

Lea Castle Farm, Wolverley, Kidderminster

Stage 1 Road Safety Audit

Client: NRS Aggregates Limited

Reference: PC1790-RHD-ZZ-XX-RP-X-0001

Status: 0.1/Draft

Date: 01 September 2020

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Date: 01.09.2020 / SKT

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Classification

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1 Introduction

- 1.1.1 Royal HaskoningDHV has been appointed by NRS Aggregates Limited to undertake a Stage 1 Road Safety Audit. The Audit relates to highway works associated with the provision of a new mineral extraction site off the B4189 Wolverley Road near Wolverley, Worcestershire. The location of the highway extents of this Stage 1 Road Safety Audit are shown in **Figure 1** of this report.
- 1.1.2 The Audit Team for this Stage 1 Road Safety Audit was as follows:
- Audit Team Leader**
Vicky Seaton, BSc (Hons), MSoRSA, MCIHT, CoC
Royal HaskoningDHV
- Audit Team Member**
Sam Taylor, BEng (Hons), MSoRSA, MCIHT, CoC
Royal HaskoningDHV
- 1.1.3 The Road Safety Audit took place on Friday 28th August 2020, based on information provided by Jeremy Hurlstone of The Hurlstone Partnership as designer of the scheme. The Road Safety Audit comprised an examination of the documents listed in **Appendix A** of this report.
- 1.1.4 A site visit was undertaken by the Audit Team on Friday 20th August 2020 at 11:30 during the morning interpeak traffic period. Weather conditions during the site visit were overcast and surface conditions were dry. The site visit was carried out during the Covid-19 pandemic and as a result, traffic conditions during the site visit may not have been typical for the location and time of day.
- 1.1.5 The terms of reference for the Road Safety Audit are described in GG 119¹. The Road Safety Audit has examined and reported only on the road safety implications of the schemes as presented and has not examined or verified the compliance of the designs to any other criteria.
- 1.1.6 The Audit is concerned with the proposed vehicular access into the new mineral extraction site from the B4189 Wolverley Road. The access would allow vehicles to turn right into the site and turn left out onto the highway, travelling to and from the A449 Wolverhampton Road to the east of the access.
- 1.1.7 A summary of Personal Injury Collision (PIC) data has been provided to the Audit Team within the Transport Assessment provided to the Audit Team as part of the audit package. The data, which focussed on HGV collisions during the five year period between 2014 and 2018 identified a single collision at the A449 Wolverhampton Road / B4189 Wolverley Road signal controlled junction.
- 1.1.8 The collision data provided to the Audit Team was concerned with those collisions involving HGVs and as such, the Stage 1 Road Safety Audit Team has also undertaken a review of all collision data for the highway network on the vicinity of the access on the CrashMap² website. The review, which focussed on the most recently available five-year period (2015 to 2019), identified 12 collisions between (and inclusive of) the Sion Hill/ B4189 Wolverley Road junction and the A449 Wolverhampton Road/ B4189 Wolverley Road junction.

¹ GG 119 Road Safety Audit (Formerly HD 19/ 15), Revision 2, January 2020

² www.crashmap.co.uk

- 1.1.9 Of these 12 collisions, nine were recorded at the A449 Wolverhampton Road/ B4189 Wolverley Road signalised junction and all resulted in 'slight' injuries; three of these collisions involved motorcyclists. Of the remaining three collisions, two were recorded on the B4189 Wolverley Road between Sion Hill and the A449 Wolverhampton Road. One of these collisions resulted in fatal injury to a pedestrian and was recorded adjacent to a private access approximately 75 metres (m) to the east of Sion Hill. The second collision occurred on the B4189 approach to the A449 junction and resulted in 'serious' injury to a motorcyclist.
- 1.1.10 The final collision took place on the immediate westbound approach to the Sion Hill junction and resulted in 'serious' injury to a vehicle occupant.
- 1.1.11 Notably, the CrashMap database only contains collisions up to December 2019. As such, further details relating to any collisions in the vicinity of the proposed scheme would require independent verification by the Client, should the Local Highway Authority have any concerns relating to the collision history at this location.
- 1.1.12 Any recommendations included within this report should not be regarded as being prescriptive design solutions to the problems identified. They are only to indicate a proportionate and viable means of eliminating or mitigating the identified problem, in accordance with GG 119, and in no way imply that a formal design process has been undertaken.
- 1.1.13 There may be alternative measures of addressing a problem which would be equally acceptable or superior in achieving the desired degree of mitigation and these should be considered when responding to this report.

2 Matters Arising from this Stage 1 Road Safety Audit

- 2.1.1 It is understood that the audited scheme is at the planning application stage, and as such there are a number of items the Audit Team would wish to see that are not available for this Stage 1 Road Safety Audit.
- 2.1.2 As such, the Design Team should submit a full Stage 2 Road Safety Audit alongside the detailed design package issued to the Local Highway Authority for approval.
- 2.1.3 Items to be considered within the detailed design may include:
- Drainage;
 - Landscaping;
 - Utilities;
 - Paving and kerbing;
 - Road signs; and
 - Lighting.

A1 Local Alignment

A1.1 New/ Existing Interface

A1.1.1 Problem 1

Location: B4189 Wolverley Road, existing brick wall.

Summary: Exposed termination of the removed section of the existing brick wall could result in a higher severity of injury in the event of a collision.

Description: A section of the existing brick wall is to be removed to accommodate the proposed access and required visibility splays. No detail has been provided to the Audit Team on the method of termination of the exposed sections of the wall. Failure to provide adequate measures to protect the exposed ends of the wall from vehicle strikes could lead to a higher severity of injury should a collision occur.



B4189 Wolverley Road looking west towards Sion Hill, showing existing brick wall

RECOMMENDATION

The brick wall should be tapered, similar to the existing vehicle access to Broom Cottage (shown below) to reduce the likelihood of a higher severity of injury in the event of a collision.



A2 General

2.1.4 The Audit Team did not identify any general safety problems at this stage.

A3 Junctions

A3.1 Layout

A3.1.1 Problem 2

Location: B4189 Wolverley Road/ proposed access.

Summary: Vehicles turning left into the site could overrun the adjacent footway, resulting in the potential for collisions with pedestrians at the kerb face.

Description: The proposed junction layout has been designed to not permit vehicles to turn left into the site from the B4189 Wolverley Road. There is the potential that members of staff may approach the junction from the west and attempt to turn left into the site. The potential for staff vehicles to attempt to turn left into the site is exacerbated by the absence of a suitable location for vehicles to 'U'-Turn in the vicinity of the proposed access.

Furthermore, it is not clear what management processes will be put in place to ensure that HGV traffic does not approach the site from the west and then attempt to turn left into the site. Whilst the layout of the junction is such that the left turn is discouraged, drivers may still attempt the manoeuvre, particularly given the absence of a 'U'-turn option elsewhere.

Vehicles turning left into the site could overrun the adjacent footway, resulting in the potential for collisions with pedestrians at the kerb face.

RECOMMENDATION

The geometry of the junction should be amended to allow for a left turn into the site for staff vehicles (cars/ vans). A clear signage and management process should also be implemented to prevent HGV traffic from entering the site from the west, or alternatively the access should be amended to allow HGVs to left turn in.

A4 Walking, Cycling and Horse-Riding

A4.1 Walking

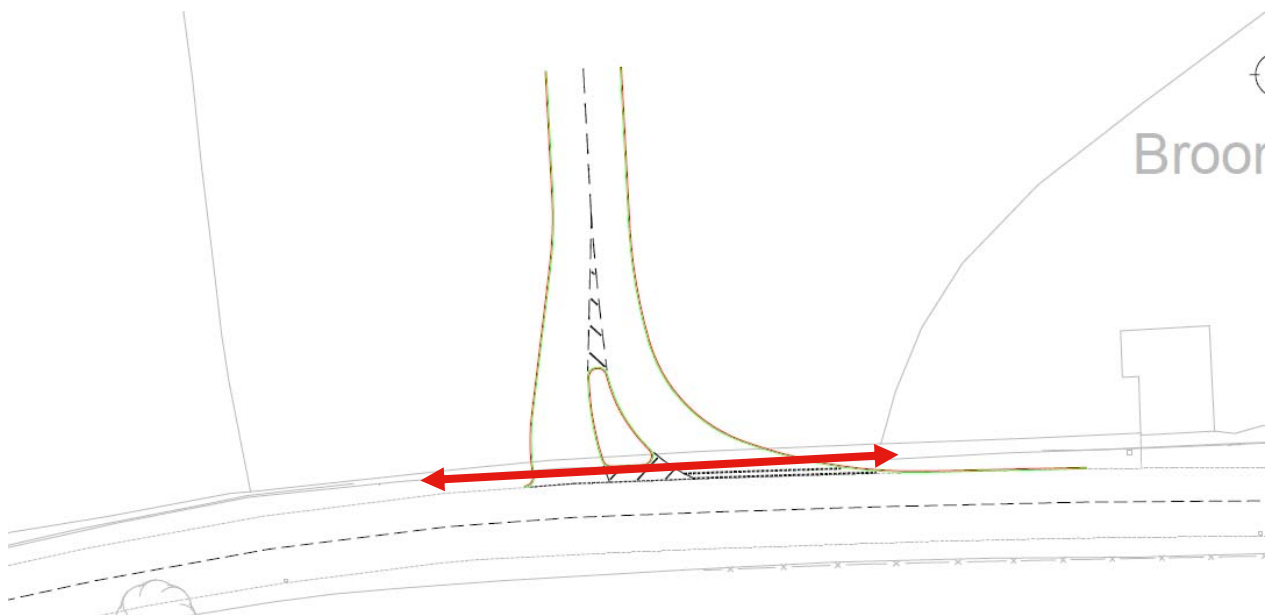
A4.1.1 Problem 3

Location: B4189 Wolverley Road/ proposed site access, existing footway.

Summary: Failure to consider pedestrian movement across the junction could lead to pedestrian trips/falls at the kerb face, resulting in injury or collisions with vehicles on the main road.

Description: The proposed access drawing does not provide any pedestrian facilities across the new junction. The width of the junction could result in pedestrians crossing in two movements, waiting either within the hatched markings to the south of the traffic island (at risk of collisions with vehicles on the main road), or on the island itself.

No information has been provided to the Audit Team in relation to the provision of dropped kerbs on the footway approaches to the junction or on the traffic island. Failure to consider pedestrian movement across the junction could lead to pedestrian trips/falls at the kerb face, resulting in injury or collisions with vehicles on the main road.



Extract from The Hurlstone Partnership drawing 'Figure 1', showing pedestrian desire line across the junction

RECOMMENDATION

Provide dropped kerbs and space within the central island for pedestrians to wait safely.

A5 Traffic Signs, Carriageway Markings and Lighting

- 2.1.5 The Audit Team was not provided with any details relating to traffic signs or lighting provision. Full details of proposed traffic signs, carriageway markings and any changes to existing street lighting should be provided as part of a detailed design Stage 2 Road Safety Audit drawing package.

3 Audit Team Statement

3.1.1 We certify that this Stage 1 Road Safety Audit has been carried out in accordance with GG 119.

Road Safety Audit Team Leader

Vicky Seaton, BSc (Hons), MSoRSA, MCIHT, HA CoC
Principal Transport Planner
Royal HaskoningDHV
5th Floor Newater House
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B3 3NY

Signed:



Dated: 01.09.2020

Road Safety Audit Team Member

Sam Taylor, BEng (Hons), MSoRSA, MCIHT, CoC
Associate Transport Planner
Royal HaskoningDHV
Rightwell House
Bretton
Peterborough
PE3 8DW

Signed:



Dated:

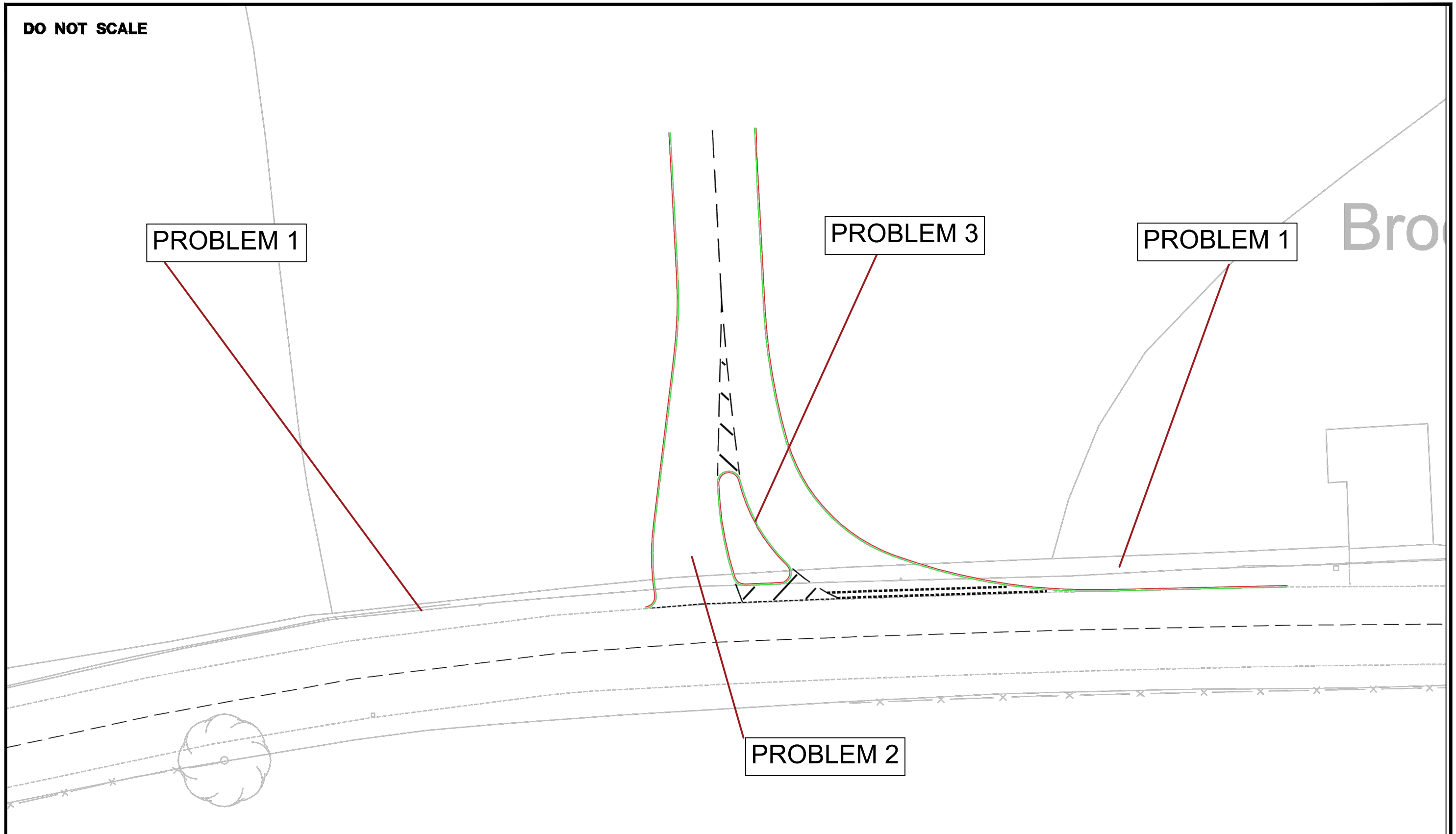
01.09.2020

Figures

Figure 1 – Site Location Plan

Figure 2 – Problem Location Plan

DO NOT SCALE




Based on The Hurlstone Partnership drawing Figure 1

REPRODUCED FROM ORDNANCE SURVEY MAPS WITH PERMISSION FROM THE CONTROLLER OF HM STATIONERY OFFICE. CROWN COPYRIGHT RESERVED. LICENCE No. 100023422 2007.

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| | |
|-----------------------|---|
| TITLE | PROJECT |
| PROBLEM LOCATION PLAN | LEA CASTLE FARM, WOLVERLEY STAGE 1 ROAD SAFETY AUDIT |

| |
|---|
|  <p>Royal HaskoningDHV Enhancing Society Together</p> |
|---|

| | | | | | |
|-------------|------------|---------|-----|----------|----|
| DRAWN | VS | CHECKED | SKT | APPROVED | VS |
| DATE | 01.09.2020 | SCALE | NTS | REF. | - |
| DRAWING No. | FIGURE 2 | | | REVISION | |

| | | | | | |
|-------------|------------|---------|-----|----------|----|
| DRAWN | VS | CHECKED | SKT | APPROVED | VS |
| DATE | 01.09.2020 | SCALE | NTS | REF. | - |
| DRAWING No. | FIGURE 2 | | | REVISION | |

Appendix A

Documents Forming the Audit Brief

APPENDIX A

Documents Forming the Audit Brief

DRAWING NUMBER

Figure 1
Figure 2

Figure 3

WY Splays Trial_V1 2019

DRAWING TITLE

Proposed Site Access; Preliminary Design Layout
Proposed Site Access; AUTOTrack of Permitted
Movements: 16.5m long FTA Design Articulated HGV
Proposed Site Access: AUTOTrack of Restricted
Movements: 16.5m long FTA Design Articulated HGV
WY TA 19-1 Proposed Site Entrance

DOCUMENTS

- Safety Audit Brief
- Site Location Plan
- Traffic signal details
- Departures from standard
- Previous Road Safety Audits
- Previous Designer Responses
- Collision data
- Collision plot
- Traffic flow / modelling data
- Pedestrian flow / modelling data
- Speed survey data
- Other documents

DETAILS (where appropriate)

Proposed Mineral Extraction and Progressive Restoration
Site at Lea Castle Farm, Wolverley, Worcestershire –
Transport Statement (JPH/15100/Final) August 2019

The Hurlstone Partnership

Seven Oaks Farm, Crew Green, Shrewsbury SY5 9AS

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Mr. R. Smithyman
Kedd Development Limited
15 Bridge Road
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Our Ref: JPH/jph/151002

23 September 2020

Dear Robin

PROPOSED MINERAL SITE AT LEA FARM, WOLVERLEY, WORCESTERSHIRE - DESIGNER'S RESPONSE TO STAGE 1 ROAD SAFETY AUDIT

Thank you for forwarding the Stage 1 RSA prepared by RHDHV, which raised several matters for further consideration. We are pleased to provide our response to the points, in the order raised, below.

As recognised by the Audit Team, the more detailed information prepared as part of the detailed design package following the granting of planning permission would be submitted for a Stage 2 RSA as part of the normal S278 process, which ultimately leads to construction of the works.

Problem 1 – Brick Wall termination at access point.

The Audit Team suggests the provision of tapers to reduce injury severity should a collision with the wall occur. Whilst tapers could be provided, this would result in a greater length of the existing wall being affected by the access creation, in order to maintain the required access width. A further consideration is the potential for the tapers to deflect a vehicle which has left the carriageway and collided with the wall, back towards and possibly into the live carriageway where it could collide with pedestrians on the footway or other vehicles/cycles travelling along the carriageway itself.

Whilst the inclusion of tapers may result in reduced injury severity for the vehicle occupants when colliding with the wall, they could also result in significantly worse injuries to other road users that may be avoided in the absence of the tapers.

It is understood that the Applicant is content to provide tapers to the wall on either side of the access, rather than a straight termination, should that be the Council's preferred option, taking the Audit Team's and foregoing comments into account.

Problem 2 - Left turn radius into site access

The access has been designed to prevent HGVs from turning left into the site access, in order to discourage such vehicles approaching from the west, in accordance with local requirements. The proposed radius is required in order to prevent that manoeuvre. In addition to its physical geometry, the access would also be monitored by CCTV to ensure compliance. In addition, customers ordering materials and their hauliers would be advised that all HGV traffic must approach and leave via the east. Signage reinforcing a left turn out for HGVs would also be provided within the site.

In order to accommodate the right turn into the site by HGV traffic, the entry lane to the quarry is some 6.9m wide (approximately the same width as Wolverley Road). As a result, vans and private cars would be able to turn left into the site

The Hurlstone Partnership

access from the eastbound traffic lane of the priority route without any difficulty, even with the small radius proposed to prevent HGVs making the same manoeuvre.

It is not considered that additional signage to the west on Wolverley Road to confirm HGVs cannot turn left into the access is appropriate, as it would only be of relevance to HGV drivers approaching from the west, which the proposed site management protocols seek to avoid. Should signage to the west of the access be considered necessary, it may be appropriate to locate it on the A442 confirming 'No HGV Access to Quarry. HGV access via A449', so that any HGV drivers approaching from the west would be reminded to follow the proposed route to/from the site via the A449 to the east.

Problem 3 – Pedestrian Crossing Proposed Access

The central island within the site access bellmouth is set-back to a position coincident with the rear of the existing footway, such that the existing desire line and established pedestrian route may be retained. The provision of dropped kerbs at the crossing point, together with tactile pavings to assist the visually impaired, are recommended and will be incorporated into the detailed design package to be submitted for approval and Stage 2 RSA, following the granting of planning permission, in accordance with the normal procedures.

We trust the foregoing is acceptable for the purposes of the planning application stage of the scheme. However, should you have any queries or require any further assistance, please do not hesitate to contact the undersigned on 01743 884849 or 07875 399325.

Yours sincerely

Jeremy Hurlstone
for THE HURLSTONE PARTNERSHIP

From: Vicky Seaton <Vicky.Seaton@rhdhv.com>

Date: Monday, 5 October 2020 at 11:02

To: Robin Smithyman <robin@keddltd.co.uk>

Cc: Jeremy Hurlstone <jeremy@hurlstones.com>, Sam Taylor <sam.taylor@rhdhv.com>

Subject: Lea Castle Farm, Wolverley

Good morning Robin,

Many thanks for providing us with a copy of the Designer's Response in relation to the Stage 1 Road Safety Audit at Lea Castle Farm, Wolverley.

I can confirm that the Stage 1 Road Safety Audit Team do not have any further comments at this stage. The Designer's Response should be submitted to the local authority along with the Stage 1 Road Safety Audit report for their consideration.

Kind Regards

Vicky Seaton BSc (Hons), MCIHT, MTPS, MSoRSA
Principal Transport Planner – Transport UK

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