

BOGNOR NORTHERN RELIEF ROAD, PHASE 1

“PROPOSED PLAYING FIELD ACCESS” (Version 2.0)

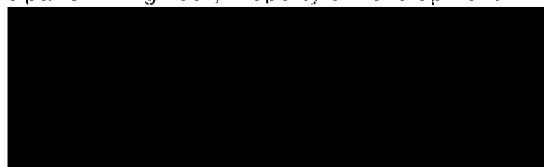
Road Safety Audit Combined Stage 1 & Stage 2 – Detailed Design

March 2015

Designers’ Response- Glenn Tregillis May 2015

DESIGNERS’ RESPONSE

**Glenn Tregillis, CEng MCIHT and CEng MICE
Principal Civil Engineer, Property & Development**

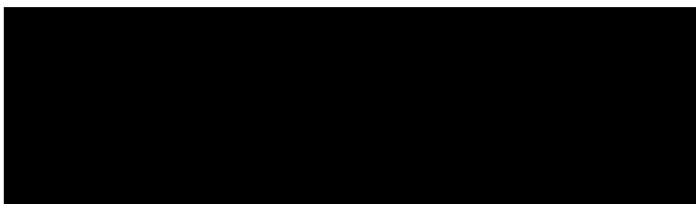


Regus House
Southampton International Business Park
George Curl Way
Southampton
SO18 2FZ
Hampshire

CONTENTS

- Introduction
- Items raised within this Combined Stage 1 & Stage 2 Road Safety Audit
- Audit Team Leader's Statement
- Appendix A List of Documents Examined
- Appendix B Key Plan & Site Layout Plan

TED SMITH
Traffic Safety Consultant
1a The Parade
East Wittering
Chichester
West Sussex
PO20 8BN



INTRODUCTION

This report describes the results of a Combined Stage 1 and Stage 2 Detailed Design Road Safety Audit of the proposed (Version 2.0) access arrangements to Playing Fields at the southwest side of the new A259 Bognor Northern Relief Road, Phase 1, Felpham, Bognor Regis, West Sussex. The Road Safety Audit was carried out at the request of WSP Development and Transportation, Mountbatten House, Basingstoke, Hampshire, RG21 4HJ.

The proposed works primarily consist of constructing a new Priority Junction at the northwest side of the existing Southern Arm of Stanover Lane Roundabout (Residential Development Access Road), to provide access arrangements to proposed Playing Fields and 'Potential Future Primary School Development', (Associated Planning Permission reference ARUN DC Y6809 D).

The Audit Team comprised Ted Smith and Martin Brownsey, Consulting Traffic Engineers, specialising in Highway Safety and Traffic Engineering, who have operated independently of the design team responsible for the scheme and had no involvement with the design of the proposals.

The object of this Audit is to identify any existing road safety related problems that may be exacerbated or any new problems that may be introduced, by the proposals.

The procedures generally followed by the Audit are as described in the Highways Design Standard HD 19/03 (DMRB Volume 5: Section 2, Part 2) and the incorporated categories of checklists, as appropriate. The Audit has examined and reported only on the road safety implications of the scheme as presented in the documents listed in the Appendix to this report, and has not examined or verified compliance of the design with any other criteria or standard.

This Audit was carried out in the offices of the Team Members during March 2015, in accordance with the Audit Brief, Version 2, dated 05/03/2015 received from WSP. The Audit comprised of an examination of the documents listed in Appendix A. An inspection of the site was carried out on the afternoon of Friday 20th February 2015 in connection with an earlier report. At that time traffic flows were very light and road surface damp and slightly muddy from Contractor's vehicle movements. No pedestrians or cyclists were seen using the existing shared footway/cycleway facilities currently located at each side of the existing carriageway.

A previous Combined Stage 1 & Stage 2 Road Safety Audit Report was available for reference. However, it was noted that although now expired, no Road Safety Related Issues were identified within the Report at that time.

Whereas no Departures or Relaxations from Standards were reported by the Designer for the scheme, this current Combined Stage 1 and Stage 2 Road Safety Audit also incorporates the checks normally expected to be carried at the Preliminary Design Stage 1.

Any problems identified in this report are considered to be of sufficient importance to warrant attention and are indicated on the Key Plan at Appendix B.

ITEMS RAISED WITHIN THIS COMBINED STAGE 1 & STAGE 2 ROAD SAFETY AUDIT.

B1 GENERAL

B1.1 PROBLEM

Location: Proposed Playing Fields Access Road, at the junction with Southern Arm of Stanover Lane Roundabout.

Summary: Risk of inadequate carriageway drainage.

The proposed access road appears to be located where the adjacent land is below the level of existing carriageway, but no gullies appear to be included within the design, especially at the proposed dropped kerb crossing points where pedestrians stepping into the carriageway to cross may need to step across flowing surface water or risk of crossing ponding which may give rise to hazardous conditions at times of icy weather.

RECOMMENDATION

The proposed Playing Field Access Road may need to be checked and appropriate gullies provided at the upstream side of the pedestrian dropped kerb crossing points.

DESIGNERS RESPONSE

The proposed access arrangements have been revisited with the inclusion of additional road gullies.

B2 LOCAL ALIGNMENT

Other than alignment problem identified in paragraph B3.1 below, no other road safety related items are identified in this category at this Stage 1 & 2.

B3 JUNCTIONS

B3.1 PROBLEM

Location: Playing Field Access Road and the junction with the Southern Arm of the Stanover Lane Roundabout.

Summary: Risk of rear end shunt between vehicles exiting the roundabout.

At the existing westbound carriageway of the Northern Relief Road approaching the Stanover Lane Roundabout, the proposed Playing Field Access within the Southern Arm will be hidden from view of westbound drivers by the combination of current Vehicle Restraint Barriers on the inner radius of the horizontal exit curvature and the adverse vertical down gradient of the carriageway into the housing Development, thus creating lack of sufficient clear forward visibility for westbound drivers turning left towards the location of the proposed access to the Playing Fields and Potential School Premises. These conditions are also likely to be exacerbated by the future growth of the planting currently located behind the VR barriers.



NRR westbound lane approaching the Southern Arm of the Stanover Lane Roundabout.

Owing to these conditions and the close proximity of the proposed new access on the existing carriageway, if/whenever also combined with potential fast speeds at which some vehicles may be exiting the roundabout (40mph speed limit on the roundabout), some drivers when turning left on the clear sweeping radius into the 30mph section of Development Access Road may fail to slow sufficiently to perceive the risk of a leading vehicle suddenly braking in order to turn right into the Playing Field Access Road or even see a stationary vehicle waiting to turn right. Consequently, there appears a high risk of rear end collisions between such vehicles.

Whereas no details of any predicted traffic flows appear to been included within The Design & Access Statement and as the Playing Field is shown with a full sized football pitch, it seems likely to be often used by local teams and also by visiting teams travelling in buses/coaches and other various types of 'people carriers'. Consequently, there may be increased risk of slower moving vehicles being within the centre of carriageway for longer times. The identified risk of rear-end collisions seems likely to further increase with the proposal for locating 'Future Primary School Development' within the access road.

RECOMMENDATION

The proposed access arrangements should be revisited with a view to re-assessing the potential traffic flows at the junction and of sufficiently widening the carriageway locally to provide a segregated area at the centre of carriageway for right turning vehicle to move into and potentially wait for suitable gap if required to do so, whilst the current planting at the rear of the Vehicle Restraint System on the inner radius curvature should be removed.

DESIGNERS RESPONSE

The proposed access arrangements have be revisited with the inclusion of right hand ghost island with adequate storage for a bus.

Vehicle Restraint System shall be altered to provide for the access.

B3.2 PROBLEM

Location: Proposed Playing Field Access, at the junction with the Southern Arm of the Stanover Lane Roundabout and at the roundabout splitter island.

Summary: Risk of head-on or side-swipe collisions between turning vehicles and risk of large vehicle collision with the splitter island.

The proposed access will be constructed immediately south of the existing roundabout and its splitter island, where currently there is no provision of waiting space for vehicles to wait prior to turning right into the access. Furthermore, the swept path diagram of the single deck bus is shown overrunning the offside exit lane from the roundabout, where collision with vehicles leaving the roundabout may occur and also appears to overrun the splitter island and risks kerb impact.

Whereas safe provision for right turning vehicles to wait clear of vehicles exiting the roundabout southwards into the residential development area may now be difficult post construction of the Southern Arm of Stanover Lane, a possible mitigating measure to protect right turn vehicles from rear end impacts may be provision of high friction surfacing at the exit from the roundabout. However, if such harsh abrasive surface material were to be extended to the roundabout and laid across the pathway of pedestrians and cyclists crossing the exit arm to/from the splitter island, risk of serious skin and flesh injuries may result if such users trip and fall onto the road surface. Such surfacing should not be laid at the crossing.

RECOMMENDATION

The proposed access position should be revisited with a view to shifting the access bellmouth further southwards and widening the carriageway of the Southern Arm of Stanover Lane sufficiently to provide space for a short right turn lane for access to the Playing Fields and Potential School Premises.

In order to sufficiently shift the Playing Fields access southwards, it appears possible to utilise the existing field access which could then be encompassed within the south side of the new Playing Field Access Road west of the junction with the Southern Arm of Stanover Lane.

There may also be scope to shift the safety barrier further back from the inner radius kerb line to thus improve forward visibility around the left turning curvature.

DESIGNERS RESPONSE

The proposed access arrangements have be revisited with the inclusion of right hand ghost island with adequate storage for a bus.

B3.3 PROBLEM

Location: Southern Arm of Stanover Lane, at the junction with the proposed Playing Field Access Road.

Summary: Risk of inadequate visibility splay.

The proposed access junction is shown where vehicle parking currently occurs at the frontage of 'Sales Suite'. Since it is not clear how that area will be utilised at completion of the Development Site, there appears risk that any continuance of parking may obstruct the visibility splay required southwards from the proposed junction, whereby vehicles emerging from the access road may be in collision with passing northbound traffic. Further risk of obstruction of visibility may occur if the area of the existing field access becomes used for vehicle parking.

RECOMMENDATION

The proposed visibility splay southwards from the proposed access junction should be revisited to investigate the likelihood of parking within the required visibility splay and that splay should be shown on the design drawings and any measure required to mitigate or prevent parking within the splay or even the existing field access should be examined.

DESIGNERS RESPONSE

The proposed access arrangements have been revisited and the parking will be removed to accommodate the access.

B3.4 PROBLEM

Location: Proposed Playing Fields Access Road, at the junction with Southern Arm of Stanover Lane Roundabout.

Summary: Risk of vehicles rolling forward or backwards at the junction.

Whilst it appears the new road is to be constructed on an embankment and may also be sloping towards the existing carriageway, the adjacent field access steeply slopes downwards to the adjacent land across which the Playing Field Access Road will cross. Consequently, it is not clear whether there may be risk that vehicles waiting to join the carriageway may roll forward risking conflict with close passing traffic or rolling back onto following waiting vehicles.

RECOMMENDATION

The proposed junction may need to be checked to ensure that an almost level area of carriageway should be provided for a minimum distance of 12m or more from the Give Way line in order to allow for buses to stop and wait, and either prevent errant movements or very slow acceleration from stationary positions.

DESIGNERS RESPONSE

The proposed access arrangements have been revisited with the inclusion of a level platform at the bellmouth.

B4 NON MOTOR VEHICLE PROVISIONS

B4.1 PROBLEM

Location: North side of the proposed access bellmouth.

Summary: Risk of inappropriate footway design.

On the drawing numbered “ATR/100 Rev A” indicating Vehicle Swept Path Analysis, the proposed footway at the north side of the access bellmouth appears to coincide with the outline of the southern side of the existing culvert headwall. In addition, it is not clear how pedestrians may be protected from falling into the culvert or deep water below.

RECOMMENDATION

The proposed access bellmouth should be revisited with a view to shifting it further southwards to sufficiently clear the existing headwall and any realignment of the existing ‘Vehicle Restraint System’ and to preserve its working width.

In addition, it appears that suitable fencing/railings should be provided at the back edge of footway to prevent pedestrians falling into the culvert.

DESIGNERS RESPONSE

The proposed access arrangements have been revisited with the inclusion of a level platform at the bellmouth.

B4.2 PROBLEM

Location: Southern Arm of Stanover Lane, south and east of the proposed access junction.

Summary: Risk of inadequate access arrangements for footway users.

Within the Design & Access Statement, Diagram 5 entitled ‘Movement Hierarchy’ clearly indicates primary and secondary routes within the overall Development Site to the south and east of the Southern Arm of Stanover Lane, (all presumably vehicular). However, no dropped kerb pedestrian access facilities are currently provided nor appear to be incorporated in the current design for footway users to cross the carriageway of that southern arm of Stanover Lane, to and from the Playing Fields and Future School Site, except by way of the splitter island at the south side of the roundabout at the junction with the A259 Relief Road, which appears likely to be considerably less attractive than crossing the carriageway diagonally towards the new access junction. Consequently, concern arises that footway users from the residential development area may have been overlooked.

RECOMMENDATION

The proposals for access to and from the Playing Field should be revisited with a view to incorporating appropriate dropped kerb crossing facilities across the Southern Arm of Stanover Lane, south of the new access to the Playing Fields.

DESIGNERS RESPONSE

The proposed access arrangements have been revisited with the inclusion of drop kerb crossing.

B5 SIGNS, ROAD MARKINGS AND STREET LIGHTING

No road safety related items are identified in this category at this Stage 1 & 2.

** ** No further road safety related items are identified at this Stage 1 & 2. ** **

AUDIT TEAM LEADER'S STATEMENT

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

AUDIT TEAM LEADER

Ted Smith
Traffic Safety Consultant
1a The Parade
East Wittering
Chichester
West Sussex
PO20 8BN

Signed

Date

24th March 2015

AUDIT TEAM MEMBER

Martin Brownsey MCIHT, CoC
MB Projects Ltd
Highways Consultancy
Farthings
Grants Lane
Oxted
Surrey
RH8 0RH

APPENDIX A

LIST OF DOCUMENTS EXAMINED

Drawing No	Date	Scale	Description
D42/5250/CFB/SL-01 Rev E	Illegible	As shown	Changing Facilities Building Site Layout
30854/GA/100 Rev A	19/02/2015	1:500	Sport Pitch Access
30854/S38/103 Rev E	01/05/2013	As shown	Supplemental Section 38 Agreement Plan
30854/ATR/100 Rev A	19/02/2015	1:250	Sports Pitch Access (Refuse vehicle and Single Deck Bus)
30854/TRO-01 Rev M	None	As shown	TRO Plan
30854/TRO-02 Rev K	None	As shown	TRO Plan Clearway
Report	Oct 2009	--	Design & Access Statement Changing facilities Building Area 6, Felpham
Report ref 9845	02/06/2011	--	Combined Stage 1 & Stage 2 Road Safety Audit Report (TMS)
Audit Brief (Version 2)	05/03/2015	--	BNNR - Playing Field Access Designers Brief to Road Safety Auditor.

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APPENDIX B

KEY PLAN & SITE LAYOUT PLAN

Copy of Drawings numbered ATR/100 Rev A & D42/5250/CFB/SL-01 Rev E

