




# **COWBRIDGE ROAD, ST ATHAN**

## **PROPOSED ROUNDABOUT**

**Stage 1 Road Safety Audit**

**April 2018**

**DS/TS/17/1709/RSA1**

Revision Status	Prepared by: (Name)	Checked by: (Name)	Approved by: (Signature)	Date Approved:
Original	D Swift	T Sterling		16/04/18
Designer's Response				
Authority's Response				
Audit Response				

<b>Client:</b>	
Acstro Ltd	The Safety Forum Ltd
Ty Penbryn Salem Llandeilo SA19 7LT	PO Box 831 Godalming Surrey GU7 9HT
	Date: 16/04/2018

## TABLE OF CONTENTS

1.0	INTRODUCTION.....	3
2.0	ITEMS CONSIDERED .....	5
3.0	MATTERS ARISING FROM A PREVIOUS STAGE 1 AUDIT.....	6
4.0	MATTERS ARISING FROM THIS STAGE 1 AUDIT.....	9
5.0	AUDIT TEAM STATEMENT.....	12

**APPENDIX A**            Location Plan

**APPENDIX B**            Road Safety Audit Response

## 1.0 INTRODUCTION

- 1.1 This report results from a Stage 1 Road Safety Audit (RSA) carried out on a proposed roundabout at the junction of Cowbridge Road and Eglwys Bewis Road, part of proposals for a new residential development in St Athan, located in the Vale of Glamorgan in South Wales.
- 1.2 The highway proposals considered during this stage 1 safety audit includes a new four arm lozenge shaped roundabout, splitter islands and shared use pathways. The roundabout will provide new access to the proposed housing development from Cowbridge Road. From previous safety audits undertaken, it is also acknowledged that the 30mph speed limit on Cowbridge Road will be extended further West on Cowbridge Road, ensuring that the new roundabout will be well within a 30mph speed limit.
- 1.3 The junction of Cowbridge Road and Eglwys Bewis Road is located on the edge of a military base, with some housing between Cowbridge Road and Eglwys Bewis Road, and little other existing development within the development area. There is no street lighting in the area of the proposed site on Cowbridge Road.
- 1.4 This Stage 1 RSA was carried out at the request of Acstro Ltd following alterations to the scheme following a previous Stage 1 RSAs carried out by The Safety Forum in October and December 2017.
- 1.5 The Audit was carried out between 11<sup>th</sup> and 16<sup>th</sup> April 2018 by consultants working on behalf of The Safety Forum Limited.
- 1.6 The Audit Team, which is established from The Safety Forum Ltd and independent of the project design team, has had no involvement with the project.
- 1.7 The Auditors were:
- D Swift – Team Leader (MSoRSA)
- T Sterling – Team Member (MCIHT MSoRSA)
- 1.8 The report has been prepared in accordance with the Design Manual for Roads and Bridges (DMRB) Highways Directive (HD) 19/15.
- 1.9 The Audit consisted of a desktop study and a site visit. The site visit was carried out on Wednesday 11<sup>th</sup> April 2018, between 1730 and 1800 hours by all members of the Audit Team together. The weather was dry and traffic conditions were light. Only a small number of pedestrians were observed whilst the audit team were on site.

- 
- 1.10 Issues relating to the health & safety of operatives constructing, operating or maintaining the highway are not covered by Road Safety Audit. Only issues relating to the design and construction of facilities for highway maintenance that may potentially contribute to a Road Safety Matter are considered by the Road Safety Audit process.

Road Safety Audit is not a technical check that the design conforms to Standards and/or best practice guidance. Design Organisations are responsible for ensuring that their designs have been subjected to the appropriate design reviews (including, where applicable, Non-Motorised User (NMU) assessment and review) prior to Road Safety Audit.

Road Safety Audit is not a check that the scheme has been constructed in accordance with the design.

Whilst reference is made to certain design standards, where safety may be compromised by a reduction in standard, this report is not intended to provide a design check. The Auditors have only reported on matters that might have an adverse effect on road safety in the context of the chosen design. No attempt has been made to comment on the justification of the scheme or the appropriateness of the design. Consequently, the Auditors accept no responsibility for the design or construction of the scheme.

- 1.11 The recommendations in this report are aimed at addressing the road safety problems; however there may be other alternative acceptable ways to overcome a specific problem, when other practical issues are considered. The recommendations contained herein do not absolve the Designer of his/her responsibilities.
- 1.12 The Auditors would be pleased to discuss the acceptability of alternative solutions to problems identified during the Audit, and would encourage the Designer to consult them on this matter.
- 1.13 The LHA response to the RSA should be formally recorded and reported to the Designer and the RSA Team so that a record of the Audit process is contained in the *As Built* design pack to be provided and retained by the LHA on final completion.
- 1.14 All problems identified in this Road Safety Audit Report are indicated on a location plan in Appendix A.

## 2.0 ITEMS CONSIDERED

2.1 The Road Safety Audit was undertaken on the scheme detailed in the following documentation.

Drawing No.	Rev	Title
0991 01	A	Proposed Primary Access General Arrangement
0991 013	H	Proposed Primary Access General Arrangement
0991 015	D	Eglwys Brewis Road junction with Cowbridge Road Swept path analysis
0991 016	D	Eglwys Brewis Road junction with Cowbridge Road Swept path analysis
0991 017	E	Eglwys Brewis Road junction with Cowbridge Road Swept path analysis

2.2 No departure from standards or other information was submitted to the Audit Team.

---

### 3.0 MATTERS ARISING FROM THE PREVIOUS STAGE 1 AUDIT IN DECEMBER 2017.

#### 3.1 PROBLEM

LOCATION: Proposed roundabout.

SUMMARY: Lack of street lighting may reduce awareness of roundabout.

The proposed roundabout junction is within an existing 30mph area that is unlit by street lighting, and no new street lighting is proposed. Generally, road users would expect roundabouts of all types to be street lit, and a lack of street lighting is likely to reduce the general awareness of the proposed roundabout. This may result in road users failing to approach or use the junction safely and could result in overshoot / failure to give way conflicts.

#### RECOMMENDATION

Provide street lighting to illuminate and highlight the proposed roundabout.

#### FURTHER COMMENT FROM THIS STAGE 1 SAFETY AUDIT

**The audit team reiterate that the lack of street lighting along this length of Cowbridge Road could increase the likelihood of collisions at the junction and involving pedestrians crossing the road in dark conditions. It is recommended that the site is lit throughout.**

#### 3.2 ITEM RESOLVED

#### 3.3 PROBLEM

LOCATION: Eastern arm of proposed roundabout.

SUMMARY: Lack of facility for cyclists to enter shared use facility.

Right turning cyclists from Eglwya Brewis Road wishing to access the shared use cycle facility are not provided with a suitable access from the circularity carriageway or Cowbridge Road. This may result in cyclists joining the shared use facility via the pedestrian crossing on Cowbridge Road in possible conflict with pedestrians.

#### RECOMMENDATION

Provide a suitable facility for right turning cyclists from Eglwya Brewis Road to access the shared use facility.

---

## FURTHER COMMENT FROM THIS STAGE 1 SAFETY AUDIT

**It is noted that the facility recommended above has not been proposed as part of the new scheme layout provided to the audit team. The auditors reiterate the concerns above and recommend that a dropped kerb is installed for the use of cyclists wishing to access the off carriageway facilities.**

### 3.4 PROBLEM

LOCATION: Commencement of shared use footways.

SUMMARY: Lack of indication that pedestrians are entering shared use footways.

No measures such as tactile paving are shown on the proposed drawings to indicate that pedestrians on existing / proposed footways are approaching proposed shared use cycle / pedestrian footways. This could result in some pedestrians being at risk of conflict with cycles due to lack of awareness.

#### RECOMMENDATION

Ensure that during the detailed design stage measures such as tactile paving, road markings and signing is provided to indicate the shared use footways.

## FURTHER COMMENT FROM THIS STAGE 1 SAFETY AUDIT

**No tactile paving is shown on the plans provided which could lead to some pedestrians being at risk of conflict with cyclists. Appropriate tactile paving should be provided to help pedestrians with visual impairment.**

### 3.5 PROBLEM

LOCATION: Western end of shared use path.

SUMMARY: Pedestrians and cycles emerging into carriageway, possibly unexpectedly.

The proposed shared use gravel path that extends west from the development site roundabout re-joins the carriageway (St Athan Road) just before the bridge over a watercourse. At this point there is no footway on the northern side of the road. Pedestrians and cyclists re-joining will therefore have to continue along St Athan Road within the carriageway. They may therefore be at risk of conflict with road traffic.

#### RECOMMENDATION

Install warning signs to indicate to approaching traffic the presence of pedestrians / cyclists who are on, or entering or exiting the carriageway.



---

## **FURTHER COMMENT FROM THIS STAGE 1 SAFETY AUDIT**

The plans provided show that the proposed footway along the northern side of Cowbridge Road, west of Eglwys Brewis, has been shortened leaving pedestrians and cyclists travelling in the carriageway, where they will be at risk of being hit by passing vehicles for a longer distance. It is recommended that the footway along the northern side of Cowbridge Road is reintroduced to the proposed scheme. As above, at an absolute minimum, signs should also be installed to warn approaching drivers of the location where pedestrians and cyclists are travelling in, or entering, the carriageway. However, if this development is likely to generate appreciable additional pedestrian traffic along this verge, then it is appropriate that a suitable off-road footway should be provided.

### 3.6 PROBLEM (Item 4.1 from December 2017 RSA)

LOCATION: Cowbridge Road at junction with Eglwys Brewis.

SUMMARY: Possible head-on or loss of control collisions.

The auditors are concerned that the eastbound approach to the proposed roundabout is aligned as such that the line of sight of a driver approaching the roundabout from the west on Cowbridge Road is to the right (south) of the central roundabout island. They could lead to a driver not adequately comprehending the presence of the roundabout until a late point and either clipping the island prior to reaching the roundabout, or even passing the roundabout on the incorrect side, which could result in head on collisions with oncoming vehicles.

#### RECOMMENDATION

Ensure that the positioning of the roundabout, and its associated features (including signs, road markings, and street lighting), and the approach alignment on all approaches, make it clear that there is a roundabout junction ahead and how a driver is to negotiate the junction.

## **FURTHER COMMENT FROM THIS STAGE 1 SAFETY AUDIT**

The audit team are of the opinion that the new roundabout layout, and in particular the amended traffic island on the eastbound approach to the roundabout, go some way to alleviate the issue described above. They do, however, still believe that some risk remains, but that this risk can be minimised further with adequate signing on the approach to the roundabout. This signing may include warning signs and/or map type direction signs showing the junction layout.

3.7 PROBLEM (Item 4.2 from December 2017 RSA)

LOCATION: Eglwys Brewis Road south of the junction with Cowbridge Road.

SUMMARY: Risk of nose to tail shunt type or turning collisions.

The auditors are unsure how often the gateway into the MOD gated access off Eglwys Brewis will be used, or how it will be operated. The auditors are concerned that access into/from the gate could cause confusion for some drivers using the junction and could lead to shunt type or turning collisions.

RECOMMENDATION

It is recommended that the MOD are contacted to ascertain the likely use and operation of the gateway and that the junction is designed to minimise any disruption of the junction due to any use.

**FURTHER COMMENT FROM THIS STAGE 1 SAFETY AUDIT**

**The audit team remain concerned that vehicles entering/exiting the MOD site via the gateway adjacent to the proposed roundabout could increase the risk of shunt type collisions at the roundabout. The auditors reiterate that the designer should contact the MOD to ascertain the likely level of use of the gate and if the gate is used on a regular basis, measures should be put in place to reduce the risk of shunt type collisions.**

**Note: Item number 4.3, 4.4 and 4.5 from the December 2017 RSA are not within scope of this Road Safety Audit.**

---

#### **4.0 MATTERS ARISING FROM THIS STAGE 1 SAFETY AUDIT**

##### **4.1 PROBLEM**

LOCATION: Eglwys Brewis Road at junction with Cowbridge Road.

SUMMARY: Risk of loss of control type collisions

The plans provided for the road safety audit show that an overrun area, shown as being block paved, will be installed on the southwest corner of the roundabout. The auditors are concerned that the alignment of the roundabout exit onto Cowbridge Road for westbound vehicles is such that the overrun area is likely to be used routinely to straighten the exit of the roundabout. Overrunning of the block paved area and any kerbing along the extent of this area could increase the risk of vehicles skidding or becoming destabilised, increasing the risk of drivers losing control of their vehicle. This can be especially hazardous for motorcyclists.

##### **RECOMMENDATION**

It is recommended to remove the overrun area and instead utilise the area to widen the roundabout at that location. If it is thought that removing that area of road space is necessary, the auditors recommend that an area of hatching, with sufficient friction, is used instead of a block paved overrun.

---

## 5.0 AUDITOR STATEMENT

5.1 We certify that this audit has been carried out in accordance with HD 19/15.

### AUDIT TEAM LEADER

D Swift  
The Safety Forum Ltd  
PO Box 831  
Godalming  
Surrey  
GU7 9HT

Signed: 

Date: 13<sup>th</sup> April 2018

### AUDIT TEAM MEMBER

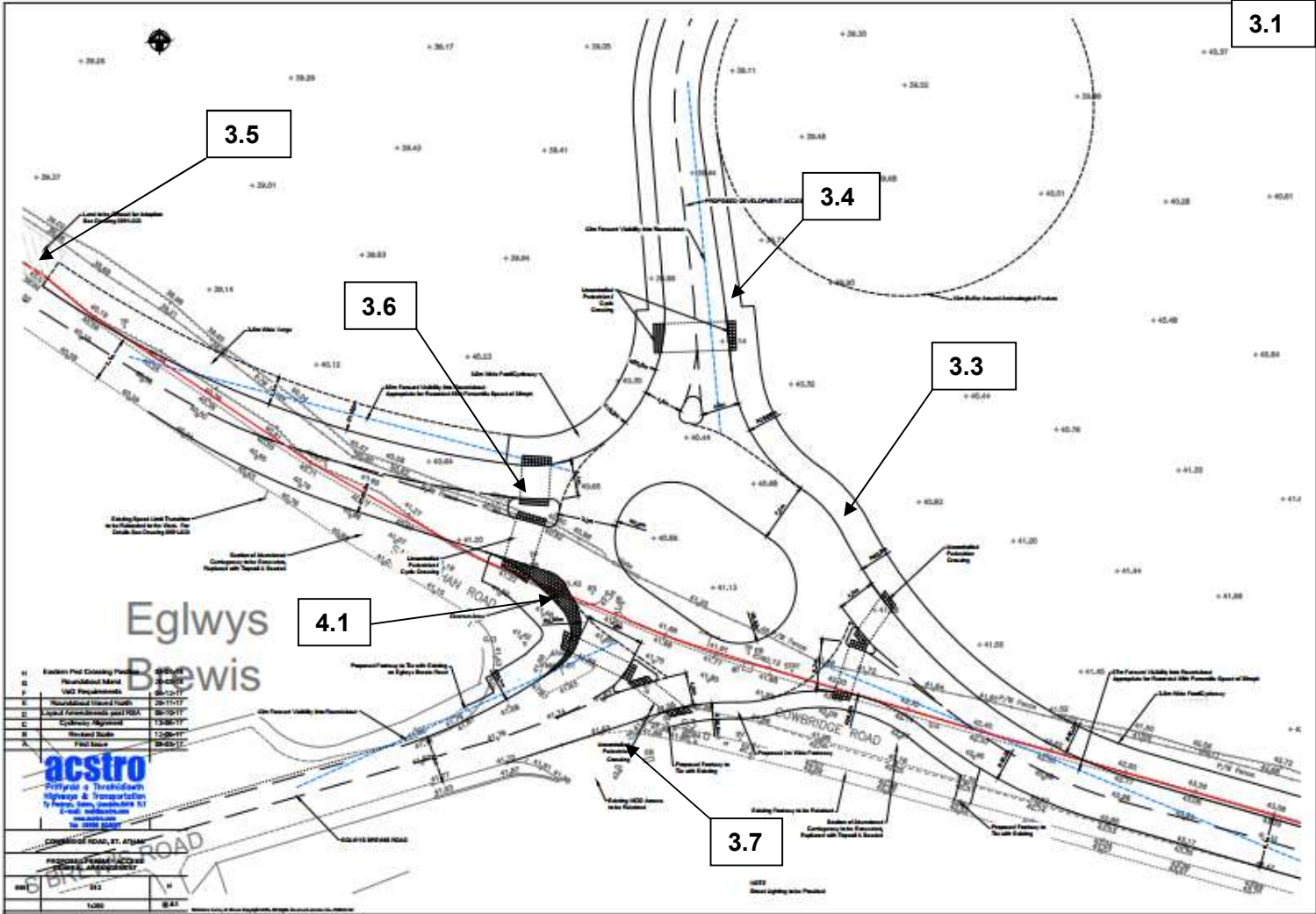
T Sterling

Signed: 

Date: 16<sup>th</sup> April 2018



APPENDIX A: LOCATION PLAN



Road Safety Audit – Stage 1  
 Cowbridge Road, St Athan  
 Proposed Roundabout

## APPENDIX B: Road Safety Audit Response

Auditors: D Swift (Team Leader) and T Sterling (Team Member).

Date Response Completed:

Scheme: Cowbridge Road, St Athan. Proposed Roundabout.

This response is to a Stage 1 Road Safety Audit to the design standard detailed within HD19/15 of Volume 5, Section 2, Part 2, of the Design Manual for Roads and Bridges, as detailed by the Highways Agency.

<b>Problem no. in safety audit report</b>	<b>Problem accepted (yes/no)</b>	<b>Recommended measure accepted (yes/no)</b>	<b>Alternative measure (detail description)</b>
3.1	Yes	Yes	Street lighting to be provided. To be addressed at detailed design stage
3.3	Yes	Yes	To be addressed at detailed design stage
3.4	Yes	Yes	To be addressed at detailed design stage
3.5	Yes	No	Gravel path has been removed following discussions and agreement with Highway Authority. Land to the west of the roundabout and to the north of St Athan Road will be offered for adoption by the Highway Authority.
3.6	Yes	Yes	To be addressed at detailed design stage
3.7	No	No	The MOD access is used infrequently. The proposed layout is considered to be superior to the existing in terms of facilitating safe movement to and from the MOD access.
4.1	Yes	Yes	To be addressed at detailed design stage

**Principal Engineer's / Audit Project Sponsor's Statement:**

Road Safety Audit for Cowbridge Road, St Athan. Proposed Roundabout.

I certify that I have considered the items raised in the Stage 1 Road Safety Audit Report and I am content to accept all of its recommendations except for the ones listed above. I have stated my reasons for not accepting them and I seek the Chief Engineer's endorsement of my proposals.



..... Date. 18/04/18.

Principal Engineer

**Chief Engineer's / Director's Decision:**

I accept these proposals by the Principal Engineer.

..... Date.....

Chief Engineer