



Road Safety Audit Stage 2

Hatfield Galleria – Revised road layout

19 January 2016

Waterman Infrastructure & Environment Limited

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Client Name: Land Securities Group PLC
Document Reference: WIE17416_SA001_A01
Project Number: WIE17416

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2008, BS EN ISO 14001: 2004 and BS OHSAS 18001:2007)

Issue	Date	Prepared by	Checked by	Approved by
A01	19/01/2016	Gill Blaney		

Comments



Disclaimer

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1. Introduction

- 1.1. This report results from a Stage 2 Road Safety Audit carried out on the proposed changes to the internal highways layout at Hatfield Galleria, Hatfield. The Audit was undertaken during January 2016 and the site was visited on the 12th January 2016.
- 1.2. The Audit Team membership was as follows:

Gillian Blaney	-	Audit Team Leader
John Bowman	-	Audit Team Member
- 1.3. The Audit took place on site and at the Brentwood Office of WIE on the 12th January 2016. The Audit comprised of an examination of the following drawings provided by the Design Team.
 - WIE17416-SA-95-0001-A02 - Site Clearance and Construction areas
 - WIE17416-SA-95-0002-A02 - Carriageway Markings, Road Signs and Contours
 - WIE17416-SA-06-0001-A02 - Tracking Movement Large Car
 - WIE17416-SA-06-0002-A01 - Tracking Movement HGV
 - WIE17416-SA-95-0003-A01 - Setting Out and Cross Section
 - WIE17416-SA-95-0004-A01 - Construction Details
 - WIE17416-SA-95-0005-A01 - Construction Details
 - Design Parameters Report
 - Sign Design NS1 & NS2
- 1.4. During the site visit it was dry and cold with a steady flow of vehicles, pedestrians and cyclists.
- 1.5. The terms of reference of the Audit are as described in HD 19/15. The Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the design to any other criteria.
- 1.6. Members of the Waterman Infrastructure and Environment (WIE) Audit Team act completely independently from the Waterman Infrastructure and Environment Design Team and have no other connection with the scheme.
- 1.7. All problems and recommendations are referenced to the design and the locations have been indicated on the drawings supplied with the brief, and attached at **Appendix A**.
- 1.8. The Design Team should, in addition to providing the requested information, prepare a response to each problem highlighted in this report.

2. General

- 2.1. The designers have not advised of any departure from standards.

Collision Data

- 2.2. No collision data has been provided to the Audit Team.

Proposals

- 2.3. The proposed scheme replaces the existing road layout with a mini roundabout to facilitate all vehicle movements at this location.

3. Matters Arising From This Stage 2 Audit

Problem at Location A

Location: Proposed mini roundabout

Summary: Risk of injury to vehicle occupants as a result of vehicle conflict

- 3.1. The drawing provided showing vehicle tracking of a large car movements at the proposed mini roundabout highlights a southbound vehicle going straight over at the roundabout colliding with a southbound vehicle turning left into the McDonalds drive through lane. This could result in occupant injury of a driver or passenger in either vehicle.

Recommendation

- 3.2. The design should be revised to safely accommodate all movements at the proposed mini roundabout without vehicles colliding.

Problem at Location B

Location: Southern footway by drive through

Summary: Risk of pedestrian/cyclist injury

- 3.3. The scheme proposes a combined footway cycleway on the existing southern footway alongside the McDonalds drive through. This footway is currently fairly crowded and the width is restricted with planters and street furniture associated with the drive through. Introducing a combined footway/cycleway at this location would leave pedestrians and cyclists vulnerable of collision resulting in injury.
- 3.4. In addition to this, a 'cyclist dismount' sign is proposed at the eastern end of the southern footway/cycleway and it is unclear where cyclist are meant to continue from this point.

Recommendation

- 3.5. The Design Team should reconsider the provision of a combined footway/cycleway at this location whilst ensuring there is a continuous route provided for cyclists throughout the scheme.

AUDIT TEAM LEADER:

Gillian Blaney

Senior Engineer – Waterman Infrastructure and Environment

Signed 

Date19th January 2016.....

AUDIT TEAM MEMBER:

John Bowman

Consultant - Waterman Infrastructure and Environment

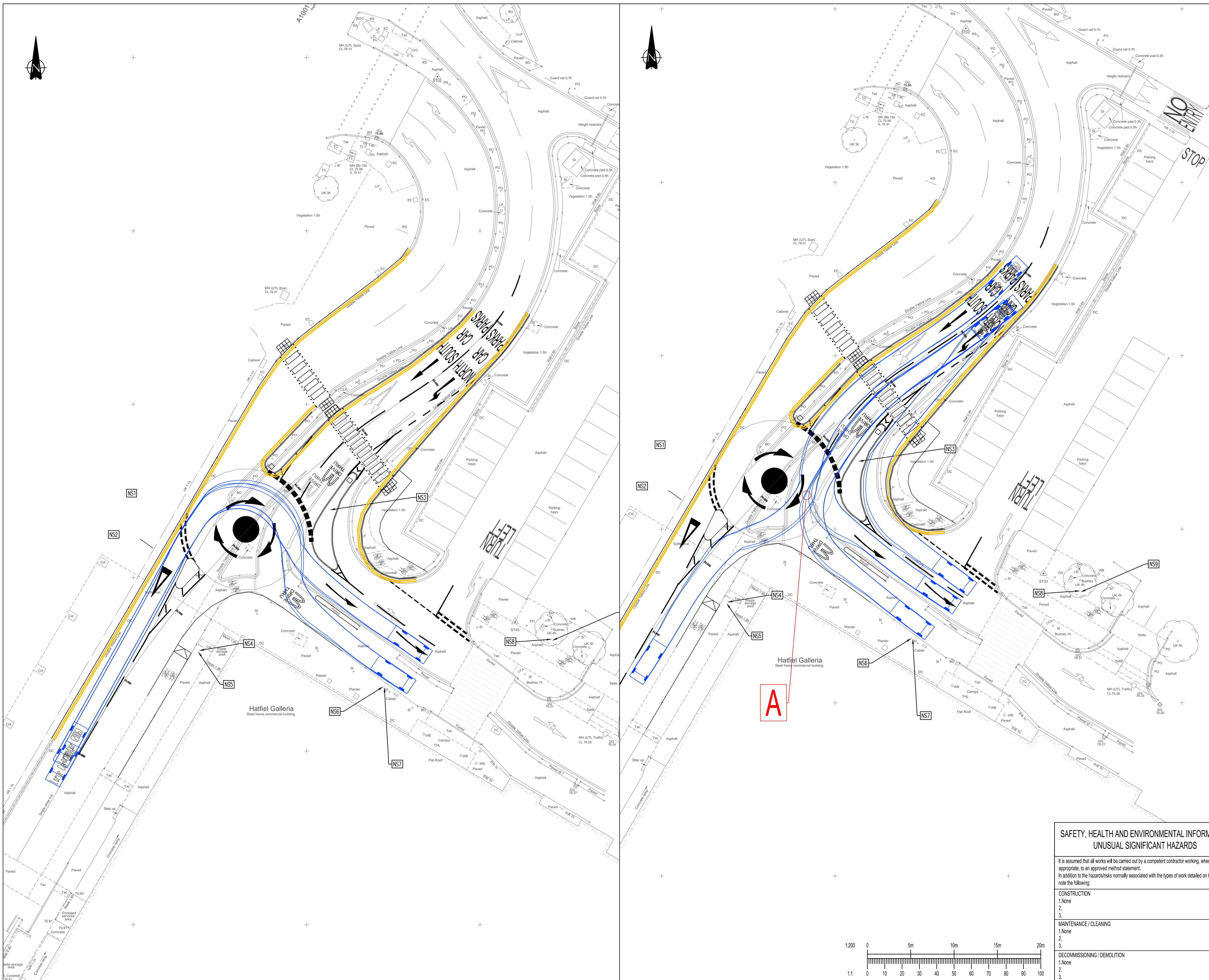
Signed 

Date20.01.16.....



APPENDICES

A. Road Safety Audit Reference Plans



This drawing should not be scaled. Dimensions to be verified on site. Any discrepancies should be referred to the Engineer prior to work being put in hand.
 This drawing is the property of Waterman Infrastructure & Environment Limited, and the drawing is issued on the condition that it is not copied, reproduced, retained or disclosed to any unauthorised person, either wholly or in part without the consent in writing of Waterman Infrastructure & Environment Limited
 Pickfords Wharf, Clink Street, London SE1 9DG 1 020 7928 7888 1 020 7902 0992

Large Car (2006)	5.079m
Overall Length	1.825m
Overall Body Height	1.525m
Min Body Ground Clearance	0.310m
Max Track Width	1.831m
Lock to Lock Time	4.00s
Kerb to Kerb Turning Radius	5.900m

Based upon drawing WIE-SA-05-0001-A02

Rev	Date	Description	By
A01	22.01.16	FIRST ISSUE	AJ

Amendments
Project Hatfield Galleria

Title
ROAD SAFETY AUDIT REFERENCE PLAN

Client
 Land Securities Group PLC

Regent House, Hubert Road, Brentwood, Essex CM14 4JE
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Drawing Status				
PRELIMINARY				
Designed by	Checked by	Project No		
Drawn by	Date	Computer File No		
Scalcs @ A1	work to figured dimensions only	1:200		
1:None	2:	3:	Number	Revision
1:None	2:	3:	WIE SA 90 0001	A01

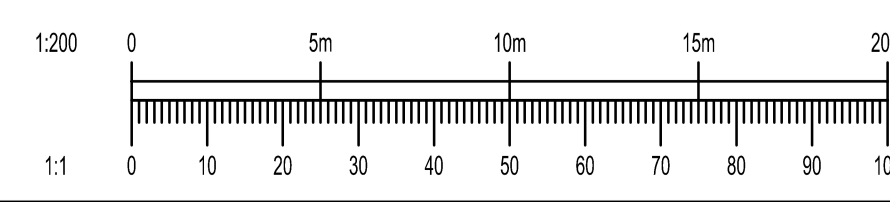
SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION UNUSUAL SIGNIFICANT HAZARDS

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement.
 In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:

CONSTRUCTION
 1. None
 2.
 3.

MAINTENANCE / CLEANING
 1. None
 2.
 3.

DECOMMISSIONING / DEMOLITION
 1. None
 2.
 3.



No.	Diagram No.	Diag. Size (wxh)(m)	X-height(mm)	Illuminated	Class of Reflected Material	Mounting Height	No. of Posts and Size	Foundations	Notes
NS1	602	0.68x0.6	N/A	NO	RA2	2700mm	102.0 x 3.2 (PS 100 NE3) (CHS) (Optimast or similar)	Circular Ø0.8m x 0.48 height	New sign mounted above NS2 on new post & foundation
NS2	611.1	0.6x0.6	N/A	NO	RA2	2100mm	Same as NS1	Same as NS1	New sign mounted below NS1 on new post & foundation
NS3	611.1	0.6x0.6	N/A	NO	RA2	2100mm	102.0 x 3.2 (PS 100 NE3) (CHS) (Optimast or similar)	Circular Ø0.65m x 0.48 height	Mini-roundabout sign to be mounted on post
NB1KL	N/A	N/A	N/A	YES	N/A	N/A	N/A	N/A	For keep left bollard construction details see drawing No. WIE-17416-SA-95-0005
NB2PF	N/A	N/A	N/A	YES	N/A	N/A	N/A	N/A	For plain faced bollard construction details see drawing No. WIE-17416-SA-95-0005
NS4	959.1	0.825x0.375	N/A	NO	RA2	2300mm	50.0 x 3.0 (PS: 100NE2 [EN12767])	0.8m x 0.8m height	New sign mounted on new post & foundation
NS5	956	0.45 dia.	N/A	NO	RA2	2300mm	Same as NS4	Same as NS4	New sign mounted reverse of NS4 on new post & foundation
NS6	966	0.535x0.230	N/A	NO	RA2	2300mm	50.0 x 3.0 (PS: 100NE2 [EN12767])	0.8m x 0.8m height	New sign mounted on new post & foundation
NS7	956	0.45 dia.	N/A	NO	RA2	2300mm	Same as NS6	Same as NS6	New sign mounted reverse of NS6 on new post & foundation
NS8	957	0.45 dia.	N/A	NO	RA2	2300mm	50.0 x 3.0 (PS: 100NE2 [EN12767])	0.8m x 0.8m height	New sign mounted on new post & foundation
NS9	966	0.535x0.230	N/A	NO	RA2	2300mm	Same as NS8	Same as NS8	New sign mounted reverse of NS8 on new post & foundation

Notes

- All road markings refer to the 'Traffic Signs Regulations and General Directions 2002'.
- For post and foundation details see reports WIE-17416-SIGN-NS1-NS2 and WIE-17416-SIGN-NS3

White Lining Specification

- The location, colour and position of permanent road markings are shown on this drawing.
- All permanent road markings shall be retro-reflective thermoplastic screed with applied solid glass beads, unless otherwise stated.
- Solid glass beads shall comply with requirements of BS6088.
- The functional life of permanent road markings, as described in BS EN1436 shall be 12 months after granting of substantial completion certificate for the road works.
- The permanent road markings shall have road performance as given in DMRB Specification Clause 1212(3).

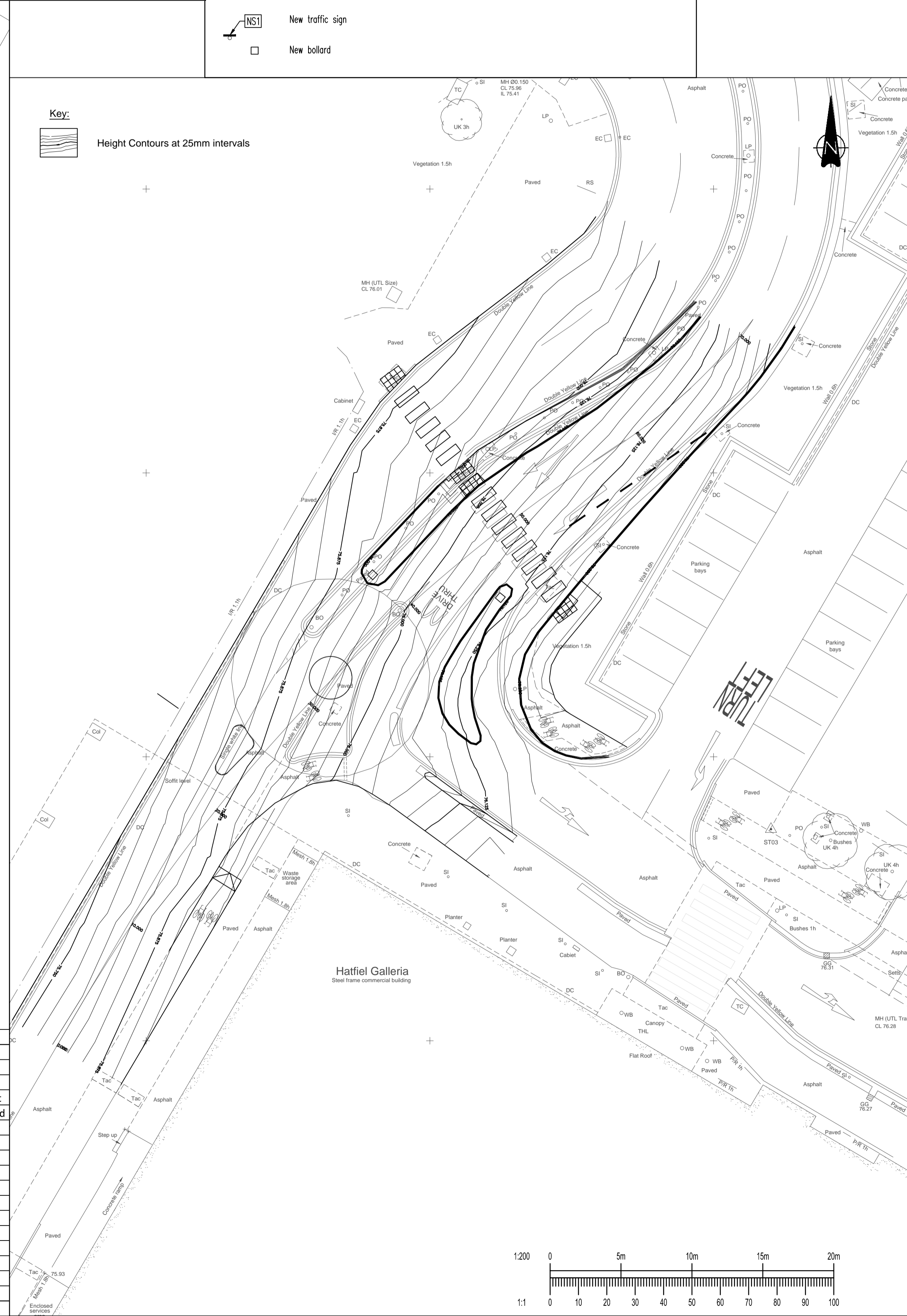
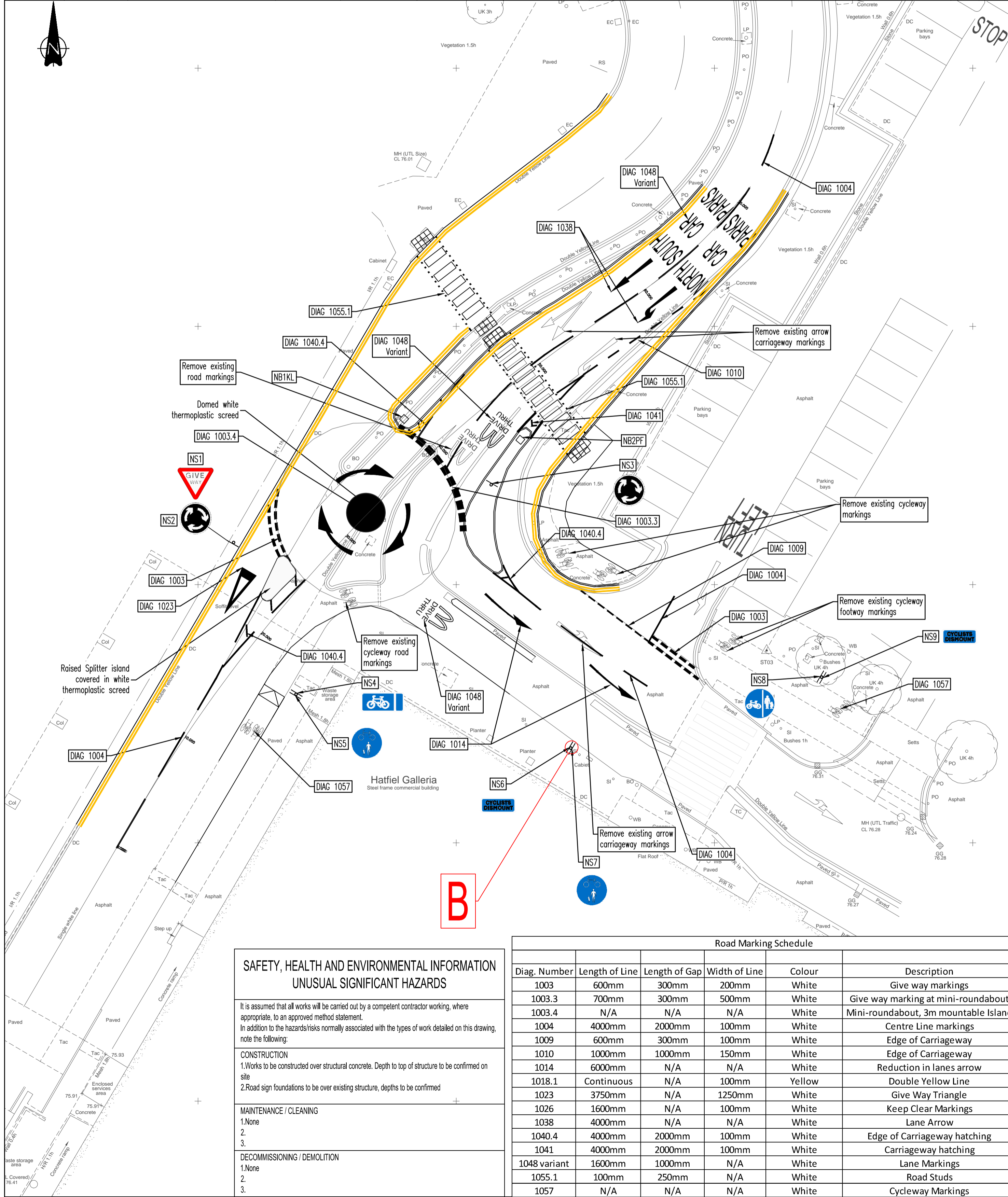
Key:

- New traffic sign
- New bollard

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This drawing is based upon topographical survey information supplied by Survey Solutions and Waterman shall not be liable for any inaccuracies or deficiencies.



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION UNUSUAL SIGNIFICANT HAZARDS

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement.

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:

CONSTRUCTION

- Works to be constructed over structural concrete. Depth to top of structure to be confirmed on site
- Road sign foundations to be over existing structure, depths to be confirmed

MAINTENANCE / CLEANING

- None
- None
- None

DECOMMISSIONING / DEMOLITION

- None
- None
- None

Diag. Number	Length of Line	Length of Gap	Width of Line	Colour	Description
1003	600mm	300mm	200mm	White	Give way markings
1003.3	700mm	300mm	500mm	White	Give way marking at mini-roundabout
1003.4	N/A	N/A	N/A	White	Mini-roundabout, 3m mountable Island
1004	4000mm	2000mm	100mm	White	Centre Line markings
1009	600mm	300mm	100mm	White	Edge of Carriageway
1010	1000mm	1000mm	150mm	White	Edge of Carriageway
1014	6000mm	N/A	N/A	White	Reduction in lanes arrow
1018.1	Continuous	N/A	100mm	Yellow	Double Yellow Line
1023	3750mm	N/A	1250mm	White	Give Way Triangle
1026	1600mm	N/A	100mm	White	Keep Clear Markings
1038	4000mm	N/A	N/A	White	Lane Arrow
1040.4	4000mm	2000mm	100mm	White	Edge of Carriageway hatching
1041	4000mm	2000mm	100mm	White	Carriageway hatching
1048 variant	1600mm	1000mm	N/A	White	Lane Markings
1055.1	100mm	250mm	N/A	White	Road Studs
1057	N/A	N/A	N/A	White	Cycleway Markings

Based upon drawing WIE-17416-SA-95-0002-402

Rev	Date	Description	By
A01	22.01.15	FIRST ISSUE	AJ

Amendments

Project: **Hatfield Galleria**

Title: **ROAD SAFETY AUDIT REFERENCE PLAN**

Client: **Land Securities Group PLC**

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Drawing Status: **PRELIMINARY**

Designed by	Checked by	Project No		
Drawn by	Date	WIE17416		
Scale: 8 A1 work to figured dimensions only	1:200	Computer File No: WIE-17416-SA-95-0002-401.dwg		
Publisher	Zone	Category	Number	Revision
WIE	SA	90	0002	A01

1:200

1:1

A1-Wat-S, Contours, Design W3 161215, Key & Notes, Road Markings, Topographical survey

UK and Ireland Office Locations

