AMA Designer's Response

Proposed Residential Development – Westgate, Cleckheaton

21st March 2022

Introduction

Andrew Moseley Associates (AMA) have instructed an independent road safety specialist to assess the suitability of the internal layout and proposed site access arrangements associated with the proposed 198 unit residential development on Westgate in Cleckheaton.

Following a change in proposed layout as part of the KC Comments, the Stage 1 Road Safety Audit (RSA) has been updated and re-assesses the internal layout and proposed access arrangements from that previously undertaken on the 27th May 2021.

The proposals have now been subject to a Stage 1 RSA carried out by Jonathan Birkett of Meraki Alliance on Monday 7th March 2022. The 'Problems' and Recommendations' from that RSA1 are included in this Designer's Response report for ease of reference.

A copy of the Stage 1 Road Safety Audit is attached at **Appendix A**.

Items Raised in Stage 1 Road Safety Audit

Problem 1:

A lack of suitable pedestrian footways, poor carriageway condition and pedestrian barrier will increase the risk of pedestrian/vehicle and cycle vehicle collisions.

Location: *Quarry Road and Iron Street.*

Summary:

The drawings provided show that a new pedestrian link will be provided between the development and Quarry Road. Currently there is only a short section of heavily overgrown footway available and is shown in the photograph below.

The development will increase the number of pedestrians on Quarry Road and as such will also increase the risk of pedestrian/vehicle collisions.

The Audit Team were also concerned that cyclists may also use this route and especially children. Without suitable street furniture cyclists could ride straight out onto Quarry Road increasing the risk of cycle/vehicle collisions.

In addition, a new pedestrian link will also be provided from the site onto Brick Street. No footways are proposed and therefore pedestrians will be required to walk across an area of uneven ground and within the carriageway.

The development will increase pedestrian usage of Brick Street and therefore will also increase the risk of pedestrian trips and falls.

Recommendation

Ensure that the existing short section of footway along the side of Quarry Road which is overgrown and in a poor condition is made safe for pedestrians. Also, consider the need for some form of barrier to slow cyclists and prevent them from riding directly onto Quarry Road.

It will be necessary to provide footways for pedestrians exiting the site onto Brick Street. If pedestrians are expected to walk in the road, then the developer needs to consider remedial action that will make the existing uneven carriageway into a safe environment for pedestrians to use.

Designer's Response

Pedestrian routes connections to Brick Street and Quarry Road will be added at detailed design.

Problem 2:

Inappropriate drainage may lead to ponding water resulting in loss of control type collisions.

Location: *Site access.*

Summary:

A new priority-controlled access will be constructed as part of the development. Ponding water can result in an increased risk of loss of control type collisions and at certain times of year standing water will freeze resulting in ice, vehicles manoeuvring in the turning and could lose control resulting in an increased risk of collisions as well as pedestrians slipping and falling.

Recommendation

Provide appropriate drainage at all locations where changes to the existing road layout is proposed.

Designer's Response

As part of the Section 278 design, a detailed drainage design will be included and will address any concerns raised.

Problem 3:

Uncontrolled and controlled crossings that do not comply with DfT standards will increase the risk of pedestrian/vehicle collisions.

Location: *Site access.*

Summary: *The drawings provided have two identified problems the first is that the uncontrolled crossing of the site access has red tactile which is specific to controlled crossings and not uncontrolled crossings. The second issue is that the leg of a controlled crossing must be only three tactile paving slabs wide the drawings shows that the southern tactile paving at the proposed signalised crossing is greater than three tactile paving slabs wide.*

Uncontrolled and controlled crossings that do not comply with DfT standards will increase the risk of pedestrian/vehicle collisions

Recommendation

Provide buff coloured tactile at uncontrolled crossings and provide tactile paving layouts that meet the required standard at controlled crossings.

Designer's Response

The uncontrolled access crossing and the signal controlled pedestrian crossing to the west of the application site have been updated to comply with DfT standards. Details of the pedestrian crossings are provided in SK006, attached at **Appendix B**.

Problem 4:

Details of vehicle tracked movements are not provided on the drawings. Inappropriate carriageway widths and turning radii can result in increased vehicle collisions as well as pedestrian-vehicle collisions.

Location: *Site access.*

Summary: *Details of the swept paths of vehicles, are not provided on the drawings. Inappropriate carriageway widths and junction radii can result in vehicles failing to safely negotiate the new junction arrangements.*

Inappropriate carriageway widths and junction radii can increase the risk of vehicle collisions and pedestrian-vehicle collisions.

Recommendation

Provide swept path movements at all locations where the junction layouts will be changed, and new junctions created.

Designer's Response

Swept Path Analysis of a 'Kirklees Refuse Vehicle 2018' has been tracked around the proposed access and internal layout to ensure that the road layout is safe and functional. Details of the swept path analysis is provided in **Appendix C** to this Designers Response.

Problem 5:

Inappropriate drainage may lead to ponding water resulting in loss of control type collisions.

Location: *Internal roads.*

Summary: *A new internal road layout will be constructed as part of the development. Ponding water can result in an increased risk of loss of control type collisions and at certain times of year standing water will freeze resulting in ice, vehicles manoeuvring could lose control resulting in an increased risk of collisions as well as pedestrians slipping and falling.*

Recommendation

Provide appropriate drainage at all locations where new road layout is proposed.

Designer's Response

As part of the Section 38 design, a detailed drainage design will be included and will address any concerns raised with the internal layout. Detail regarding the location and make-up of drainage features will be provided within the S38 design package.

Problem 6:

Inappropriate levels of lighting can lead to an increased collision risk.

Location: *Internal roads.*

Summary: *The drawing provided does not show any street lighting. The scheme will include new access roads and junctions. The development will increase both the night-time usage and the number of vehicles/NMUs using the proposed road network once constructed.*

This may result in the new access roads being in shadow leading to possible conflicts during the hours of darkness.

Recommendation

Ensure that suitable lighting provision is provided.

Designer's Response

The specific details regarding the appropriate location and form of lighting will be included within the Section 38 design package.

Problem 7:

A lack of suitable uncontrolled crossings can increase the risk of pedestrian/vehicle collisions.

Location: *Internal roads.*

Summary: *Footways and priority junctions are proposed throughout the development site. Details of the internal layout does not show any internal uncontrolled crossings within the development site and specifically at the proposed priority junctions and the NMU route mentioned in problem 8 below.*

A lack of suitable uncontrolled crossings can increase the risk of pedestrian/vehicle collisions.

Recommendation

At detailed design carefully consider the need for uncontrolled crossings within the development site.

Designer's Response

The specific details regarding the appropriate location and make-up of the dropped kerb pedestrian crossings will be included within the Section 38 design package.

Problem 8:

A lack of suitable cycle/pedestrian barrier will increase the risk of pedestrian/vehicle and cycle vehicle collisions.

Location: *Internal NMU link.*

Summary: *The drawings provided show that a new pedestrian/cycle link will be provided between plots 74/113 and 96/97.*

The Audit Team were concerned that cyclists and young children could run or ride straight onto the internal road layout.

A lack of suitable cycle/pedestrian barrier will increase the risk of pedestrian/vehicle and cycle vehicle collisions.

Recommendation

Provide staggered barrier at either end of the internal NMU route.

Designer's Response

A suitable cycle/pedestrian barrier in the form of a 'chicane' staggered barrier will be included as part of the detailed design stage for both the NMU links onto Quarry Road and Iron Street.

Appendix A – RSA Stage 1

meraki alliance
Highways, Transportation & Safety Consulting

Proposed Housing Development
A643 Westgate Cleckheaton

Road Safety Audit: Stage 1-S278 and S38

Strata Homes
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Lakeside
Doncaster

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Unit 1 Waterside
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meraki alliance
Highways, Transportation & Safety Consulting

Proposed Housing Development
A643 Westgate Cleckheaton

Road Safety Audit: Stage 1-S278 and S38

Report Produced for:	Strata Homes Ltd
Report Produced by:	Jonathan Birkett
Report Dated:	07 March 2022
Report Reference:	MAL/WCALLRSA1Rev0
Road Safety Audit Team Leader:	Jonathan Birkett

meraki alliance
Highways, Transportation & Safety Consulting

Proposed Housing Development
A643 Westgate Cleckheaton

Road Safety Audit: Stage 1-S278 and S38

Contents Amendment Record

This report has been issued & amended as follows:

Issue	Revision	Description	Date	Signed
1	0	Draft Report	06 March 2022	JB
1	0	FINAL REPORT	07 March 2022	JB/GK

Report Circulation Record

This report has been circulated, as follows:

Person	Organisation	No. of Copies	Date
	Strata Homes Ltd	Electronic	07 March 2022
A Moseley	AMA	Electronic	07 March 2022
G Kidd	Meraki Alliance Ltd	Electronic	07 March 2022

Contents

1 Introduction

1.1 General

This report has been prepared in response to a request to undertake a Stage 1 Road Safety Audit (i.e., carried out prior to detailed design), by Strata Homes Ltd on behalf of Bradford City Council. The scheme submitted for Audit is the proposed new housing development A643 Westgate, Cleckheaton. The extent of the works included as part of this Road Safety Audit are:

1. S278 including access junction and signalised crossing.
2. S38 Internal
3. NMU routes onto Quarry Road and Brick Street

A653 Westgate is subject to a 30mph speed limit and is street lit.

Highway Authority

Bradford City Council

Client

Strata Homes

Designer

AMA

The audit comprised an examination of documents forming the Audit Brief and an examination of the site.

1.2 Documents Forming the Brief

The documents were made available to the Road Safety Audit Team by Andrew Moseley (AMA), on the instructions of Strata Homes Ltd, on behalf of Bradford City Council. The total documents forming the Audit Brief are listed in Appendix 1:

Generally, the Brief comprised:

- Transport Assessment.
- Drawings.

1.3 Collision Traffic and Speed Data

Collision data was available as part of the Transport Assessment. Even so, the Audit Team looked at the data held on the “Crashmap” website to ensure the most up to date information was available. Examination of the data shows that there has been one personal injury collision on the surrounding roads in close proximity to the site.

The collision recorded was slight in severity, involving two vehicles at the junction of Iron Street/Westgate, the collision took place in 2019.

Traffic count data was available as part of the Transport Assessment.

Speed data was not available.

1.4 Details of Site Visit

A site inspection was undertaken on Sunday 06 March 2022 between 10:30 and 11:15. The Audit Team spent 45 minutes on site understanding the proposed works and their interaction with the local road network.

During the site visit the weather was dry and fine. No incidents were noted during the site visit.

1.5 RSA Team and Format

It was considered that the information provided was sufficient for the purpose of carrying out the Road Safety Audit Stage 1 requested.

The Road Safety Audit Team membership approved by Strata Homes Ltd on behalf of Bradford City Council was:

JONATHAN BIRKETT IENG MICE FIHE MSORSA

Holder of Certificate of Competency

Road Safety Audit Team Leader

G KIDD BSC (HONS) MIHE

Road Safety Audit Team Member

The Road Safety Audit comprised an examination of the documents and drawings supplied to the Road Safety Audit Team (referenced in Appendix 1 of this report). No member of the Road Safety Audit Team has had any previous input to the design of the scheme.

The Terms of Reference are as described in the Highways England Design Manual for Roads and Bridges document GG119 'Road Safety Audit '. The scheme has been examined and this report compiled only with regard to safety implications to road users of the scheme as presented. It has not been verified for compliance with any other Standards or criteria. However, in order to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may on occasion have referred to a design standard for information only. However, any audit comments should not be construed as implying that a technical audit has been undertaken in any respect.

Furthermore, any recommendations included within this report should not be regarded as being prescriptive design solution to the problem raised. They are intended only to indicate a proportionate and viable means of eliminating or mitigating the identified problem, as stipulated in GG119, and in no way imply that a formal

design process has been undertaken. There may be alternative methods of addressing a problem which should be equally acceptable in achieving the desired elimination or mitigation and these should be considered when responding to this report.

It is the Project Sponsor's responsibility to ensure that all problems raised by the Road Safety Audit Team are given due consideration.

In the event of a collision and any resulting legal action, Meraki Alliance Ltd would have to defend its actions on the basis that it took such care, as in all circumstances was reasonably required, to ensure that the highway was not dangerous to road users. It is important therefore that recommendations contained in the report are acted upon wherever possible.

1.6 Departures or Relaxations from Standards

No departures from standard have been provided to the RSA Team.

2 Items Raised at Stage 1 Road Safety Audit

This section details the findings of this Stage 1 Road Safety Audit. All locations of identified problems are illustrated on the plan included at **Appendix 2**.

2.1 RSA Problems S278

PROBLEM	**1-1**
Location:	Quarry Road and Iron Street.
Summary:	A lack of suitable pedestrian footways, poor carriageway condition and pedestrian barrier will increase the risk of pedestrian/vehicle and cycle vehicle collisions.

The drawings provided show that a new pedestrian link will be provided between the development and Quarry Road. Currently there is only a short section of heavily overgrown footway available and is shown in the photograph below.

The development will increase the number of pedestrians on Quarry Road and as such will also increase the risk of pedestrian/vehicle collisions.

The Audit Team were also concerned that cyclists may also use this route and especially children. Without suitable street furniture cyclists could ride straight out onto Quarry Road increasing the risk of cycle/vehicle collisions.

In addition, a new pedestrian link will also be provided from the site onto Brick Street. No footways are proposed and therefore pedestrians will be required to walk across an area of uneven ground and within the carriageway.

The development will increase pedestrian usage of Brick Street and therefore will also increase the risk of pedestrian trips and falls.

RECOMMENDATION

Ensure that the existing short section of footway along the side of Quarry Road which is overgrown and in a poor condition is made safe for pedestrians. Also, consider the need for some form of barrier to slow cyclists and prevent them from riding directly onto Quarry Road.

It will be necessary to provide footways for pedestrians exiting the site onto Brick Street. If pedestrians are expected to walk in the road, then the developer needs to consider remedial action that will make the existing uneven carriageway into a safe environment for pedestrians to use.

PROBLEM	1-2
Location:	Site access.
Summary:	Inappropriate drainage may lead to ponding water resulting in loss of control type collisions.
A new priority-controlled access will be constructed as part of the development. Ponding water can result in an increased risk of loss of control type collisions and at certain times of year standing water will freeze resulting in ice, vehicles manoeuvring in the turning and could lose control resulting in an increased risk of collisions as well as pedestrians slipping and falling.	
RECOMMENDATION	
Provide appropriate drainage at all locations where changes to the existing road layout is proposed.	

PROBLEM	1-3
Location:	Site access.
Summary:	Uncontrolled and controlled crossings that do not comply with DfT standards will increase the risk of pedestrian/vehicle collisions.
The drawings provided have two identified problems the first is that the uncontrolled crossing of the site access has red tactile which is specific to controlled crossings and not uncontrolled crossings. The second issue is that the leg of a controlled crossing must be only three tactile paving slabs wide the drawings shows that the southern tactile paving at the proposed signalised crossing is greater than three tactile paving slabs wide. Uncontrolled and controlled crossings that do not comply with DfT standards will increase the risk of pedestrian/vehicle collisions	
RECOMMENDATION	
Provide buff coloured tactile at uncontrolled crossings and provide tactile paving layouts that meet the required standard at controlled crossings.	

PROBLEM	1-4
Location:	Site access.
Summary:	Details of vehicle tracked movements are not provided on the drawings. Inappropriate carriageway widths and turning radii can result in increased vehicle collisions as well as pedestrian-vehicle collisions.

Details of the swept paths of vehicles, are not provided on the drawings. Inappropriate carriageway widths and junction radii can result in vehicles failing to safely negotiate the new junction arrangements. Inappropriate carriageway widths and junction radii can increase the risk of vehicle collisions and pedestrian-vehicle collisions.
RECOMMENDATION
Provide swept path movements at all locations where the junction layouts will be changed, and new junctions created.

2.2 RSA Problems S38

PROBLEM	**1-5**
Location:	Internal roads.
Summary:	Inappropriate drainage may lead to ponding water resulting in loss of control type collisions.
A new internal road layout will be constructed as part of the development. Ponding water can result in an increased risk of loss of control type collisions and at certain times of year standing water will freeze resulting in ice, vehicles manoeuvring could lose control resulting in an increased risk of collisions as well as pedestrians slipping and falling.	
RECOMMENDATION	
Provide appropriate drainage at all locations where new road layout is proposed.	

PROBLEM	**1-6**
Location:	Internal roads.
Summary:	Inappropriate levels of lighting can lead to an increased collision risk.
The drawing provided does not show any street lighting. The scheme will include new access roads and junctions. The development will increase both the night-time usage and the number of vehicles/NMUs using the proposed road network once constructed. This may result in the new access roads being in shadow leading to possible conflicts during the hours of darkness.	
RECOMMENDATION	
Ensure that suitable lighting provision is provided.	

PROBLEM		1-7
Location:	Internal roads.	
Summary:	A lack of suitable uncontrolled crossings can increase the risk of pedestrian/vehicle collisions.	
Footways and priority junctions are proposed throughout the development site. Details of the internal layout does not show any internal uncontrolled crossings within the development site and specifically at the proposed priority junctions and the NMU route mentioned in problem 8 below. A lack of suitable uncontrolled crossings can increase the risk of pedestrian/vehicle collisions.		
RECOMMENDATION		
At detailed design carefully consider the need for uncontrolled crossings within the development site.		

PROBLEM		1-8
Location:	Internal NMU link.	
Summary:	A lack of suitable cycle/pedestrian barrier will increase the risk of pedestrian/vehicle and cycle vehicle collisions.	
The drawings provided show that a new pedestrian/cycle link will be provided between plots 74/113 and 96/97. The Audit Team were concerned that cyclists and young children could run or ride straight onto the internal road layout. A lack of suitable cycle/pedestrian barrier will increase the risk of pedestrian/vehicle and cycle vehicle collisions		
RECOMMENDATION		
Provide staggered barrier at either end of the internal NMU route.		

END OF PROBLEMS IDENTIFIED AND RECOMMENDATIONS PRESENTED IN THIS STAGE 1 ROAD SAFETY AUDIT

3 Audit Team Statement

We certify that this Road Safety Audit has been carried out in accordance with GG119	
ROAD SAFETY AUDIT TEAM LEADER	
NAME:	JONATHAN BIRKETT
SIGNED:	
POSITION:	DIRECTOR
ORGANISATION	MERAKI ALLIANCE LTD
DATE:	07 MARCH 2022
ROAD SAFETY AUDIT TEAM LEADER	
NAME:	GILLIAN KIDD
SIGNED:	
POSITION:	AUDIT TEAM MEMBER
ORGANISATION	MERAKI ALLIANCE LTD
DATE:	07 MARCH 2022

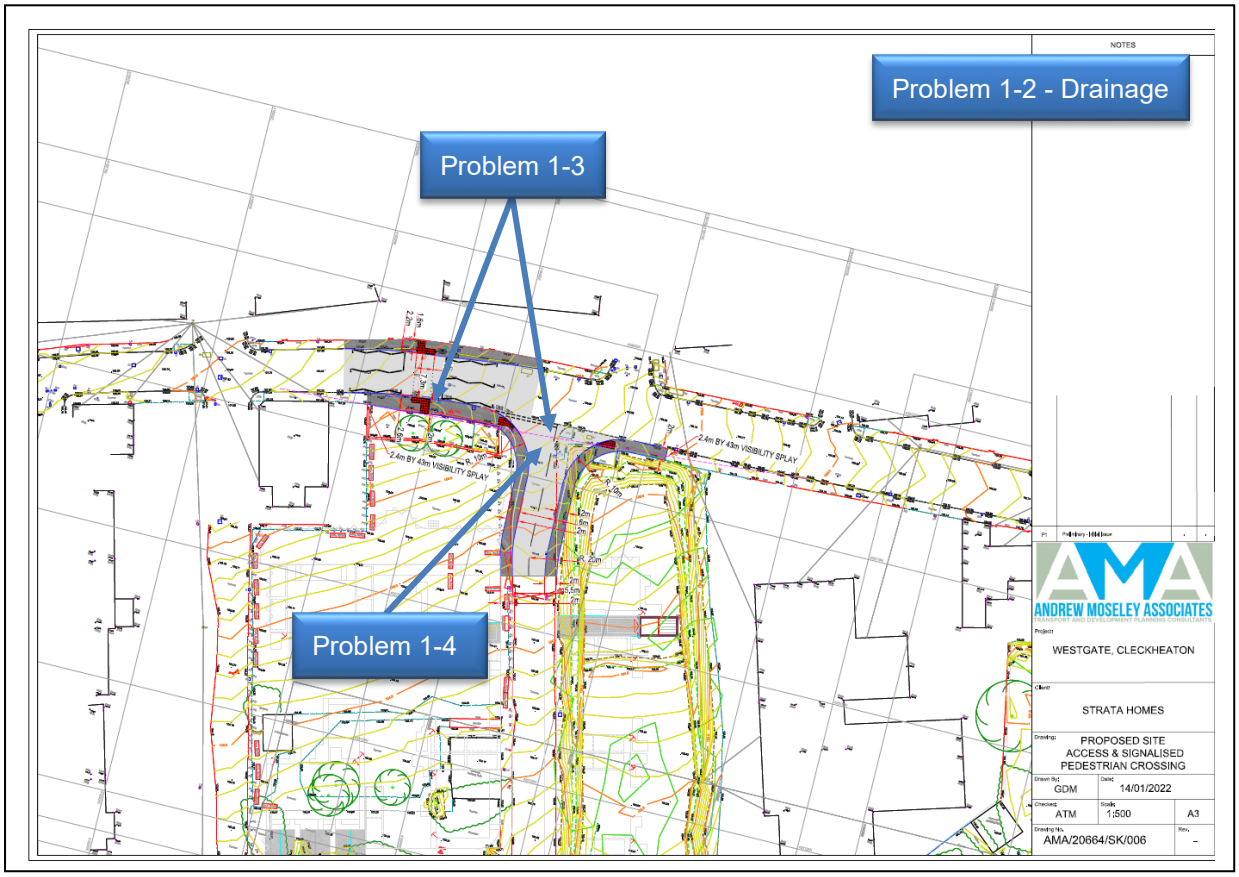
Appendix 1 – Audited Documents and Drawings

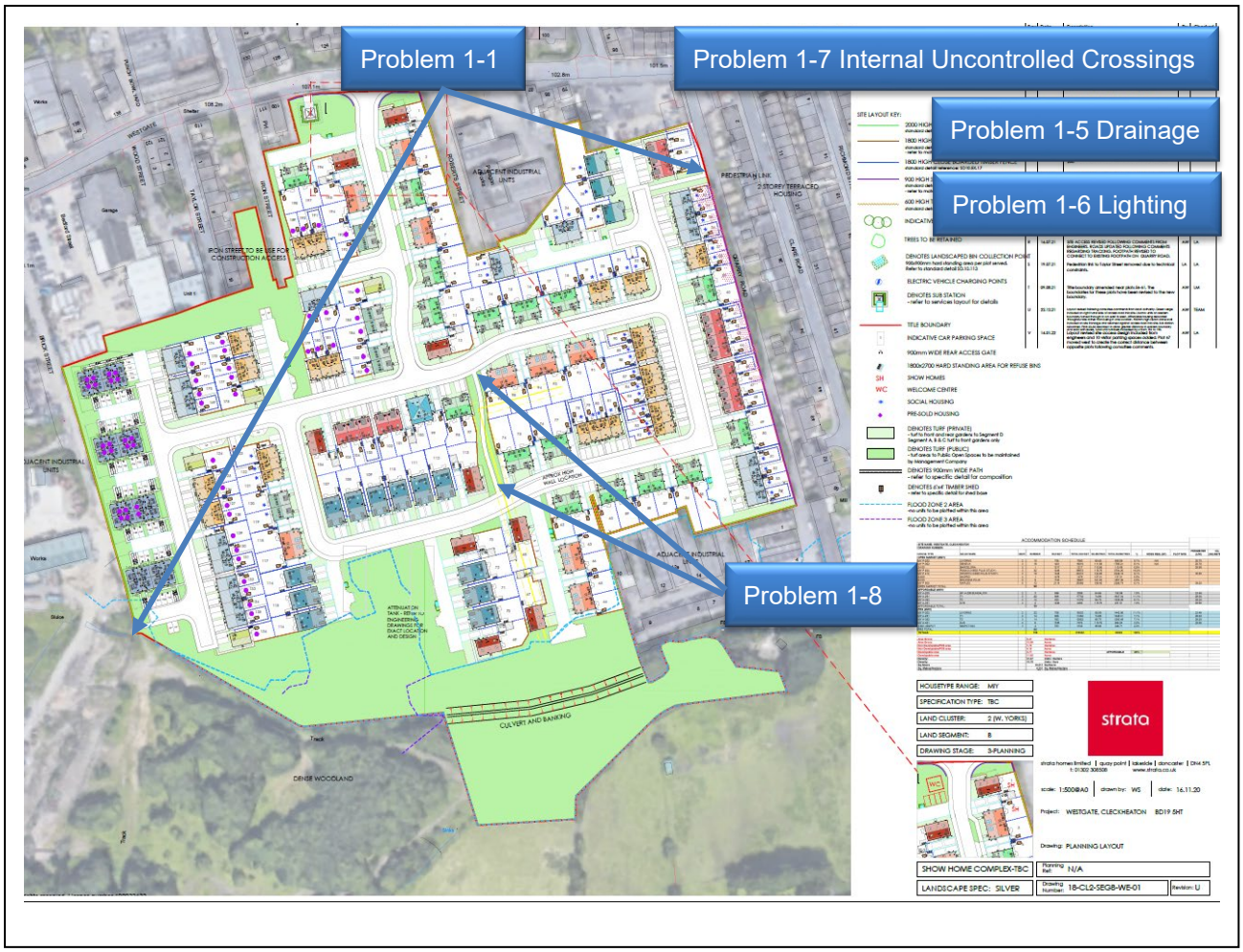
18-CL2-SEGB-WE-01-V

AMA_20664 _SK006

Westgate, Cleckheaton - 20664 - Transport Assesment - 03.08.21

Appendix 2 – Problem Location Plan




Problem 1-1
Problem 1-7 Internal Uncontrolled Crossings
Problem 1-5 Drainage
Problem 1-6 Lighting
Problem 1-8
strata

Appendix B – Proposed Site Access & Signalised Pedestrian Crossing

NOTES

P1	Preliminary - Initial Issue	-	-

ANDREW MOSELEY ASSOCIATES
TRANSPORT AND DEVELOPMENT PLANNING CONSULTANTS

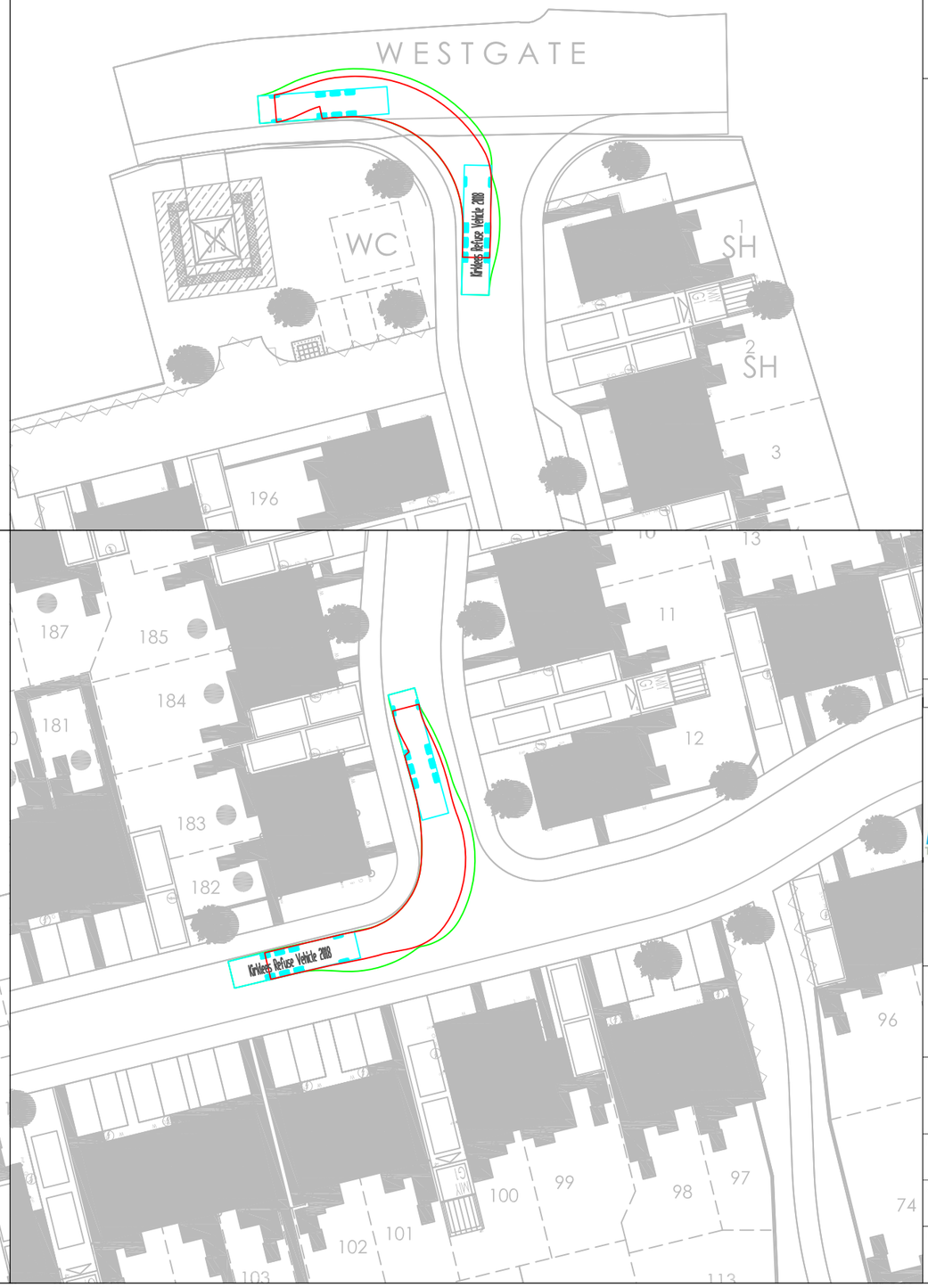
Project:
WESTGATE, CLECKHEATON

Client:
STRATA HOMES

Drawing:
PROPOSED SITE ACCESS & SIGNALISED PEDESTRIAN CROSSING

Drawn By: RID	Date: 21/03/2022	
Checked: GDM	Scale: 1:500	A3
Drawing No. AMA/20664/SK/006		Rev. -

Appendix C – Swept Path Analysis



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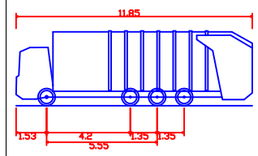


Kirklees Refuse Vehicle 2018

Overall Length	11.850m
Overall Width	2.500m
Overall Body Height	3.749m
Min Body Ground Clearance	0.302m
Track Width	2.490m
Lock to lock time	6.00s
Wall to Wall Turning Radius	11.000m

P1	Preliminary - Initial Issue	-	-

ANDREW MOSELEY ASSOCIATES
TRANSPORT AND DEVELOPMENT PLANNING CONSULTANTS

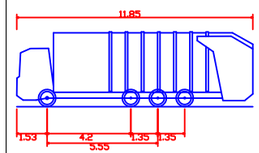
Project:
WESTGATE, CLECKHEATON

Client:
STRATA HOMES YORKSHIRE LTD

Drawing:
KIRKLEES REFUSE VEHICLE SWEPT PATH ANALYSIS

Drawn By: RID	Date: 23/02/2022	
Checked: RW	Scale: 1:500	A3
Drawing No. AMA/20664/ATR/006.1		Rev. -

NOTES



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P1	Preliminary - Initial Issue	-	-

ANDREW MOSELEY ASSOCIATES
TRANSPORT AND DEVELOPMENT PLANNING CONSULTANTS

Project:
WESTGATE, CLECKHEATON

Client:
STRATA HOMES YORKSHIRE LTD

Drawing:
KIRKLEES REFUSE VEHICLE SWEPT PATH ANALYSIS

Drawn By: RID	Date: 23/02/2022	
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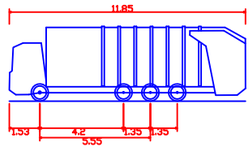
Drawing No. AMA/20664/ATR/006.2		Rev. -

NOTES



Kirklees Refuse Vehicle 2018	
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ATTENUATION TANK - REFER TO

P1	Preliminary - Initial Issue	-	-

ANDREW MOSELEY ASSOCIATES
TRANSPORT AND DEVELOPMENT PLANNING CONSULTANTS

Project:
WESTGATE, CLECKHEATON

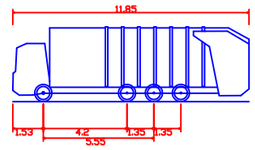
Client:
STRATA HOMES YORKSHIRE LTD

Drawing:
KIRKLEES REFUSE VEHICLE SWEPT PATH ANALYSIS

Drawn By:	Date:	
RID	23/02/2022	
Checked: RW	Scale: 1:500	A3

Drawing No.: AMA/20664/ATR/006.3
Rev.: -

NOTES



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P1	Preliminary - Initial Issue	-	-

ANDREW MOSELEY ASSOCIATES
TRANSPORT AND DEVELOPMENT PLANNING CONSULTANTS

Project:
WESTGATE, CLECKHEATON

Client:
STRATA HOMES YORKSHIRE LTD

Drawing:
KIRKLEES REFUSE VEHICLE SWEPT PATH ANALYSIS

Drawn By:	Date:	
RID	23/02/2022	
Checked:	Scale:	
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Drawing No.	Rev.
AMA/20664/ATR/006.4	-