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Intended for
Balfour Beatty & Lincolnshire County Council

Document type
Report

Date
21/10/24

NORTH HYKEHAM RELIEF ROAD
NHRR STAGE 2 ROAD SAFETY AUDIT REPORT

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Project name	**North Hykeham Relief Road**
Project no.	**1620013942**
Recipient	**Balfour Beatty & Lincolnshire County Council**
Document type	**Report**
Revision	**C01**
Date	**21/10/24**
Prepared by	**S.Hawley**
Checked by	**G.Turner**
Approved by	**S.Hawley**
Document no.	**NHRR-RAM-HGN-HYKE-RP-CH-01038**
Suitability Status	**A4 - Approved & Accepted at Stage 4**
Functional Breakdown	**Highways-General**
Spatial Breakdown	**North Hykeham Relief Road**

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Revision	Date	Prepared by	Checked by	Approved by	Description
C01	**21/10/24**	SH	GT	SH	**First Issue**
P01	21/10/24	SH	GT	SH	First Issue

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APPENDICES

1. INTRODUCTION

1.1 Description of the Scheme, Objective and the Locality

This report describes a Stage 2 Road Safety Audit (RSA) carried out on the design works associated with North Hykeham Relief Road (NHRR) and covers the Lincolnshire County Council (LCC) network and the National Highways (NH) network reported in a separate section.

This Stage 2 RSA was undertaken for the whole scheme as described below, including the A46, Hykeham Roundabout, Middle Lane and Newark Road.

The NHRR, previously known as the Lincoln Southern Bypass (LSB), will link the recently constructed Lincoln Eastern Bypass (LEB) with the Lincoln Western Relief Road (LWRR) and the A46 on the Strategic Road Network (SRN). The NHRR is the last major highway scheme contained within the Lincoln Integrated Transport Strategy (LITS). The NHRR is also the last element of a complete ring road around the greater Lincoln urban area comprising both Lincoln and North Hykeham. The completed ring road will comprise of four sections of carriageway: the Lincoln Western Relief Road (LWRR), the Lincoln Northern Relief Road (LNRR), the Lincoln Eastern Bypass (LEB), and the NHRR. The NHRR will also form part of the Lincolnshire Coastal Highway.

The NHRR, comprises a Dual All-Purpose 2 lane Carriageway with a combined foot and cycleway, linking the A46 to the Lincoln Eastern Bypass (LEB). The combined footway and cycleway runs to the north of the east-bound carriageway between the A46 and Station Road. From Station Road to Grantham Road, the combined footway/cycleway will run to the south of the westbound carriageway before returning to the north of the east-bound carriageway between Grantham Road and the A15 Sleaford Road where it will connect to the LEB combined footway/cycleway. Feature requirements include:

- River Witham Crossing
- Station Road Crossing
- A46 NMU Crossing
- Wath Lane NMU Crossing
- Viking Way NMU Crossing
- Additional arm to A46 Roundabout
- New South Hykeham Road Roundabout
- New (A607) Grantham Road Roundabout
- New Brant Road Roundabout
- Additional arm to LEB Roundabout
- Green Lane Drain Crossing
- South Hykeham Drain Crossing
- Waddington Dyke Drain Crossing

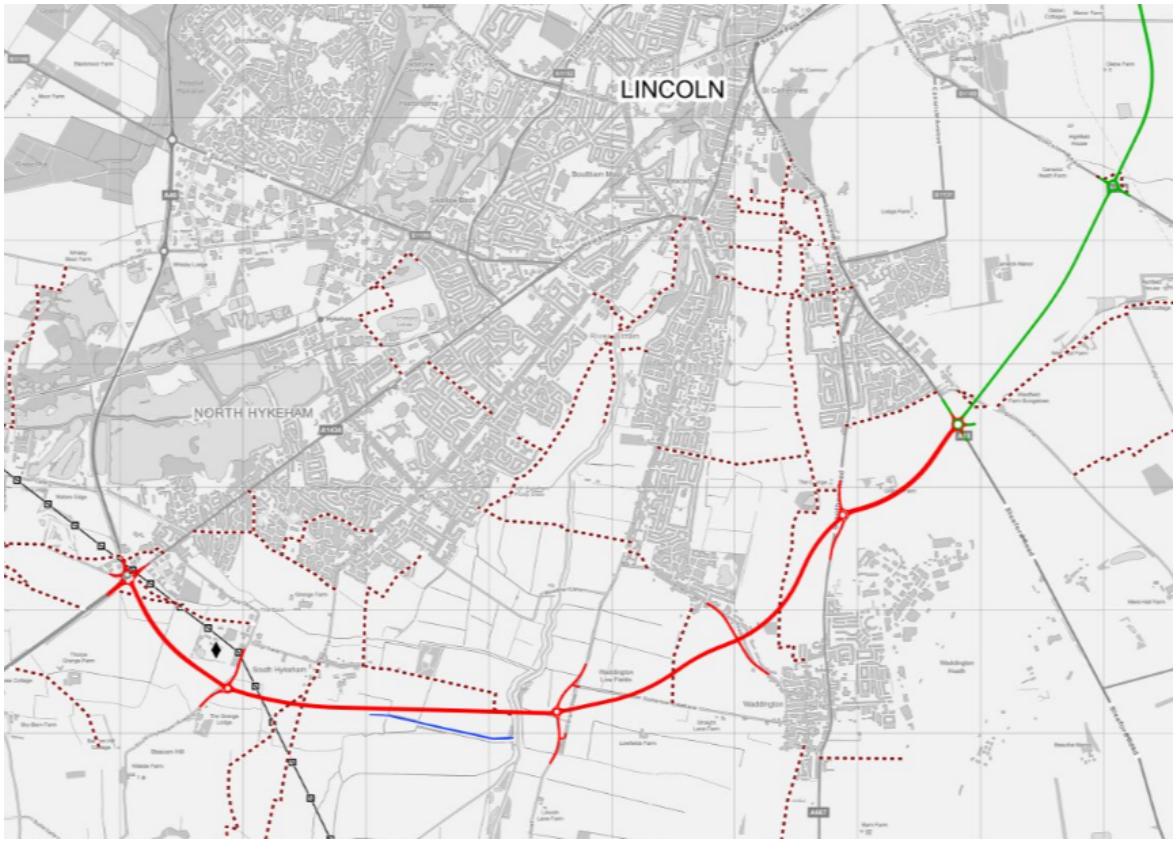


Figure 1 – Location Plan, NHRR (Red), LEB (Green)

1.2 Operational Objectives

The operational objectives and outcomes of the NHRR are as follows:

- To provide an additional east-west route for local and strategic traffic.
- To improve access between the strategic A46 and the eastern side of Lincoln including the LEB.
- Reduced rat running traffic through southern Lincoln and North Hykeham as a result of east-west traffic using appropriate routes.
- To provide a new link to unlock land allocated for the South-Western Quadrant (SWQ).
- Increased network capacity to accommodate housing growth.
- To improve route choice for east-west movements to reduce traffic and congestion on the existing orbital network and key routes through Lincoln.
- The expansion of the orbital network around Lincoln.
- To improve strategic and local route choice to improve network resilience.

1.3 Outcomes

Development of an Effective & Efficient Transport Network:

- Through improved east-west connectivity in the south of Lincoln for strategic and local traffic.
- Through reduced traffic levels on local urban and rural roads in the South of Lincoln through the transfer of strategic traffic to appropriate routes.
- Through reduced NMU severance in South Lincoln caused by high levels of traffic on

the local road network and lack of east west connectivity.

Delivery of Housing:

- To support the delivery of the SUEs by improving access to the identified sites.
- To support the delivery of the SWQ through the provision of additional network capacity and NMU infrastructure necessary for the delivery of new housing.

Sustainable Economic Growth:

- To reduce traffic levels and congestion on the existing orbital road network around Lincoln and on key routes through the city to support:
  - Improved access to central Lincoln.
  - The improvement of access to the Humber Ports and Airport.
  - The improvement of access to the Lincolnshire Coast.
- To improve the resilience of the orbital and key route network through and around Lincoln and reduce the impact of major incidents.

1.4 Relevant factors which may affect road safety

Proximity to the Strategic Road Network (SRN) – A46.
Planning applications have been approved in full and in outline respectively for the following applications which are available for review from the LCC planning portal.

- 21/1125/FUL
- 20/0057/OUT

1.5 The Road Safety Audit Team

The Road Safety Audit (RSA) Team comprised:

RSA Team Leader	Simon Hawley, BEng (Hons), CEng, MICE, MCIHT, MSoRSA, Director of Highways & Infrastructure, Ramboll Limited and holder of EC Directive 2008/96/EC Certificate of Competency for audit work on the TERN and UK motorways and trunk roads (unreferenced TMS certificate, issued on behalf of Highways England).
RSA Team Member	Graeme Turner BEng (Hons), MSoRSA, Associate of Glanville Consultants Limited acting on behalf of Ramboll.

The terms of reference of the RSA are as described in the DMRB, Volume 5, Part 2, GG119 "Road Safety Audit", Chapter 5, paragraphs 5.1 to 5.3 and are inclusive of Notes 1 to 4 included therein.

1.6 Road Safety Audit Method

A copy of the approved RSA Brief was issued to the RSA Team on Wednesday 21st August 2024.

The RSA was based on information provided by the Design Team listed below and on observations obtained during a daylight site visit attended by the RSA Team members on Monday 8th July 2024. The weather during the site visit was warm, fine with sunny intervals. Road surfaces were dry. Visibility was generally good.

The RSA Report was subsequently prepared at the Ramboll Limited premises during August and September 2024 for the Overseeing Organisation, Lincolnshire County Council also acting on behalf of National Highways.

The RSA 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.

The RSA Team was approved by Dave Chetwynd of Lincolnshire County Council and Catherine Townend of NH on 13th June 2024.

The RSA Team was instructed by RUK, on behalf of Balfour Beatty. The RSA was carried out in accordance with the Road Safety RSA Brief issued by RUK, in their capacity as Design Team. The Brief comprised:

- 24-page RSA Brief document ref. NHRR-RAM-HGN-HYKE-RP-CH-01031.
- Location Plan
- Forecast traffic flows
- Collision data analysis
- Documents and Drawings refer to Appendix 3:

1.7 Collision data analysis

Collision data for the 5 years to 30th April 2024 has been provided by Lincolnshire Road Safety Partnership and has been used to produce the following drawings/accident bubble diagrams;

- NHRR-RAM-HGN-HYKE-DR-CH-01053 – Accident Plan (5 Year Data to April 2024)
- NHRR-RAM-HGN-HYKE-DR-CH-01041 – A46 Accident Plan (5 Year Data to April 2024)

The data provided identifies a total of 15 No. collisions within the vicinity of the proposed scheme for the 5 year period to January 2023 within the vicinity of the A46 North Hykeham Roundabout. 12 No. of these were 'slight', with 3 No. 'Serious'.

Across the NHRR scheme as a whole, the data provided identifies a further 10 No. collisions for the 5 year period to January 2023. 9 No. of these were 'slight', with 1 No. 'Serious'.

1.8 Departures from standards

Departures from Standard have been identified in relation to the following.

Geometry Link 3 SSD & Vert Radius E/B – NHRR-RAM-HGN-HYKE-RP-CH-01014
Geometry Link 3 SSD and Vert Radius W/B – NHRR-RAM-HGN-HYKE-RP-01016
Geometry Somerton Gate Lane Cross Section – NHRR-RAM-HGN-HYKE-RP-CH-01017
Unlit Gap Link 4 – NHRR-RAM-HGN-HYKE-RP-CH-01018
Brant Road Unlit Gap – NHRR-RAM-HGN-HYKE-RP-CH-01020
Grantham Road Unlit Gap – NHRR-RAM-HGN-HYKE-RP-CH-01021
Geometry A15 R/A Circulatory Width – NHRR-RAM-HGN-HYKE-RP-CH-01023

Departures from Standards relating to the A46 North Hykeham Roundabout (Strategic Road Network) will be reported as the scheme proposals are progressed and accepted by National Highways.
(Note – A repeat Stage 2 RSA will be required for A46 North Hykeham Roundabout at a point in the future as agreed with National Highways representatives).

1.9 Strategic decisions

None

1.10 Design standards applied to the scheme design

DMRB Standards			
Standard	**Version**	**Date**	**Title**
CD 109	Version 1	Mar 2020	Highway link design
CD 127	Version 1.0.1	Jul 2021	Cross-sections and headrooms
CD 116	Version 2	Apr 2020	Geometric design of roundabouts
CD 122	Version 1.1.1	Jan 2022	Geometric Design of grade separated junctions
CD 123	Version 2.1.0	Nov 2021	Geometric design of at-grade priority and signal-controlled junctions
CD 143	Version 2.0.1	Mar 2021	Design for walking, cycling and horse-riding
CD 169	Version 1.0.1	Mar 2021	The design of lay-bys, maintenance hardstandings, rest areas, service areas and observation platforms
CD 192	Version 1	Jan 2020	The design of crossovers and changeovers
CD 195	Version 1.0.1	Mar 2021	Designing for cycle traffic
Other Standards/Guides			
Department for Transport LTN 1/20 July 2020 Cycle Infrastructure Design			
Manual for Streets			
Manual for Streets 2			
Disability advice (https://www.gov.uk/government/publications/inclusive-mobility-making-transport-accessible-for-passengers-and-pedestrians)			
IHE Guidelines for Motorcycling (https://motorcycleguidelines.org.uk)			
Inclusive mobility- a guide to best practice on access to pedestrian and transport			
Infrastructure (https://www.gov.uk/government/publications/inclusive-mobility-making-transport-accessible-for-passengers-and-pedestrians)RNIB			
RNIB '' Who put that there! The barriers to blind and partially sighted people getting out and about (rnib.org.uk)			

1.11 Design Speeds

The following design speeds have been proposed and agreed with Lincolnshire County Council;
A46 Dual Carriageway – 120kph
A46 Single Carriageway – 100kph
Middle Lane – 100kph
A1434 Newark Road – 70kph
NHRR – 120kph
South Hykeham Road – 70kph
Brant Road – 70kph
Somerton Gate Lane – 50kph
Station Road – 50kph
Grantham Road – 70kph
A15 Sleaford Road – 100kph
A15 Lincoln Eastern Bypass (LEB) – 100kph

For details, refer to drawing NHRR-RAM-HGN-HYKE-DR-CH-01054 – Proposed Design Speeds included in the associated ProjectWise issue.

1.12 Speed Limits

The following speed limits have been proposed and agreed with Lincolnshire County Council;
A46 Dual Carriageway –70mph (National Speed Limit)
A46 Single Carriageway – 60mph (National Speed Limit)
Middle Lane – 60mph (National Speed Limit)
A1434 Newark Road – 40mph/60mph
NHRR – 70mph (National Speed Limit)
South Hykeham Road – 60mph (National Speed Limit)
Brant Road – 60mph (National Speed Limit)
Somerton Gate Lane – 60mph (National Speed Limit)
Station Road – 50kph (existing)
Grantham Road – 40mph
A15 Sleaford Road – 60mph (existing) (National Speed Limit)
A15 Lincoln Eastern Bypass (LEB) – 60mph (existing) (National Speed Limit)

For details, refer to drawing NHRR-RAM-HGN-HYKE-DR-CH-01045 – Proposed Speed Limits included in the associated ProjectWise issue.

1.13 Existing traffic flows/queues

Assessment of the existing traffic and junction capacities are detailed in the following documents for the existing junctions that will form part of the NHRR scheme included in Appendix 1;

- A46 Roundabout – NHRR-RAM-HML-HYKE-RP-TR-00005 – A46/A1434/NHRR Hykeham Roundabout Geometry Assessment

- A15 Sleaford Road Roundabout – NHRR-RAM-HML-HYKE-RP-TR-00004 – A15 Sleaford Road/NHRR Roundabout Assessment

Traffic Model data has been supplied by WSP, with data extracted from the Saturn traffic model prepared by WSP, known as the Greater Lincoln Transport Model (GLTM) strategic model. This model has been approved for use by National Highways as part of the Central Lincolnshire Local Plan (as approved in 2022).

1.14 Forecast traffic flows

Geometry assessments for the proposed roundabouts and the modification of the existing roundabouts are detailed in the following documents included in the associated ProjectWise issue;

- A46 Roundabout – NHRR-RAM-HML-HYKE-RP-TR-00005 – A46/A1434/NHRR Hykeham Roundabout Geometry Assessment

- South Hykeham Road Roundabout – NHRR-RAM-HML-HYKE-RP-TR-00001 – South Hykeham Road Roundabout Geometry Assessment

- Brant Road Roundabout – NHRR-RAM-HML-HYKE-RP-TR-00003 – Brant Road Roundabout Geometry Assessment

- Grantham Road Roundabout – NHRR-RAM-HML-HYKE-RP-TR-00002 – Grantham Road Roundabout Geometry Assessment

- A15 Sleaford Road Roundabout – NHRR-RAM-HML-HYKE-RP-TR-00004 – A15 Sleaford Road/NHRR Roundabout Assessment

Traffic Model data has been supplied by WSP, with data extracted from the Saturn traffic model prepared by WSP, known as the Greater Lincoln Transport Model (GLTM) strategic model.

Pedestrian, cyclist and equestrian desire lines
GG 142 WCHAR Assessment, document NHRR-RAM-ENM-HYKE-RP-TR-00005 has been undertaken in order to review pedestrian, cycle and equestrian facilities and facilitate the inclusion of all walking, cycling & horse-riding (WCH) modes in the scheme design process from the earliest stage and to identify opportunities for improved facilities and integration with the local and national network analysis.
Survey data is provided within Section 4.4 of the GG 142 WCHAR Assessment.

Environmental constraints
No environmental constraints are noted within the RSA Brief.

1.15 Previous road safety audit stage reports, road safety audit response reports and evidence of agreed actions

- Stage 1 Road Safety Audit Report – NHRR-RAM-HGN-HYKE-RP-CH-01010.
- Stage 1 Road Safety Audit Response Report – NHRR-RAM-HGN-HYKE-RP-CH-01011.
- Repeat Stage 1 Road Safety Audit Report A46 Hykeham Roundabout – NHRR-RAM-HGN-HYKE-RP-CH-01027.
- Repeat Stage 1 Road Safety Audit Response Report A46 Hykeham Roundabout – NHRR-RAM-HGN-HYKE-RP-CH-01028.

2. GENERAL POINTS

1. No contour plans have been provided to the RSA team, hence road safety related hazards associated with surface run-off/ponding cannot be determined.
2. Vehicle swept paths movements have not been provided within the RSA brief documentation, hence road safety related hazards associated with swept paths cannot be determined.
3. No junction intervisibility zones have been provided in the RSA brief documentation for signal controlled junctions hence any associated road safety related hazards cannot be determined.
4. Although some RSA Problems at North Hykeham A46 Roundabout may be on LCC highways the RSA team consider that there is likely to be a close interface with National Highways hence the Problems are referenced as applicable to both highway authorities referenced as 'NH LCC'.

3. ITEMS RAISED IN THE PREVIOUS STAGE 1 ROAD SAFETY AUDITS

The following Stage 1 problems raised remain or have a related Stage 2 Problem and are included in this report:

Stage 1 Repeat for A46 North Hykeham Roundabout

- Problem 3 NH - The southbound A46 lane 1 (ahead and left indicated) entry path radius appears greater than 100m and may result in high vehicle speeds resulting in a loss of control type collisions with personal injury. This problem has not been fully addressed and has been carried forward, refer to **Problem 4 NH LCC** of this Stage 2 RSA.
- Problem 5 NH LCC - Middle Lane northern verge unofficial worn path – Risk of NMU / vehicle collisions while crossing A46 between services area and restaurant. This problem has not been fully addressed and has been carried forward, refer to **Problem 5 NH LCC** of this Stage 2 RSA.
- Problem 8 NH LCC - NHRR N/B approach the Hykeham Roundabout - Limited visibility to both primary traffic signals may result in shunt type collisions occurring. Although this problem has been addressed in terms of visibility obscured by vegetation there is a related Stage 2 Problem identified, refer to **Problem 6 NH LCC** of this Stage 2 RSA.

4. ITEMS RAISED AT THIS STAGE 2 ROAD SAFETY AUDIT RELATING TO BOTH THE NH AND THE LCC HIGHWAY NETWORK

PROBLEM 1 NH LCC	
Location:	NHRR northbound carriageway towards North Hykeham Roundabout (Location 1 NH LCC on Plan in Appendix 1)
Plan:	NHRR-RAM-HGN-HYKE-DR-CH-00011 P04
Summary:	Nearside kerb line of SLTL alignment may result in side-swipe type collisions with personal injury occurring.
The northbound NHRR approach to the Hykeham Roundabout diverges and a SLTL forms. At the start of the splitter island/end of the chevron zone the nearside kerb line appears to have a relatively 'tight' radius curve. This sharpness of the proposed alignment may result in vehicles deviating into the adjacent lane leading to side-swipe type collisions with personal injury occurring.	
RECOMMENDATION	
It is recommended that the nearside kerb line should be redesigned to provide a 'smooth' alignment to mitigate the risk of a Lane 1 vehicle deviating into Lane 2.	

PROBLEM 2 NH LCC	
Location:	A1434 westbound carriageway towards North Hykeham Roundabout (Location 2 NH LCC on Plan in Appendix 1)
Plan:	NHRR-RAM-HSN-HYKE-DR-CH-12132 C01
Summary:	Local destination sign not a 'map' type which may lead to driver confusion resulting in side-swipe type collisions and personal injury.
Local destination sign is not a 'map' type. This may lead to driver confusion on the approach to, or at the roundabout resulting in unsafe vehicle manoeuvres such as late lane changes occurring, with possible side-swipe type collisions resulting in injury.	
RECOMMENDATION	
It is recommended that a local destination map type sign should be provided.	

PROBLEM 3 NH LCC	
Location:	Service area off Middle Lane at North Hykeham Roundabout (Location 3 NH LCC on Plan in Appendix 1)
Plan:	NHRR-RAM-HSN-HYKE-DR-CH-12132 C01
Summary:	Lack of service area design signage may result in late lane changing resulting in side-swipe type collisions with personal injury occurring.
From the information provided there does not appear to be any destination signage directing drivers to the service area. This may result in late decision making, late lane changing with side-swipe type collisions and personal injury occurring.	
RECOMMENDATION	
It is recommended that at all approach arms of North Hykeham Roundabout destination signs directing drivers to the service area should be provided.	

PROBLEM 4 NH LCC	
Location:	Southbound A46 lane 1 approach to Hykeham Roundabout (Location 4 NH LCC on Plan in Appendix 1).
Plan:	NHRR-RAM-HML-HYKE-DR-CH-01040 C01
Summary:	Entry path radius appears to be greater than 100m in the vicinity of the stop line and may result in high vehicle speeds with loss of control type collisions and personal injury occurring.
Although it is recognised that the roundabout junction will be signalised drivers travelling southbound via the A46 Lane 1 (ahead and left indicated) may receive a 'green wave' and may not therefore need to appreciably reduce their speed. The entry path radius appears to be greater than 100m in the vicinity of the stop line and continuing along the vehicle path. This may result in high vehicle speeds with loss of control type collisions and personal injury occurring. The Audit Team note from the RSA brief that no Departure from Standard has been applied for in relation to entry path curvature at this location.	
RECOMMENDATION	
It is recommended that measures should be introduced to such that the likelihood of high vehicle speeds at this location is reduced.	

PROBLEM 5 NH LCC	
Location:	Middle Lane northern verge unofficial worn path at Hykeham Roundabout (Location 5 NH LCC on Plan in Appendix 1).
Plan:	NHRR-RAM-HKF-HYKE-DR-CH-11112 P02 and 11114 P02
Summary:	Risk of pedestrian / vehicle collisions occurring while crossing A46 between services area and restaurant leading to possible personal injury.
It is recognised that crossing facilities to the south of the roundabout will be provided, which may help to reduce the number of NMUs currently crossing the A46. However, the current, as observed (and arguably more direct) route is approximately four times shorter than the proposed route being offered. Consequently, there is a concern that some NMUs will continue to use the current, more direct, route. This may result in pedestrian/vehicle conflicts leading to personal injury.	
RECOMMENDATION	
It is recommended that appropriate NMU crossing facilities should be provided which allow for existing and established desire lines and which sufficiently cater for the existing user demand.	

PROBLEM 6 NH LCC	
Location:	NHRR N/B approach the Hykeham Roundabout (Location 6 NH LCC on Plan in Appendix 1).
Plan:	NHRR-RAM-HSL-HYKE-DR-TS-14101 P05.1 and NHRR-RAM-HKF-HYKE-DR-CH-11112 P02
Summary:	Limited visibility to both primary traffic signals may lead to rear-end shunt type collisions occurring with personal injury.
If the nearside maintenance lay-by is occupied possibly by a high sided vehicle there will be limited visibility to both primary traffic signals which may result in drivers not seeing a red signal aspect resulting in overshoot or late braking leading to side swipe, shunt type collisions occurring leading to personal injury or collision with NMUs on the signalised crossing leading to pedestrian injury.	
RECOMMENDATION	
It is recommended that the maintenance lay-by should relocated to a more appropriate location.	

5. ITEMS RAISED AT THIS STAGE 2 ROAD SAFETY AUDIT RELATING TO THE LINCOLNSHIRE COUNTY COUNCIL (LCC) HIGHWAY NETWORK

PROBLEM 1 LCC	
Location:	Sleaford Road Roundabout (Location 1 LCC on Plan in Appendix 1).
Plan:	NHRR-RAM-HSN-HYKE-DR-CH-12165 C01
Summary:	Equestrians 'Pegasus' type crossing is not proposed although existing signing indicates that equestrians are permitted to use the shared-use facility. This may lead to equestrians crossing Sleaford Road in a location without adequate facilities being in place, resulting in collisions with other road users and possible personal injury.
An equestrian compatible 'Pegasus' type crossing is not proposed although existing signing indicates that form of road user is permitted to use the proposed shared-use facility. This may lead to equestrians crossing Sleaford Road in a location without adequate facilities being in place, resulting in collisions with other road users and possible personal injury. It is noted that an existing public bridleway connects with Bloxholm Lane which may indicate that the proposed signal controlled NMU crossing is not correctly located.	
RECOMMENDATION	
It is recommended that co-ordination with the existing shared-use route should be carried out to ensure that all road users are presented with a consistent message. If necessary, i.e. dependant on demand but not limited to such a requirement, specific equestrian facilities should be provided which may include a 'Pegasus' type signal-controlled crossing.	

PROBLEM 2 LCC	
Location:	Sleaford Road Roundabout (Location 2 LCC on Plan in Appendix 1).
Plan:	NHRR-RAM-HSL-HYKE-DR-TS-14501 C02
Summary:	De-restricted speed limit at location of proposed NMU signal-controlled crossing my result in vehicles failing to stop resulting in collisions with NMUs on the crossing and personal injury.
De-restricted speed limit at location of proposed NMU signal-controlled crossing may result in vehicles failing to stop or late-braking leading to overshoots and possible collisions with NMUs on the crossing with personal injury occurring.	
RECOMMENDATION	
It is recommended that measures, such as speed limit reduction, should be introduced to reduce the likelihood of vehicles failing to stop or having to brake late on the approach to the signal-controlled crossing owing to excessive speeds. It is noted that an existing speed limit of 30mph is in place on the entrance to Bracebridge Heath, approximately 200m beyond the proposed signal-controlled NMU crossing. Furthermore, Grantham Road Roundabout has a 40mph speed limit proposed immediately north of the roundabout before the NMU crossing.	

PROBLEM 3 LCC	
Location:	Station Road (Location 3 LCC on Plan in Appendix 1).
Plan:	NHRR-RAM-HSN-HYKE-DR-CH-12167 C01
Summary:	Downhill approach to western off-carriageway shared-use route has short lead in. This may result in loss of control type collisions with personal injury.
The downhill approach to the off-carriageway shared-use facility has a short length of transition and stopping zone in advance of the uncontrolled crossing. This limited length of transition in advance of the crossing may lead to late braking, skidding and overshoots into the carriageway with a risk of collisions with vehicles and personal injury.	
RECOMMENDATION	
It is recommended that the lead-in, transition length, in advance of the uncontrolled crossing location, should be increased to enable cyclists to steadily reduce their speed and better position themselves in a safe manner before crossing Station Road at the uncontrolled crossing.	

PROBLEM 4 LCC	
Location:	Station Road (Location 4 LCC on Plan in Appendix 1).
Plan:	NHRR-RAM-HSN-HYKE-DR-CH-12167 C01
Summary:	Central refuge width is insufficient leading to cycle/passing vehicle collisions and personal injury.
The uncontrolled crossing mid-crossing refuge width is insufficient, and the adjacent carriageway lane width appears to be less than the desirable minimum standard. This combination to physical dimensions may lead to a cycle oversailing into the carriageway with a consequent risk of it being hit by a passing vehicle leading to personal injury.	
RECOMMENDATION	
It is recommended that the width of both the mid-crossing refuge and the adjacent running lanes should be increased. The absence of warning signage including keep left bollards, may further increase the risk of a collision occurring with resultant injury.	

PROBLEM 5 LCC	
Location:	Station Road (Location 5 LCC on Plan in Appendix 1).
Plan:	NHRR-RAM-HSN-HYKE-DR-CH-12167 C01
Summary:	Cyclists failing to stop at junction with Station Road carriageway leading to collisions with passing vehicles and personal injury.
The proposed junction of the shared-use facility on the southeast corner of Station Road Bridge has insufficient signage and physical features to warn NMUs, in particular cyclists, that they are approaching Station Road. This may lead to cyclists overshooting and colliding with passing vehicles resulting in personal injury.	
RECOMMENDATION	
It is recommended that the level of warning signage, road markings and physical features, such as corduroy paving, should be increased and / or included in the proposals to provide NMUs with advance warning.	

PROBLEM 6 LCC	
Location:	Site wide on Plan in Appendix 1).
Plan:	Road markings and signage drawing series.
Summary:	Cyclists in collision with pedestrian on shared use routes resulting in personal injury.
The extensive proposed shared-use routes through the scheme have minimal information to warn users that they are travelling along a shared-use facility. This may result in collisions between cyclists and pedestrians with possible personal injury occurring.	
RECOMMENDATION	
It is recommended that the level of warning signage, road markings and physical features, such as corduroy paving, should be increased and / or included in the proposals to provide NMUs with advance warning that the facility is 'shared'.	

PROBLEM 7 LCC	
Location:	Station Road (Location 7 LCC on Plan in Appendix 1).
Plan:	NHRR-RAM-LSI-HYKE-DR-CH-00111
Photograph	Photo D in Appendix 2
Summary:	Lack of verge on eastern side of realigned Station Road may lead to insufficient shared-use width for NMUs leading to collisions with other NMUs or with road restraint system (RRS) resulting in personal injury.
There does not appear to be a proposed verge along the eastern side of realigned Station Road. This may lead to insufficient shared-use width for NMUs with a risk of collisions with other NMUs or with a RRS occurring with possible personal injury.	
RECOMMENDATION	
It is recommended that both the shared-use route and a verge should be included along the eastern side of the realigned Station Road as part of the proposals to provide sufficient space for highway features such as a RRS and to allow NMU users to safely travel along the eastern side of Station Road on the approach to the proposed Station Road Overbridge.	

PROBLEM 8 LCC	
Location:	Brant Road Roundabout (Location 8 LCC on Plan in Appendix 1).
Plan:	NHRR-RAM-HSL-HYKE-DR-TS-14301 C02
Summary:	De-restricted speed limit at location of proposed NMU signal-controlled crossing my result in vehicles failing to stop leading to collisions with NMUs on the crossing and personal injury.
De-restricted speed limit at location of proposed NMU signal-controlled crossing may result in vehicles failing to stop or late-braking leading to overshoots and possible collisions with NMUs on the crossing with personal injury occurring.	
RECOMMENDATION	
It is recommended that measures, such as speed limit reduction, should be introduced to reduce the likelihood of vehicles failing to stop or having to brake late on the approach to the signal-controlled crossing owing to excessive speeds. It is noted that Grantham Road Roundabout has a 40mph speed limit proposed immediately north of the roundabout before the NMU crossing.	

PROBLEM 9 LCC	
Location:	Brant Road junction with Somerton Gate Lane (Location 9 LCC on Plan in Appendix 1).
Plan:	NHRR-RAM-HSN-HYKE-DR-CH-12149 P05
Summary:	Lack of road markings may lead to vehicles, particularly during the hours of darkness, over-running the junction and colliding with vehicles travelling along Brant Road.
Lack of road markings including give-way markings, may lead to vehicles travelling along Somerton Gate Lane towards Brant Road, particularly during the hours of darkness, over-running the junction and colliding with vehicles travelling along Brant Road. this may lead to personal injury.	
RECOMMENDATION	
It is recommended that appropriate warning signage and markings should be provided at this priority junction.	

PROBLEM 10 LCC	
Location:	Station Road (Location 10 LCC on Plan in Appendix 1).
Plan:	NHRR-RAM-SBR-BR04-DR-CB-10101
Summary:	Provision of high containment 'Trief' type kerb may lead to an errant vehicle being projected upwards upon impact resulting in injury.
It is unclear why a high containment 'Trief' type kerb has been specified on Station Road overbridge as this may lead to an errant vehicle being projected upwards upon impact resulting in personal injury.	
RECOMMENDATION	
It is recommended that unless a Departure from Standard is provided for this situation then the height of the kerb upstand should be limited to 75mm to minimise the risk of an errant vehicle being projected upwards upon impact on the proposed Station Road Overbridge.	

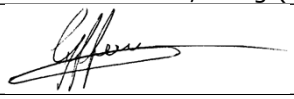
PROBLEM 11 LCC	
Location:	Station Road (Location 11 LCC on Plan in Appendix 1).
Plan:	NHRR-RAM-LSI-HYKE-DR-CH-00110 P03
Photograph	Photo E in Appendix 2
Summary:	Excessively steep/unsafe longitudinal gradinets along shared-use facilityon the eastern side of Station Road may lead to slips/falls resulting in injury.
From the information provided it appears that the east/west shared-use facility ties into the shared-use on the eastern side of Station Road at a steep gradient. This may result in NMU slips/falls with possible personal injury occurring.	
RECOMMENDATION	
It is recommended that the vertical alignments of all shared-use routes should be reviewed and amended to ensure that excessively steep/unsafe gradients are avoided.	

PROBLEM 12 LCC	
Location:	Brant Road (Location 12 LCC on Plan in Appendix 1).
Plan:	NHRR-RAM-HML-HYKE-DR-CH-01302 P04.1
Photograph	Photo F in Appendix 2
Summary:	The lack of postive gradients in the proximity of chainage 250 may result in a vehicle losing control leading to occupant personal injury.
From the information provided there appears to be a lack of positive gradients and particularly at the junciton bellmouth in the proximity of chainage 250. When combined with the 'de-restricted' speed limit (60mph) and a design speed of 70kph, together with the associated horizontal and vertical geometry there is a concern that loss of control type collisions may occur leading to occupant personal injury.	
RECOMMENDATION	
It is recommended that measures should be provided possibly involving, but not necessarily limited to additional signage and road markings, to warn road users that although the speed limit is posted as 60mph the design speed of the road is less. It is noted that there does not appear to be any geometrical Departures from Standard in this location.	

PROBLEM 13 LCC	
Location:	Brant Road (Location 13 LCC on Plan in Appendix 1).
Plan:	NHRR-RAM-HDG-HYKE-DR-CH-05220 C02 and NHRR-RAM-HKF-HYKE-DR-CH-11130 C01
Photograph	Photo F in Appendix 2
Summary:	Unclear how NMUs should negotiate the proposed swale on the southeastern side of the junction. This may result in personal injury.
It appears from the information provided that an NMU using the shared-use facility on the southeastern side of the junction and the uncontrolled crossing point, will have to negotiate a surface water drainage feature (swale). This may result in slips/trips or falls leading to possible personal injury.	
RECOMMENDATION	
It is recommended that the surface water drainage and the shared use facilities proposed are co-ordinated to ensure NMUs can safely negotiate the proposed works.	

6. RSA TEAM STATEMENT

We certify that this Road Safety Audit has been carried out in accordance with GG 119.

ROAD SAFETY AUDIT TEAM LEADER	
Name:	Simon Hawley, BEng (Hons), CEng, MICE, MCIHT, MSoRSA, CofC
Signed:	
Position:	Director of Infrastructure & Highways
Organisation:	Ramboll Limited, 240 Blackfriars Road, London SE1 8NW
Date:	17th October 2024
ROAD SAFETY AUDIT TEAM MEMBER	
Name:	Graeme Turner, BEng (Hons), MSoRSA
Signed:	
Position:	Associate
Organisation:	Glanville Consultants Limited, Cornerstone House, 62 Foxhall Road, Didcot, Oxon OX11 7AD
Date:	17th October 2024

APPENDIX 1 – PROBLEM LOCATION PLAN

FULL SCHEME LAYOUT

NOT TO SCALE

LCC & NH PROBLEM LOCATION PLAN

Notes

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL DIMENSIONS ARE IN METRES UNLESS SHOWN OTHERWISE.
3. ALL LEVELS ARE IN METRES ABOVE ORDNANCE DATUM UNLESS SHOWN OTHERWISE.
4. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.

KEY

PROPOSED RED LINE BOUNDARY

Rev	Description	Drawn	Checked	Approved	Date
P01	First Issue	DB	JB	AV	02/03/23
P02	Second Issue	DB	BW	BW	27/07/23
P03	Layout updated	AJ	BW	AV	19/06/24

Suitability: S4

Drawing Status: Suitable for Review & Authorisation

Project Name: North Hykeham Relief Road

Project Client: Lincolnshire County Council – Working for a better future

Project Contractor: Balfour Beatty

Project Designer: RAMBOLL

www.ramboll.co.uk

Drawing Title: RED LINE BOUNDARY FOR FULL SCHEME LAYOUT

Project No:	Scale (@A1):	Drawn:	Date:
1620013942	1:1	AJ	19/06/24

Drawing No: NHRR-RAM-HGN-HYKE-DR-CH-01056

Rev: P03

APPENDIX 2 - PHOTOGRAPHS TAKEN DURING SITE VISIT, FROM DRAWING EXTRACTS AND FROM GOOGLE STREETVIEW

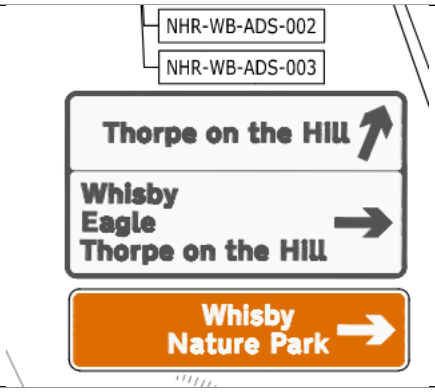


Photo A – Extract from drawing NHRR-RAM-HSN-HYKE-DR-CH-12132

Photo x – Sleaford Road looking east at start of exisitng shared use route. Equestrians indicated.

Photo C – View to north along Sleaford Road
Credit. Google Streetview

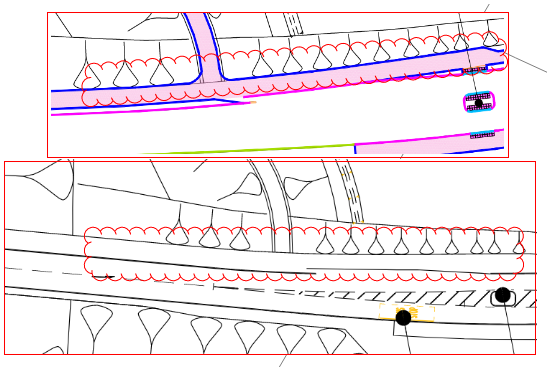


Photo D - Extract of Station Road KFPA (top) GA (bottom) unclear if verge has been provided adjacent to shared use route

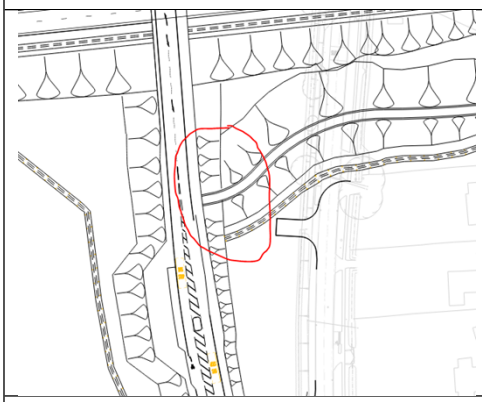


Photo E – Extract of Station Road GA unclear if the east/west shared use facility ties into Station Road shared use on the east side of Station Road at a safe gradient.

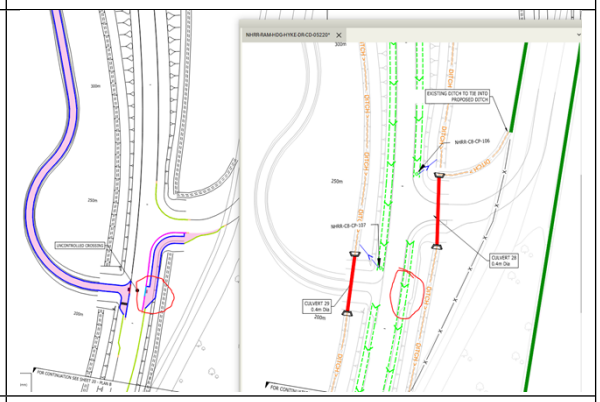


Photo F - Extract of Brant Road KFPA (left) and drainage (right) - unclear how NMUs negotiate the proposed swale on the southeast side of the junction.

Credit. Road Safety Audit Team Observations

APPENDIX 3 - DOCUMENTS AND DRAWINGS PROVIDED IN THE STAGE 2 RSA BRIEF

List of included documents and drawings (Refer to associated ProjectWise Issue):		
Document / Drawing Number	**Document/Drawing Title**	**Revision**
Documents		
NHRR-RAM-HGN-HYKE-RP-CH-01004	Outline Departures from Standard Report	C01
NHRR-RAM-ENM-HYKE-RP-TR-00005	GG 142 WCHAR Assessment	C01
NHRR-RAM-ENM-HYKE-RP-TR-00007	GG 142 WCHAR Review Report	C01
NHRR-RAM-HML-HYKE-RP-TR-00001	South Hykeham Road Roundabout Geometry Assessment	C01
NHRR-RAM-HML-HYKE-RP-TR-00002	Grantham Road Roundabout Geometry Assessment	C01
NHRR-RAM-HML-HYKE-RP-TR-00003	Brant Road Roundabout Geometry Assessment	C01
NHRR-RAM-HML-HYKE-RP-TR-00004	Sleaford Road Roundabout Geometry Assessment	C01
NHRR-RAM-HML-HYKE-RP-TR-00005	A46/A1434/NHRR Hykeham Roundabout Geometry Assessment	P03
NHRR-RAM-HGN-HYKE-TN-CH-00001	Road Safety Audit Team Request for Approval	P02
Drawings		
NHRR-RAM-GEN-HYKE-MP-VT-00003	Site Location Plan	P01
NHRR-RAM-EGN-HYKE-MP-LE-30001	Constraints Plan	P03
NHRR-RAM-HGN-HYKE-DR-CH-01041	A46 Accident Plan (5 Year Data to January 2023)	P02
NHRR-RAM-HGN-HYKE-DR-CH-01053	Accident Plan (5 Year Data to January 2023)	P02
NHRR-RAM-HGN-HYKE-DR-CH-01045	Proposed Speed Limits	P01
NHRR-RAM-HGN-HYKE-DR-CH-01054	Proposed Design Speeds	P01
CRMBS012-BBR-00-XX-DR-W-0002	Access Changed for Enterprise Park	
General Arrangement		
NHRR-RAM-LSI-HYKE-DR-CH-00101	General Arrangement Sheet 1 of 17	P01
NHRR-RAM-LSI-HYKE-DR-CH-00102	General Arrangement Sheet 2 of 17	P01
NHRR-RAM-LSI-HYKE-DR-CH-00103	General Arrangement Sheet 3 of 17	P01
NHRR-RAM-LSI-HYKE-DR-CH-00104	General Arrangement Sheet 4 of 17	P01
NHRR-RAM-LSI-HYKE-DR-CH-00105	General Arrangement Sheet 5 of 17	P01
NHRR-RAM-LSI-HYKE-DR-CH-00106	General Arrangement Sheet 6 of 17	P01
NHRR-RAM-LSI-HYKE-DR-CH-00107	General Arrangement Sheet 7 of 17	P01
NHRR-RAM-LSI-HYKE-DR-CH-00108	General Arrangement Sheet 8 of 17	P01
NHRR-RAM-LSI-HYKE-DR-CH-00109	General Arrangement Sheet 9 of 17	P01
NHRR-RAM-LSI-HYKE-DR-CH-00110	General Arrangement Sheet 10 of 17	P01
NHRR-RAM-LSI-HYKE-DR-CH-00111	General Arrangement Sheet 11 of 17	P01
NHRR-RAM-LSI-HYKE-DR-CH-00112	General Arrangement Sheet 12 of 17	P01
NHRR-RAM-LSI-HYKE-DR-CH-00113	General Arrangement Sheet 13 of 17	P01
NHRR-RAM-LSI-HYKE-DR-CH-00114	General Arrangement Sheet 14 of 17	P01
NHRR-RAM-LSI-HYKE-DR-CH-00115	General Arrangement Sheet 15 of 17	P01
NHRR-RAM-LSI-YKE-DR-CH-00116	General Arrangement Sheet 16 of 17	P01
NHRR-RAM-LSI-HYKE-DR-CH-00117	General Arrangement Sheet 17 of 17	P01

List of included documents and drawings (Refer to associated ProjectWise Issue):		
Document / Drawing Number	**Document/Drawing Title**	**Revision**
Plan and Profile		
NHRR-RAM-HML-HYKE-DR-CH-01001	Plan and Profile for Main Carriageway – chainage 0000m to 0600m	C02
NHRR-RAM-HML-HYKE-DR-CH-01002	Plan and Profile for Main Carriageway – chainage 0600m to 1132m	C02
NHRR-RAM-HML-HYKE-DR-CH-01003	Plan and Profile for Main Carriageway – chainage 1250m to 1900m	C02
NHRR-RAM-HML-HYKE-DR-CH-01004	Plan and Profile for Main Carriageway – chainage 1900m to 2600m	C02
NHRR-RAM-HML-HYKE-DR-CH-01005	Plan and Profile for Main Carriageway – chainage 2600m to 3300m	C02
NHRR-RAM-HML-HYKE-DR-CH-01006	Plan and Profile for Main Carriageway – chainage 3300m to 3882m	C02
NHRR-RAM-HML-HYKE-DR-CH-01007	Plan and Profile for Main Carriageway – chainage 4000m to 4700m	C02
NHRR-RAM-HML-HYKE-DR-CH-01008	Plan and Profile for Main Carriageway – chainage 4700m to 5400m	C02
NHRR-RAM-HML-HYKE-DR-CH-01009	Plan and Profile for Main Carriageway – chainage 5400m to 6100m	C02
NHRR-RAM-HML-HYKE-DR-CH-01010	Plan and Profile for Main Carriageway – chainage 6100m to 6800m	C02
NHRR-RAM-HML-HYKE-DR-CH-01011	Plan and Profile for Main Carriageway – chainage 6900m to 7500m	C02
NHRR-RAM-HML-HYKE-DR-CH-01012	Plan and Profile for Main Carriageway – chainage 7600m to 8091m	C02
NHRR-RAM-HML-HML-DR-CH-01101	Plan and Profile for A46 North and South (1/2)	C01
NHRR-RAM-HML-HML-DR-CH-01102	Plan and Profile for A46 North and South (2/2)	C01
NHRR-RAM-HML-HML-DR-CH-01201	Plan and Profile for South Hykeham Road	C02
NHRR-RAM-HML-HML-DR-CH-01301	Plan and Profile for Brant Road (1/2)	C02
NHRR-RAM-HML-HML-DR-CH-01302	Plan and Profile for Brant Road (2/2)	C02
NHRR-RAM-HML-HML-DR-CH-01401	Plan and Profile for Grantham Road	C02
NHRR-RAM-HMLBR04-DR-CH-01001	Plan and Profile for Station Road	C02
Typical Cross-sections		
NHRR-RAM-HML-HML-DE-CH-00001	Planning Application Link 1 Cross-sections	P02
NHRR-RAM-HML-HML-DE-CH-00002	Planning Application Link 2 Cross-sections	P01
NHRR-RAM-HML-HML-DE-CH-00003	Planning Application Link 3 Cross-sections	P05
NHRR-RAM-HML-HML-DE-CH-00004	Planning Application Link 4 Cross-sections	P03
Structures		
NHRR-RAM-SBR-BR02-DR-CB-00101	Wath Lane Accommodation Bridge General Arrangement Sheet 1 of 2	C01
NHRR-RAM-SBR-BR02-DR-CB-00102	Wath Lane Accommodation Bridge General Arrangement Sheet 2 of 2	C01
NHRR-RAM-SBR-BR03-DR-CB-00101	River Witham Bridge General Arrangement Sheet 1 of 2	P03

List of included documents and drawings (Refer to associated ProjectWise Issue):		
Document / Drawing Number	**Document/Drawing Title**	**Revision**
NHRR-RAM-SBR-BR03-DR-CB-00102	River Witham Bridge General Arrangement Sheet 2 of 2	P03
NHRR-RAM-SBR-BR04-DR-CB-10101	Station Road Bridge General Arrangement Sheet 1 of 2	C01
NHRR-RAM-SBR-BR04-DR-CB-10102	Station Road Bridge General Arrangement Sheet 2 of 2	C01
NHRR-RAM-SBR-BR05-DR-CB-10101	Viking Way Footbridge Bridge General Arrangement	C01
NHRR-RAM-SBR-BR06-DR-CB-00101	South Hykeham Bat Bridge General Arrangement Sheet 1 of 2	C01
NHRR-RAM-SBR-BR06-DR-CB-00102	South Hykeham Bat Bridge General Arrangement Sheet 2 of 2	C01
Fencing/Boundary Treatments		
NHRR-RAM-HFE-HYKE-DR-CH-03101	Fencing Sheet 1 of 39	P03
NHRR-RAM-HFE-HYKE-DR-CH-03102	Fencing Sheet 2 of 39	P03
NHRR-RAM-HFE-HYKE-DR-CH-03103	Fencing Sheet 3 of 39	P03
NHRR-RAM-HFE-HYKE-DR-CH-03104	Fencing Sheet 4 of 39	P03
NHRR-RAM-HFE-HYKE-DR-CH-03105	Fencing Sheet 5 of 39	P03
NHRR-RAM-HFE-HYKE-DR-CH-03106	Fencing Sheet 6 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03107	Fencing Sheet 7 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03108	Fencing Sheet 8 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03109	Fencing Sheet 9 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03110	Fencing Sheet 10 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03111	Fencing Sheet 11 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03112	Fencing Sheet 12 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03113	Fencing Sheet 13 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03114	Fencing Sheet 14 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03115	Fencing Sheet 15 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03116	Fencing Sheet 16 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03117	Fencing Sheet 17 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03118	Fencing Sheet 18 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03119	Fencing Sheet 19 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03120	Fencing Sheet 20 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03121	Fencing Sheet 21 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03122	Fencing Sheet 22 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03123	Fencing Sheet 23 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03124	Fencing Sheet 24 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03125	Fencing Sheet 25 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03126	Fencing Sheet 26 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03127	Fencing Sheet 27 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03128	Fencing Sheet 28 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03129	Fencing Sheet 29 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03130	Fencing Sheet 30 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03131	Fencing Sheet 31 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03132	Fencing Sheet 32 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03133	Fencing Sheet 33 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03134	Fencing Sheet 34 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03135	Fencing Sheet 35 of 39	C01

List of included documents and drawings (Refer to associated ProjectWise Issue):		
Document / Drawing Number	**Document/Drawing Title**	**Revision**
NHRR-RAM-HFE-HYKE-DR-CH-03136	Fencing Sheet 36 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03137	Fencing Sheet 37 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03138	Fencing Sheet 38 of 39	C01
NHRR-RAM-HFE-HYKE-DR-CH-03139	Fencing Sheet 39 of 39	C01
NHRR-RAM-HGN-HYKE-DR-CH-00006	Fencing Standard Details	C01
Road Restraint Systems		
NHRR-RAM-HRR-HYKE-DR-CH-04101	Road Restraint Systems Sheet 1 of 39	P01
NHRR-RAM-HRR-HYKE-DR-CH-04102	Road Restraint Systems Sheet 2 of 39	P01
NHRR-RAM-HRR-HYKE-DR-CH-04103	Road Restraint Systems Sheet 3 of 39	P02
NHRR-RAM-HRR-HYKE-DR-CH-04104	Road Restraint Systems Sheet 4 of 39	P03
NHRR-RAM-HRR-HYKE-DR-CH-04105	Road Restraint Systems Sheet 5 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04106	Road Restraint Systems Sheet 6 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04107	Road Restraint Systems Sheet 7 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04108	Road Restraint Systems Sheet 8 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04109	Road Restraint Systems Sheet 9 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04110	Road Restraint Systems Sheet 10 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04111	Road Restraint Systems Sheet 11 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04112	Road Restraint Systems Sheet 12 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04113	Road Restraint Systems Sheet 13 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04114	Road Restraint Systems Sheet 14 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04115	Road Restraint Systems Sheet 15 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04116	Road Restraint Systems Sheet 16 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04117	Road Restraint Systems Sheet 17 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04118	Road Restraint Systems Sheet 18 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04119	Road Restraint Systems Sheet 19 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04120	Road Restraint Systems Sheet 20 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04121	Road Restraint Systems Sheet 21 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04122	Road Restraint Systems Sheet 22 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04123	Road Restraint Systems Sheet 23 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04124	Road Restraint Systems Sheet 24 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04125	Road Restraint Systems Sheet 25 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04126	Road Restraint Systems Sheet 26 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04127	Road Restraint Systems Sheet 27 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04128	Road Restraint Systems Sheet 28 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04129	Road Restraint Systems Sheet 29 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04130	Road Restraint Systems Sheet 30 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04131	Road Restraint Systems Sheet 31 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04132	Road Restraint Systems Sheet 32 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04133	Road Restraint Systems Sheet 33 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04134	Road Restraint Systems Sheet 34 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04135	Road Restraint Systems Sheet 35 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04136	Road Restraint Systems Sheet 36 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04137	Road Restraint Systems Sheet 37 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04138	Road Restraint Systems Sheet 38 of 39	C01
NHRR-RAM-HRR-HYKE-DR-CH-04139	Road Restraint Systems Sheet 39 of 39	C01

List of included documents and drawings (Refer to associated ProjectWise Issue):		
Document / Drawing Number	**Document/Drawing Title**	**Revision**
Drainage		
NHRR-RAM-HDG-HYKE-DR-CD-05201	Drainage Layout Sheet 1 of 39	P03
NHRR-RAM-HDG-HYKE-DR-CD-05202	Drainage Layout Sheet 2 of 39	P03
NHRR-RAM-HDG-HYKE-DR-CD-05203	Drainage Layout Sheet 3 of 39	P03
NHRR-RAM-HDG-HYKE-DR-CD-05204	Drainage Layout Sheet 4 of 39	P03
NHRR-RAM-HDG-HYKE-DR-CD-05205	Drainage Layout Sheet 5 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05206	Drainage Layout Sheet 6 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05207	Drainage Layout Sheet 7 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05208	Drainage Layout Sheet 8 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05209	Drainage Layout Sheet 9 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05210	Drainage Layout Sheet 10 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05211	Drainage Layout Sheet 11 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05212	Drainage Layout Sheet 12 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05213	Drainage Layout Sheet 13 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05214	Drainage Layout Sheet 14 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05215	Drainage Layout Sheet 15 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05216	Drainage Layout Sheet 16 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05217	Drainage Layout Sheet 17 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05218	Drainage Layout Sheet 18 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05219	Drainage Layout Sheet 19 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05220	Drainage Layout Sheet 20 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05221	Drainage Layout Sheet 21 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05222	Drainage Layout Sheet 22 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05223	Drainage Layout Sheet 23 of 39	C01
NHRR-RAM-HDG-HYKE-DR-CD-05224	Drainage Layout Sheet 24 of 39	C01
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NHRR-TEP-ELS-HYKE-DR-LS-30053	Detailed Design Landscape Masterplan Sheet 10 of 17	C03
NHRR-TEP-ELS-HYKE-DR-LS-30054	Detailed Design Landscape Masterplan Sheet 11 of 17	C03
NHRR-TEP-ELS-HYKE-DR-LS-30055	Detailed Design Landscape Masterplan Sheet 12 of 17	C03
NHRR-TEP-ELS-HYKE-DR-LS-30056	Detailed Design Landscape Masterplan Sheet 13 of 17	C03
NHRR-TEP-ELS-HYKE-DR-LS-30057	Detailed Design Landscape Masterplan Sheet 14 of 17	C03
NHRR-TEP-ELS-HYKE-DR-LS-30058	Detailed Design Landscape Masterplan Sheet 15 of 17	C03
NHRR-TEP-ELS-HYKE-DR-LS-30059	Detailed Design Landscape Masterplan Sheet 16a of 17	C03
NHRR-TEP-ELS-HYKE-DR-LS-30060	Detailed Design Landscape Masterplan Sheet 16b of 17	C03
NHRR-TEP-ELS-HYKE-DR-LS-30061	Detailed Design Landscape Masterplan Sheet 17 of 17	C03
Visibility		
NHRR-RAM-HML-HYKE-DR-CH-01020	North Hykeham Road Roundabout Forward Visibility at Entry	C03
NHRR-RAM-HML-HYKE-DR-CH-01021	South Hykeham Road Roundabout Forward Visibility at Entry	C02
NHRR-RAM-HML-HYKE-DR-CH-01022	Brant Road Roundabout Forward Visibility at Entry	C02
NHRR-RAM-HML-HYKE-DR-CH-01023	Grantham Road Roundabout Forward Visibility at Entry	C02
NHRR-RAM-HML-HYKE-DR-CH-01024	Sleaford Road Roundabout Forward Visibility at Entry	C02
NHRR-RAM-HML-HYKE-DR-CH-01025	North Hykeham Road Roundabout Visibility To The Right at Entry	C03
NHRR-RAM-HML-HYKE-DR-CH-01026	South Hykeham Road Roundabout Visibility To The Right at Entry	C02
NHRR-RAM-HML-HYKE-DR-CH-01027	Brant Road Roundabout Visibility To The Right at Entry	C02
NHRR-RAM-HML-HYKE-DR-CH-01028	Grantham Road Roundabout Visibility To The Right at Entry	C02
NHRR-RAM-HML-HYKE-DR-CH-01029	Sleaford Road Roundabout Visibility To The Right at Entry	C02
NHRR-RAM-HML-HYKE-DR-CH-01030	North Hykeham Road Roundabout Visibility To The Right in Advance 15m	C03
NHRR-RAM-HML-HYKE-DR-CH-01031	South Hykeham Road Roundabout Visibility To The Right in Advance 15m	C02
NHRR-RAM-HML-HYKE-DR-CH-01032	Brant Road Roundabout Visibility To The Right in Advance 15m	C02
NHRR-RAM-HML-HYKE-DR-CH-01033	Grantham Road Roundabout Visibility To The Right at Entry in Advance 15m	C02

List of included documents and drawings (Refer to associated ProjectWise Issue):		
Document / Drawing Number	**Document/Drawing Title**	**Revision**
NHRR-RAM-HML-HYKE-DR-CH-01034	Sleaford Road Roundabout Visibility To The Right at Entry in Advance 15m	C02
NHRR-RAM-HML-HYKE-DR-CH-01035	North Hykeham Road Roundabout Circulatory Visibility	C03
NHRR-RAM-HML-HYKE-DR-CH-01036	South Hykeham Road Roundabout Circulatory Visibility	C02
NHRR-RAM-HML-HYKE-DR-CH-01037	Brant Road Roundabout Circulatory Visibility	C02
NHRR-RAM-HML-HYKE-DR-CH-01038	Grantham Road Roundabout Circulatory Visibility	C02
NHRR-RAM-HML-HYKE-DR-CH-01039	Sleaford Road Roundabout Circulatory Visibility	C02
NHRR-RAM-HML-HYKE-DR-CH-01040	North Hykeham Road Roundabout Entry Path Radius	C02
NHRR-RAM-HML-HYKE-DR-CH-01041	South Hykeham Road Roundabout Entry Path Radius	C02
NHRR-RAM-HML-HYKE-DR-CH-01042	Brant Road Roundabout Entry Path Radius	C02
NHRR-RAM-HML-HYKE-DR-CH-01043	Grantham Road Roundabout Entry Path Radius	C02
NHRR-RAM-HML-HYKE-DR-CH-01044	Sleaford Road Roundabout Entry Path Radius	C02
NHRR-RAM-HGN-HYKE-DR-CH-01056	Red Line Boundary	P03