

Appendix D Road Safety Audit

WARWICKSHIRE COUNTY COUNCIL

Road Safety Audit Response Report (Planning Applications) Template

E1. Project details

Table E.1 Project details

Report title:	Land North of Rounds Gardens RSA1 Response to WCC Comments
Date:	28-06-2024
Document Reference and revision:	RSA Ref 183867
Prepared by:	PJA
Planning Application ref:	R24/0111
On behalf of:	St Modwen Homes

Table E.2 Design Organisation's Authorisation sheet

Project:	Land North of Rounds Gardens
Report title:	Land North of Rounds Gardens RSA1 Response to WCC Comments
Prepared by:	Joe Wooldridge
	Associate
	PJA
	28-06-2024
	JW
Approved by:	Joe Wooldridge
	Associate
	PJA
	28-06-2024
	JW

E2. Introduction

Stage 1 RSA of one-way system and site accesses at Rounds Gardens, Rugby

E3. Key personnel

Table E.3 Key personnel

Overseeing Organisation's Representative(s):	
Overseeing Organisation's RSA Audit Team Reviewer(s)*:	
RSA Team:	
Design organisation:	

* Delete if not applicable

E4. Road Safety Audit Decision Log

Table E.4 Road Safety Audit decision log

RSA Problem	RSA recommendation	Design organisation response	Overseeing Organisation's RSA Audit Team review*	Overseeing Organisation's Representative's response	Agreed RSA action
3.1 Lack of footway at western access	Provide appropriate footway connections	Agreed – drawing updated	Accept problem and recommendation	Accept Design Organisation response	Resolved via response report and incorporated into design
3.2 Removal of maintenance layby at western access	Provide new layby	Disagree – hardstanding is not a maintenance layby	Disagree with problem	Agrees with designer	Resolved via response report
3.3 Eastern access – signage street clutter	Place signage on existing street furniture where possible	Agree with recommendation	Agree with problem	See below (Section E5)	Recommendation incorporated to design
3.4 One- way system – general comment that there are no safety issues with one ways system	Agree with auditor – no problems	No changes required in response to audit	Disagrees with auditor – safety issues with one way system (described further below)	See below (Section E5)	See below (Section E5)
4.4 Tactile paving should be relocated	Crossings should be relocated to reduce distance	Agreed with recommendation	Disagrees with auditor – moving crossings would take pedestrians away from desire lines	Disagrees – no change should be made	No changes to be made to tactile paving locations

* Delete if not applicable

E5. Other matters considered relevant by the overseeing organisation

Table E.5 Other matters

MATTER	
Location:	One-way system
Summary:	<p>The proposed one way system pushes larger volumes of traffic along roads that are unsuitable, and unlikely enforceable. Vehicles who live along this roads are unlikely to adhere to this one way system, if they need to park their vehicle and if following the one way system – have to travel the long way around and may still insist on parking close on Prince Street up to the bellmouth of the proposed access point, resulting, in the vis splay being obstructed for egressing vehicles, leading to conflict. Additionally, the displacement of large volumes of traffic such as this on Newbold Rd is likely to cause disruption, and additional stress on bellmouths not equipped to deal with such high traffic flows. Additionally, due to opening up a large straight section of carriageway by making it one way on Dale Street, vehicle speeds may increase to inappropriate excessive speeds, particularly for the environment of the carriageway, consisting of many residential housing and young families.</p>
RECOMMENDATION	
<p>Following discussion with WCC, the following changes have been proposed by the design organisation:</p> <ul style="list-style-type: none"> - Installing traffic calming at regular intervals along straight sections of road to reduce vehicle speeds - Installing island on King Street to encourage compliance to one-way system - Providing queue analysis at junctions with Newbold Road to demonstrate that vehicle delay will not result in unsafe manoeuvres. 	

E6. Design Organisation and Overseeing Organisation statements

Table E.6 Design Organisation statement

On behalf of the Design Organisation I certify that:	
1) The RSA actions and other matters identified in response to the road safety audit problems in this road safety audit have been discussed with the Overseeing Organisation; or	<input checked="" type="checkbox"/>
2) The RSA actions and other matters identified in response to the road safety audit problems in this road safety audit cannot be agreed and I wish to proceed to an exception report	<input type="checkbox"/>
Name:	Joe Wooldridge
Signed:	JW
Position:	Associate
Organisation:	PJA
Date:	26-06-2024

Table E.7 Overseeing Organisation statement

On behalf of the Overseeing Organisation I certify that:	
1) The RSA process has been undertaken in accordance with the Overseeing Organisation's requirements. The actions and other matters identified in response to the road safety audit problems in this road safety audit have been discussed with the Design Organisation; or	<input type="checkbox"/>
2) The RSA actions and other matters identified in response to the road safety audit problems in this road safety audit cannot be agreed and an exception report is required	<input type="checkbox"/>
Name:	

Signed:	
Position:	
Organisation:	
Date:	



safer roads for everyone

Land North of Rounds Gardens, Rugby, Warwickshire (Section 38 Highway Works)

Road Safety Audit Stage 1

on behalf of Warwickshire County Council

PJA for St Modwen Homes

TMS reference no: 183868
Date: 26th March 2024
Revision: 0

1. Project Details

Report Title:	Land North of Rounds Gardens, Rugby, Warwickshire (Section 38 Highway Works) Road Safety Audit Stage 1
Author	Darren Newbold
Document Ref No:	TMS Report Ref No: 183868
Revision	0
Prepared by:	TMS Consultancy
On behalf of:	Warwickshire County Council (Overseeing Organisation)
TMS Client	PJA for St Modwen Homes

Document Control Sheet

Issue No	Revision	Audit Team	Completion Date	TMS Issue Date
1	0	DN/HA	26/03/2024	26/03/2024

2. Introduction

- 2.1 This report describes a Stage 1 Road Safety Audit carried out on proposed Section 38 Highway Works at Rounds Gardens, Rugby, Warwickshire on behalf of PJA for St Modwen Homes.
- 2.2 The audit team members were as follows:

Audit Team Leader

Darren Newbold – MSc, BSc (Hons), MCIHT, MSoRSA
National Highways Approved RSA Certificate of Competency
Principal Engineer, TMS Consultancy

Audit Team Member

Harinder Aulak – BSc (Hons), IEng, FIHE, RegRSA (IHE)
National Highways Approved RSA Certificate of Competency
Technical Director – Engineering Services, TMS Consultancy

- 2.3 The audit comprised an examination of the documents listed in **Appendix A**. The Road Safety Audit was undertaken in accordance with the Audit Brief supplied by Joe Woolridge, PJA.
- 2.4 The site was visited by the Audit Team on 25th March 2024 at 10am. The weather was overcast and damp. The site is closed and has no access to public traffic, pedestrian or cycle flows.
- 2.5 The terms of reference of the Road Safety Audit are as described in GG 119 Revision 2. The 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.
- 2.6 All of the problems described in this report are considered by the audit team to require action in order to improve the safety of the scheme and minimise collision occurrence.
- 2.7 A scheme drawing is included in **Appendix B**, where the locations of specific problems are referenced. A location plan of the scheme is also included in this Appendix.

2.8 The scheme consists of the proposed highway layout for a housing development at Rounds Gardens, Rugby, Warwickshire. The development is split into two sections, the western providing 49 dwellings, which will be accessed from Willans Place. The eastern section comprises 134 dwellings and will be accessed from Princes Street. The two halves will be connected by pedestrian and cycle routes. The layout for the development will be constructed as standard carriageway and footway.

2.9 Road Safety Audit Response Report

Following the completion of the road safety audit, the design team should prepare a road safety audit response report in collaboration with the Overseeing Organisation.

The response report should incorporate the following:

- **Decision Log** spreadsheet, where each Problem and Recommendation in the Safety Audit report is reiterated
- In the Decision Log, a response should be provided by the Design Team and Overseeing Organisation for each problem raised in the RSA report, together with an agreed action

Further information is provided in **GG 119 Sections 4.11 to 4.19** and **Appendix F** (where a road safety audit response report template is available).

The response report should be produced and finalised within *one month* of the issue of the RSA report. A copy of the response report should be issued to the Safety Audit Team for information.

3. Items resulting from the Stage 1 Audit Road Safety Audit

3.1 PROBLEM

Location: Section 38; eastern parcel

Summary: Wide pedestrian crossings may increase the risk of collisions between vehicles and pedestrians

At two of the side road junctions within the eastern development parcel, pedestrian crossing points have been provided at the widest part of the bellmouth junctions. This means that the crossing distance for pedestrians is at its maximum. Pedestrians with visual and mobility impairments may take a longer time to complete their crossing, thus maximising their exposure to the risk of collisions with turning vehicles.

RECOMMENDATION

The pedestrian crossings should be inset into the side roads to reduce the crossing distance.

3.2 GENERAL NOTE


In the audit brief, the Audit Team have been asked to consider whether the layout is suitable for a 20mph speed limit and whether it is likely to be self-enforcing. The Audit Team consider that due to the horizontal alignment with only short sections of straight road, it would be difficult for road users to reach speeds greater than 20mph. In addition, due to the small size of the individual development parcels, road users would not be able to build-up significant speed. Therefore, the development would be suitable for a 20mph speed limit, which would be self-supporting.

4. Audit Team Statement

We certify that the terms of reference of the road safety audit are as described in GG 119 Revision 2.


Audit Team Leader

Darren Newbold – MSc, BSc (Hons), MCIHT, MSoRSA
National Highways Approved RSA Certificate of Competency
Principal Engineer, TMS Consultancy

Signed	
Date	26 th March 2024

Audit Team Member

Harminder Aulak – BSc (Hons), IEng, FIHE, RegRSA (IHE)
National Highways Approved RSA Certificate of Competency
Technical Director – Engineering Services, TMS Consultancy

Signed	
Date	26 th March 2024

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Appendix A

Documents Examined:

- R9112-PJA-23-XX-DR-C-0135-P1 Highways GA Plan.pdf
- R9112-PJA-23-XX-DR-C-0136-P1 Kerbing Plan.pdf
- R9112-PJA-23-XX-DR-C-0137-P2 Visibility Splays.pdf
- R9112-PJA-23-XX-DR-C-0138-P2 Vehicle Swept Path Analysis - Large Car.pdf
- R9112-PJA-23-XX-DR-C-0139-P3 Vehicle Swept Path Analysis - Fire Tender.pdf
- R9112-PJA-23-XX-DR-C-0140-P3 Vehicle Swept Path Analysis - Refuse Vehicle Eastern Section.pdf
- R9112-PJA-23-XX-DR-C-0141-P3 Vehicle Swept Path Analysis - Refuse Vehicle Western Section.pdf
- R9112-PJA-23-XX-DR-C-0142-P1 Vehicle Swept Path Analysis - Refuse Vehicle Private Drives.pdf
- R9112-RLA-23-XX-DR-A-3200_Proposed_Site_Plan.pdf

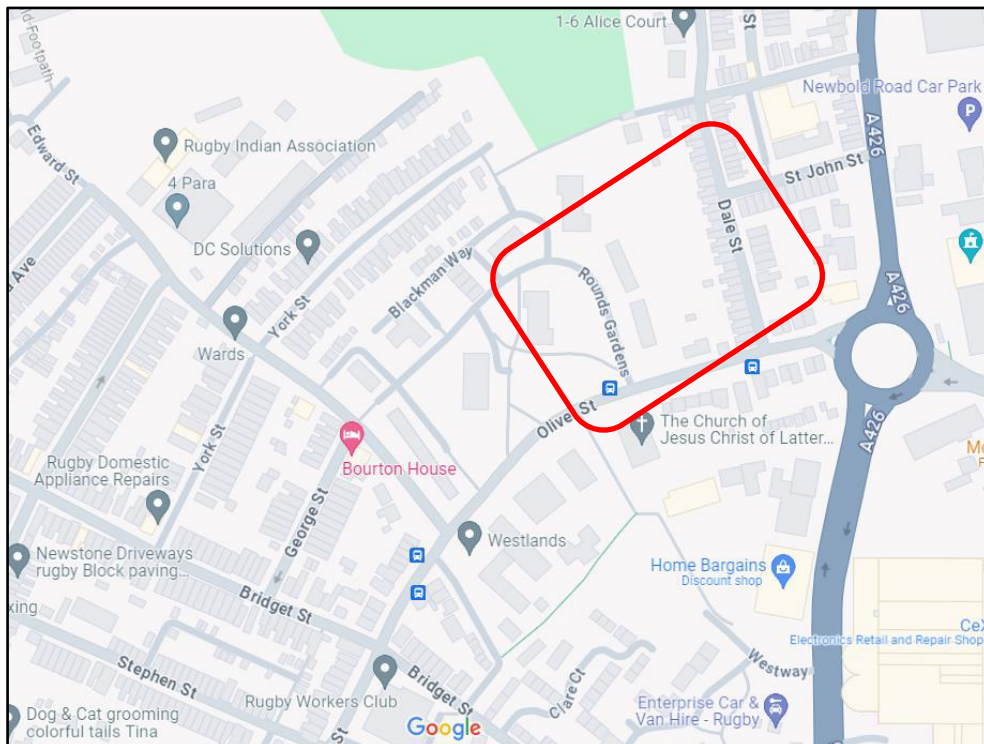
Other Information Provided:

- Road Safety Audit Brief

Appendix B

Please refer to the following page for a plan illustrating the locations of the problems identified as part of this audit (location numbers refer to paragraph numbers in the report).

The location of the scheme is shown below:



Scheme: Land North of Rounds Gardens, Rugby, Warwickshire





safer roads for everyone

Land North of Rounds Gardens, Rugby, Warwickshire (Section 278 Highway Works)

Road Safety Audit Stage 1

on behalf of Warwickshire County Council

PJA for St Modwen Homes

TMS reference no: 183867
Date: 26th March 2024
Revision: 1

1. Project Details

Report Title:	Land North of Rounds Gardens, Rugby, Warwickshire (Section 278 Highway Works) Road Safety Audit Stage 1
Author	Darren Newbold
Document Ref No:	TMS Report Ref No: 183867
Revision	1
Prepared by:	TMS Consultancy
On behalf of:	Warwickshire County Council (Overseeing Organisation)
TMS Client	PJA for St Modwen Homes

Document Control Sheet

Issue No	Revision	Audit Team	Completion Date	TMS Issue Date
1	0	DN/HA	26/03/2024	26/03/2024
2	1	DN/HA	26/03/2024	27/03/2024

2. Introduction

- 2.1 This report describes a Stage 1 Road Safety Audit carried out on proposed Section 278 highway works at Rounds Gardens, Rugby, Warwickshire, on behalf of PJA for St Modwen Homes.
- 2.2 The audit team members were as follows:

Audit Team Leader

Darren Newbold – MSc, BSc (Hons), MCIHT, MSoRSA
National Highways Approved RSA Certificate of Competency
Principal Engineer, TMS Consultancy

Audit Team Member

Harinder Aulak – BSc (Hons), IEng, FIHE, RegRSA (IHE)
National Highways Approved RSA Certificate of Competency
Technical Director – Engineering Services, TMS Consultancy

- 2.3 The audit comprised an examination of the documents listed in **Appendix A**. The Road Safety Audit was undertaken in accordance with the Audit Brief supplied by Joe Woolridge, PJA.
- 2.4 The site was visited by the Audit Team on 25th March 2024 at 10am. The weather was overcast and damp. Traffic flows were very light. Pedestrian flows were also very light. No cycle flows were observed.
- 2.5 The terms of reference of the Road Safety Audit are as described in GG 119 Revision 2. The 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.
- 2.6 All of the problems described in this report are considered by the audit team to require action in order to improve the safety of the scheme and minimise collision occurrence.
- 2.7 A scheme drawing is included in **Appendix B**, where the locations of specific problems are referenced. A location plan of the scheme is also included in this Appendix.

2.8 The scheme consists of highway works associated with the housing development at Rounds Gardens, Rugby, Warwickshire. The site will be accessed from two points, the eastern access via the existing Princes Street. To improve traffic flow the scheme includes some revocation and amendment to some Traffic Regulation Orders on neighbouring roads, most significantly a new one-way route. The western access will be taken from the existing Edward Street junction where there is a pre-existing access stub. As part of the scheme this access has been modified to remove a maintenance layby and introduce waiting restrictions.

2.9 Road Safety Audit Response Report

Following the completion of the road safety audit, the design team should prepare a road safety audit response report in collaboration with the Overseeing Organisation.

The response report should incorporate the following:

- **Decision Log** spreadsheet, where each Problem and Recommendation in the Safety Audit report is reiterated
- In the Decision Log, a response should be provided by the Design Team and Overseeing Organisation for each problem raised in the RSA report, together with an agreed action

Further information is provided in **GG 119 Sections 4.11 to 4.19** and **Appendix F** (where a road safety audit response report template is available).

The response report should be produced and finalised within *one month* of the issue of the RSA report. A copy of the response report should be issued to the Safety Audit Team for information.

3. Items resulting from the Stage 1 Audit Road Safety Audit

3.1 PROBLEM

Location: Edward Street – western access

Summary: Lack of footway connection may be a potential hazard to pedestrians

There are existing footways adjacent to the western access from Edward Street and the Section 38 drawing shows footways into the site, however, the Section 278 drawing does not show how these footway connections will be achieved. A lack of footway connections into the site may result in potential trip / fall hazards, particularly to those with visual and mobility impairments.

RECOMMENDATION

At detailed design stage, appropriate footway connections should be provided into the site which tie into the existing facilities at the junction with Edward Street.

3.2 PROBLEM

Location: Edward Street – western access

Summary: Lack of maintenance access may increase risk of vehicle collisions

The existing maintenance layby is to be removed at the western access on Edward Street, which is required to ensure that the visibility splay is not compromised. However, it is not clear where maintenance vehicles will park when access to the mobile mast is required. The lack of a suitable parking bay may mean that maintenance personnel park their vehicles in less appropriate locations, such as close to the junction, which may increase the risk of vehicle collisions.

RECOMMENDATION

A new maintenance bay facility should be provided in a suitable location.

3.3 PROBLEM

Location: Eastern Access – New Signs

Summary: Signage on footway may be a potential hazard and obstruction to pedestrians

The footways around Princes Street, Dale Street, King Street and Hill Street are very narrow. New posts for the proposed signage may present a potential hazard and obstruction to pedestrians, particularly to those with visual and mobility impairments.

RECOMMENDATION

New signage should be provided on existing street furniture (i.e. lighting columns) where possible. Otherwise, new signs posts should be located at the rear of the footway.

3.4 GENERAL NOTE

In the audit brief, the Audit Team have been asked to consider three issues in relation to the alterations to the proposed one-way scheme.

- *The road safety impacts of the proposed one-way scheme at the junctions with the adjacent highway network, in particular A426 (Newbold Road) and Oliver Street. This to include consideration of the potential safety impacts of longer queues (and waiting times) to join/leave Newbold Road when travelling from/to Duke St., Hill St. and St John's St.*

The Audit Team do not consider that there will be any additional safety implications on the wider network as a result of the proposals. Should there be longer queues (no modelling data has been provided for the audit), vehicle speeds will be lower also reducing the likelihood of vehicle collisions. Visibility splays at the identified junctions is good which will also minimise the risk of any collisions.

- *Enforceability of the proposed one-way system given the additional distance to access/egress some properties and whether the scheme may result in contraventions that will result in road safety issues/problems.*

The Audit Team do not consider that there will be any enforceability issues with the proposals. Given the narrow nature of the roads, with on-street parking present on both sides, it is likely to cause drivers more issues (i.e. head on conflicts with other vehicles) to contravene the proposals than to go with traffic flow in the advised direction.

- *The impact on traffic speeds of introducing a one-way system and whether additional measures (e.g., infrastructure and signage) will be required to discourage speeding and reduce safety concerns.*


Again, due to the nature of the roads as discussed above, the nature of the roads does not lend itself to higher vehicle speeds even with the introduction of the one-way system. Therefore, the Audit Team does not consider that additional speed reducing measures will be necessary.

4. Audit Team Statement

We certify that the terms of reference of the road safety audit are as described in GG 119 Revision 2.


Audit Team Leader

Darren Newbold – MSc, BSc (Hons), MCIHT, MSoRSA
National Highways Approved RSA Certificate of Competency
Principal Engineer, TMS Consultancy

Signed	
Date	26 th March 2024



Audit Team Member

Harminder Aulak – BSc (Hons), IEng, FIHE, RegRSA (IHE)
National Highways Approved RSA Certificate of Competency
Technical Director – Engineering Services, TMS Consultancy

Signed	
Date	26 th March 2024

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Appendix A

Documents Examined:

- 05554-CI-F-0001-P03 Highway Improvement Works East Existing Traffic Regulation Orders.pdf
- 05554-CI-F-0002-P03 Highway Improvement Works East Proposed Traffic Regulation Orders.pdf
- 05554-CI-F-0003-P03 Highway Improvement Works East Revoked Traffic Regulation Orders.pdf
- 05554-CI-F-0010-P03 Highway Improvement Works East Tracking Sheet 1 of 2.pdf
- 05554-CI-F-0011-P03 Highway Improvement Works East Tracking Sheet 2 of 2.pdf
- 05554-CI-F-0050-P03 Highway Improvement Works West General Arrangement.pdf
- 05554-CI-F-0060-P02 Highway Improvement Works West Tracking Sheet 1 of 3.pdf
- 05554-CI-F-0061-P02 Highway Improvement Works West Tracking Sheet 2 of 3.pdf
- 05554-CI-F-0062-P02 Highway Improvement Works West Tracking Sheet 3 of 3.pdf

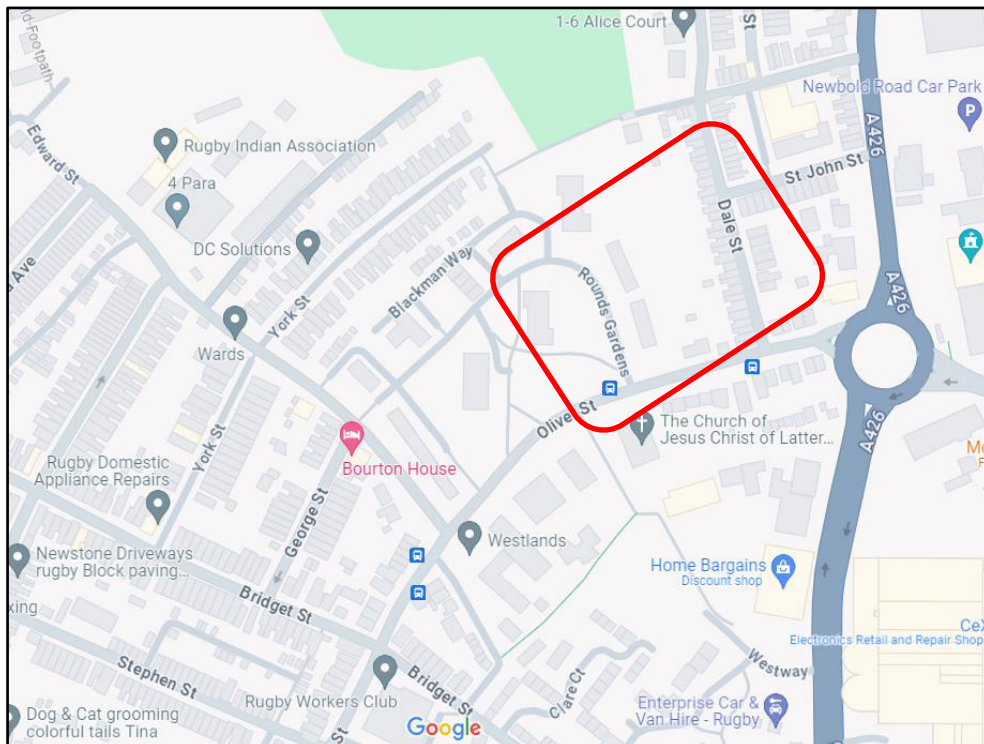
Other Information Provided:

- Road Safety Audit Brief

Appendix B

Please refer to the following page for a plan illustrating the locations of the problems identified as part of this audit (location numbers refer to paragraph numbers in the report).

The location of the scheme is shown below:



Scheme: Land North of Rounds Gardens, Rugby, Warwickshire



Scheme: Land North of Rounds Gardens, Rugby, Warwickshire



WARWICKSHIRE COUNTY COUNCIL**Road Safety Audit Review****Project Details**

Report Title:	Review of a Stage 1 Feasibility RSA
Location:	Rounds Gardens, Rugby
Date:	01/05/2024
Document reference and revision	RSA2425-0017
RSA Team Leader:	Dana Loxley
RSA Approver:	Marcus Alford-Longley

Warwickshire County Council
Traffic and Road Safety
Communities
Shire Hall
Warwick
CV34 4SX
<http://www.warwickshire.gov.uk/roadsafety>



1.0 INTRODUCTION

- 1.1** This report results from a review of a Stage 1 Road Safety Audit on the proposed S38 and S278 works at Rounds Gardens, Rugby, Warwickshire. This review was requested by Steve Harrison of Development Management Group, Warwickshire County Council.
- 1.2** No member of the Audit Team has been involved with the design process.
- 1.3** No site visit has been carried out on the location, only a desk review of the original audit conducted by TMS Consultancy, which was carried out in March 2024.
- 1.4** The drawings and documents supplied for audit are listed in Appendix A. An annotated plan showing the location of any problems identified is located in Appendix B.
- 1.5** The audit has been carried out in accordance with Warwickshire County Council's safety audit procedure largely following procedures recommended in document GG119 – 'Road Safety Audit' of National Highways' Design Manual for Roads and Bridges but allowing a notes/observations section covering matters of lesser importance for information/guidance of others who might be involved in the scheme.
- 1.6** The Audit Review 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 designs to any other criteria. On occasion, the Audit Review Team might have recourse to refer to the design standards, simply for information. All comments and recommendations are referenced to the design drawings and documents supplied with the subject audit or its brief. For any recommendations there may be alternative methods of addressing a problem which could equally acceptable in achieving the desired elimination or mitigation aims and these should be considered when responding to this report.
- 1.7** In accordance with Warwickshire County Councils Road Safety Audit procedures, it is a requirement that the Design Team in conjunction with the Project Sponsor prepare a Response Report, in response to the recommendations made within this Audit Review. This should be completed, and a copy of the final report sent to the Audit Review Team Leader for their information by 29th May 2024. All responses should be submitted using the appropriate template.

- 1.8** For any recommendations that are not being adopted, the Design Team or Project Sponsor should notify the Audit Team Leader and discuss these issues to try to achieve a mutually agreed solution. If an agreement cannot be reached, the Project Sponsor should then submit an Exception Report to the Assistant Director for Communities for their decision. If an Exception Report is required, a narrative of the exchanges between the Design Team, Project Sponsor and Audit Team Leader should be detailed and submitted alongside the Road Safety Audit Response Form and Exception Report to the Head of Transport and Highways for their information.

2.0 SCHEME DETAILS

S278

The scheme consists of highway works associated with the housing development at Rounds Gardens, Rugby, Warwickshire. The site will be accessed from two points, the eastern access via the existing Princes Street. To improve traffic flow the scheme includes some revocation and amendment to some Traffic Regulation Orders on neighbouring roads, most significantly a new one-way route. The western access will be taken from the existing Edward Street junction where there is a pre-existing access stub. As part of the scheme this access has been modified to remove a maintenance layby and introduce waiting restrictions.

S38

The scheme consists of the proposed highway layout for a housing development at Rounds Gardens, Rugby, Warwickshire. The development is split into two sections, the western providing 49 dwellings, which will be accessed from Willams Place. The eastern section comprises 134 dwellings and will be accessed from Princes Street. The two halves will be connected by pedestrian and cycle routes. The layout for the development will be constructed as standard carriageway and footway

3.0 DEPARTURES FROM STANDARD

No departures from standards were notified to the original Road Safety Audit team or the Audit review team.

4.0 ITEMS ARISING FROM PREVIOUS STAGE 1 AUDIT

- 4.1** The road safety aspects of the proposed access arrangements were the subject of comment in the Stage 1 Road Safety Audit Report conducted and written by TMS Consultancy and dated March 2024. These items have been

addressed by the designer and are referred to again in the Road Safety Audit Report.

- 4.2** In the following paragraphs, blue text is used to replicate the problem numbers and text from the original Road Safety Audit report. Green text is used to replicate the designer's response. Black text is used for the comments of the Road Safety Audit Reviewer.

S278 Section of the Report

Problem 3.1

Location: Edward Street – western access

Summary: Lack of footway connection may be a potential hazard to pedestrians

There are existing footways adjacent to the western access from Edward Street and the Section 38 drawing shows footways into the site, however, the Section 278 drawing does not show how these footway connections will be achieved. A lack of footway connections into the site may result in potential trip / fall hazards, particularly to those with visual and mobility impairments.

Recommendation: At detailed design stage, appropriate footway connections should be provided into the site which tie into the existing facilities at the junction with Edward Street.

Designers Response: Problem: Agreed.

Recommendation: Agreed

The Internal development layout proposes footway connections on both sides.

Note annotation added to drawing '05554-CI-F-0050 Highway Improvement Works West General Arrangement' to highlight the need for the footway connection to the internal development footway provision.

RSA Review Team Response: Accept the auditor's problem and the recommendation is appropriate for all of the points above. The Review Team accepts the Designers response, and will be subject to comment at Stage 2 Audit.

Problem 3.2

Location: Edward Street – western access

Summary: Lack of maintenance access may increase risk of vehicle collisions

The existing maintenance layby is to be removed at the western access on Edward Street, which is required to ensure that the visibility splay is not compromised. However, it is not clear where maintenance vehicles will park when access to the mobile mast is required. The lack of a suitable parking bay may mean that maintenance personnel park their vehicles in less appropriate locations, such as close to the junction, which may increase the risk of vehicle collisions.

Recommendation: A new maintenance bay facility should be provided in a suitable location.

Designers Response: Problem: Disagree.

It has been confirmed that the area of hard standing which is proposed to be removed and replaced with soft verge, was not intended to serve as a maintenance layby. Over time, this hard-standing area has been used informally for residents parking and may also have been used more recently by maintenance vehicles since the construction of the mast 2017 (R17/1419).

Recommendation : Disagree

The Code of Practice for Wireless Network Development in England Code of practice for wireless network development in England (publishing.service.gov.uk) does not make any reference to requiring maintenance laybys for telecommunications masts.

If there is a requirement for a maintenance hard-standing area to be proposed, the layout would need to be in accordance with WCC HCD-700 B 707.1. The maintenance bay would need to have dimensions of 3.55m (min) x 20m (including tapers). The dimensions of the hardstanding area is 2.8m x 9m, therefore the hard-standing area is not suitable to be used as a maintenance bay.

Secondly, there is no suitable location to accommodate a lay-by within the verge between Williams Place and Edward Street because there is insufficient space to permit a compliant layout while being outside the visibility splays of

the junction and not impacting on existing footways and telecommunication mast apparatus.

Where maintenance vehicles are required to service the telecommunication mast, it is recommended that they park on street using safe working practices including traffic management if necessary.

RSA Review Team Response: *The Review Team does not accept the Auditor's problem or recommendation and agrees with the Designer. This area of hardstanding was never intended for use as a parking or maintenance bay, and predates the telecom mast. It is understood that residential vehicles are now parking in this area, and as a result blocking visibility at the junction. It is recommended that measures are installed to prevent such parking.*

Problem 3.3

Location: *Eastern Access – New Signs*

Summary: *Signage on footway may be a potential hazard and obstruction to pedestrians*

The footways around Princes Street, Dale Street, King Street and Hill Street are very narrow. New posts for the proposed signage may present a potential hazard and obstruction to pedestrians, particularly to those with visual and mobility impairments.

Recommendation: *New signage should be provided on existing street furniture (i.e. lighting columns) where possible. Otherwise, new signs posts should be located at the rear of the footway.*

Designers Response: *Problem: Agreed.*

Recommendation: Agreed

Note added to drawing '05554-CI-F-0002 TRO Proposed, Revoked and Tracking'. Note details that new signage advised to be located on existing street furniture where possible or alternatively all new signposts to be located at the rear of the footway.

RSA Review Team Response: *Accept the auditor's problem and the recommendation is appropriate for all of the points above. The Review Team accepts the Designers response, and will be subject to comment at Stage 2 Audit.*

3.4 GENERAL NOTE

In the audit brief, the Audit Team have been asked to consider three issues in relation to the alterations to the proposed one-way scheme.

- *The road safety impacts of the proposed one-way scheme at the junctions with the adjacent highway network, in particular A426 (Newbold Road) and Oliver Street. This to include consideration of the potential safety impacts of longer queues (and waiting times) to join/leave Newbold Road when travelling from/to Duke St., Hill St. and St John's St.*

The Audit Team do not consider that there will be any additional safety implications on the wider network as a result of the proposals. Should there be longer queues (no modelling data has been provided for the audit), vehicle speeds will be lower also reducing the likelihood of vehicle collisions. Visibility splays at the identified junctions is good which will also minimise the risk of any collisions.

The Designer is yet to respond to these comments. However, the Review Team does not accept the Auditor's comment, and refers back to them in Problem 5.1.

- *Enforceability of the proposed one-way system given the additional distance to access/egress some properties and whether the scheme may result in contraventions that will result in road safety issues/problems.*

The Audit Team do not consider that there will be any enforceability issues with the proposals. Given the narrow nature of the roads, with on-street parking present on both sides, it is likely to cause drivers more issues (i.e. head on conflicts with other vehicles) to contravene the proposals than to go with traffic flow in the advised direction.

The Designer is yet to respond to these comments. However, the Review Team does not accept the Auditor's comment, and refers back to them in Problem 5.1.

- *The impact on traffic speeds of introducing a one-way system and whether additional measures (e.g., infrastructure and signage) will be required to discourage speeding and reduce safety*

concerns.

Again, due to the nature of the roads as discussed above, the nature of the roads does not lend itself to higher vehicle speeds even with the introduction of the one-way system. Therefore, the Audit Team does not consider that additional speed reducing measures will be necessary.

The Designer is yet to respond to these comments. However, the Review Team does not accept the Auditor's comment, and refers back to them in Problem 5.1.

4.4 S38 Section of the Report

Problem 3.1

Location: Section 38; eastern parcel

Summary: *Wide pedestrian crossings may increase the risk of collisions between vehicles and pedestrians*

At two of the side road junctions within the eastern development parcel, pedestrian crossing points have been provided at the widest part of the bellmouth junctions. This means that the crossing distance for pedestrians is at its maximum. Pedestrians with visual and mobility impairments may take a longer time to complete their crossing, thus maximising their exposure to the risk of collisions with turning vehicles.

Recommendation: *The pedestrian crossings should be inset into the side roads to reduce the crossing distance.*

Designers Response: *Agree. Architect / Masterplanner to include crossing relocation as suggested in next revision of development layout.*

RSA Review Team Response: *The Audit Review Team disagrees with the problem and recommendation and therefore disagrees with the Designer's response. By relocating the pedestrian crossing points inset into the side roads, the pedestrians would be taken away from the desire line, which is at the junctions with priority crossings.*

3.4 GENERAL NOTE



In the audit brief, the Audit Team have been asked to consider whether the layout is suitable for a 20mph speed limit and whether it is likely to be self-enforcing. The Audit Team consider that due to the horizontal alignment with only short sections of straight road, it would be difficult for road users to reach speeds greater than 20mph. In addition, due to the small size of the individual development parcels, road users would not be able to build-up significant speed. Therefore, the development would be suitable for a 20mph speed limit, which would be self-supporting.

The Designer is yet to respond to these comments. However, the Review Team accepts the Auditor's comments.

5.0 ITEMS RAISED AT THIS AUDIT REVIEW.

5.1 PROBLEM	
Location:	S278 One Way Proposal
Summary:	Vehicle Conflict
<p>The Audit Team disagrees with comments made by Auditors from the March 2024 TMS Consultancy Audit.</p> <p>The proposed one way system pushes larger volumes of traffic along roads that are unsuitable, and unlikely enforceable. Vehicles who live along this roads are unlikely to adhere to this one way system, if they need to park their vehicle and if following the one way system – have to travel the long way around and may still insist on parking close on Prince Street up to the bellmouth of the proposed access point, resulting, in the vis splay being obstructed for egressing vehicles, leading to conflict. Additionally, the displacement of large volumes of traffic such as this on Newbold Rd is likely to cause disruption, and additional stress on bellmouths not equipped to deal with such high traffic flows.</p> <p>Additionally, due to opening up a large straight section of carriageway by making it one way on Dale Street, vehicle speeds may increase to inappropriate excessive speeds, particularly for the environment of the carriageway, consisting of many residential housing and young families.</p>	
Recommendation:	
<p>It is recommended that the one way system is omitted from the design.</p>	

7.0 AUDIT REVIEW TEAM STATEMENT
















We certify that this road safety audit has been reviewed in accordance with GG 119 with some relaxations as per WCC's Road Safety Audit procedure.	
Road Safety Audit Team Leader	
Name:	Dana Loxley
Signed:	
Position:	Senior Engineer
Date:	01/05/2024
Road Safety Audit Team Member	
Name:	Marcus Alford-Longley
Signed:	
Position:	Principal Engineer
Date:	02/05/2024

APPENDICES

APPENDIX A

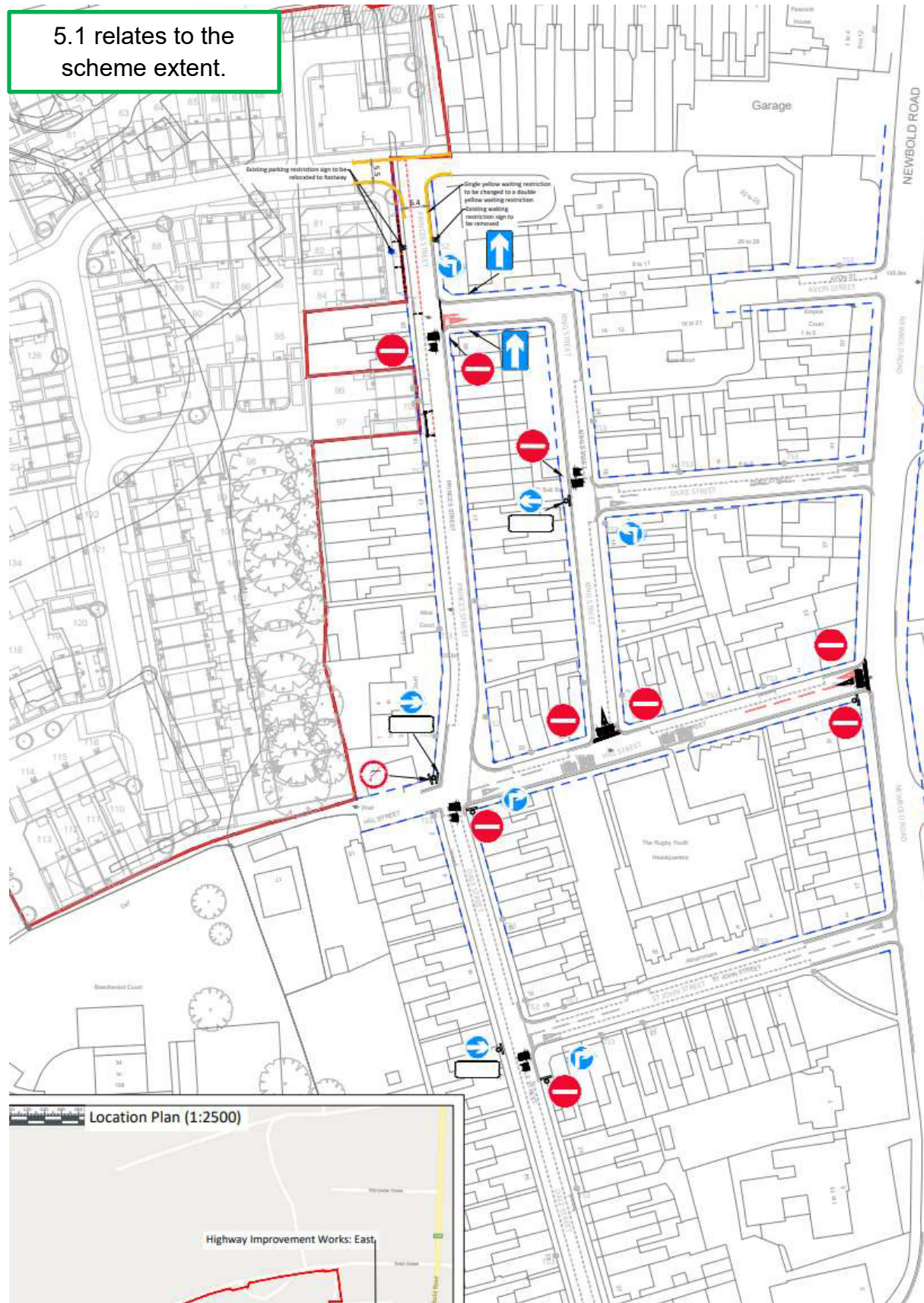
LIST OF DRAWINGS AND DOCUMENTS PROVIDED FOR AUDIT

List of documents e.g. Brief, PIC Data, Traffic Flows, Departures, Previous RSA's, and Designers Responses.

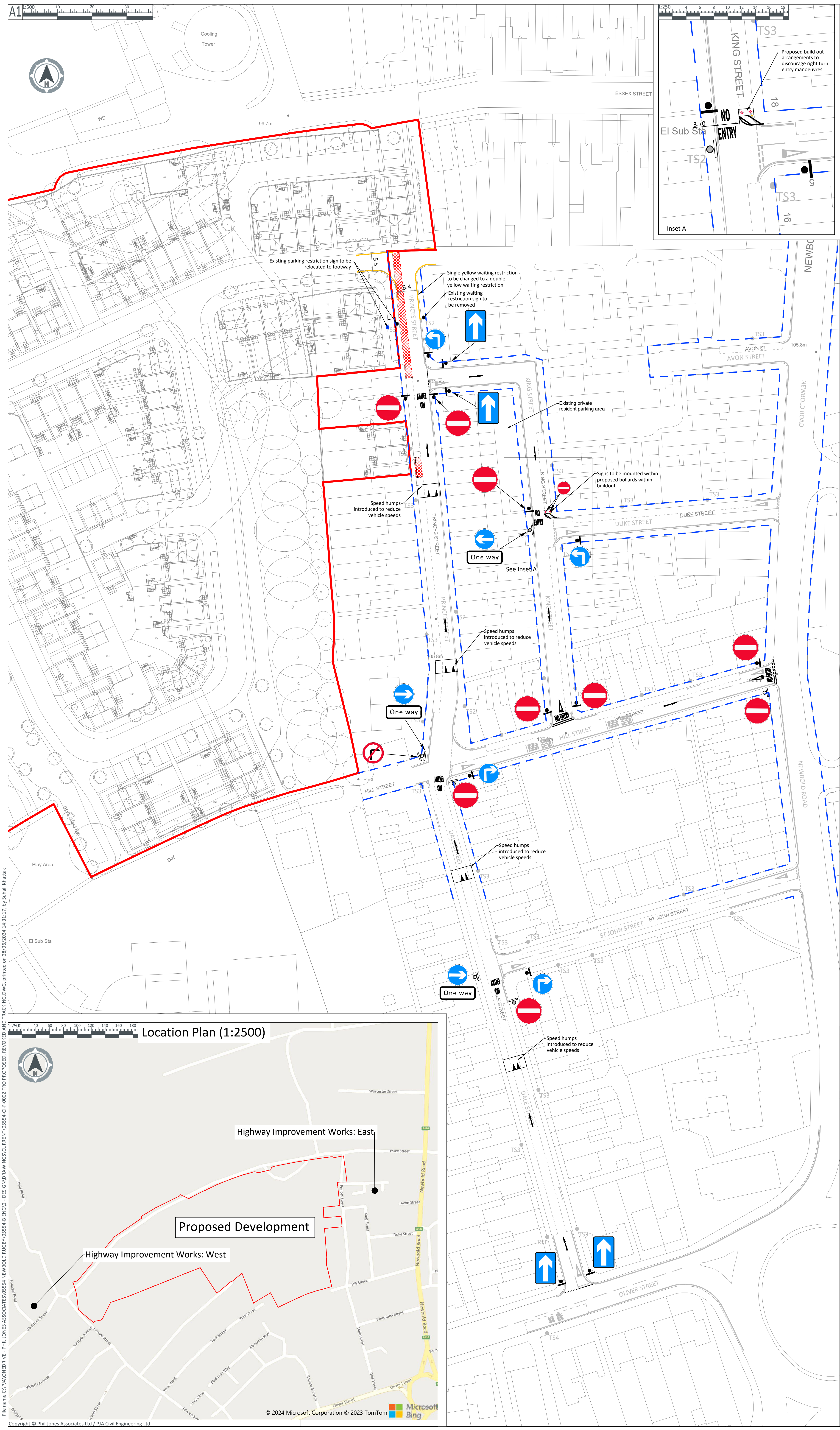
Drawings	
Drawing Number	Description of Drawing
	 05554-CI-F-0002-P04 Highway Improvement Works East Proposed Traffic Regulation Orders.pdf  05554-CI-F-0050-P04 Highway Improvement Works West General Arrangement.pdf  Highway_Imp Works_East_Proposed_TROs.pdf  Highway_Imp Works_East_Tracking 1_of_2.pdf  Highway_Imp Works_East_Tracking 2_of_2.pdf  Highway_Imp Works_West_GA.pdf  Highway_Imp Works_West_Tracking 1_of_3.pdf  Highway_Imp Works_West_Tracking 2_of_3.pdf  Highway_Imp Works_West_Tracking 3_of_3.pdf  Land North of Rounds Gardens, Rugby, Warwickshire (S38) - RSA1 Report.pdf  Land North of Rounds Gardens, Rugby, Warwickshire (S278) - RSA1 Report (Revision 1).pdf  RSA 1 S38 Designers Response, Rugby.docx  RSA 1 S278 Designers Response, Rugby.docx  RSA1 - Brief (Site Layout).docx  RSA1 Brief (s278).docx
Other Documents	
Drawing Number	Description of Drawing

APPENDIX B

LOCATION PLAN OF IDENTIFIED PROBLEMS



Appendix E One Way System



CDM Note

These drawings have been produced with reference to the CDM Regulations 2015. Please note that these are pre-construction phase drawings and should be subject to further design risk management as required in accordance with Regulation 9.

Notes

- Permission is granted to scale from this drawing for the purposes of Local Planning Authority approval only. For all other purposes do not scale from this drawing.
- All dimensions in metres unless stated otherwise.
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- PJA have not received the original data files.
- Reproduction from the Ordnance Survey map with permission of the controller of His Majesty's Stationary Office.
- The purpose of this drawing is to show the proposed TRO markings within the surrounding areas of the proposed development. The drawing has been produced for information to support the planning application.
- The design is Preliminary and subject to discussions with the local highway authorities (Warwickshire County Council). The drawing should not be used for tendering or construction purposes and requires further development as part of the pre-planning application and understanding of highway authority preferences, which vary between authority.
- Site specific detailed surveys need to be carried out to confirm design information, which may impact the outline design proposals. These include, but are not limited to, ground conditions, groundwater levels, utilities, ecology, tree protection etc. Impacts related to other civils features have not been detailed and are subject to detailed design.
- Any existing details which are shown on this drawing are for guidance only and are to be checked on site.
- The proposals outlined are subject to Road Safety Audits.
- The vehicle turning manoeuvres are presented on the supporting vehicle swept paths plan with reference 05554-Cl-B-0010-11.
- Reference of source data:
 - Topographical survey (2807) received by Axis Surveys, dated July 2013 rev A.
 - Planning application boundary (9865-SK04a Land at Newbold Road Rugby) received by St Modwen, dated March 21 rev a.
 - Masterplan (10689-2200 R9112-RLA-23-XV-DR-A-2200 P16 Proposed Site Plan) received on 11th June 2024.
 - Highway boundary ref:(Junction of Edward St - Princes St) received on 16th January 2024
- The design criteria and philosophy is subject to local authority agreement.
- New signage should be provided on existing street furniture where possible. Alternatively all new signposts to be located at rear of footway.

Key

- Highway Boundary
- Existing TRO sign to be removed
- Existing TRO sign to be retained
- Proposed Relocated TRO sign
- Proposed Bollards
- Proposed TRO sign on existing post/column
- Proposed TRO sign on new Post
- Diagram 606
- Diagram 609
- Diagram 616
- Diagram 606
- Diagram 612
- Proposed Road Marking
- Existing Road Marking Remain
- Existing Road Marking Removed

P05	24/06/2024	Speed humps, proposed bulkout, and vehicle tracking inset added	SK	AN	AN
P04	18/04/2024	Updated to reflect RSA 1 comments. Note 16 added	AS	AN	JW
P03	23/01/2024	Dimension added. Architect layout updated	JAL	AN	JW
P02	17/01/2024	TRO updated. Highway boundary added	JAL	AN	JW
P01	12/01/2024	FIRST ISSUE	AP	AN	JW
Rev	Date	Revision Note	Drw	Chk	App

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Client
St. Modwen Homes

Project
Land North of Rounds Gardens Rugby

Title
Highway Improvement Works East
Proposed Traffic Regulation Orders

Drawing Issue Status
For Information

PJA Ref
05554/F

Scale @ A1
1:500

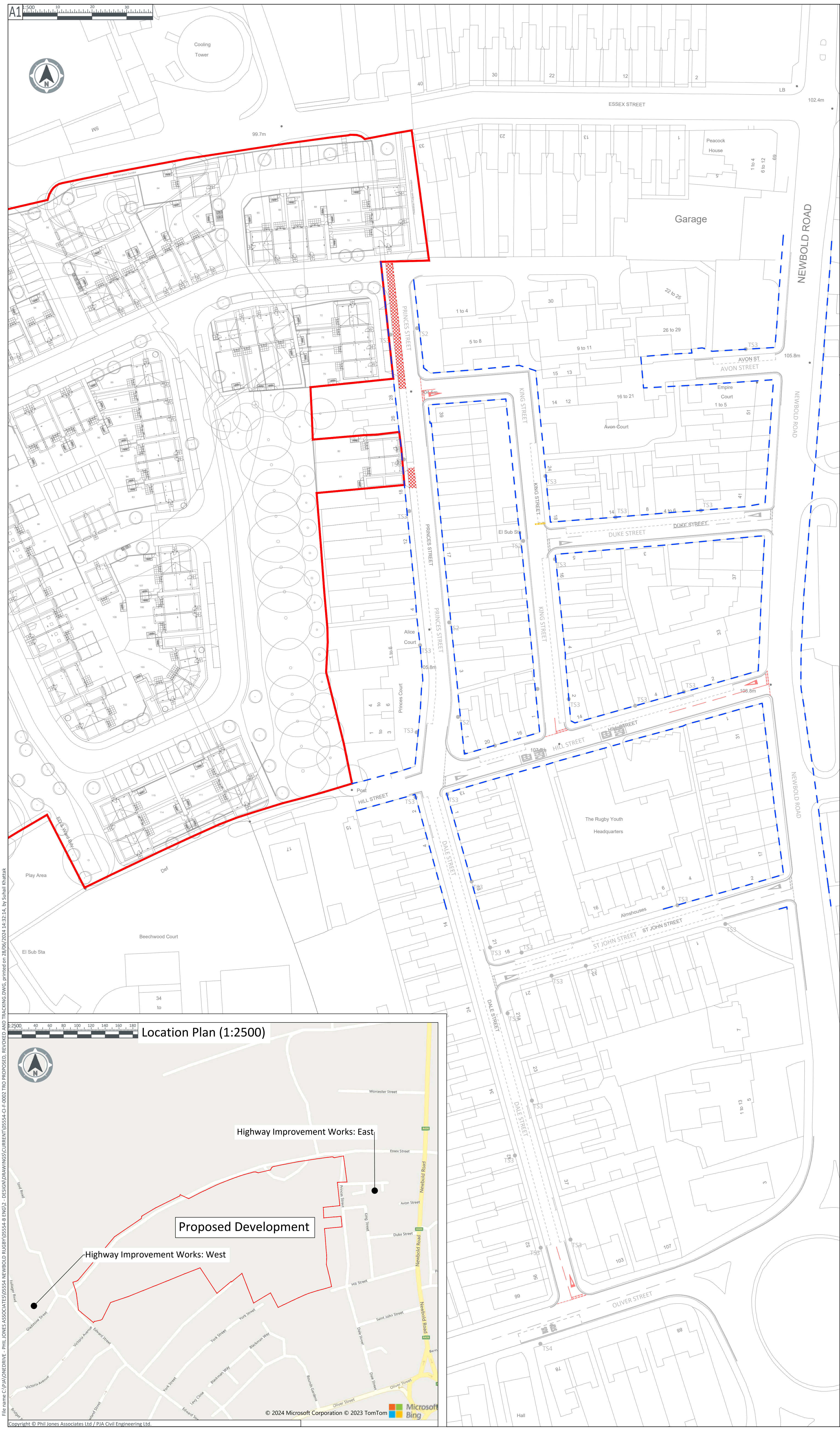
Date
12/01/2024

Drawing No.
05554-Cl-F-0002

Revision
P05

Primary Contact
joe.wooldridge@pja.co.uk

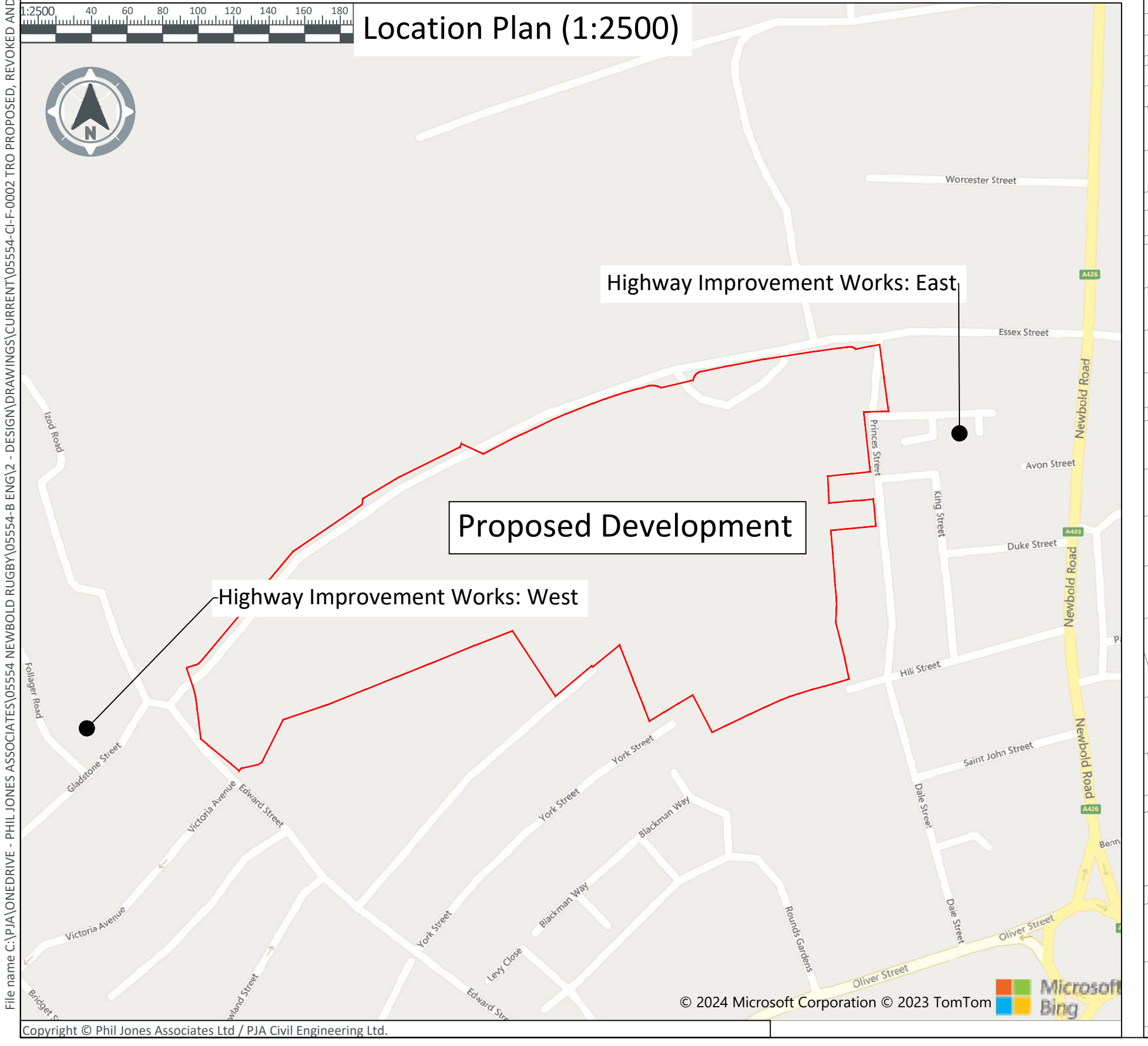
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Location Plan (1:2500)



CDM Note

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Notes

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- Reproduction from the Ordnance Survey map with permission of the controller of His Majesty's Stationary Office.
- The purpose of this drawing is to show the revoked TRO markings within the surrounding areas of the proposed development. The drawing has been produced for information to support the planning application.
- The design is Preliminary and subject to discussions with the local highway authorities (Warwickshire County Council). The drawing should not be used for tendering or construction purposes and requires further development as part of the pre-planning application and understanding of highway authority preferences, which vary between authority.
- Site specific detailed surveys need to be carried out to confirm design information, which may impact the outline design proposals. These include, but are not limited to, ground conditions, groundwater levels, utilities, ecology, tree protection etc. Impacts related to other civils features have not been detailed and are subject to detailed design.
- Any existing details which are shown on this drawing are for guidance only and are to be checked on site.
- The proposals outlined are subject to Road Safety Audits.
- The vehicle turning manoeuvres are presented on the supporting vehicle swept paths plan with reference 05554-CI-8-0010-11.
- Reference of source data:
 - Topographical survey (2807) received by Axis Surveys, dated July 2013 rev A.
 - Planning application boundary (9865-SK04a Land at Newbold Road Rugby) received by St Modwen, dated March 21 rev A.
 - Masterplan (10689-2200 R9112-RLA-23-XX-DR-A-2200 P16 Proposed Site Plan) received on 11th June 2024.
 - Highway boundary ref/Junction of Edward St - Princes St) received on 16th January 2024
- The design criteria and philosophy is subject to local authority agreement.

Key

- Highway Boundary
- Existing TRO (permit parking bay) to be revoked.
- Existing TRO (double yellow lines) to be amended

P04	24/06/2024	Speed humps, proposed buildout, and amended road markings added.	SK	AN	AN
P03	23/01/2024	Architect layout updated	JAL	AN	JW
P02	17/01/2024	TRO updated. Highway boundary added	JAL	AN	JW
P01	12/01/2024	FIRST ISSUE	AP	AN	JW
Rev	Date	Revision Note	Drw	Chk	App

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Client

St. Modwen Homes

Project

Land North of Rounds Gardens Rugby

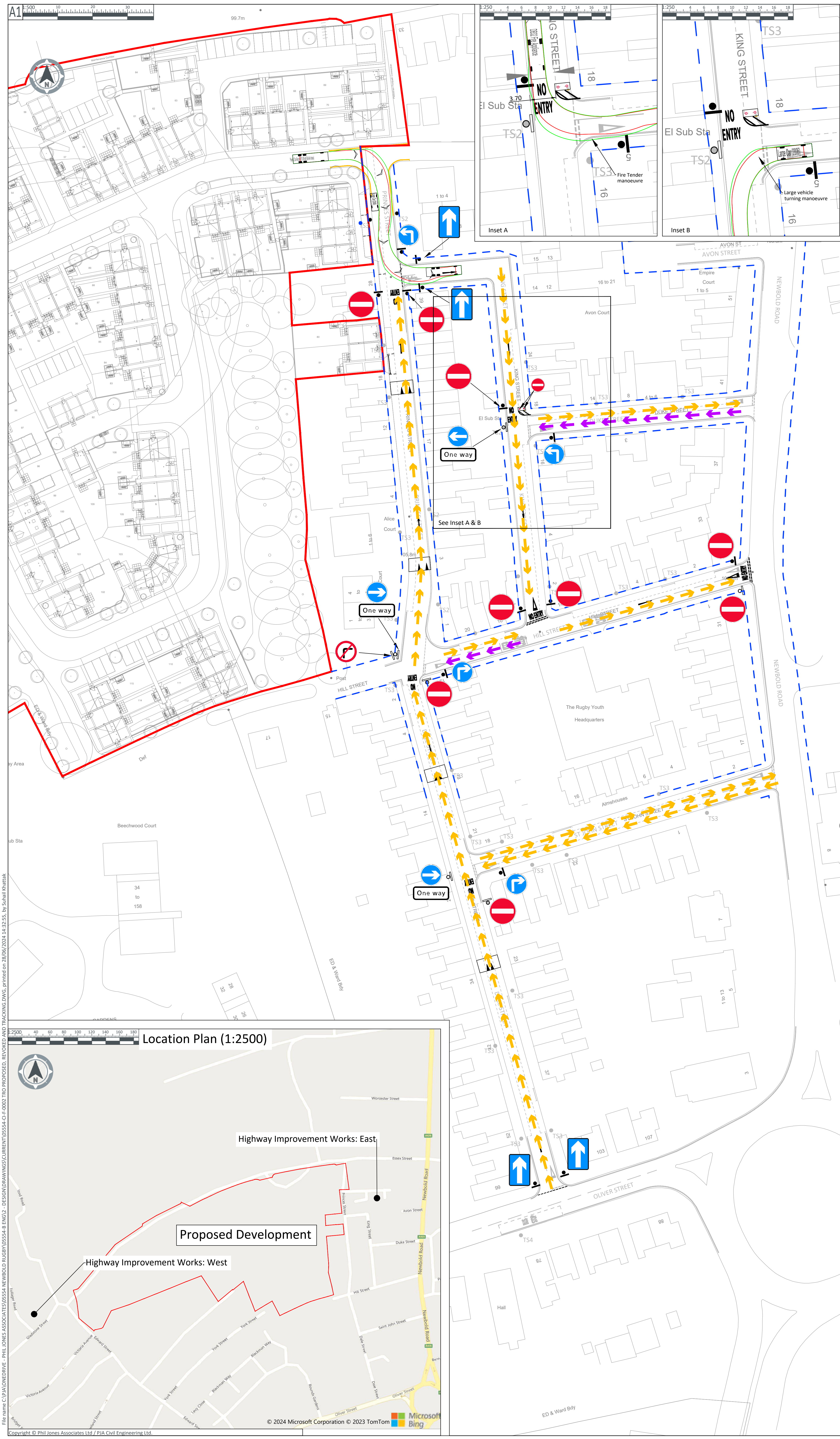
Title

Highway Improvement Works East
Revoked Traffic Regulation Orders

Drawing Issue Status

For Information

PJA Ref	Scale @ A1	Date
05554/F	1:500	12/01/2024
Drawing No.		Revision
05554-CI-F-0003		P04
Primary Contact	joe.wooldridge@pja.co.uk	



CDM Note

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Notes

- Permission is granted to scale from this drawing for the purposes of Local Planning Authority approval only. For all other purposes do not scale from this drawing.
- All dimensions in metres unless stated otherwise.
- This drawing is based on topographical survey ref: 2807 received by Axis Surveys, dated July 2013 revision A.
OS background is shown indicatively to cover un-surveyed areas in the topographical survey provided.
- The layout for the proposed TRO and associated notes are presented on the supporting TRO Proposed plan with drawing reference 05554-CI-F-0002.
- This drawing is not to be reproduced in any part or form without consent of PJA Civil Engineering Ltd. All copyright reserved.
- Reproduction from the Ordnance Survey map with permission of the controller of His Majesty's Stationary Office.
- The purpose of this drawing is to display the various design vehicle swept paths manoeuvring through the existing layout with the proposed one-way orders. The drawing is for discussion purposes only.

The drawing has been produced for information purposes to support the planning application.

- The vehicle swept paths presented have informed/validated the geometry of the layout.
- The design vehicles that have been considered in the swept path analysis have been listed below (based on Vehicle Tracking software) and the relevant vehicle profiles are included to highlight the vehicle dimensions. The vehicle profiles selected are considered to have the most onerous swept path criteria for both British and European standards. Therefore, the swept paths presented are robust and provide comfort that the junction manoeuvres for the typical vehicles below can be satisfied.

European Design Vehicles

Large Size Vehicles

- Refuse vehicle - Phoenix Duo 2 Recycler (P2-15W with Elite 6x4 chassis) *

British Design Vehicles

Medium Size Vehicles

- Emergency vehicle - DB32 Fire Appliance *

* design vehicles to be confirmed with the client, local authority, emergency services etc and alternative vehicles may need to be used.

- Vehicles have been assessed at **10mph** for turning movements through the junction. The assessment aims to achieve a minimum of 0.25m from kerb / channel lines.
- Design approach/summary/assumptions; (consider including)
 - Large and medium sized vehicles take priority through the layout whilst small sized vehicles are to wait at passing places.
 - All vehicles have been tracked at **10mph**.
 - Assessment included for refuse and large car, considered to be an infrequent combination.
 - Assessment included for pantechinicon and large car, considered to be an infrequent combination.
 - Assessment included for fire tender and large car, considered to be an infrequent combination.
 - medium and larger vehicle movements into and out of the access junction intrude into opposing lanes. The vehicle movements of these large vehicles are predicted to be infrequent and gaps in the traffic will need to be negotiated to carry out the movements into or out of the access junction. 250mm clearance to channel lines allows additional space where passing of larger vehicles is tight.
- The design criteria and philosophy is subject to highway authority agreement and Road Safety Audit.
- Existing road markings shown indicatively. The parking bays to be accurately surveyed and reassessed.
- Proposed speed control humps spaced at approximately 60m intervals along Dale Street / Princess Street.

DB32 Fire Appliance

8.68m

3.81m

1.53m

DB32 Fire Appliance

Overall Length 8.680m

Overall Width 2.150m

Overall Body Height 3.452m

Min Body Ground Clearance 0.337m

Max Track Width 2.121m

Lock to lock time 6.00s

Kerb to Kerb Turning Radius 7.910m

Large Car (2006)

5.079m

3.035m

0.816m

Large Car (2006)

Overall Length 5.079m

Overall Width 1.972m

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

Key

Highway Boundary

Typical Vehicle Track

Wheel Track - (red)

Travel Direction

Body Overhang - (green)

Existing Refuse Vehicle Movement

Forward Movement

Reverse Movement

P04	24/06/2024	Speed humps, proposed buildout, and vehicle tracking inset added.	SK	AN	AN
P03	23/01/2024	Tracking and architect layout updated	JAL	AN	JW
P02	17/01/2024	Tracking rationalised. Highway boundary added.	JAL	AN	JW
P01	12/01/2024	FIRST ISSUE	AP	AN	JW
Rev	Date	Revision Note		Drw	Chk

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Project

Land North of Rounds Gardens Rugby

Title

Highway Improvement Works East

Tracking Sheet 1 of 2

Refuse Vehicle

Drawing Issue Status

For Information

PJA Ref 05554/F Scale @ A1 1:500 Date 12/01/2024

Drawing No. 05554-CI-F-0010 Revision P04

Primary Contact joe.wooldridge@pja.co.uk

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Appendix F SLR Modelling Outputs

Scenario 1:	2031 Reference Case
Scenario 2:	2031 Reference Case + Development

Assessment Criteria:				
Criteria 01:	Less than	5	greater than	-999999
Criteria 02:	Less than	10	greater than	5
Criteria 03:	Less than	20	greater than	10
Criteria 04:	Less than	999999	greater than	20

Junction	Lookup	Approach	0700 to 0800				0800 to 0900				0900 to 1000				1600 to 1700				1700 to 1800				1800 to 1900			
			2031 Referenc e Case	2031 Reference Case + Developmen t	Differenc e	Criteria	2031 Referenc e Case	2031 Reference Case + Developmen t	Differenc e	Criteria	2031 Referenc e Case	2031 Reference Case + Developme nt	Differenc e	Criteria	2031 Referenc e Case	2031 Reference Case + Development	Differenc e	Criteria	2031 Referenc e Case	2031 Reference Case + Development	Differenc e	Criteria	2031 Referenc e Case	2031 Reference Case + Developmen t	Differenc e	Criteria
1	Duke St Arm A	Newbold Rd SB	10	7	-3		14	13	-1		9	8	-1		16	14	-2		17	17	0		14	16	2	
1	Duke St Arm B	Newbold Rd NB	4	0	-4		2	0	-2		0	0	0		0	0	0		0	0	0		0	0	0	
1	Duke St Arm C	Duke St EB	1	1	0		2	3	1		1	0	-1		2	2	0		2	1	-1		1	2	1	
2	Hill St Arm A	Newbold Rd SB	15	3	-13	1	15	10	-5		11	5	-6	1	21	16	-5	1	23	22	-1		18	22	4	
2	Hill St Arm B	Newbold Rd NB	3	2	0		3	2	-1		2	3	0		3	1	-1		3	2	-1		2	3	1	
2	Hill St Arm C	Hill St EB	2	2	0		1	3	1		1	2	0		2	2	0		2	3	1		2	3	1	
3	St John St Arm A	Newbold Rd SB	8	7	-1		12	15	2		4	7	3		24	19	-5	1	24	26	2		18	28	11	3
3	St John St Arm B	Newbold Rd NB	3	1	-2		3	5	2		1	0	-1		0	2	2		0	0	0		5	6	0	
3	St John St Arm C	St John St EB	0	0	0		2	0	-2		1	0	-1		1	0	-1		2	4	2		0	0	0	

