



wilbar associates ltd
HIGHWAY CONSULTANTS



Proposed Development Durban Road, Bognor Regis

Stage 1 Road Safety Audit

DOCUMENT CONTROL

Wilbar Associates Limited has prepared this report in accordance with the instructions from Tony Rogers, Building Consultants. Wilbar Associates Limited shall not be liable for the use of any information contained herein for any purpose other than the sole and specific use for which it was prepared.

Report Reference	Issue	Description	Originator	Checked	Authorised
	01	Final	Roger Harper 11/08/16	Len Holloway 12/08/16	Len Holloway 12/08/16
	02	Final	Roger Harper 15/08/16	Len Holloway 15/08/16	Len Holloway 15/08/16

CONTACT:

Roger Harper

Wilbar Associates Ltd
Woodbrooke Farm,
Toat Lane,
Pulborough,
West Sussex, RH20 1BX

	Contents Page	Page No.
1	Introduction	1
2	Stage 1 Road Safety Audit	3
3	Auditor's Statement	7
	Appendices:	
	Appendix A: Schedule of Documents Examined	8
	Appendix B: Details from previous road safety audit	9
	Appendix C: Location Reference Plan	13

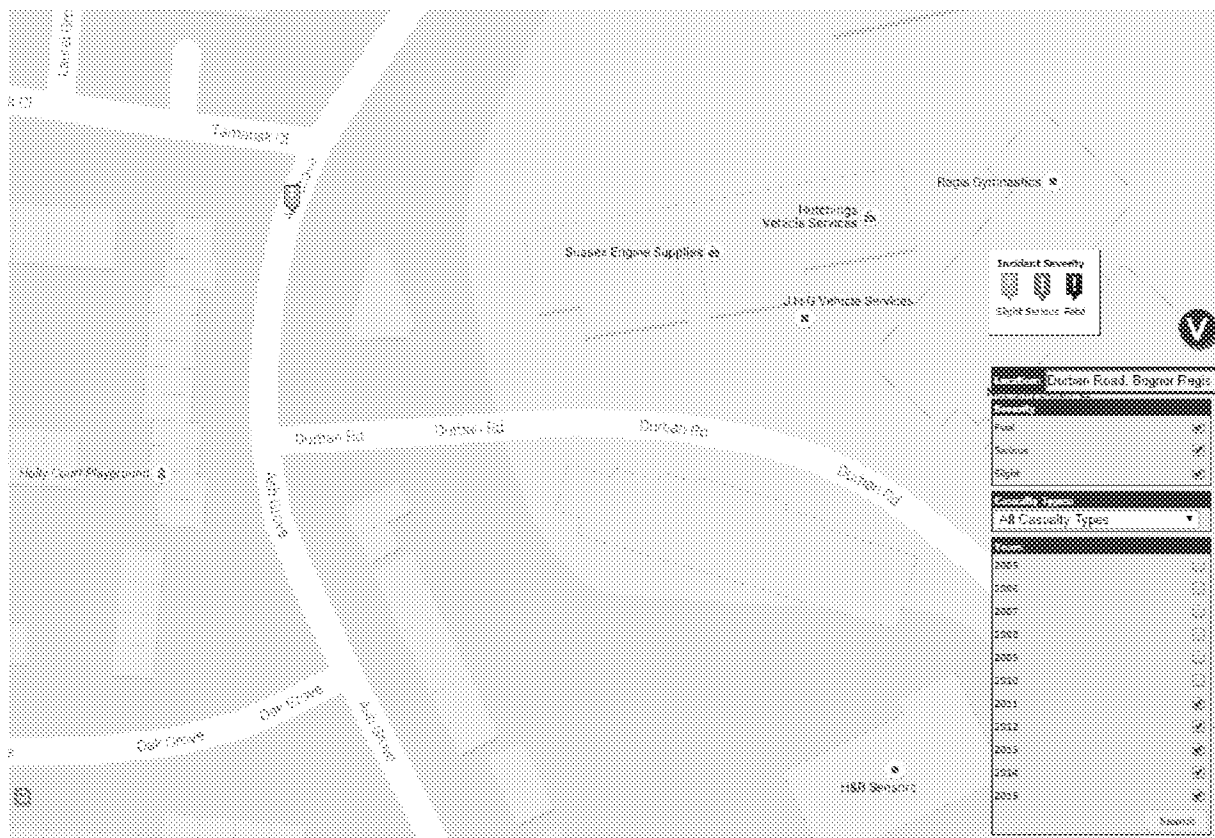
1. INTRODUCTION

- 1.1 This report details the results of a 'Stage 1 Road Safety Audit' on a proposed residential development at the junction of Durban Road and Ash Grove at Bognor Regis. The proposal is for a 3 storey building in two blocks accommodating 8 no. one bedroom flats and 6 no. two bedroom flats. The development incorporates car parking space for 15 cars and shelter for 15 cycles.
- 1.2 A Road Safety Audit is a formal systematic independent assessment of the potential road safety problems associated with a road scheme. Road safety audits have been demonstrated to be a successful preventative tool for use on new road schemes. The audit is not a technical check but primarily to report on the following questions: "Who can be hurt in a collision on this part of the highway, and how might that happen?" followed by: "What can be done to reduce the potential for that collision, or to limit its consequences?" [Road Safety Audit – IHT 2008]. The Audit process follows where applicable the procedure laid out in 'Design Manual for Roads & Bridges (DMRB) Standard HD19/15'.
- 1.3 The Auditors carrying out this report are as follows -
Len Holloway MSoRSA
Roger Harper BSc (Eng) FIHE IEng
- 1.4 The Client Organisation is represented by:-
Tony Rogers, Building Consultants, Upper Beeding, West Sussex
- 1.5 The Audit took place in August 2016. A site visit was carried out during daylight hours on 9th August 2016. The weather was fine and the road surface was dry. The Audit comprised an examination of the drawing as listed in Appendix A of this report.
- 1.6 The Auditors have examined and reported only on the road safety implications of the proposals. They have not examined or verified the compliance of the proposals to any other criteria. All comments and

recommendations are referenced to the location plan in Appendix C of this report.

- 1.7 The term 'DMRB' refers to Design Manual for Roads and Bridges which can be found on line at: <http://www.standardsforhighways.co.uk/> . Any reference to Department for Transport (DfT) sign numbers will generally refer to the signs in the 'Traffic Signs Manual'.
- 1.8 A stage 1 audit report was undertaken for a previous development on this site in 2007, but the development proposals are different. This is summarised in Appendix B. Any unresolved issues will be raised again as part of this audit.
- 1.9 The accident history from 2011 to 2015 has been briefly checked along the site frontage and crash locations are shown in outline in figure 1. This has also been included as an aid to identify road names in the area. There has been only 1 recorded slight casualty in the vicinity of site area.

Figure 1: Location of collisions (2011-2015) in vicinity of site [www.crashmap.co.uk]



2. STAGE 1 ROAD SAFETY AUDIT

2.1 PROBLEM LOCATION A: Visibility splay at junction of Durban Road/ Ash Grove.

Summary: Risk of vehicle/ pedestrian conflict.

Detail: The proposed development building line and proposed fence/ hedge line is very close to the edge of the visibility splay for pedestrians on the pedestrian crossing point. Sub-standard visibility at this location will increase the risk of conflict by southbound vehicles and pedestrians crossing at the junction. See photos 1 & 2.

RECOMMENDATION: The proposed fence and hedge line be set back to the same minimum gap to the building as the north west corner (highlighted in red on location plan in Appendix C).

Photo 1: Ash Grove: View of northbound approach towards pedestrian crossing point in Durban Road



Photo 2: Durban Road: View from pedestrian crossing point looking north towards Ash Grove



2.2 PROBLEM LOCATION B: Visibility splay at junction of Durban Road/ Ash Grove.

Summary: Risk of vehicle conflict if proposed visibility splays are not maintained.

Detail: There is concern over future maintenance on the verge of the 2.4 x 43 metre visibility splay [DMRB TD 42/95 Chapter 6]. Sub-standard visibility at this location will increase the risk of conflict particularly for southbound vehicles and vehicles turning out of Durban Road.

RECOMMENDATION: Verge within visibility splay to be maintained to ensure the proposed visibility standards are sustained.

2.3 PROBLEM LOCATION C: Proposed access in Durban Road.

Summary: Trip hazard for pedestrians by site entrance.

Detail: The development access proposes to utilise the existing access but the proposals indicate no change to the access. There is currently a partial kerb face which creates a trip hazard for pedestrians.

RECOMMENDATION: Reconstruct entrance to remove trip hazard for pedestrians.

Photo 3: Durban Road: Kerb at site entrance



2.4 PROBLEM LOCATION D: Proposed development access road.

Summary: Risk of pedestrian/ vehicle conflict.

Detail: The detail of the proposed surfacing of the access road within the proposed development is unclear. However as there is no footway provision it is assumed that this will be a shared space for pedestrians and vehicles.

Undifferentiated surfaces can lead to vulnerable road users feeling threatened by having no space protected from vehicles [See DfT Manual for Streets – Section 7.2.13] and fail to influence driver behaviour that pedestrians in the carriageway should be expected.

RECOMMENDATION: Material used for development access road should differentiate between typical asphalt carriageway and shared use.

2.5 PROBLEM LOCATION E: Proposed development access road.

Summary: On-street parking restricts access and visibility from access road.

Detail: The level of local on street parking close to the entrance is likely to restrict access and visibility from the development access road. This creates an increase in risk when negotiating past parked vehicles and trying to exit from the access road, of potential conflict with vehicles travelling on Durban Road.

RECOMMENDATION: Being mindful of WSCC Highways previous response [see Appendix B Table 2] recommend placement of access protection mark at entrance [see diagram 1026.1 Figure 22-4 TSM Chapter 5].

3. AUDITOR'S STATEMENT

PROPOSED DEVELOPMENT DURBAN ROAD, BOGNOR REGIS ROAD SAFETY AUDIT – STAGE 1

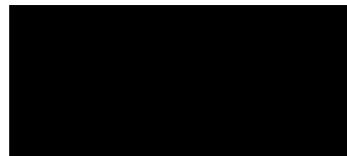
We certify that this audit has been carried out in accordance with HD19/15 of Volume 5, Section 2, Part 2, of the Design Manual for Roads and Bridges.

We certify that this Road Safety Audit has been carried out with the sole purpose of identifying any features of the design that could be removed or modified in order to improve the safety of the scheme. The problems identified have been noted in this report together with suggestions for safety improvements, which the road safety audit team recommends should be considered for implementation.

No member of the road safety audit team has been involved in the formulation or design of the measures audited.

Len Holloway MSoRSA

Signed

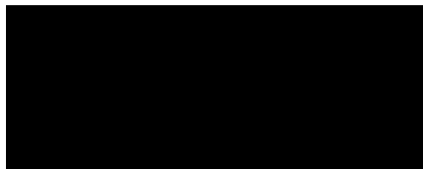


Auditor

Date 15 August 2016.....

Roger Harper FIHE IEng

Signed



Auditor

Date 15 August 2016.....

Appendix A: Schedule of Documents Examined

Drawings:

Drawing No:	Title	Date
15/1051/04 Rev A	Proposed Site Plan	July.16

Appendix B: Details from previous road safety audit

Table 1: Issues raised as part of the Stage 1 Road Safety Audit (December 2007).

Issues Raised by Stage 1 RSA for scheme	Recommendation:
Problem A1.2: Location: Car parking area to the rear of the proposed development Summary - Risk of inadequate vehicle turning arrangements. Inadequate space appears available for vehicles to turn around and return to Durban Road in a forward gear.	A suitable vehicle turning head should be provided within the rear car park area to prevent vehicles reversing back onto the Public Highway.
Problem A3.1: Location: Durban Road, at the junction with Ash Grove Summary - Risk of inadequate visibility splay. Within the current development proposals a visibility splay of 2.4m x 43m is shown northwards across the site from Durban Road. That latter distance scales slightly less than 42m and is significantly less than the existing visibility splay currently provided across the site frontage to the northwest corner boundary of the site, giving a distance of approximately 59m to the nearside kerbline of Ash Grove. Since the current splay could also be improved with removal of the lower growth of the tree at the northern corner of the site boundary, concern arises that the indicated splay is likely to be inadequate for the curved carriageway alignment and may increase the risk of conflict at the existing junction. Although the WSCC correspondence indicates the visibility distance should be supported by Speed Survey results, none were available for this audit.	The proposed visibility splay of 2.4m x 43m associated with this development should be revisited in the light of current provisions and a risk of worsening current conditions, whilst proposed car parking; spaces within the existing visibility splay could be rearranged closer to the buildings and growth of lower branches of trees at the northwest corner of site could be trimmed back. The visibility splay should be restricted to grass verge only by covenant or planning conditions.
Problem A3.2: Location: Site access, at the junction with Durban Road Summary - Risk of vehicles obstructing inter-visibility. At the time of the site inspection, vehicles were parked on the north side of Durban Road at the east side of the existing site access. Consequently, drivers emerging from the site access point may not be clearly able to see oncoming westbound vehicles and conflict may result.	To provide a clear visibility splay eastwards from the site access, waiting restrictions may need to be investigated along the north side of Durban Road.

Table 1: Issues raised as part of the Stage 1 Road Safety Audit (December 2007)
Continued.

Issues Raised by Stage 1 RSA for scheme	Recommendation:
Problem A3.3: Location: Site access, at the junction with Durban Road Summary - Risk of inadequate safety at the site access. The development proposals appear to retain the existing site access which is a combination of a vehicle crossover and bellmouth construction, resulting in high kerb upstands and dropper kerbs across the footway. Consequently, as the type of access to the site is not clear, footway users may be endangered by the current arrangement. In addition, the width of the pedestrian pathway along the east side of the access road appears to be inadequate, especially as along that pathway a doorway appears to be provided into the ground floor unit.	The site access road, its pedestrian access from Durban Road and its junction with the existing footway and carriageway of Durban Road should be revisited to clearly indicate safer proposals.
Problem A4.1: Location: Durban Road, at the east side of the proposed building Summary - Risk of inadequate access to the cycle and bin stores. No footpath link is shown from Durban Road. into the cycle and bin stores, whilst the gap between the building walls appears to only scale 1.0m width which is likely to be inadequate for cyclists to safely gain access to the store.	Access between Durban Road and the cycle and bin stores should be reviewed and provision of a suitable width footpath link to Durban Road should be investigated.

Table 2: Summary of Design Team response (2007) to issues raised by Stage 1 Road Safety Audit.

Stage 1 RSA	Design Team response.
Problem A1.2: Location: Car parking area to the rear of the proposed development Summary - Risk of inadequate vehicle turning arrangements.	A vehicle turning area is now shown in the car parking area
Problem A3.1: Location: Durban Road, at the junction with Ash Grove Summary - Risk of inadequate visibility splay.	The visibility splay of 2.4m x 43m at the junction of Durban Road with Ash Grove is in accordance with the standards set out in "Manual for Streets", for a junction of this type within an area subject to the 30mph speed limit. In practice the visibility attainable is greater than the required minimum, as is apparent from the drawing, and is substantially greater than the achievable visibility in the opposite direction. In the circumstances it is not considered that any amendment to the scheme is required. <i>WSCC Highways response (Dec 2007): A3.1 refers to the provision of a 2.4 x 43m visibility splay to the north at the junction of Durban Road and Ash Grove. This splay is required to be protected as at present the site is open plan and visibility cuts across the site. Due to the open plan nature visibility does exceed 43metres at present, consequently the enclosure of the land would result in a lesser visibility splay than exists presently. However, the 43metre splay does meet with current standards for a 30mph road, it would therefore be unreasonable to request a longer splay. The boundary treatment as shown on the submitted drawings do also take into consideration this splay and given the integral importance of the splay to highway safety, I consider that the area of land within the splay should be dedicated as highway under a S38 Agreement.</i>
Problem A3.2: Location: Site access, at the junction with Durban Road Summary - Risk of vehicles obstructing inter-visibility.	While there may be a small risk of parked vehicles obstructing visibility at the access point, the proposal will not make the present situation any worse. Any such vehicles are on the public highway and therefore not in the control of the applicant. If the highway authority consider that a serious problem may exist, it is open to them to investigate possible parking restrictions. <i>WSCC Highways response (Dec 2007): Point A3.2 refers to the obstruction of visibility at the existing access by cars parked along Durban Road. I do note that the access is existing and serves an existing, albeit it redundant use. Consequently, I do not consider the provision of waiting restrictions to be a definite requirement to permit this development to take place.</i>

Table 2: Summary of Design Team response (2007) to issues raised by Stage 1 Road Safety Audit. *Continued.*

Stage 1 RSA	Design Team response.
Problem A3.3: Location: Site access, at the junction with Durban Road Summary - Risk of inadequate safety at the site access.	The details of the access have been modified to reflect the recommendation
Problem A4.1: Location: Durban Road, at the east side of the proposed building Summary - Risk of inadequate access to the cycle and bin stores.	The details of the cycle store and the refuse store have been modified to reflect the recommendation

Original site plan subject to 2007 Safety Audit follows this page:



to Durban Road



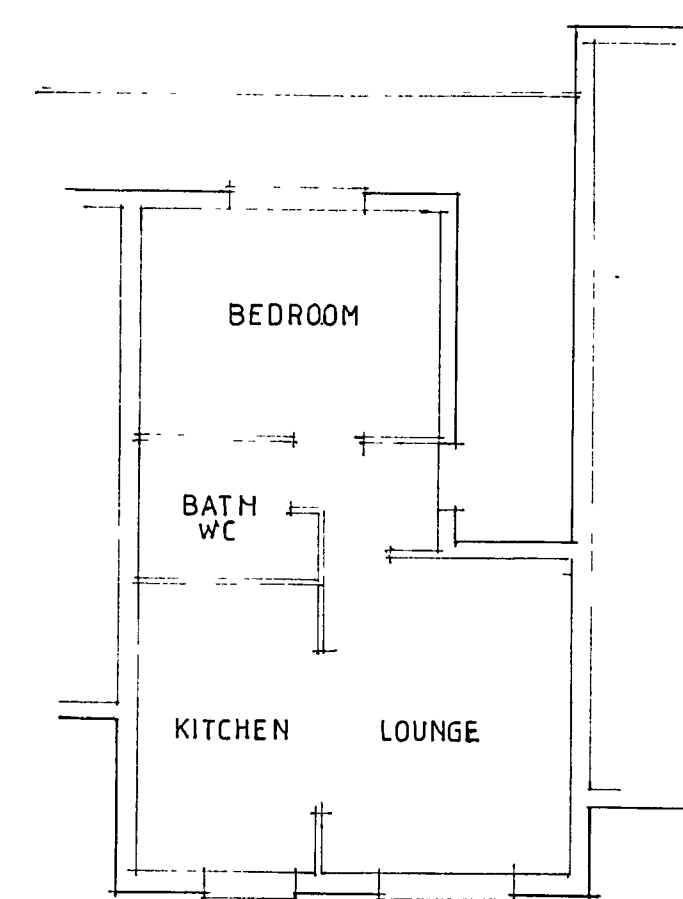
to Ash Grove

illustrative elevations

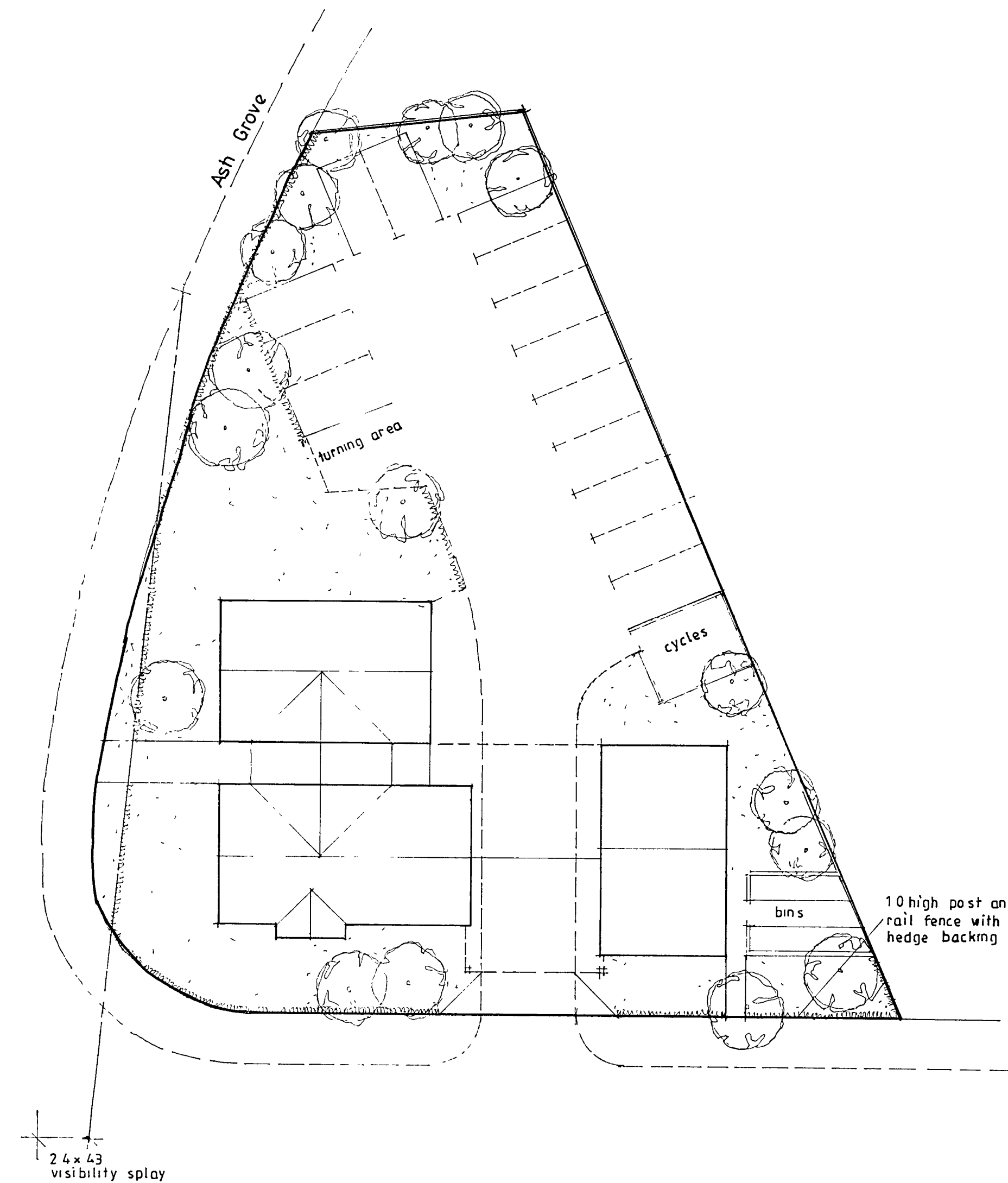


ground floor f.f.l. 2.2m above datum
repeat plan above

plans



plan over access road



site layout

proposed re-development
Durban Road-Ash Grove
BOGNOR REGIS
for
Mr P Hudson

plan, elevations
& site layout

PLAN NO 615/2A
SCALES 1:100 1:200
DATE 08/07

Appendix C: Location Reference Plan

