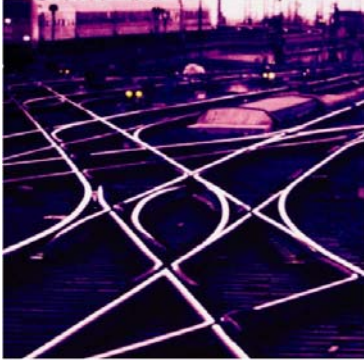


Edinburgh Airport Rail Link



Roddinglaw Road Stage 1 Safety Audit September 2005



Issue & Revision Schedule

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B1 Introduction

This report results from a Stage 1 Road Safety Audit carried out on a design for the bridging of Roddinglaw Road to accommodate the proposed Edinburgh Airport Rail Link at the request of the Design Organisation: Halcrow Group Ltd, Glasgow office. The audit was carried out during September 2005.

The audit team membership was as follows: -

JR Richardson BSc (hons), CEng, MICE
Halcrow Group Ltd (Safety Audit Section), Worcester

D Lines BSc (hons), CEng, MICE, MIHT
Halcrow Group Ltd (Safety Audit Section), Worcester

A visit to the site of the works was made on 15 September 2005 when the weather was dry.

The terms of reference of the audit are as described in Chapter 2 of HD 19/03. The team has examined and reported only on the road safety implications of the scheme as presented and has not commented or verified the compliance of the designs to any other criteria.

All comments and recommendations are referenced to the detailed design drawings and the locations have been indicated on the A3 appended to this report.

General

B1.1 ***Departures from Standards***

B1.1.1 ***Problem***

The proposed railway overbridges are designed to very low speed "farm access" standards - ie 25m radii horizontal curves and 30m forward visibility. Even if primarily intended for use by farm and maintenance vehicles only, there would be a great temptation for members of the public to use Roddinglaw Road as a through route. As such, the design standards would be too low.

Recommendation

The design speed for the road should be nearer 50kph - ie 90m radii horizontal curves and 50m forward visibility. If it is intended that the railway crossings should only provide farm and maintenance access then the 250m length of Roddinglaw Road south of the golf club house should be formally stopped up and, preferably, physically removed (including, if possible, any Statutory Undertakers' apparatus).

B1.2 ***Fences and Road Restraint Systems***

B1.2.1 ***Problem***

When travelling northwards along Roddinglaw Road, there is no safety fencing shown on the outside of the left hand bend immediately after the existing railway bridge; there is a risk of rail incursion.

Recommendation

Safety fencing, possibly at P6 containment level, would be required and to be contiguous with that already detailed.

B1.3 ***Adjacent Developments and Roads***

B1.3.1 *Problem*

It was noted that the new Scottish Agricultural Science Agency (SASA) headquarters is being constructed at the southern end of Roddinglaw Road and that this could significantly increase locally generated traffic.

Roddinglaw Business Park and SASA may have requirements for high vehicles. The diversion route

Recommendation

Currently, all of the roads are lightly used and have plenty of spare capacity but the situation should be monitored. There are alternative routes serving SASA from the A71 to the south and so traffic capacity is not expected to be a problem.

B1.3.2 *Problem*

Roddinglaw Business Park and SASA may have requirements for high vehicles. The diversion route will pass beneath a rail bridge with only 4m (13 feet) headroom and so the high vehicles would choose to go through the village of Gogarbank.

Recommendation

Recommended routes should be signposted at each junction.

B2 Local Alignment

B2.1 Layout

B2.1.1 Problem

The proposed new diversion of Roddinglaw Road contains a 700m long straight. This would encourage excessive speeds and, in the eastbound direction, ends in a "T"-junction onto Roddinglaw Road. Drivers may approach this too fast and overshoot the give way line. The road will also be subject to farm vehicles emerging from field accesses and tractor drivers may underestimate the speeds of oncoming traffic. Distances to vehicles are also more difficult to judge on straight roads.

Recommendation

Introduce some horizontal curvature into the alignment. Consider an alternative alignment closer to the motorway and joining Roddinglaw Road in between the Roddinglaw Business Park and the proposed SASA headquarters.

B2.2 Visibility

B2.2.1 Problem

In the northbound direction on Roddinglaw Road, it is proposed to introduce a sharp left hand bend immediately after the existing hump back railway bridge. The alignment may be hidden from view by the crest curve over the bridge.

Recommendation

Ensure that the vertical alignment allows the left hand bend to be visible prior to crossing the railway bridge.

B3 Junctions

B3.1 Layout

B3.1.1 Problem

If the Roddinglaw Road railway crossings are closed to through traffic, then the through traffic (the main flow) will become the new diversion road/Roddinglaw Road. Southbound traffic would rejoin Roddinglaw Road at a "Give way" "T"-junction and northbound traffic turning left of Roddinglaw Road at this junction. Southbound drivers are likely to become blasé over time and disregard the priority rules assuming that all northbound traffic will turn left.

Recommendation

Ideally, the main road should curve between Roddinglaw Road and the new diversion road, reflecting the major traffic movement, preferable with a minimum radius of 90m and a minimum forward visibility of 50m. Consider an alternative alignment joining Roddinglaw Road in between the Roddinglaw Business Park and the proposed SASA headquarters.

B3.2 Visibility

B3.2.1 Problem

Freelands Road is de-restricted and so visibility splays of 4.5m x 120m (or 215m) may be required unless it can be demonstrated that the 85th percentile speed is lower than 100kph. The right hand visibility splay from the proposed new diversion of Roddinglaw Road onto Freelands Road is partially restricted by vegetation.

Recommendation

The vegetation at "The Lodge" should be cut back to ensure that the design speed visibility is achieved.

B4 Audit Team Statement

I certify that this road safety audit has been carried out in accordance with HD 19/03.

Audit Team Leader

D Lines BSc, CEng, MICE, MIHT

A handwritten signature in blue ink that reads "David Lines". The signature is written in a cursive style and is positioned above the "Signed" label.

Signed

Date 26 September 2005

Audit Team Member

JR Richardson BSc, CEng, MICE

Appendix A

List of Drawings and Documents supplied

| <u>Document</u> | <u>Rev.</u> | <u>Description</u> |
|-------------------------|-------------|-----------------------------|
| HA-PW-HW-DRG-0007 | 02 | Highway Accommodation Works |
| 5118/aktechnote01 | - | Traffic Analysis |
| Jct 1001-gogarstone.xls | - | Traffic figures |

http://www.sasa.gov.uk/about_sasa/relocation.cfm

<http://www.earlproject.com/plan.html> EARL Layout

Appendix B

Plan Drawing

