



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



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DOCUMENT CONTROL SHEET

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Project Details:

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

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:
- [REDACTED] - BEng (Hons), MSc, MCIHT, MSoRSA, HA RSA Cert Comp - Audit Team Leader
 - [REDACTED] - 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 29th 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 12th 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 14th 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

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

Signed: ██████████

Director
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Date: 14th September 2023

Road Safety Audit Team Member

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Signed: ██████████

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Date: 14th September 2023

APPENDIX A

List of drawings and documentation submitted for auditing:

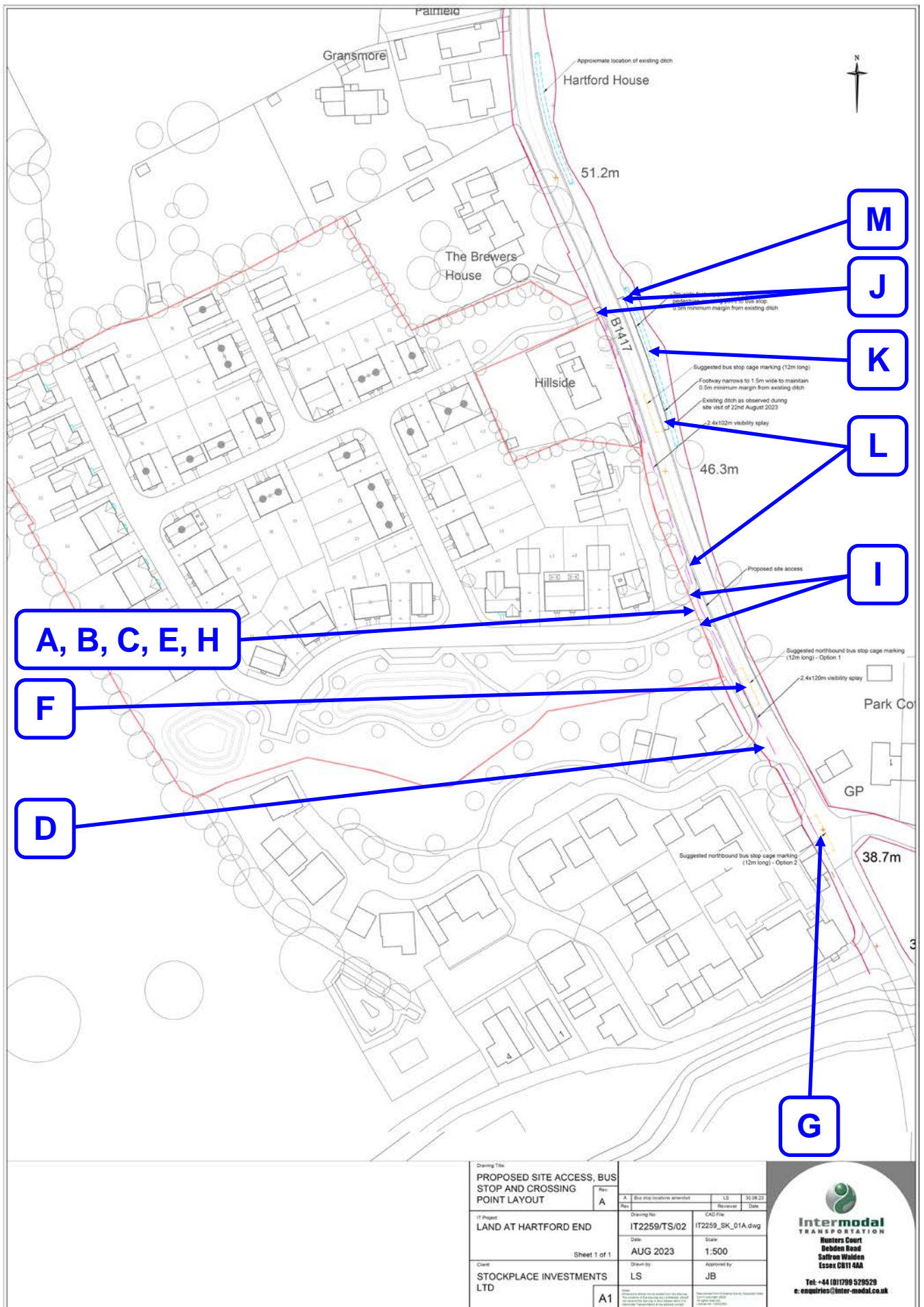
Drawing Number	Title
IT2259-TS-01	Site Location in Local and Wider Context
IT2259-TS-02 Rev A	Proposed Site Access, Bus Stop and Crossing Point Layout
SPD306-300-01	Proposed Illustrative Site Layout Plan

Supporting Documentation:

- Stage 1 Road Safety Audit Brief, Intermodal Transportation Ltd, 29th August 2023

APPENDIX B

Problem location plan.



Drawing Title:
**PROPOSED SITE ACCESS, BUS
STOP AND CROSSING
POINT LAYOUT**

Rev:	A
IT Project:	LAND AT HARTFORD END
Client:	STOCKPLACE INVESTMENTS LTD
Sheet 1 of 1	

Rev:	A	Blue stop locations amended	LS	10/08/23
Drawing No:	IT2259/TS/02	CAD File:	IT2259_SK_01A.dwg	
Date:	AUG 2023	Scale:	1:500	
Drawn by:	LS	Approved by:	JB	

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