

COTSWOLD  
TRANSPORT  
PLANNING

Cheltenham Borough Council  
PO Box 12  
Municipal Offices  
Cheltenham  
Gloucestershire  
GL50 1PP  
FAO. Emma Pickernell

Date: 9<sup>th</sup> June 2020

Our ref: CTP-16-332

Dear Emma,

**Planning Application for Residential Development of 43 Dwellings  
on Land at Oakhurst Rise, Cheltenham (Ref: 20/00683/OUT)**

Cotswold Transport Planning Ltd (CTP) has been appointed by William Morrison (Cheltenham) Ltd to provide transport planning support in connection with the above planning application.

I refer to my report Transport Assessment, dated April 2020.

I have considered the revised housing layout shown on Dwg No. PL005 rev B, which has been produced to meet the requirements of the Gloucestershire County Council Highways.

The amended layout gives rise to no environmental or technical concerns in the field to which my report relates.

For ease of review, we have updated the following drawings previously included within Appendix H of the Transport Assessment, which I enclose within **Appendix A** of this letter to you:

- CTP-16-332 – SP02-T
- CTP-16-332 – LA01-N
- CTP-16-332 – SK01-U
- CTP-16-332 – SP01-W
- CTP-16-332 – SK09-X
- CTP-16-332 – SK25-F
- CTP-16-332 – SP07-E

**Road Safety Audit**

Please note, the Stage 1 Road Safety Audit and accompanying Designer's responses have also been updated and are enclosed with this note at **Appendix B**.

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Gloucestershire, GL50 3QQ

VAT Registration Number 199 0212 96.  
Company Number 9228763.

## Summary

I trust the information set out in this letter is acceptable. However, please do not hesitate to contact me if there are any further matters you wish to discuss.

Yours Sincerely

Adam Padmore

*Managing Director* on behalf of **Cotswold** Transport Planning Ltd

[adam@cotswoldtp.co.uk](mailto:adam@cotswoldtp.co.uk)

01242 523696 / 07884 266321

*Enclosures - Appendix A – Updated Drawings*

*Appendix B – Road Safety Audit and Designer's Response*

# Appendix A



INDICATIVE

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1. Based on 'Midland Survey' topographical survey drawing '26677-R1-1' received on 17.05.17 and Coomes Everitt Architects masterplan received on 08.06.20.
2. Design speed for internal link road is 20mph and shared space roads is 15mph.

Legend



Proposed new carriageway to be adopted



Proposed new footway to be adopted



Proposed verge to be adopted

N	09.06.20	Masterplan amended to address GCC Highways comments	LG	MP
M	20.05.20	Amended to include latest masterplan	LG	MP
L	24.04.20	Amended to include latest masterplan	LG	MP
K	23.04.20	Amended to include latest masterplan	LG	MP
J	15.04.20	Revised masterplan	LG	MP

Rev	Date	Details	Drawn by	Checked by
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COTSWOLD  
TRANSPORT  
PLANNING

CLIENT:  
**WMCL**

PROJECT:  
**Land off Oakhurst Rise,  
Charlton Kings**

TITLE:  
**Indicative Adoption Plan**

STATUS:  
**INFORMATION**

SCALE @ A3:	DATE:	DRAWN:	CHECKED:	APPROVED:
1:1000	22.11.17	LG	MP	MP

JOB NO:	DRAWING NO:	REVISION:
CTP-16-332	LA01	N





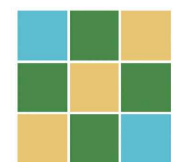
INDICATIVE

RESERVED COPYRIGHT

1. Based on 'Midland Survey' topographical survey drawing '26677-R1-1' received on 17.05.17 and Coomes Everitt Architects masterplan received on 08.06.20.
2. Design speed for internal link road is 20mph and shared space roads is 15mph.

U	05.06.20	Masterplan amended to address GCC Highway comments	LG	MP
T	20.05.20	Amended to include latest masterplan	LG	MP
S	24.04.20	Amended to include latest masterplan	LG	MP
R	23.04.20	Amended to include latest masterplan	LG	MP
Q	15.04.20	Revised masterplan	LG	MP

Rev	Date	Details	Drawn by	Checked by
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PLANNING

CLIENT:  
**WMCL**

PROJECT:  
**Land off Oakhurst Rise,  
Charlton Kings**

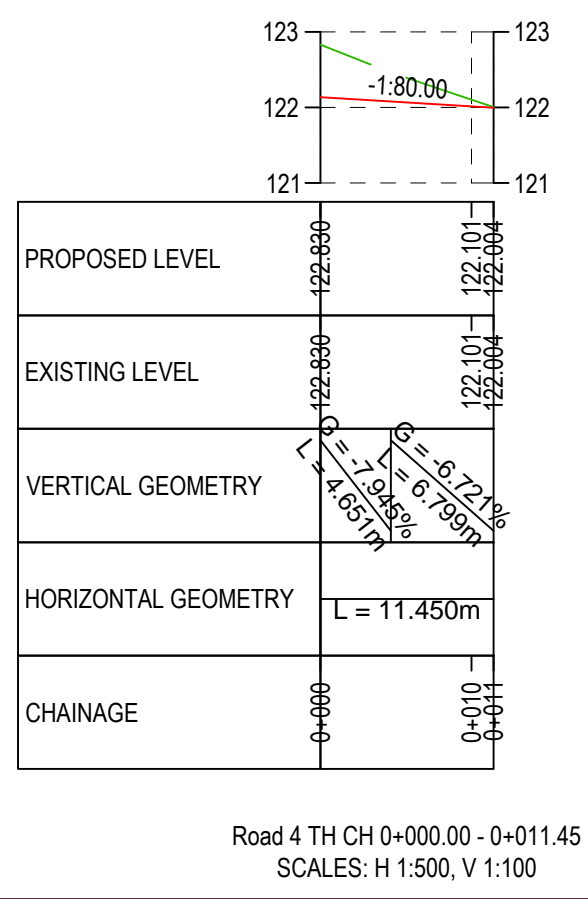
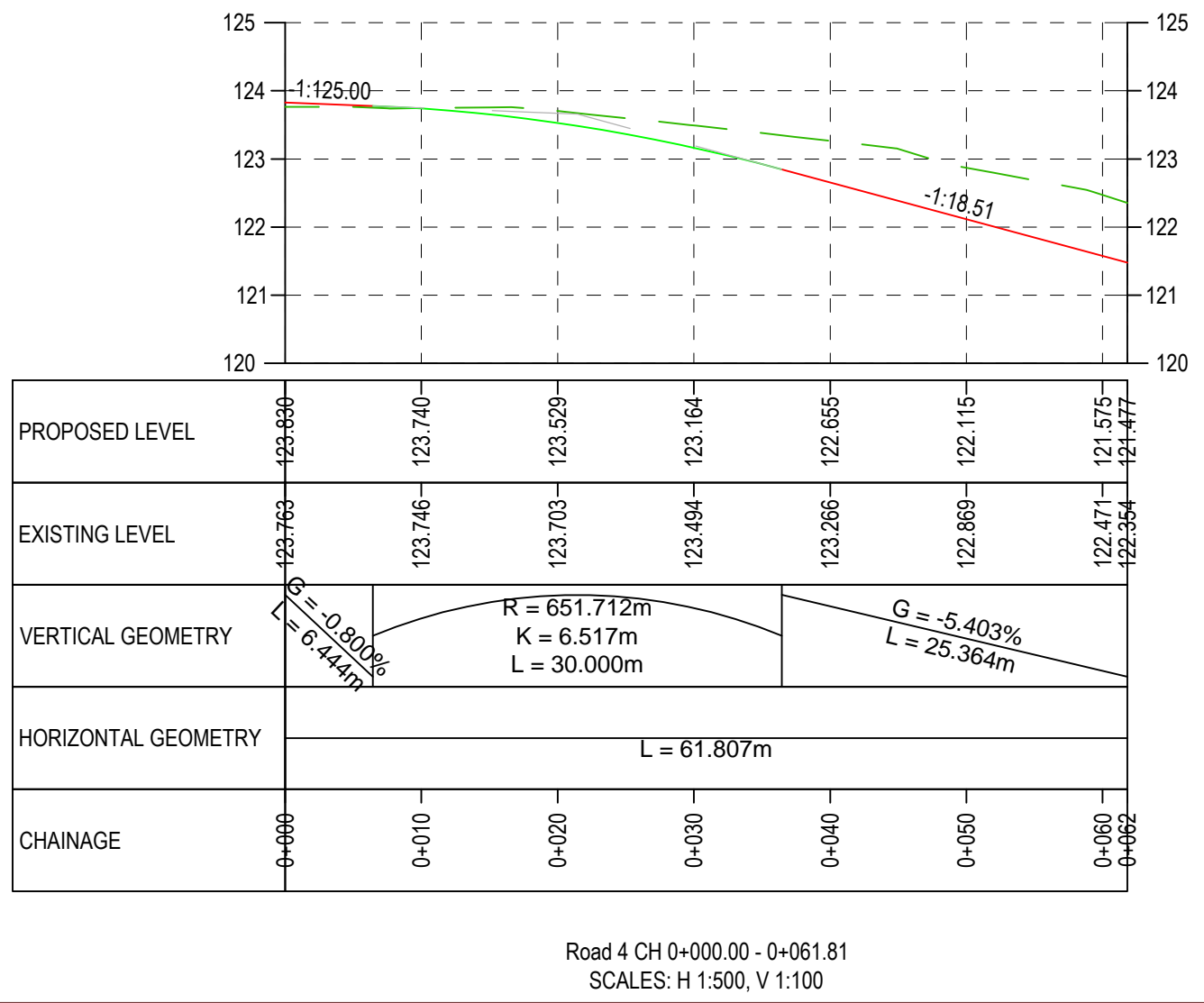
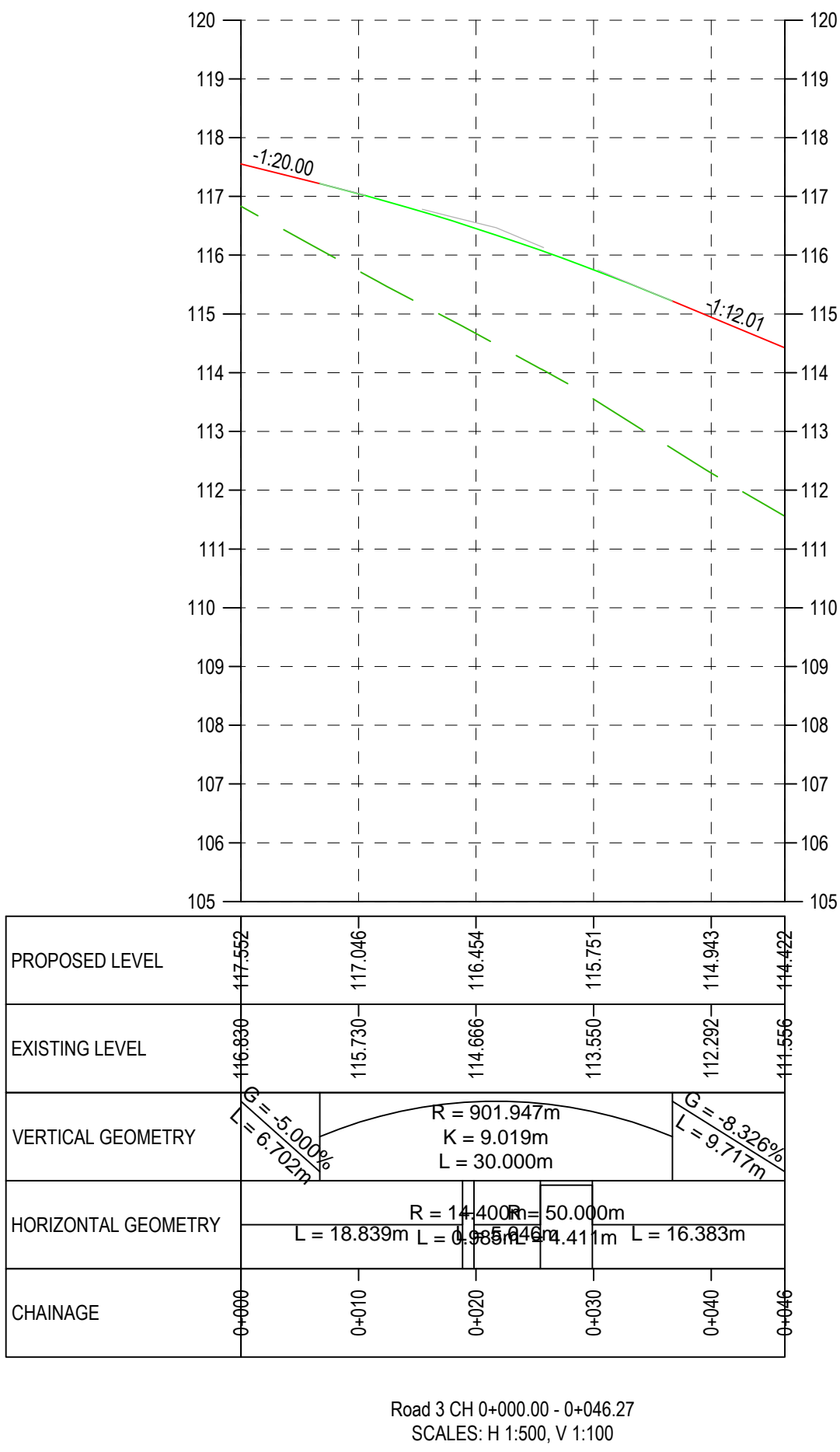
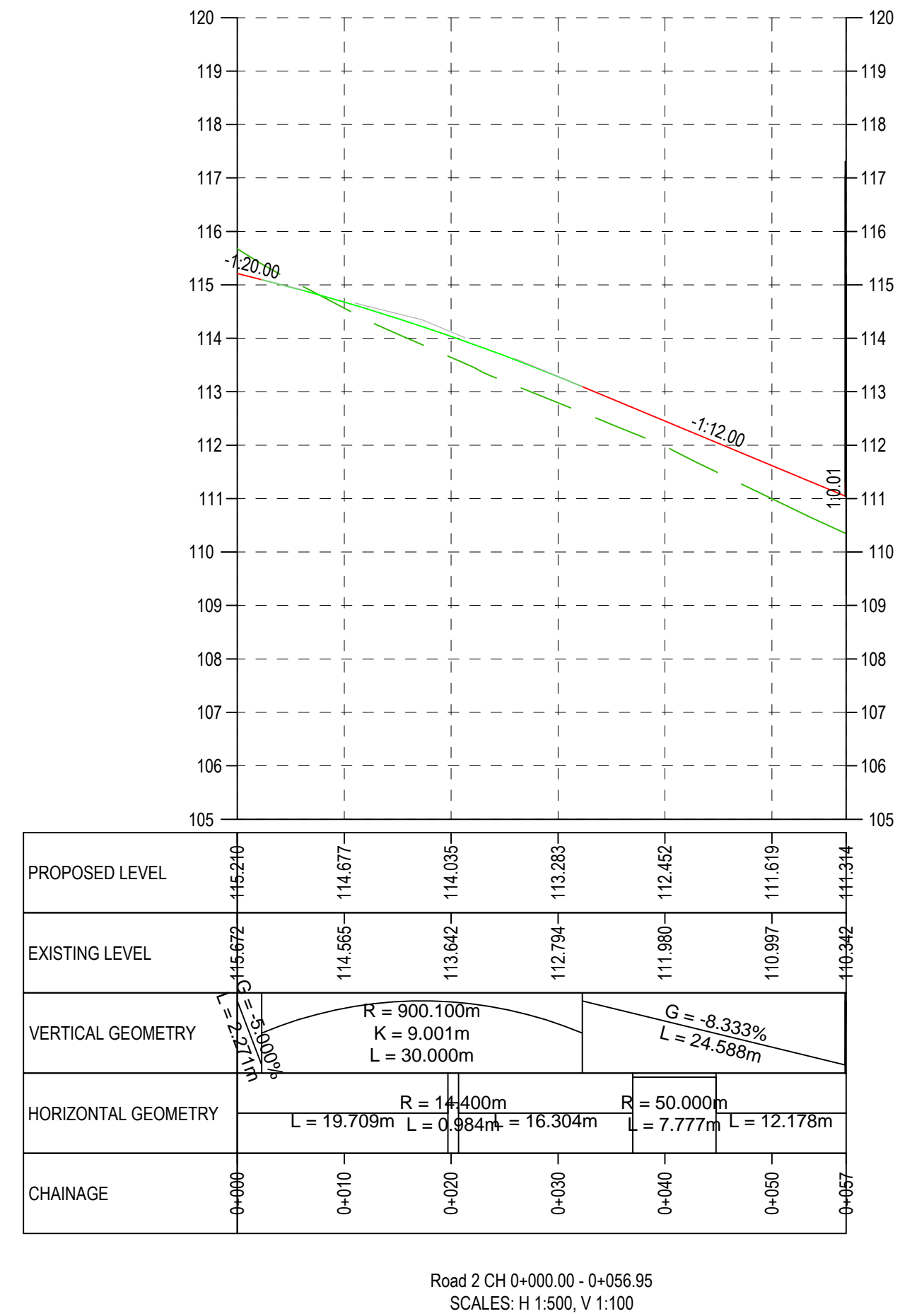
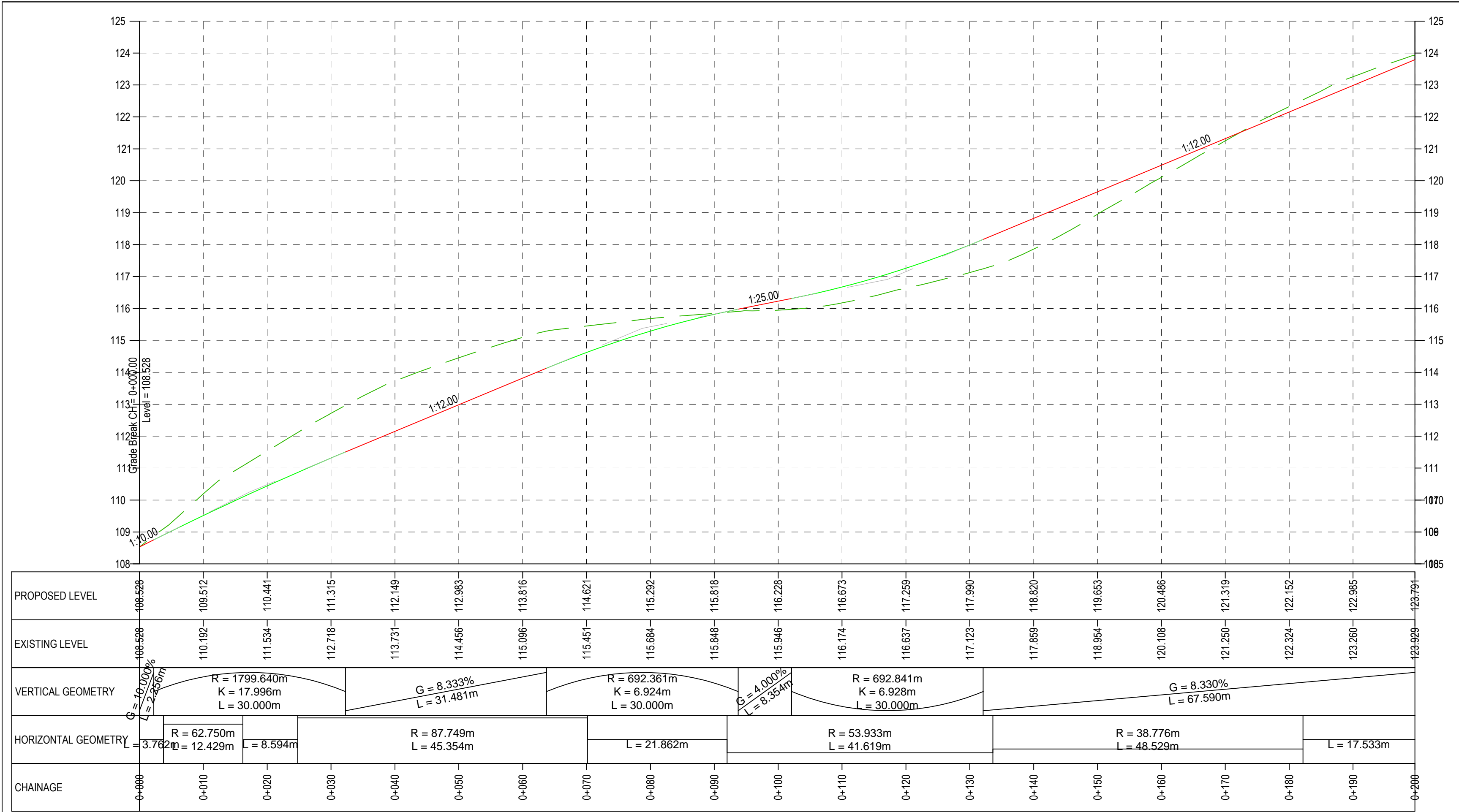
TITLE:  
**Proposed Site Road Layout**

STATUS:  
**INFORMATION**

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1:1000	06.10.16	LG	MP	MP

JOB NO:	DRAWING NO:	REVISION:
CTP-16-332	SK01	U





- Based on 'Midland Survey' topographical survey drawing 26677 R1 received on 17.05.17 and Everitt Architects masterplan received on 08.06.20
- All levels out with highway to be designed by others.

15.06.20

Masterplan amended to address GCC Highways comments

LG

MP

20.05.20

Amended to include latest masterplan

LG

MP

24.04.20

Amended to include latest masterplan

LG

MP

23.04.20

Drawing frame updated. Amended to include latest masterplan.

LG

MP

Rev

Date

Details

Drawn by

Checked by

COTSWOLD  
TRANSPORT  
PLANNING

CLIENT:

WMCL

PROJECT:

Land off Oakhurst Rise,  
Charlton Kings

TITLE:

Preliminary Site Assessment

STATUS:

INFORMATION

SCALE @ A1:  
as shown

DATE:  
09.05.17

DRAWN:  
LG

CHECKED:  
MP

APPROVED:  
MP

JOB NO:  
CTP-16-332

DRAWING NO:  
SK09

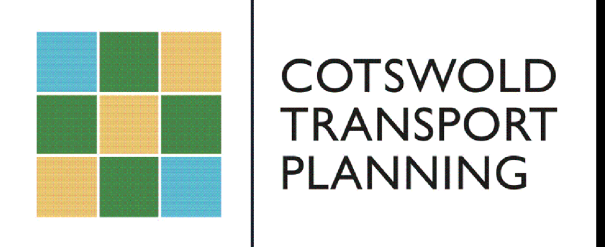
REVISION:  
X

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- Notes:
- Key**
- 2m x 2m pedestrian inter-visibility splay from driveway to back of footway.
  - Driveway visibility splay - 2m x 22m on main access road / 2m x 15m in shared surface areas (measured tangentially where applicable).



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Cheltenham  
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Tel: 01242 370283  
cheltenham@cotswoldtp.co.uk  
www.cotswoldtp.co.uk

Drawing Title:  
Assessment Of Driveway Visibility Splays

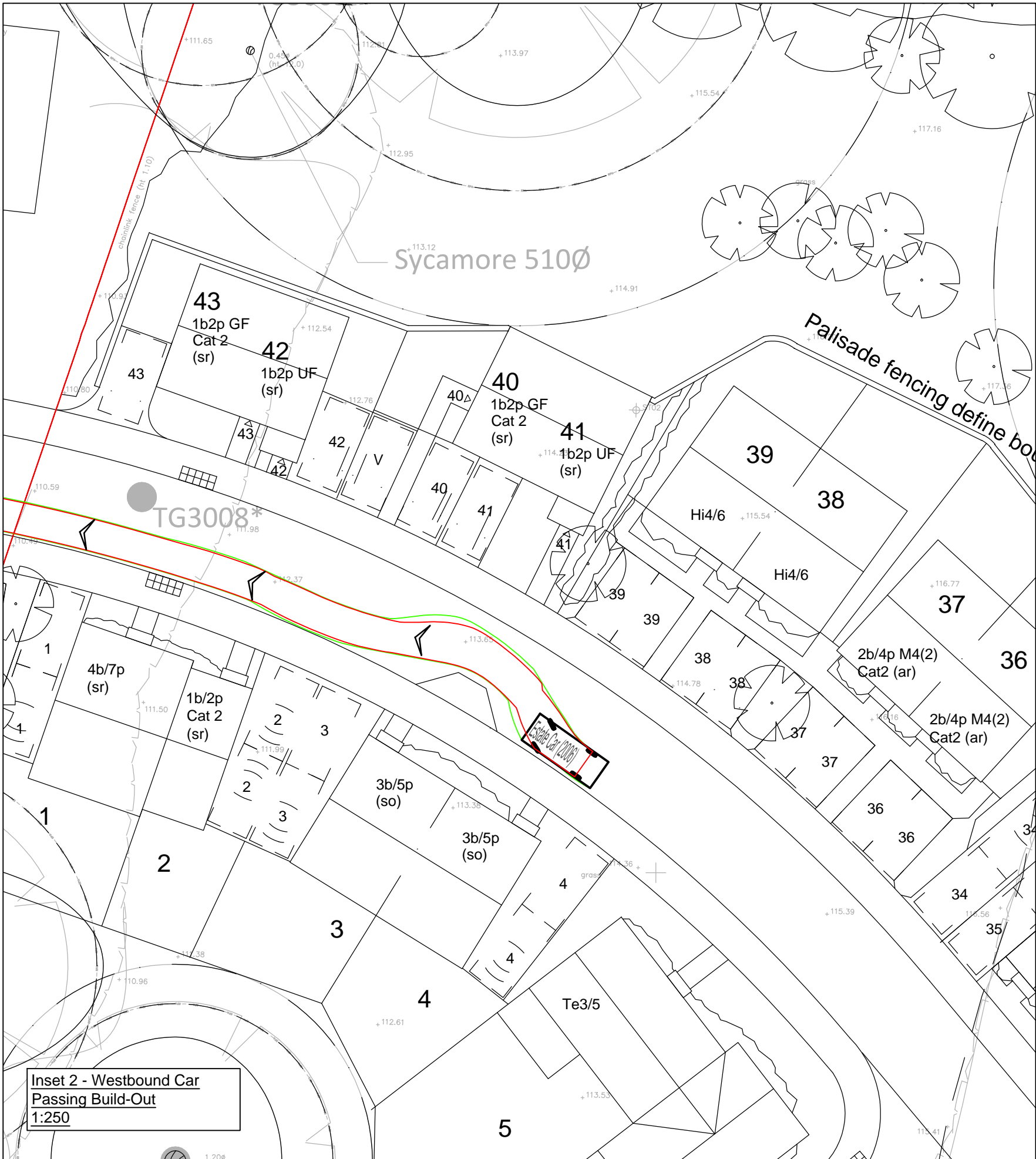
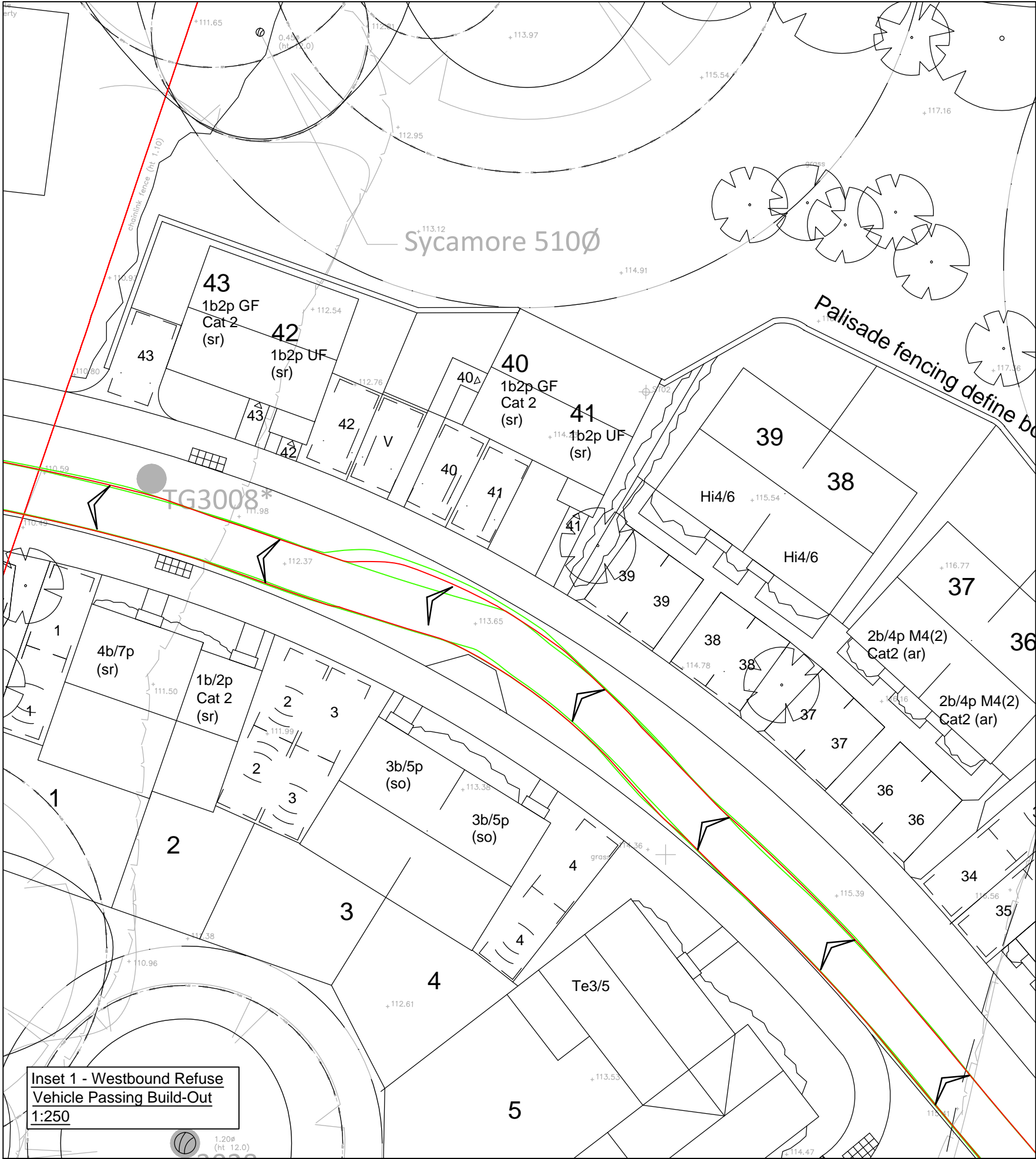
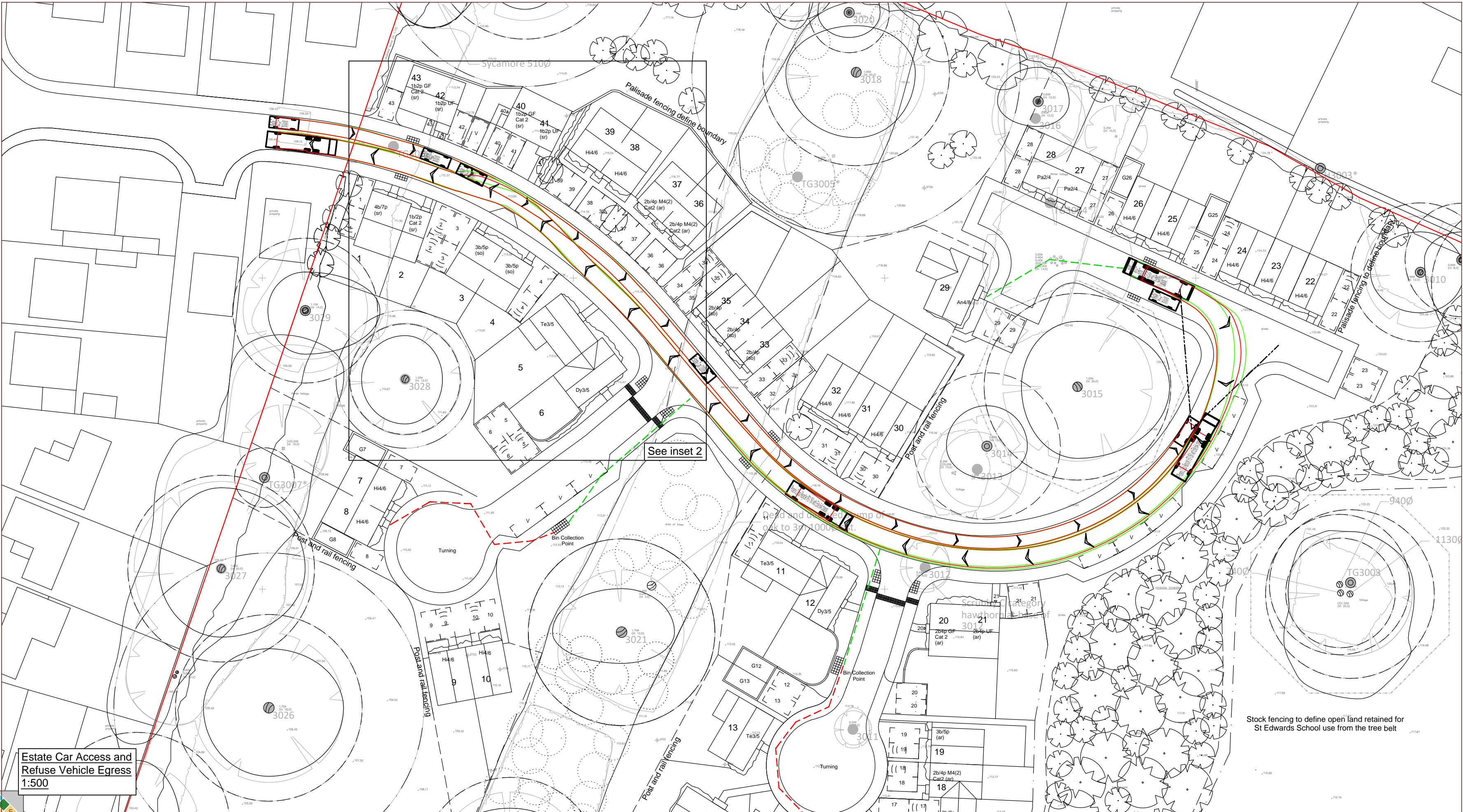
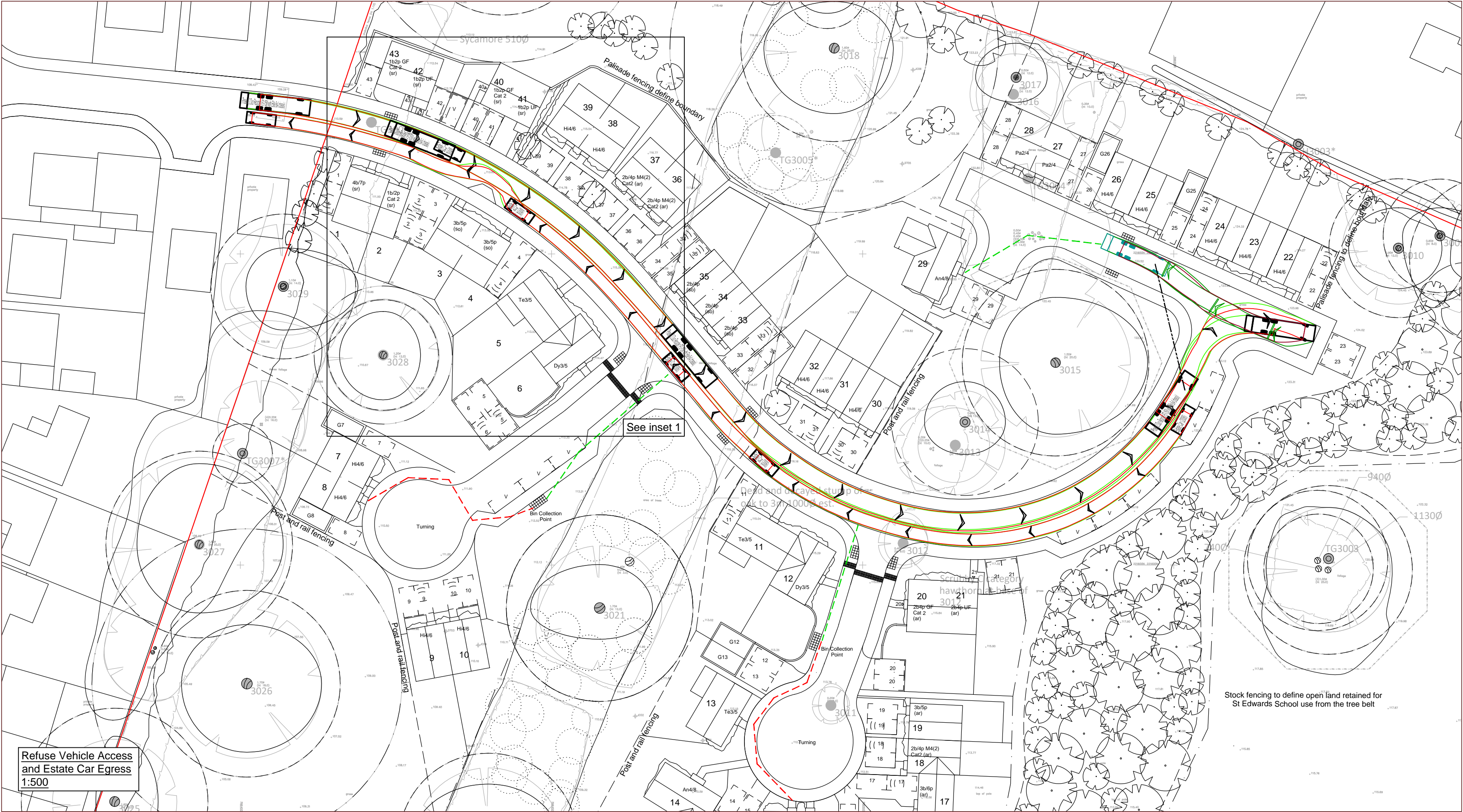
Client:  
WMCL

Project:  
Land off Oakhurst Rise, Charlton Kings

Drawing No: SK25	Revision: F
Date Drawn: 30.11.18	Issue Date: 05.06.20
Drawn by: MP	Checked by: AP
Project Code: CTP-16-332	Scale at A1: 1:500

Drawing Status:  
INFORMATION





- Notes:
- Do not scale from this drawing. All dimensions are in metres, unless stated otherwise.
  - Drawing to be read in conjunction with all other drawings. Any discrepancies are to be reported to the engineer 5 working days in advance of undertaking any work.
  - This drawing is based on the Architects layout received from coombes:everitt architects limited on 08.06.2020.
  - Work to be undertaken in accordance with the Gloucestershire County Council Technical Specification for New Streets.
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- Inter-visibility between vehicles
- Max. 25m carry distance to refuse vehicle
- Max. 35m carry distance to bin collection point

	<b>Estate Car (2006)</b> Overall Length Overall Width Overall Body Height Min Body Ground Clearance Max Track Width Lock to lock time Kerb to Kerb Turning Radius	4.710m 1.840m 1.442m 0.207m 1.756m 4.00s 5.950m
--	--	---

	<b>Phoenix 2 Duo Recycler (P2-15W with Elite 6x4 chassis)</b> Overall Length Overall Width Overall Body Height Min Body Ground Clearance Track Width Lock to lock time Kerb to Kerb Turning Radius	11.220m 2.530m 3.750m 0.303m 2.530m 4.00s 11.550m
--	---	---

W	02.06.20	Masterplan updated and build-out added	LG	MP
V	20.05.20	Amended to include latest masterplan	LG	MP
U	24.04.20	Amended to include latest masterplan	LG	MP
T	23.04.20	Amended to include latest masterplan	LG	MP
S	15.04.20	Updated to include latest masterplan	LG	MP
R	06.04.20	Revised scheme	LG	MP
Rev	Date	Details	Drawn by	Checked by

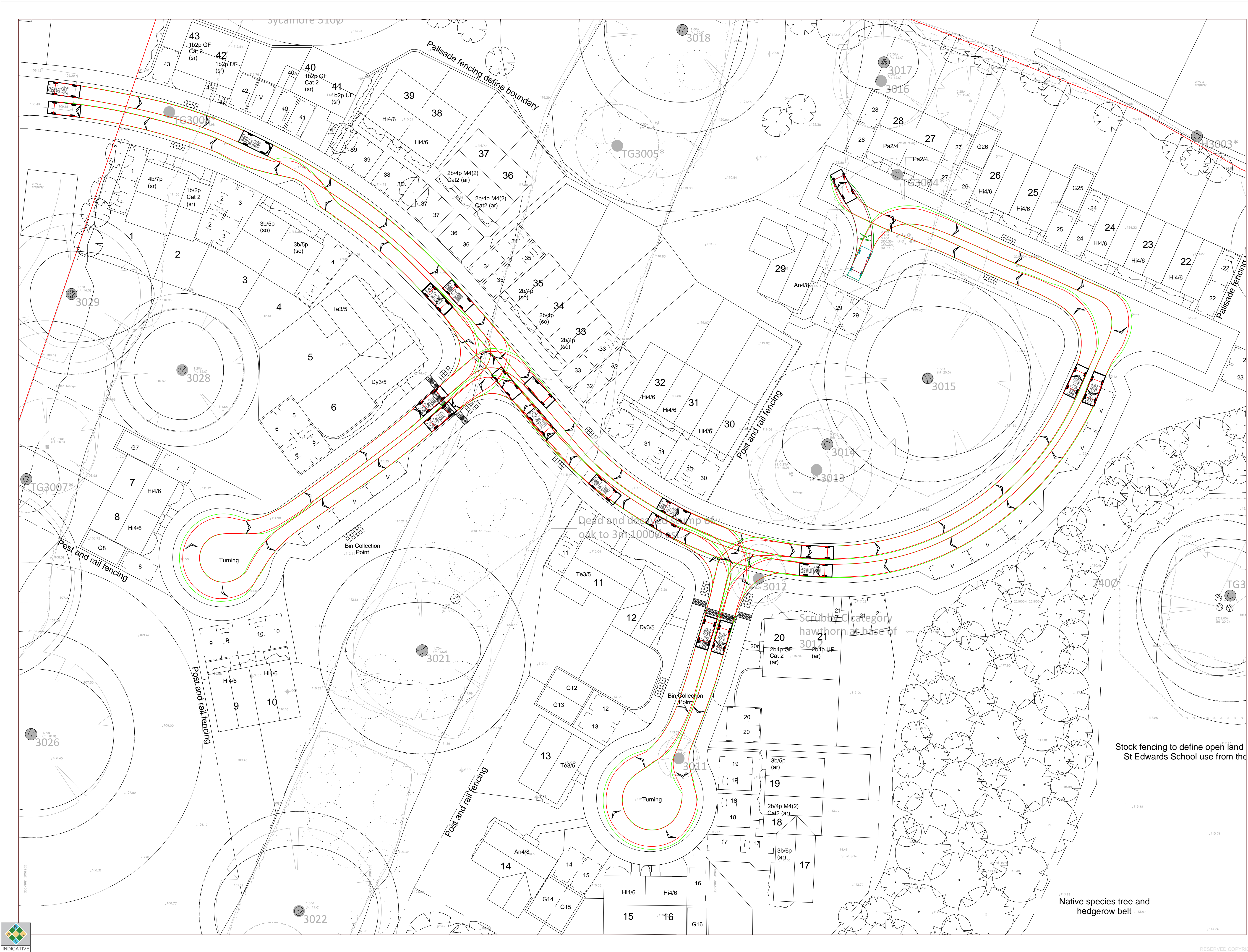


CLIENT:	WMCL			
PROJECT: Land off Oakhurst Rise, Charlton Kings				
TITLE: Internal Site Road Swept Path Analysis - Refuse Vehicle/Estate Car				
STATUS: <b>INFORMATION</b>				
SCALE @ A1: 1:500	DATE: 07.12.16	DRAWN: LG	CHECKED: MP	APPROVED: MP
JOB NO: CTP-16-332	DRAWING NO: SP01		REVISION: W	

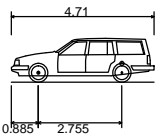


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  - Drawing to be read in conjunction with all other drawings. Any discrepancies are to be reported to the engineer 5 working days in advance of undertaking any work.
  - This drawing is based on the Architects layout received from coombes:everitt architects limited on 08/06/2020.
  - Work to be undertaken in accordance with the Gloucestershire County Council Technical Specification for New Streets.
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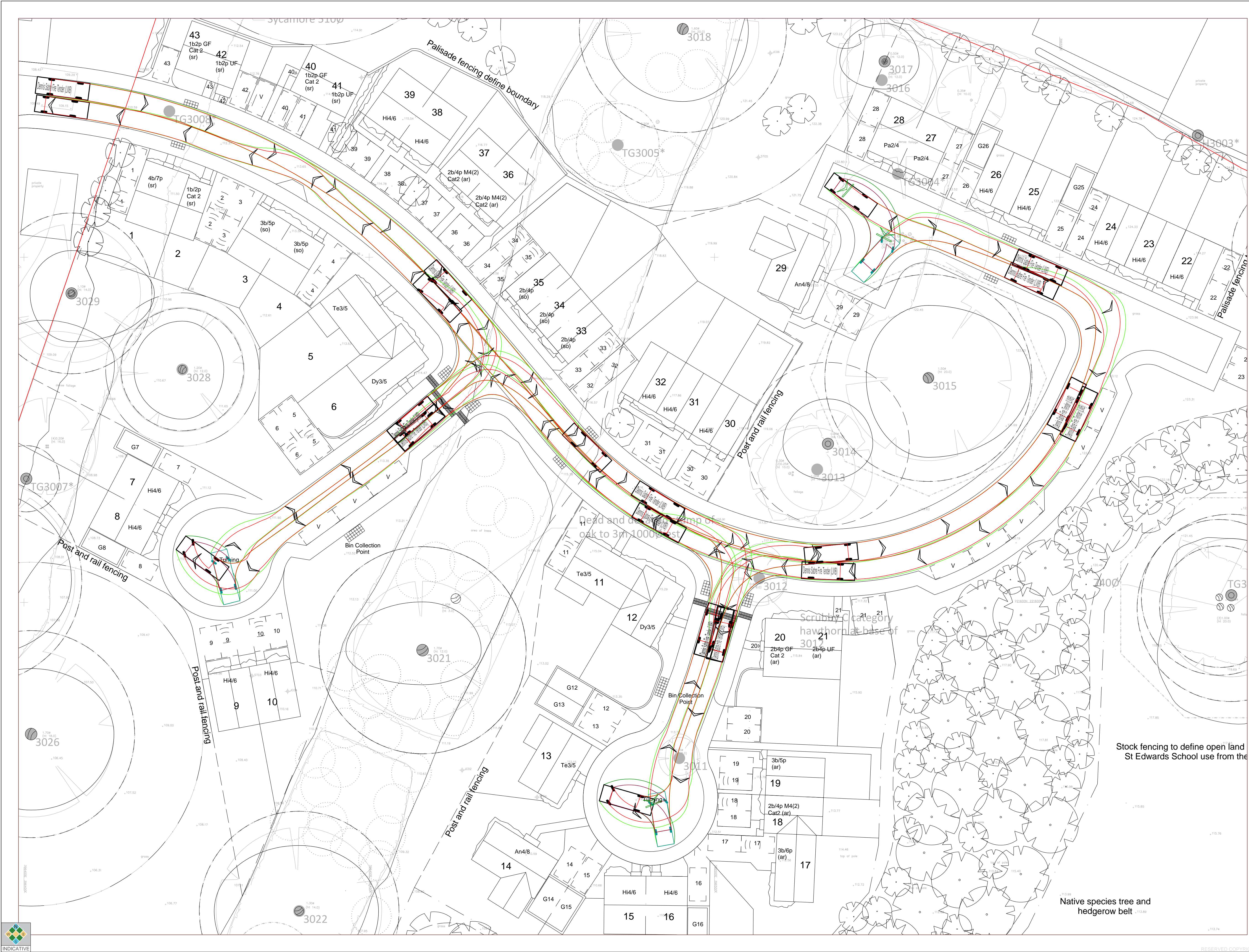
	
Estate Car (2006)	4.710m
Overall Length	1.804m
Overall Width	1.442m
Overall Body Height	0.207m
Min Body Ground Clearance	1.756m
Max Track Width	4.005m
Lock to lock time	5.550m
Kerb to Kerb Turning Radius	

T	02.06.20	Masterplan amended and build-out added	LG	MP
S	20.05.20	Amended to include latest masterplan	LG	MP
Q	23.04.20	Amended to include latest masterplan	LG	MP
P	15.04.20	Updated to include revised layout	LG	MP
N	06.04.20	Revised scheme	LG	MP
Rev	Date	Details	Drawn by	Checked by

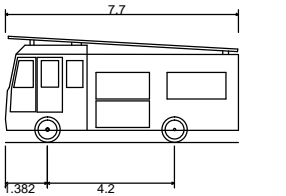


CLIENT:	WMCL			
PROJECT:	Land off Oakhurst Rise, Charlton Kings			
TITLE:	Internal Site Road Swept Path Analysis - Estate Car			
STATUS:	INFORMATION			
SCALE @ A1:	DATE:	DRAWN:	CHECKED:	APPROVED:
1:250	07.12.16	LG	MP	MP
JOB NO:	DRAWING NO:		REVISION:	
CTP-16-332	SP02		T	





- Notes:
- Do not scale from this drawing. All dimensions are in metres, unless stated otherwise.
  - Drawing to be read in conjunction with all other drawings. Any discrepancies are to be reported to the engineer 5 working days in advance of undertaking any work.
  - This drawing is based on the Architects layout received from coombes:everitt architects limited on 08.06.2020.
  - Work to be undertaken in accordance with the Gloucestershire County Council Technical Specification for New Streets.
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Dennis Sabre Fire Tender (LWB)	
Overall Length	7.700m
Overall Width	2.430m
Overall Body Height	3.510m
Min Body Ground Clearance	0.387m
Track Width	2.380m
Lock to lock time	5.00s
Kerb to Kerb Turning Radius	7.400m

E	08.06.20	Masterplan amended following GCC Highways comments	LG	MP
D	20.05.20	Amended to include latest masterplan	LG	MP
C	24.04.20	Amended to include revised masterplan	LG	MP
B	23.04.20	Amended to include revised masterplan	LG	MP
A	16.04.20	Updated to include revised masterplan	LG	MP
Rev	Date	Details	Drawn by	Checked by



CLIENT: WMCL

PROJECT: Land off Oakhurst Rise, Charlton Kings

TITLE: Internal Site Road Swept Path Analysis - Fire Tender

STATUS: INFORMATION

SCALE @ A1:	DATE:	DRAWN:	CHECKED:	APPROVED:
1:250	06.04.20	LG	MP	MP
JOB NO:	DRAWING NO:	REVISION:		
CTP-16-332	SP07	E		



## Appendix B



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**LAND OFF OAKHURST RISE, KINGS  
CHURCH, CHELTENHAM  
(UPDATED SCHEME)**

**PROPOSED SITE ACCESS & INTERNAL  
ADOPTABLE ROAD LAYOUT**

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**STAGE 1  
ROAD SAFETY AUDIT REPORT &  
MOBILITY AUDIT**

---

**REQUESTED BY:  
COTSWOLD TRANSPORT PLANNING**

---

**APRIL 2020**

---



**RKS**  
Associates



Project: Land off Oakhurst Rise, Kings Church, Cheltenham (Updated Scheme)  
Proposed Site Access & Internal Adoptable Road Layout

Client: Cotswold Transport Planning

Document: Stage 1 Road Safety Audit

RKS Associates Ref: VRP1162-01

Issue date: 20<sup>th</sup> April 2020

Status: Final

Authorised by: VP/JC

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**RKS**  
Associates

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Bushey  
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WD23 3AQ



**CONTENTS**

1 Introduction .....2

2 Stage 1 Road Safety Issues.....5

3 Stage 1 Mobility Issues.....8

4 Audit Team Statement.....9

**Appendices**

- Appendix A: Location of Problems Identified During Stage 1 Road Safety Audit
- Appendix B: Risk Assessment Matrix
- Appendix C Designers Response



## **1 INTRODUCTION**

**1.1** This report results from a Stage 1 Road Safety Audit carried out on proposed development access and internal adoptable roads serving a residential development of 43 dwellings on land off Oakhurst Rise, Charlton Kings in Cheltenham.

**1.2** The scheme consists of a vehicular access via a continuation of Oakhurst Rise cul-de-sac, which leads into the development. The estate road serving the proposed development comprises a 5.5m carriageway with 2.0m footways. The audit drawings also show forward visibility splays on bends, together with the simulated swept path (tracking) of a large refuse vehicle servicing the development.

**1.3** Cotswold Transport Planning has supplied the following information upon which this Stage 1 RSA is based:

- Cotswold Transport Planning Drawing CTP-16-332-LA01 Revision L – Indicative Adoptive Plan;
- Cotswold Transport Planning Drawing CTP-16-332-SK01 Revision S Proposed Site Layout Plan;
- Cotswold Transport Planning Drawing CTP-16-332-SK09 Revision V Preliminary Site Assessment (Levels);
- Cotswold Transport Planning Drawing CTP-16-332-SP01 Revision U Internal Site Road Swept Path Analysis (Refuse Vehicle & Estate Car);
- Cotswold Transport Planning Drawing CTP-16-332-SP02 Revision R Internal Site Road Swept Path Analysis (Estate Car);
- Cotswold Transport Planning Drawing CTP-16-332-SP070 Revision C Internal Site Road Swept Path Analysis - Fire Tender; and
- Designers Response to Stage 1 RSA prepared by RKS Associates (Reference VRP1008-01) for an updated scheme.

**1.4** The Audit Team is independent of the project design team and has undertaken a Stage 1 RSA on a previous scheme in November 2018, but otherwise have had no other involvement with the project. The main parties to the Audit of this Road Safety Audit include the following:

Road Safety Audit Team Leader	Vimal Patel BEng (Hons), GMICE, FIHE, HE Cert Comp, Reg RSA (IHE)
Road Safety Audit Team Member	James Chequer BA(Hons) Dip TP, MCIHT, CMILT, MRTPI
Client Organisation	Gloucestershire County Council
Design Organisation	Cotswold Transport Planning



### **Terms of Reference**

- 1.5** This Stage 1 RSA has been undertaken in accordance with Manual for Gloucestershire Streets and relevant sections of GG-119, part of the Design Manual for Roads and Bridges (DMRB) and the temporary relaxations to GG-119 issued by Highways England on 27<sup>th</sup> March 2020. Due to the current restrictions associated with the Covid-19 pandemic it has been agreed in advance with Gloucestershire County Council that a site visit is not required. The Road Safety Audit has been undertaken with the benefit of online mapping software 'Google Maps' and 'Google Street View' and site photographs and notes undertaken as a part of the Stage 1 RSA in November 2018 for an alternative scheme.
- 1.6** The Audit Team has been informed by the Design Engineers that they have secured two Departures from Standards for the previous scheme from Gloucestershire County Council.
- 1.7** Gloucestershire County Council also requires consideration of potential issues in relation to mobility and non-motorised users within the extent of the audited scheme. This Audit fully considers mobility and non-motorised user issues within the extent of the scheme.
- 1.8** The Safety Audit Team has examined only matters relating to road safety implications of the scheme and has not verified compliance of the design to any other criteria. All of the problems identified in this report are considered by the Audit Team to require action in order to improve the safety of the scheme and to minimise accident occurrence for all users. The extent of the scheme and the location of the problems identified in this Safety Audit is shown in **Appendix A** where the reference numbers relate to the problems identified in this report.
- 1.9** The recommendations in this report are aimed at addressing the identified 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. 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.
- 1.10** 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 Local Highway Authority on final completion.





---

### **Personal Injury Accident Data**

- 1.11** A review of the collision data contained in the *Crashmap UK* website identified that no collisions have been recorded along Oakhurst Rise during the 5-year period up to December 2018. The collision data does identify that one collision occurred along Beaufort Road between Oakhurst Rise and Oak Avenue. The collision involved two vehicles and resulted in one slight injury.

### **Previous Road Safety Audits**

- 1.12** RKS Associates undertook the Stage 1 Road Safety Audit for an alternative scheme in November 2018. A copy of the *Designers Response* to the Stage 1 RSA has been provided by the design engineers. The proposed development and layout of the scheme has been amended it is therefore considered that Stage 1 Road Safety Audit for the previous scheme is not applicable as the scheme is significantly different.



## **2 STAGE 1 ROAD SAFETY ISSUES**

### **2.1 Problem:**

Summary: Potential collisions associated with localised flooding

Location: *Throughout*

Drainage details have not been provided and it is therefore not possible for the Audit Team to ascertain whether or not there will be any safety issues associated surface water drainage. It is noted that the proposed vertical levels within the site may result in localised flooding if suitable drainage is not provided; this could increase the risk of loss of control collisions or cause a hazard for non-motorised users, particularly during icy conditions.

### **Recommendation:**

It is recommended that the detailed design incorporates adequate surface water drainage to mitigate localised flooding/ponding.

### **2.2 Problem:**

Summary: Collisions associated with poor illumination

Location: *Throughout*

No details relating to the provision of street lighting have been provided. The absence of street lighting could increase the risk of vehicle collisions during the hours of darkness.

### **Recommendation:**

Review the provision of street lighting throughout the scheme, ensuring that lighting columns are placed to avoid vehicles striking them or cause an obstruction for pedestrians using the footway.

### **2.3 Problem:**

Summary: Potential collisions associated with poor forward visibility

Location: *Internal Estate Road junctions*

The vehicle track plots for refuse vehicles negotiating the internal estate road junctions indicate that forward visibility on the approaches to bends can be achieved. However no further details have been provided, consequently any obstructions in forward visibility may increase the risk of head on or side swipe vehicle collisions.

### **Recommendation:**

It is recommended that forward visibility splays on the approaches to bends and junctions within the estate roads are not compromised by vegetation and boundary fencing.





#### **2.4 Problem:**

Summary: Potential speed related collisions associated with downhill gradient

*Location: Main Internal Spine Road*

It is acknowledged that a departure from standards for the internal estate road gradient has been granted, however there is concern that the downhill gradient on the main road serving the proposed development may induce higher vehicle speeds. This could increase the risk of speed related collisions and collisions with other road users.

#### **Recommendation:**

It is recommended that speed reducing measure(s) should be provided along the main estate road (the section between Oakhurst Rise and properties 35 and 40 fronting the estate road).

#### **2.5 Problem:**

Summary: Potential risk of pedestrian trip/slip/fall injuries

*Location: Eastern cul-de-sac connection to Oakhurst Rise*

The layout of the eastern cul-de-sac serving properties 25 to 29 provides no direct pedestrian connection to the main access road and Oakhurst Rise and, as a result, pedestrians are expected to circumnavigate the internal road network. It is anticipated that residents of these properties may take a more direct route through the open green area between the cul-de-sac and the main access road. The absence of a safe path may result in potential trip/slip/fall injury to pedestrians

#### **Recommendation:**

It is recommended that a footpath link through the open green area between the cul-de-sac serving properties 25-29 and the main access road should be provided.



## **2.6 Problem:**

Summary: Potential risk of pedestrian crossing at unsafe location

*Location: Southern cul-de-sacs along spine road*

The scheme drawings indicate that tactile paving is to be provided on the eastern side of the cul-de-sac serving plots 7 to 10 and on the eastern side of the cul-de-sac serving plots 13 to 19. It is anticipated that the provision has been made for pedestrians to access the green open space between the respective cul-de-sacs. However, the location of the tactile paving may encourage pedestrians to cross the road at unsafe locations where the risk of pedestrians being struck by passing traffic will be greater.

### **Recommendation:**

The tactile paving should be removed, the layout and location of the footpath link through the open green area between the cul-de-sacs should be reviewed and amended to ensure pedestrians can safely access the wider footway network.





### **3 STAGE 1 MOBILITY ISSUES**

- 3.1** Road Safety Item 2.1 to 2.6 considered in Chapter 2 are also considered as Mobility Issue.



## **4 AUDIT TEAM STATEMENT**

- 4.1** We certify that this Road Safety Audit has been carried out in accordance with document GG 119 and Manual for Gloucestershire Streets. Its sole purpose being to identify features of the scheme that could be removed or modified to improve safety. No member of the Audit Team has been involved in the scheme design.

### **Audit Team Leader**

Vimal Patel  
BEng (Hons), FIHE, HE Cert Comp, RegRSA (IHE)

Signed:

Date: 20<sup>th</sup> April 2020

### **Audit Team Member**

James Chequer  
BA(Hons) DipTP MRTPI MCHIT MILT

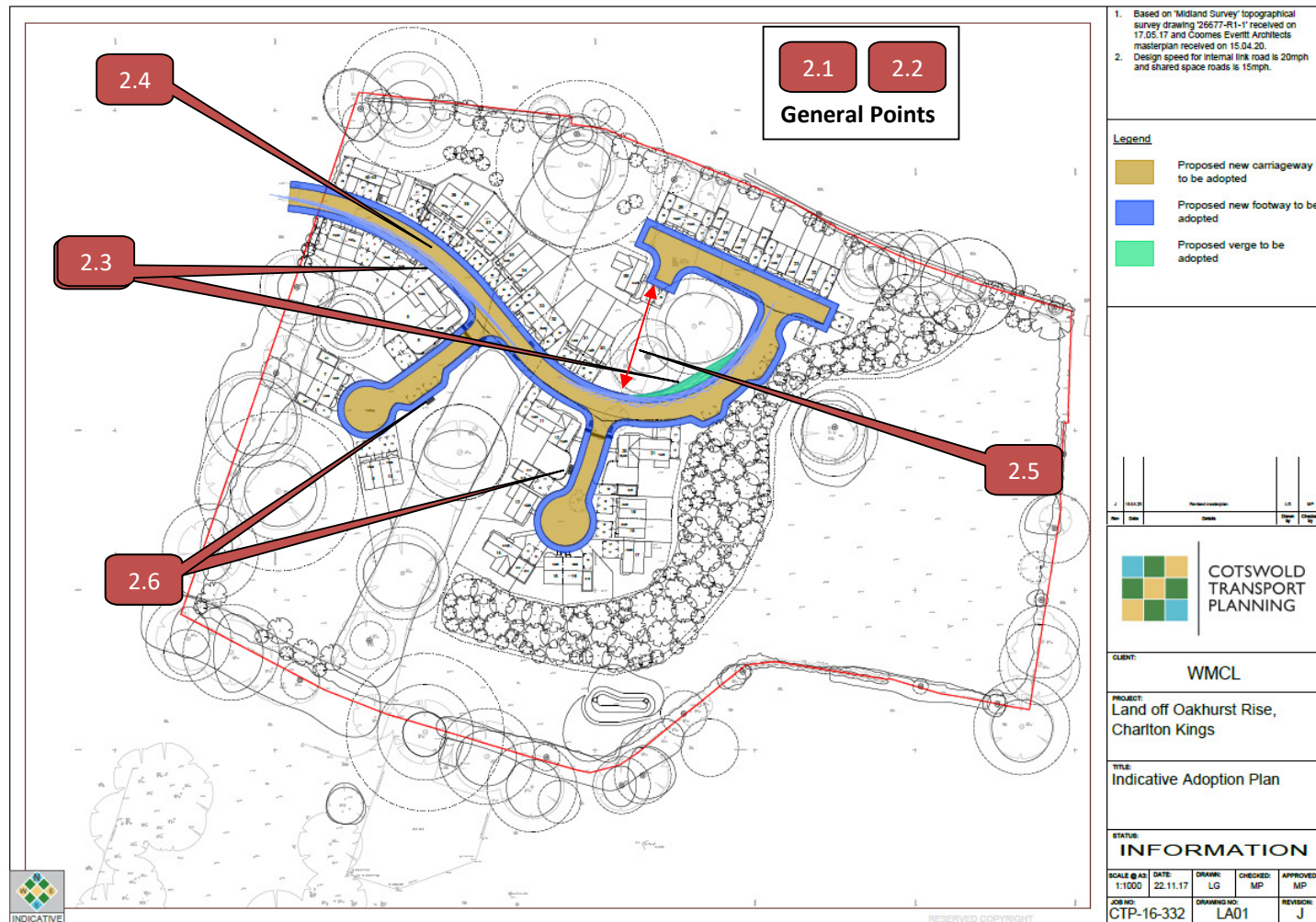
Signed:

Date: 20<sup>th</sup> April 2020





# Appendix A







## Appendix B



## RISK ASSESSMENT

The assessment below has been determined using the Risk Assessment Matrix as contained within Gloucestershire County Council Guidance Note for Provision of Road Safety Audit Version 2 June 2019.

		Frequency of Collision			
		FREQUENT	PROBABLE	OCCASIONAL	REMOTE
Severity	Fatal	Very High	High	High	Medium
	Serious	High	High	Medium	Medium
	Slight	High	Medium	Medium	Low
	Damage	Medium	Medium	Low	Low

Problem 2.1 This is assessed as MEDIUM Risk based on a Slight accident with an Occasional likelihood of occurring.

Problem 2.2 This is assessed as LOW Risk based on a Slight accident with a Remote likelihood of occurring.

Problem 2.3 This is assessed as LOW Risk based on a Slight accident with a Remote likelihood of occurring.

Problem 2.4 This is assessed as LOW Risk based on a Slight accident with a Remote likelihood of occurring.

Problem 2.5 This is assessed as LOW Risk based on a Slight accident with a Remote likelihood of occurring.

Problem 2.6 This is assessed as LOW Risk based on a Slight accident with a Remote likelihood of occurring.



## Appendix C





Item No.	Audit Team Recommendation(s)	Designer's Response
2.1	It is recommended that the detailed design incorporates adequate surface water drainage to mitigate localised flooding/ponding.	
2.2	Review the provision of street lighting throughout the scheme, ensuring that lighting columns are placed to avoid vehicles striking them or cause an obstruction for pedestrians using the footway.	
2.3	It is recommended that the forward visibility splays on the approaches to bends and junctions within the estate roads are not compromised by vegetation and boundary fencing.	
2.4	It is recommended that speed reducing measure(s) should be provided along the main estate road (the section between Oakhurst Rise and properties 35 and 40 fronting the estate road).	
2.5	A footpath link through the open green area between the cul-de-sac serving properties 25-29 and the main access road should be provided.	
2.6	The tactile paving should be removed, the layout and location of the footpath link through the open green area between the cul-de-sacs should be reviewed and amended to ensure pedestrians can safely access the wider footway network.	

**Designer's Statement:**

I certify that I have considered the items that have arisen in the Stage 1 Road Safety Audit Report and my response to its recommendations are set out above.

.....  
Designer

Date:

**Project Sponsor/ Client Organisation Statement:**

I accept/do not accept the Designer's Response (please delete as appropriate)

.....

Date:

---

**LAND OFF OAKHURST RISE, KINGS  
CHURCH, CHELTENHAM  
(UPDATED SCHEME)**

**PROPOSED SITE ACCESS & INTERNAL  
ADOPTABLE ROAD LAYOUT**

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**STAGE 1  
ROAD SAFETY AUDIT REPORT &  
MOBILITY AUDIT**

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**REQUESTED BY:  
COTSWOLD TRANSPORT PLANNING**

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**APRIL 2020**

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**RKS**  
Associates



Project: Land off Oakhurst Rise, Kings Church, Cheltenham (Updated Scheme)  
Proposed Site Access & Internal Adoptable Road Layout

Client: Cotswold Transport Planning

Document: Stage 1 Road Safety Audit

RKS Associates Ref: VRP1162-01

Issue date: 20<sup>th</sup> April 2020

Status: Final

Authorised by: VP/JC

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**Appendices**

- Appendix A: Location of Problems Identified During Stage 1 Road Safety Audit
- Appendix B: Risk Assessment Matrix
- Appendix C Designers Response



## **1 INTRODUCTION**

**1.1** This report results from a Stage 1 Road Safety Audit carried out on proposed development access and internal adoptable roads serving a residential development of 43 dwellings on land off Oakhurst Rise, Charlton Kings in Cheltenham.

**1.2** The scheme consists of a vehicular access via a continuation of Oakhurst Rise cul-de-sac, which leads into the development. The estate road serving the proposed development comprises a 5.5m carriageway with 2.0m footways. The audit drawings also show forward visibility splays on bends, together with the simulated swept path (tracking) of a large refuse vehicle servicing the development.

**1.3** Cotswold Transport Planning has supplied the following information upon which this Stage 1 RSA is based:

- Cotswold Transport Planning Drawing CTP-16-332-LA01 Revision L – Indicative Adoptive Plan;
- Cotswold Transport Planning Drawing CTP-16-332-SK01 Revision S Proposed Site Layout Plan;
- Cotswold Transport Planning Drawing CTP-16-332-SK09 Revision V Preliminary Site Assessment (Levels);
- Cotswold Transport Planning Drawing CTP-16-332-SP01 Revision U Internal Site Road Swept Path Analysis (Refuse Vehicle & Estate Car);
- Cotswold Transport Planning Drawing CTP-16-332-SP02 Revision R Internal Site Road Swept Path Analysis (Estate Car);
- Cotswold Transport Planning Drawing CTP-16-332-SP070 Revision C Internal Site Road Swept Path Analysis - Fire Tender; and
- Designers Response to Stage 1 RSA prepared by RKS Associates (Reference VRP1008-01) for an updated scheme.

**1.4** The Audit Team is independent of the project design team and has undertaken a Stage 1 RSA on a previous scheme in November 2018, but otherwise have had no other involvement with the project. The main parties to the Audit of this Road Safety Audit include the following:

Road Safety Audit Team Leader	Vimal Patel BEng (Hons), GMICE, FIHE, HE Cert Comp, Reg RSA (IHE)
Road Safety Audit Team Member	James Chequer BA(Hons) Dip TP, MCIHT, CMILT, MRTPI
Client Organisation	Gloucestershire County Council
Design Organisation	Cotswold Transport Planning



### **Terms of Reference**

- 1.5** This Stage 1 RSA has been undertaken in accordance with Manual for Gloucestershire Streets and relevant sections of GG-119, part of the Design Manual for Roads and Bridges (DMRB) and the temporary relaxations to GG-119 issued by Highways England on 27<sup>th</sup> March 2020. Due to the current restrictions associated with the Covid-19 pandemic it has been agreed in advance with Gloucestershire County Council that a site visit is not required. The Road Safety Audit has been undertaken with the benefit of online mapping software 'Google Maps' and 'Google Street View' and site photographs and notes undertaken as a part of the Stage 1 RSA in November 2018 for an alternative scheme.
- 1.6** The Audit Team has been informed by the Design Engineers that they have secured two Departures from Standards for the previous scheme from Gloucestershire County Council.
- 1.7** Gloucestershire County Council also requires consideration of potential issues in relation to mobility and non-motorised users within the extent of the audited scheme. This Audit fully considers mobility and non-motorised user issues within the extent of the scheme.
- 1.8** The Safety Audit Team has examined only matters relating to road safety implications of the scheme and has not verified compliance of the design to any other criteria. All of the problems identified in this report are considered by the Audit Team to require action in order to improve the safety of the scheme and to minimise accident occurrence for all users. The extent of the scheme and the location of the problems identified in this Safety Audit is shown in **Appendix A** where the reference numbers relate to the problems identified in this report.
- 1.9** The recommendations in this report are aimed at addressing the identified 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. 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.
- 1.10** 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 Local Highway Authority on final completion.





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### **Personal Injury Accident Data**

- 1.11** A review of the collision data contained in the *Crashmap UK* website identified that no collisions have been recorded along Oakhurst Rise during the 5-year period up to December 2018. The collision data does identify that one collision occurred along Beaufort Road between Oakhurst Rise and Oak Avenue. The collision involved two vehicles and resulted in one slight injury.

### **Previous Road Safety Audits**

- 1.12** RKS Associates undertook the Stage 1 Road Safety Audit for an alternative scheme in November 2018. A copy of the *Designers Response* to the Stage 1 RSA has been provided by the design engineers. The proposed development and layout of the scheme has been amended it is therefore considered that Stage 1 Road Safety Audit for the previous scheme is not applicable as the scheme is significantly different.



## **2 STAGE 1 ROAD SAFETY ISSUES**

### **2.1 Problem:**

Summary: Potential collisions associated with localised flooding

Location: *Throughout*

Drainage details have not been provided and it is therefore not possible for the Audit Team to ascertain whether or not there will be any safety issues associated surface water drainage. It is noted that the proposed vertical levels within the site may result in localised flooding if suitable drainage is not provided; this could increase the risk of loss of control collisions or cause a hazard for non-motorised users, particularly during icy conditions.

### **Recommendation:**

It is recommended that the detailed design incorporates adequate surface water drainage to mitigate localised flooding/ponding.

### **2.2 Problem:**

Summary: Collisions associated with poor illumination

Location: *Throughout*

No details relating to the provision of street lighting have been provided. The absence of street lighting could increase the risk of vehicle collisions during the hours of darkness.

### **Recommendation:**

Review the provision of street lighting throughout the scheme, ensuring that lighting columns are placed to avoid vehicles striking them or cause an obstruction for pedestrians using the footway.

### **2.3 Problem:**

Summary: Potential collisions associated with poor forward visibility

Location: *Internal Estate Road junctions*

The vehicle track plots for refuse vehicles negotiating the internal estate road junctions indicate that forward visibility on the approaches to bends can be achieved. However no further details have been provided, consequently any obstructions in forward visibility may increase the risk of head on or side swipe vehicle collisions.

### **Recommendation:**

It is recommended that forward visibility splays on the approaches to bends and junctions within the estate roads are not compromised by vegetation and boundary fencing.



**2.4 Problem:**

Summary: Potential speed related collisions associated with downhill gradient

*Location: Main Internal Spine Road*

It is acknowledged that a departure from standards for the internal estate road gradient has been granted, however there is concern that the downhill gradient on the main road serving the proposed development may induce higher vehicle speeds. This could increase the risk of speed related collisions and collisions with other road users.

**Recommendation:**

It is recommended that speed reducing measure(s) should be provided along the main estate road (the section between Oakhurst Rise and properties 35 and 40 fronting the estate road).

**2.5 Problem:**

Summary: Potential risk of pedestrian trip/slip/fall injuries

*Location: Eastern cul-de-sac connection to Oakhurst Rise*

The layout of the eastern cul-de-sac serving properties 25 to 29 provides no direct pedestrian connection to the main access road and Oakhurst Rise and, as a result, pedestrians are expected to circumnavigate the internal road network. It is anticipated that residents of these properties may take a more direct route through the open green area between the cul-de-sac and the main access road. The absence of a safe path may result in potential trip/slip/fall injury to pedestrians

**Recommendation:**

It is recommended that a footpath link through the open green area between the cul-de-sac serving properties 25-29 and the main access road should be provided.



## **2.6 Problem:**

Summary: Potential risk of pedestrian crossing at unsafe location

*Location: Southern cul-de-sacs along spine road*

The scheme drawings indicate that tactile paving is to be provided on the eastern side of the cul-de-sac serving plots 7 to 10 and on the eastern side of the cul-de-sac serving plots 13 to 19. It is anticipated that the provision has been made for pedestrians to access the green open space between the respective cul-de-sacs. However, the location of the tactile paving may encourage pedestrians to cross the road at unsafe locations where the risk of pedestrians being struck by passing traffic will be greater.

### **Recommendation:**

The tactile paving should be removed, the layout and location of the footpath link through the open green area between the cul-de-sacs should be reviewed and amended to ensure pedestrians can safely access the wider footway network.



### **3 STAGE 1 MOBILITY ISSUES**

- 3.1** Road Safety Item 2.1 to 2.6 considered in Chapter 2 are also considered as Mobility Issue.





## **4 AUDIT TEAM STATEMENT**

- 4.1** We certify that this Road Safety Audit has been carried out in accordance with document GG 119 and Manual for Gloucestershire Streets. Its sole purpose being to identify features of the scheme that could be removed or modified to improve safety. No member of the Audit Team has been involved in the scheme design.

### **Audit Team Leader**

Vimal Patel  
BEng (Hons), FIHE, HE Cert Comp, RegRSA (IHE)

Signed:

Date: 20<sup>th</sup> April 2020

### **Audit Team Member**

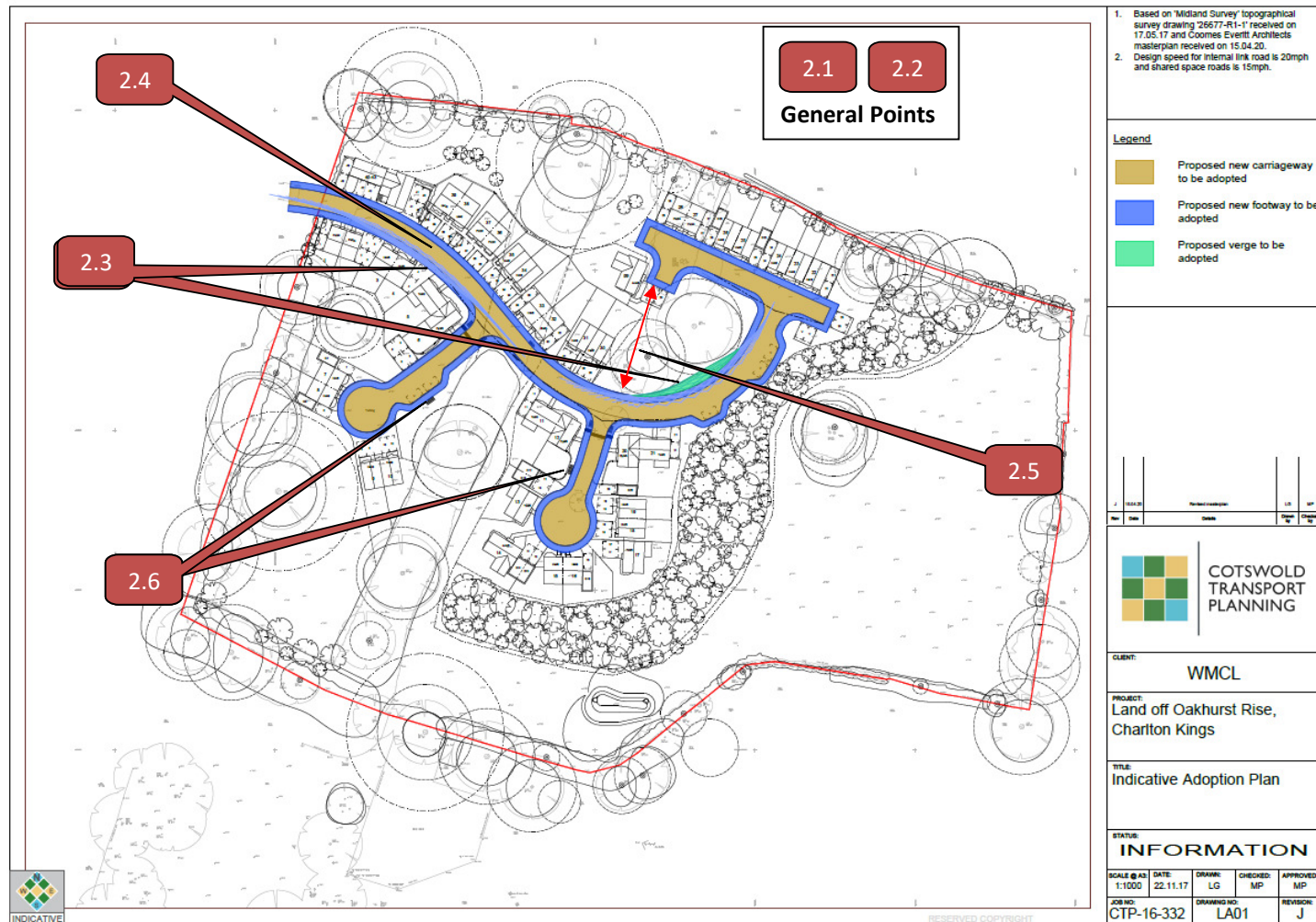
James Chequer  
BA(Hons) DipTP MRTPI MCHIT MILT

Signed:

Date: 20<sup>th</sup> April 2020



# Appendix A







## Appendix B



## RISK ASSESSMENT

The assessment below has been determined using the Risk Assessment Matrix as contained within Gloucestershire County Council Guidance Note for Provision of Road Safety Audit Version 2 June 2019.

		Frequency of Collision			
		FREQUENT	PROBABLE	OCCASIONAL	REMOTE
Severity	Fatal	Very High	High	High	Medium
	Serious	High	High	Medium	Medium
	Slight	High	Medium	Medium	Low
	Damage	Medium	Medium	Low	Low

Problem 2.1 This is assessed as MEDIUM Risk based on a Slight accident with an Occasional likelihood of occurring.

Problem 2.2 This is assessed as LOW Risk based on a Slight accident with a Remote likelihood of occurring.

Problem 2.3 This is assessed as LOW Risk based on a Slight accident with a Remote likelihood of occurring.

Problem 2.4 This is assessed as LOW Risk based on a Slight accident with a Remote likelihood of occurring.

Problem 2.5 This is assessed as LOW Risk based on a Slight accident with a Remote likelihood of occurring.

Problem 2.6 This is assessed as LOW Risk based on a Slight accident with a Remote likelihood of occurring.



## Appendix C





Item No.	Audit Team Recommendation(s)	Designer's Response
2.1	It is recommended that the detailed design incorporates adequate surface water drainage to mitigate localised flooding/ponding.	Recommendation accepted. A detailed drainage design will be produced as part of the post-planning design and issued for a Stage 2 RSA
2.2	Review the provision of street lighting throughout the scheme, ensuring that lighting columns are placed to avoid vehicles striking them or cause an obstruction for pedestrians using the footway.	Recommendation accepted. A detailed street design will be produced as part of the post-planning design and issued for a Stage 2 RSA
2.3	It is recommended that the forward visibility splays on the approaches to bends and junctions within the estate roads are not compromised by vegetation and boundary fencing.	Recommendation accepted. Forward visibility splays will be kept free of any potential obstructions. The splays as shown are either within the proposed footway or within the root protection area of a retained tree where no development is proposed.
2.4	It is recommended that speed reducing measure(s) should be provided along the main estate road (the section between Oakhurst Rise and properties 35 and 40 fronting the estate road).	Recommendation accepted. Our drawings have been amended to show a traffic calming build-out at the location recommended.
2.5	A footpath link through the open green area between the cul-de-sac serving properties 25-29 and the main access road should be provided.	The levels in the area where the footpath has been recommended would mean that the gradient would be unsuitable and levels cannot be altered due to root protection requirements. The proposed footway adds only approximately 50m to the direct line and provides a safe and suitable pedestrian link. As the risk level is assessed as low and with these mitigating factors an exception is therefore requested.
2.6	The tactile paving should be removed, the layout and location of the footpath link through the open green area between the cul-de-sacs should be reviewed and amended to ensure pedestrians can safely access the wider footway network.	Recommendation noted. However, the annotation in question is actually the proposed bin stores rather than proposed tactile paving.



**Designer's Statement:**

I certify that I have considered the items that have arisen in the Stage 1 Road Safety Audit Report and my response to its recommendations are set out above.

Designer

Date: 14.05.2020

**Project Sponsor/ Client Organisation Statement:**

I accept/do not accept the Designer's Response (please delete as appropriate)

..... Date: