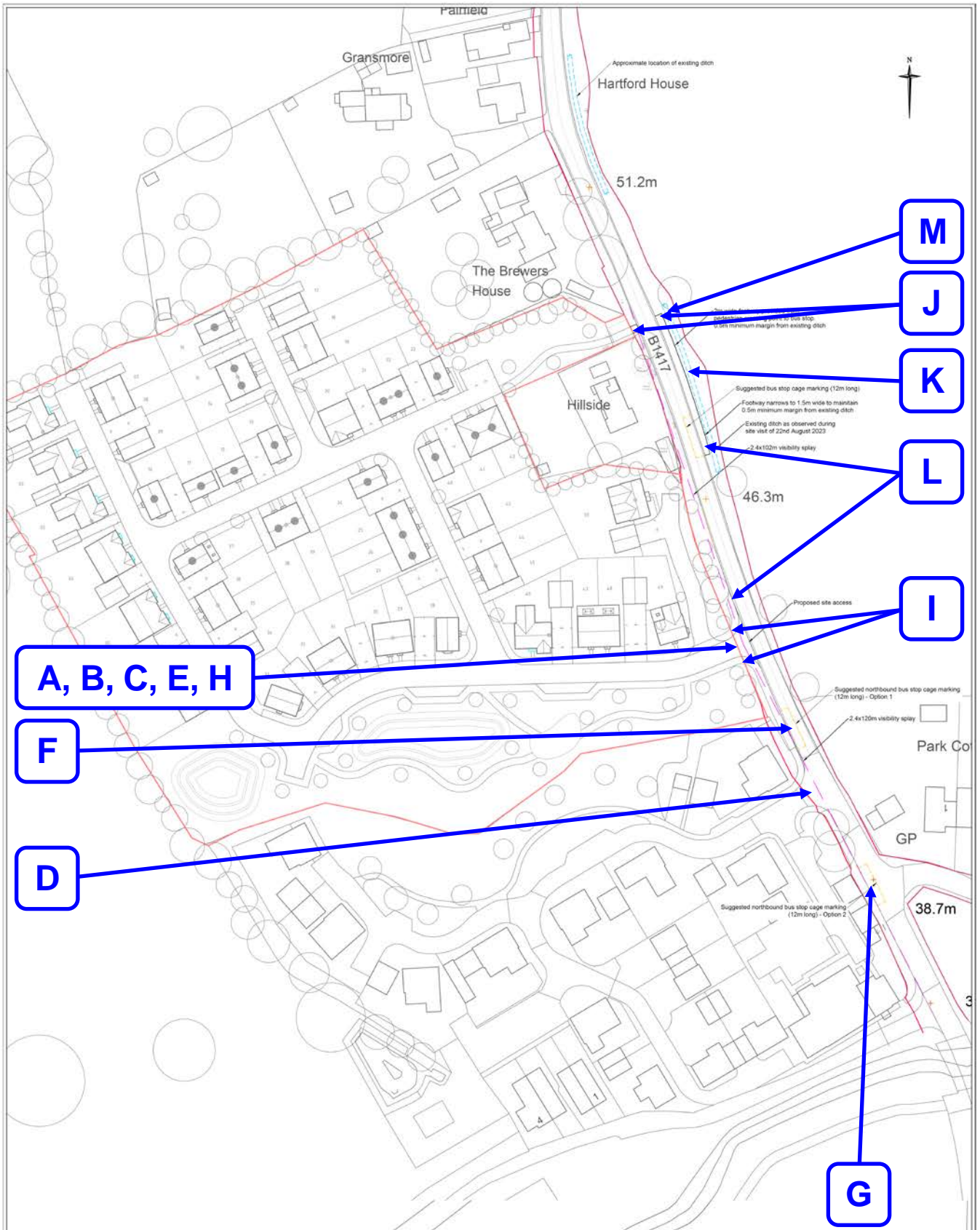
### **Supporting Documentation:**

- Stage 1 Road Safety Audit Brief, Intermodal Transportation Ltd, 29<sup>th</sup> August 2023



## **APPENDIX B**

Problem location plan.



**A, B, C, E, H**

**F**

**D**

**M**

**J**

**K**

**L**

**I**

**G**

Drawing Title: <b>PROPOSED SITE ACCESS, BUS STOP AND CROSSING POINT LAYOUT</b>		Rev: <b>A</b>	
IT Project: <b>LAND AT HARTFORD END</b>		Drawing No: <b>IT2259/TS/02</b>	CAD File: <b>IT2259_SK_01A.dwg</b>
Client: <b>STOCKPLACE INVESTMENTS LTD</b>		Date: <b>AUG 2023</b>	Scale: <b>1:500</b>
Sheet 1 of 1		Drawn by: <b>LS</b>	Approved by: <b>JB</b>
A1		<small>           This drawing is the property of Intermodal Transportation and is not to be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Intermodal Transportation.         </small>	

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PROPOSED RESIDENTIAL DEVELOPMENT, LAND AT HARTFORD END  
STAGE 1 ROAD SAFETY AUDIT DESIGNER'S RESPONSE

---

**Project Details:**

Project Title:	Proposed Residential Development, Land East of B1417 Hall Lane, Hartford End Proposed Highway Access, Stage1 Road Safety Audit Designer's Response
Date:	15.09.2023
Document Reference:	IT2259_RSA1_DR_15.09.23
On behalf of:	Stockplace Investments Ltd

**Authorisation Sheet:**

<b>Prepared by:</b>	
Name:	Devesh Shrivastava
Position:	
Signed:	
Organisation:	Intermodal Transportation Ltd
Date:	15.09.2023
<b>Approved by:</b>	
Name:	Justin Bass
Position:	
Signed:	
Organisation:	Intermodal Transportation Limited
Date:	15.09.2023

## Introduction and Context

This Designer's Response report has been produced in response to a Stage 1 Road Safety Audit (RSA) carried out at the request of Essex County Council, by Allen Transport Consultancy Ltd, with reference ATC/860/ITL/1 V1.0 and dated 12 September 2023.

The Safety Audit considered the preliminary design for the proposed highway junction to serve the proposed residential development site, amounting to 50 units, off the B1417 in Hartford End.

In summary, the proposals considered as part of the Stage 1 RSA report were:

- Provision of a new access junction on the B1417 Hall Lane to serve the proposed development,
- Provision of footways on the eastern and western sides of the B1417 Hall Lane;
- Provision of an uncontrolled pedestrian crossing facility at the northern end of the site,
- Provision of bus stops on the north and southbound lanes of the B1417;

This report has been prepared in accordance with the approach set out in GG 119.

## Key Personnel:

Overseeing Organisation:	Essex County Council
RSA Team:	Lisa Allen of Allen Transport Consultancy Ltd – RSA Team Leader Adriano Cappella of Allen Transport Consultancy Ltd – RSA Team Member
Design Organisation:	Intermodal Transportation Ltd

**Road Safety Audit Decision Log**

Reference	RSA Problem	RSA Recommendation	Design organisation response	Overseeing Organisation response	Agreed RSA Action
2.2.1	Existing telegraph pole located near the proposed access junction could result in a potential increased risk of vehicles striking the telegraph pole or vehicular and pedestrian collisions occurring, whereby vehicle occupants and pedestrians could sustain personal injury.	It is recommended that the existing telegraph pole should be annotated on the scheme drawing. Should the existing telegraph pole impact upon the proposed access junction or proposed western footway, it is further recommended that the telegraph pole should be shown to be relocated.	The position of the telegraph pole to be reviewed at the detailed design stage of the project and to be relocated if necessary.		
2.3.1	Potential vertical alignment issues at the proposed site access junction with the B1417 Hartford End could result in a potential increased risk of side impact vehicular collisions occurring, whereby vehicle occupants could sustain personal injury.	It is recommended that a proposed dwell area / flat plateau should be provided where the access road junction meets the B1417 Hartford End carriageway. Ideally, the approach gradient of the access road should be 2% or a gradient of 1:50. Additionally, where possible, the design should seek to achieve a level section of at least 15m length adjacent to the B1417 Hartford End carriageway.	This detailed design matter would be considered at the appropriate stage of the project and it would be ensured that the proposed levels and gradient of the access would comply with the Essex Design Standards.		
2.3.2	Location of the proposed access junction in relation to Ridley Green could increase the potential risk of side impact collisions occurring, whereby vehicle occupants could sustain personal injury.	It is recommended that the location of the proposed access junction should be in line with Local Authority policies on junction spacing. If for whatever reasons the above cannot be achieved, then it is recommended that approval for the current proposals should be sought and agreed with the overseeing organisation, i.e. the Local Highway Authority, Essex County Council.	<p>The distance between the site access and the Ridley Green access is 46m. The distance between Ridley Green and the Mill Lane access located to the south is 70m. Littley Park Lane is situated on the opposite side of the B1417 and in the middle of Ridley Green and Mill Lane, i.e. approximately 35m from each. The Essex Design Guide indicates that the spacing between two junctions on the same side of the road in situations such as this is to be 100m and the distance between two junctions on opposite sides should be 50m. The spacing between the existing junctions to the south does not accord with the EDG requirements but it is noted from the Essex TraffWeb website that there were no Personal Injury Accidents (PIAs) recorded at these junctions within the latest available 5 year period from August 2018.</p> <p>The proposed access location has been proposed on the basis of achieving visibility splays within the highway boundary. The access location was also agreed with Essex Highways during pre-app scoping discussions and no concerns</p>		

			<p>were raised. Relocation of the access would result in reduced visibility splays.</p> <p>In the light of the above it is considered that the position of the proposed access junction should be regarded as acceptable.</p>		
2.3.3	<p>Restricted visibility could result in a potential increased risk of side impact collisions occurring, whereby vehicle occupants could sustain personal injury.</p>	<p>It is recommended that the proposed visibility splay should be kept clear of any impediments in order to mitigate the above described potential collision scenario. If for whatever reasons the above cannot be achieved, then it is recommended that approval for the current proposals should be sought and agreed with the overseeing organisation, i.e. the Local Highway Authority, Essex County Council.</p>	<p>The hedge at the frontage of Hillside would be trimmed back up to the highway boundary in order to achieve the visibility splays shown on the scheme drawing and which are commensurate with the results of the speed survey.</p>		
2.3.4	<p>Stationary buses located within the either of the proposed northbound bus stop locations impact upon the visibility splays between drivers emerging from either the proposed access junction or the existing Ridley Green junction and vehicular traffic on the B1417 Hartford End. This situation could result in a potential increased risk of side impact collisions occurring, whereby vehicle occupants could sustain personal injury.</p>	<p>It is recommended that either the northbound bus stop should be located outside the visibility splays for the proposed development site access junction and the existing junction of Ridley Green or a bus stop layby should be provided, in order to mitigate the above described potential collision scenario.</p>	<p>The existing bus services are infrequent and operate approximately 1 bus every 2 hours. Furthermore, every service may not call at the stops, i.e. passengers may not wish to board / alight every passing service, which would further reduce the frequency with which buses call at the stops. ITL note that the existing northbound Brewery bus stop to the north is located on carriageway to the south of Camsix Chase potentially within the visibility splay of that junction and that Essex TraffWeb indicates that no PIAs were recorded at that junction within the latest available 5 year period from August 2018.</p> <p>The proposed bus stop locations are based on the ability to provide footways on appropriate width within the limits of highway boundary.</p> <p>In the light of the above it is considered that the possible positions for the proposed northbound bus stop should be regarded as acceptable.</p>		
2.3.5	<p>Potential swept path requirements of vehicles entering and exiting the proposed development site access junction could result in a potential increased risk of head or side swipe type collisions occurring, whereby vehicle occupants could sustain personal injury.</p>	<p>It is recommended that swept path analysis exercises should be undertaken in order to assist with the required geometry of the development site access junction. Should the swept path analysis exercises indicate that the current access junction proposals impact upon the swept path requirements, where by vehicular collisions could occur, then it is further</p>	<p>As indicated within Manual for Streets it is considered that if infrequent larger vehicles cross the centreline of minor roads when entering / exiting those roads that should not give rise to highway safety concerns. Furthermore, it is considered that drivers of infrequent large vehicles would wait for gaps in the main road traffic flow, which</p>		


		recommended that the junction geometry should be modified, in order to mitigate the above described potential collision scenarios.	would be relatively frequent in this rural location, before potentially entering the opposing traffic lane as part of a turning manoeuvre.  Refuse collection vehicles currently entering and existing Ridley Green do over sail the centre line of the B1417. We note that there were no accidents recorded at this junction within the latest available 5 year period.		
2.4.1	Assumed kerb heights could result in a potential increased risk of pedestrian trips and falls occurring, especially for those pedestrians who are blind, visually or mobility impaired, where by pedestrians could sustain personal injury.	It is recommended that dropped kerbs and tactile paving should be provided across the access junction, in order to mitigate the above described potential injury scenario.	Dropped kerbs and tactile paving to be shown at the detailed design stage of the project.		
2.4.2	Potential restricted inter-visibility at the uncontrolled pedestrian crossing facility could result in a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.	It is recommended that the inter-visibility should be kept clear of any impediments, in order to mitigate the above described potential collision scenario. This is likely to require the removal of existing vegetation.	Vegetation would be trimmed, as far as possible within the limits of the highway boundary, in order to maximise inter-visibility.		
2.4.3	An existing ditch is present near the proposed footway, which could result in a potential increased risk of pedestrian slips and falls occurring, especially during the hours of darkness at the B1417 is unlit, whereby pedestrians could sustain personal injury.	It is recommended that suitable and adequate measures, such as fencing or a culvert, should be provided, in order to mitigate the above described potential injury scenario.	There would be a 0.5m verge between the back edge of the footway and the top of the ditch. However, if deemed appropriate by the Local Highway Authority a wooden knee rail fence or similar could be provided at the back edge of the footway.		
2.4.4	Lack of pedestrian continuity for pedestrians seeking to access the southbound bus stop could result in a potential increased risk of vehicular and pedestrian collisions occurring, whereby pedestrians could sustain personal injury.	It is recommended that a continuous footway should be provided in order for local residents to access the southbound bus stop, without having to walk within the existing carriageway, in order to mitigate the above described potential collision scenario.	The stretch of footway on the eastern side of the road is to provide access to the southbound bus stop only and there are no other stretches of footway on that side of the road within the vicinity of the site. Furthermore, there is not sufficient width within the highway verge on the western side of the road to provide a continuous footway and there are very few / no properties on that side of the road within the vicinity of the site. As such, a continuous pedestrian route on the western side of the road is proposed linking to existing footway provision in the area and the proposed crossing point towards the northern end of the site.  At present, there is not a continuous stretch of footway along the B1417. There is no footway section leading to the existing bus stops to the north of the site		

			<p>and pedestrians would have to walk on the carriageway while accessing the stop.</p> <p>In the light of the above it is considered unlikely that pedestrians would walk along the western side of the road and that the proposed continuous pedestrian route on the eastern side of the road would provide betterment for existing residents.</p>		
2.4.5	Existing telegraph pole located within the proposed eastern footway could result in a potential increased risk of vehicular and pedestrian collisions occurring, whereby vehicle occupants and pedestrians could sustain personal injury.	It is recommended that the existing telegraph pole should be annotated on the scheme drawing. Should the existing telegraph pole impact upon the proposed eastern footway, it is further recommended that the telegraph pole should be shown to be relocated.	The position of the telegraph pole to be reviewed at the detailed design stage of the project and to be relocated if necessary.		



## Design Organisation and Overseeing Organisation Statements

### Design Organisation Statement

On behalf of the design organisation I certify that:	
1) the RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the Overseeing Organisation.	
Name:	Devesh Shrivastava
Signed:	
Position:	
Organisation:	Intermodal Transportation Ltd
Date:	15/09/23

### Overseeing Organisation Statement

On behalf of the Overseeing Organisation I certify that:	
1) the RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the design organisation; and	
2) the agreed RSA actions will be progressed.	
Name:	
Signed:	
Position:	
Organisation:	
Date:	



## **Appendix E**

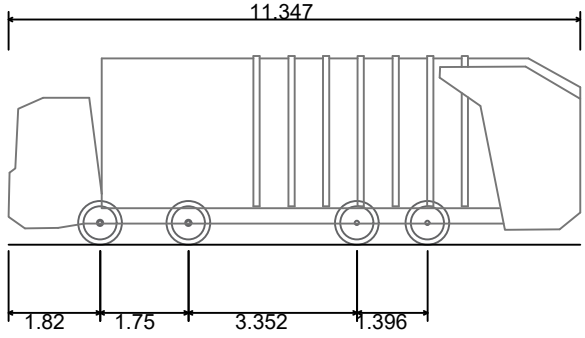
### AutoTrack Swept Paths

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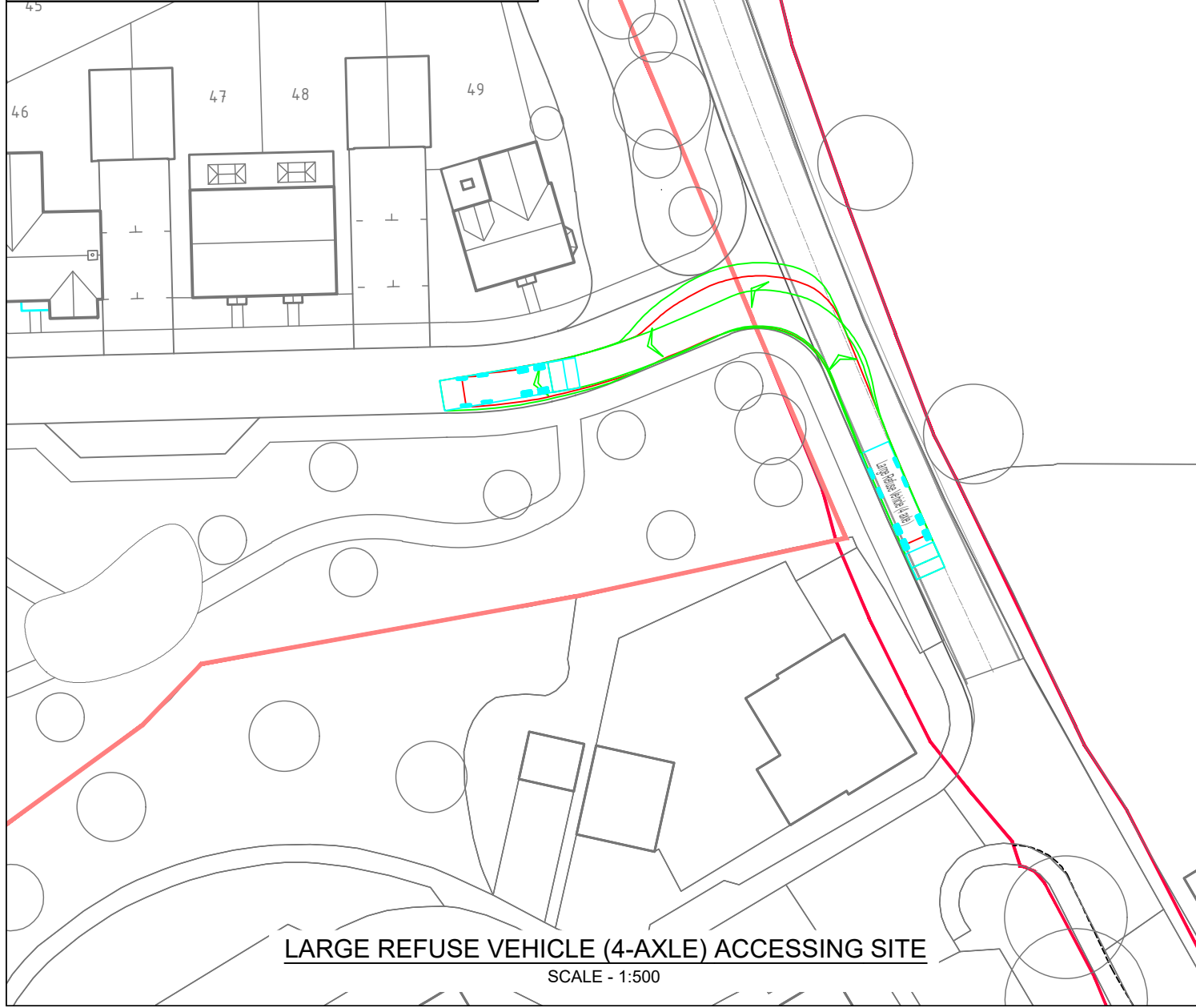
Hillside

46.3m

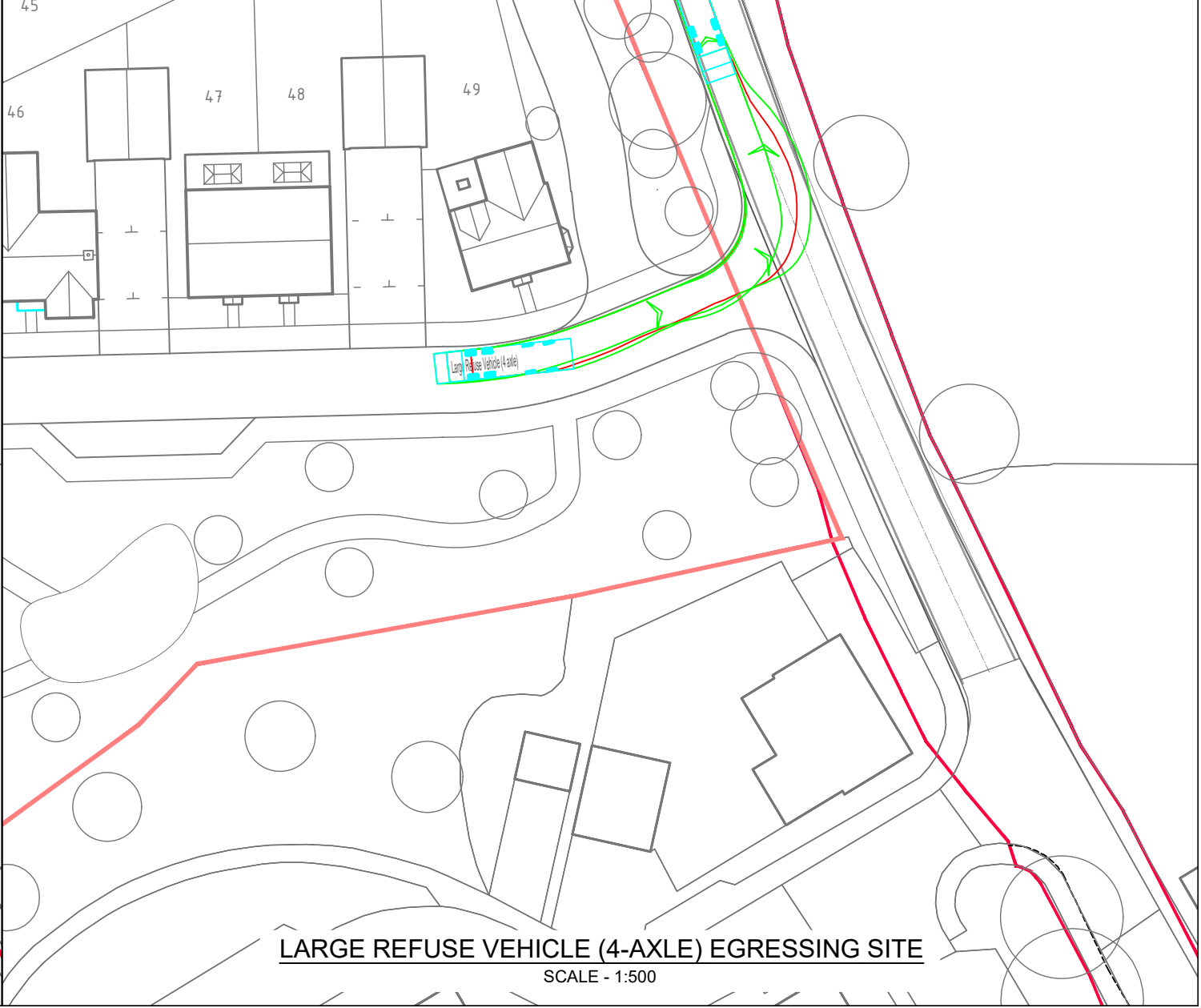
46.3m



Large Refuse Vehicle (4 axle)	
Overall Length	11.347m
Overall Width	2.500m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to lock time	6.00s
Wall to Wall Turning Radius	11.330m



LARGE REFUSE VEHICLE (4-AXLE) ACCESSING SITE  
SCALE - 1:500



LARGE REFUSE VEHICLE (4-AXLE) EGRESSING SITE  
SCALE - 1:500



## **Appendix F**

TRICS Printouts

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Calculation Reference: AUDIT-731001-230808-0839

## TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST	
	SC SURREY	1 days
	WS WEST SUSSEX	2 days
03	SOUTH WEST	
	SM SOMERSET	2 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
	NF NORFOLK	2 days
	SF SUFFOLK	1 days
05	EAST MIDLANDS	
	LE LEICESTERSHIRE	1 days
08	NORTH WEST	
	AC CHESHIRE WEST & CHESTER	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: 32 to 99 (units: )  
 Range Selected by User: 5 to 100 (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: 01/01/10 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	3 days
Wednesday	2 days
Thursday	4 days
Friday	2 days

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

Selected survey types:

Manual count	10 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 undertaken using machines.*

Selected Locations:

Neighbourhood Centre (PPS6 Local Centre)	11
--	----

*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:

Village	11
---------	----

*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	6 days - Selected
Servicing vehicles Excluded	20 days - Selected

Secondary Filtering selection:

Use Class:

C3	11 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:

1,000 or Less	1 days
1,001 to 5,000	6 days
5,001 to 10,000	3 days
10,001 to 15,000	1 days

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	3 days
50,001 to 75,000	2 days
75,001 to 100,000	3 days
100,001 to 125,000	2 days

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

Car ownership within 5 miles:

1.1 to 1.5	9 days
1.6 to 2.0	2 days

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

Travel Plan:

Yes	5 days
No	6 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	11 days
-----------------	---------

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

LIST OF SITES relevant to selection parameters

1	AC-03-A-06 COMMON LANE NEAR CHESTER WAVERTON Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 99 <i>Survey date: FRIDAY 29/04/22</i>	DETACHED HOUSES	CHESHIRE WEST & CHESTER	<i>Survey Type: MANUAL</i>
2	CA-03-A-08 GIDDING ROAD SAWTRY  Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 83 <i>Survey date: THURSDAY 13/10/22</i>	DETACHED & SEMI -DETACHED	CAMBRI DGESHI RE	<i>Survey Type: MANUAL</i>
3	LE-03-A-02 MELBOURNE ROAD IBSTOCK  Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 85 <i>Survey date: THURSDAY 28/06/18</i>	DETACHED & OTHERS	LEI CESTERSHI RE	<i>Survey Type: MANUAL</i>
4	NF-03-A-27 YARMOUTH ROAD NEAR NORWICH BLOFIELD Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 93 <i>Survey date: THURSDAY 16/09/21</i>	MIXED HOUSES & FLATS	NORFOLK	<i>Survey Type: MANUAL</i>
5	NF-03-A-40 MILL LANE NEAR NORWICH HORSFORD Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 57 <i>Survey date: TUESDAY 11/10/16</i>	MIXED HOUSES	NORFOLK	<i>Survey Type: DIRECTIONAL ATC COUNT</i>
6	SC-03-A-10 GUILDFORD ROAD ASH  Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 32 <i>Survey date: WEDNESDAY 14/09/22</i>	MIXED HOUSES	SURREY	<i>Survey Type: MANUAL</i>
7	SF-03-A-06 BURY ROAD KENTFORD  Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 38 <i>Survey date: FRIDAY 22/09/17</i>	DETACHED & SEMI -DETACHED	SUFFOLK	<i>Survey Type: MANUAL</i>

LIST OF SITES relevant to selection parameters (Cont.)

8	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 <i>Survey date: TUESDAY 25/09/18</i>		
	<i>Survey Type: MANUAL</i>		
9	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 <i>Survey date: TUESDAY 25/09/18</i>		
	<i>Survey Type: MANUAL</i>		
10	WS-03-A-07	BUNGALOWS	WEST SUSSEX
	EMMS LANE NEAR HORSHAM BROOKS GREEN Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 57 <i>Survey date: THURSDAY 19/10/17</i>		
	<i>Survey Type: MANUAL</i>		
11	WS-03-A-16	DETACHED & SEMI -DETACHED	WEST SUSSEX
	BRACKLESHAM LANE BRACKLESHAM BAY  Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 58 <i>Survey date: WEDNESDAY 09/11/22</i>		
	<i>Survey Type: MANUAL</i>		

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
CA-03-A-07	COVID 19
ES-03-A-06	COVID 19
SF-03-A-08	COVID 19



TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	62	0.093	11	62	0.312	11	62	0.405
08:00 - 09:00	11	62	0.164	11	62	0.305	11	62	0.469
09:00 - 10:00	11	62	0.159	11	62	0.207	11	62	0.366
10:00 - 11:00	11	62	0.150	11	62	0.168	11	62	0.318
11:00 - 12:00	11	62	0.118	11	62	0.161	11	62	0.279
12:00 - 13:00	11	62	0.166	11	62	0.177	11	62	0.343
13:00 - 14:00	11	62	0.181	11	62	0.164	11	62	0.345
14:00 - 15:00	11	62	0.162	11	62	0.180	11	62	0.342
15:00 - 16:00	11	62	0.228	11	62	0.175	11	62	0.403
16:00 - 17:00	11	62	0.272	11	62	0.177	11	62	0.449
17:00 - 18:00	11	62	0.326	11	62	0.149	11	62	0.475
18:00 - 19:00	11	62	0.272	11	62	0.145	11	62	0.417
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
<b>Total Rates:</b>			2.291			2.320			4.611

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

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

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Parameter summary

Trip rate parameter range selected: 32 - 99 (units: )  
 Survey date date range: 01/01/10 - 01/03/23  
 Number of weekdays (Monday-Friday): 11  
 Number of Saturdays: 0  
 Number of Sundays: 0  
 Surveys automatically removed from selection: 2  
 Surveys manually removed from selection: 3

*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.*