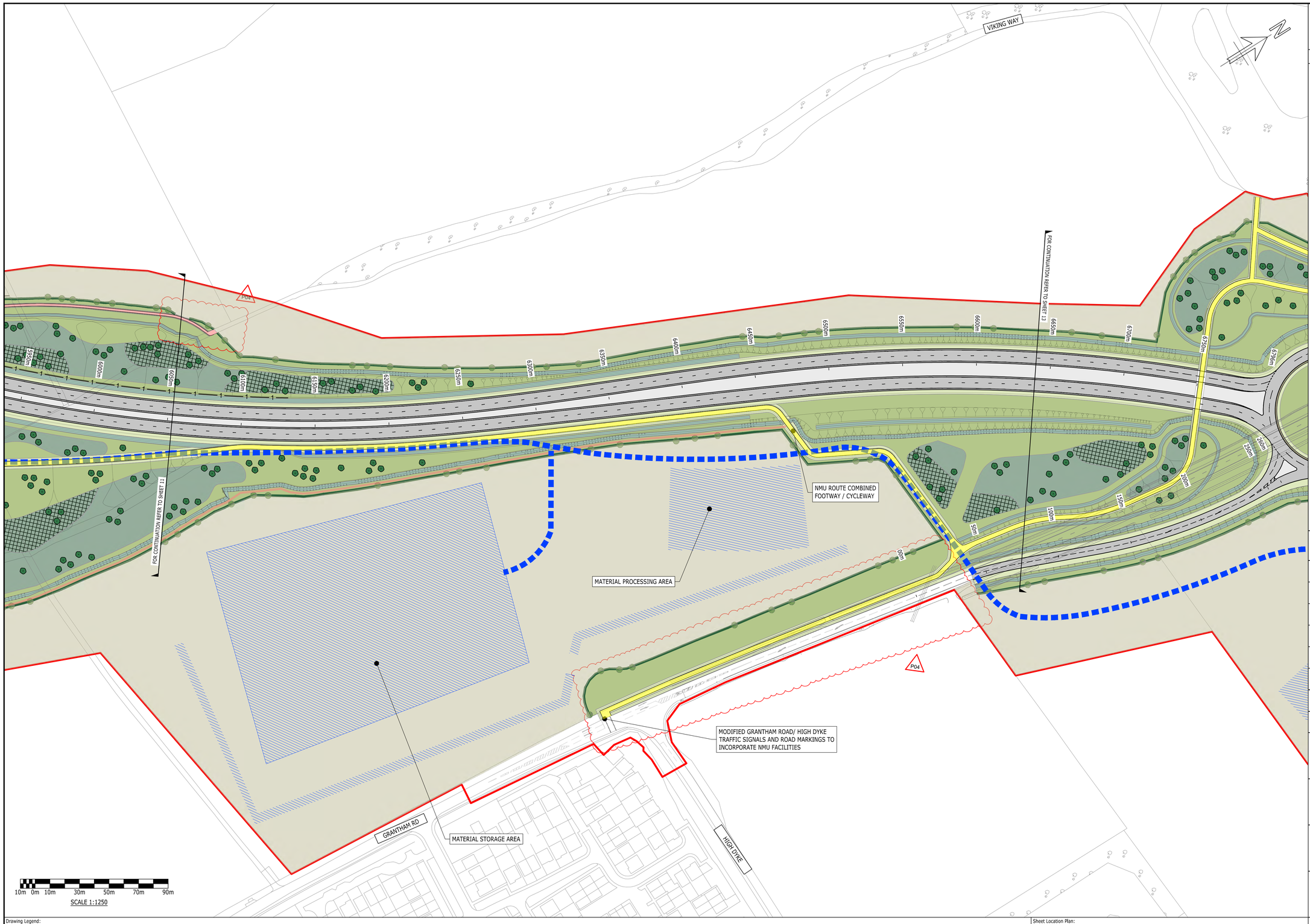
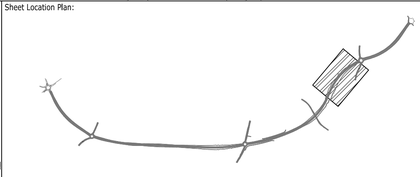


Drawing Legend:

- EXISTING BACKGROUND MAPPING
- PROPOSED DESIGN
- RED LINE BOUNDARY
- PROPOSED CARRIAGEWAY
- PROPOSED TRAFFIC ISLAND / CENTRAL RESERVE / HARDSTANDING
- PROPOSED NMU ROUTE COMBINED FOOTWAY / CYCLEWAY
- PROPOSED ACCESS TRACK - MAINTENANCE / PRIVATE MEANS OF ACCESS (PMA)
- PROPOSED ACCESS TRACK / BRIDLEWAY MAINTENANCE / PRIVATE MEANS OF ACCESS (PMA)
- PROPOSED FOOTWAY
- PROPOSED MAINTENANCE LAYBY
- PROPOSED FOOTPATH
- WOODLAND PLANTING
- WOODLAND EDGE PLANTING
- NATIVE TREE PLATNING
- NATIVE HEDGEROW
- AMENITY GRASSLAND
- WILDFLOWER ENRICHED GRASSLAND
- WET GRASSLAND
- DITCH / WATERCOURSE
- MARGINAL PLANTING
- CONSTRUCTION HAUL ROUTE (INDICATIVE)
- INDICATIVE COMPOUND / PROCESSING AREA
- LAND RETURNED TO AGRICULTURE
- 1 — 1 — NOISE BARRIER
- EX INDICATIVE LOCATION OF EXOLUM DIVERSION

Sheet Location Plan:



Notes

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Rev	Description	Drawn	Checked	Approved	Date
P01	20/10/23	DB	2023/10/20	BW	20/10/23
P02	26/10/23	DB	LF	BW	26/10/23
P03	Third Issue	DB	AB	AV	08/03/24
P04	Footpath extended. Footway moved adj. to Grantham Rd	DB	AV	AV	15/03/24
P05	Fifth Issue	DB	BW	AV	19/03/24

Suitability: S5

Drawing Status: Suitable for Review & Acceptance

Project Name: North Hykeham Relief Road

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

Project Contractor: Balfour Beatty

Project Designer: RAMBOLL

tel 01244 311855 chester@ramboll.co.uk
www.ramboll.co.uk

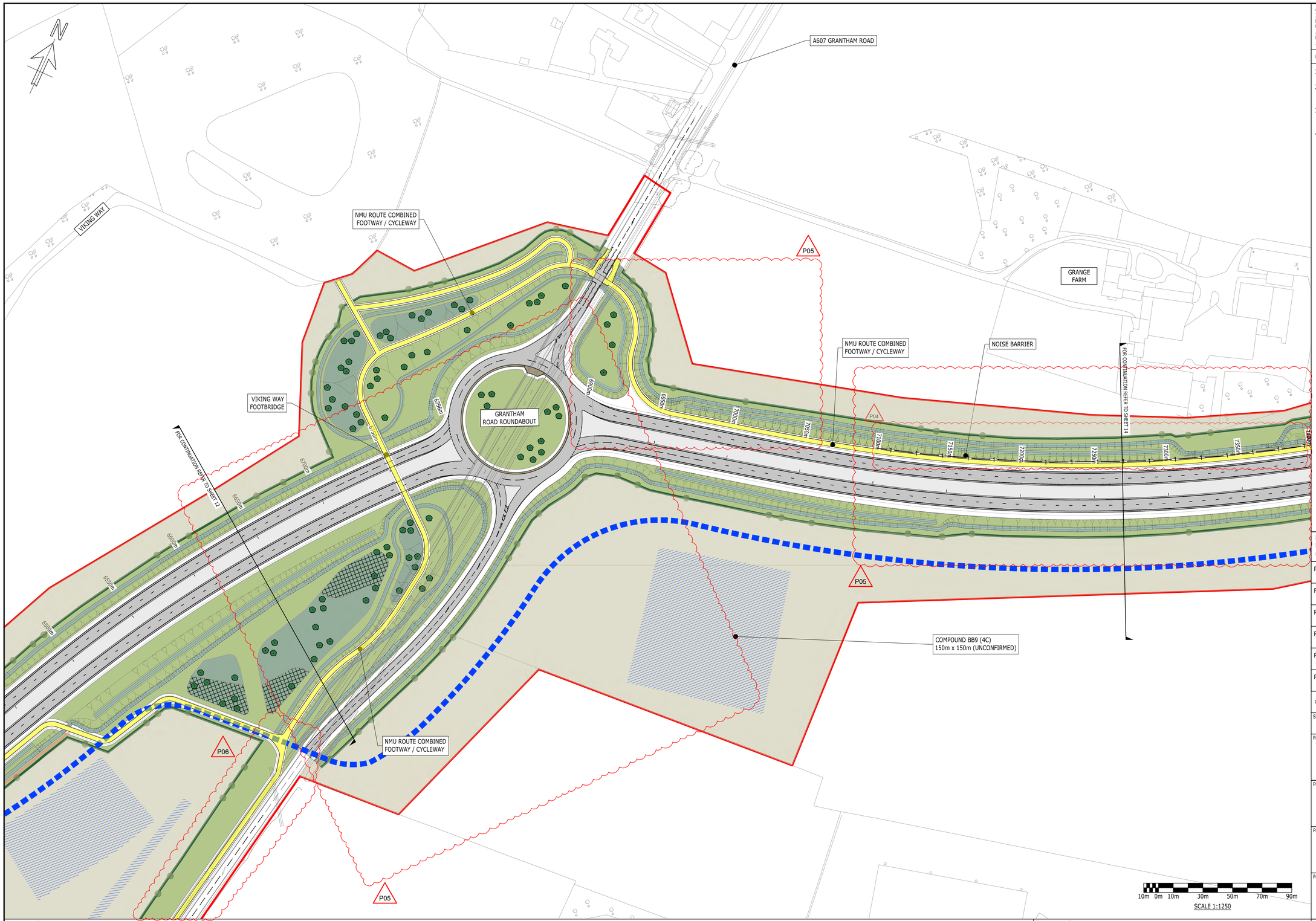
Drawing Title: PLANNING APPLICATION GENERAL ARRANGEMENT

SHEET 12 OF 18

Project No:	Scale (@A1):	Drawn:	Date:
1620013942	1:1250	DB	19/03/24

Drawing No: NHRR-RAM-HGN-HYKE-DR-CH-00022

Rev: P05



Notes

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Rev	Description	Drawn	Checked	Approved	Date
P01	20/10/23	DB	LF	BW	20/10/23
P02	26/10/23	DB	2023/10/26	BW	26/10/23
P03	08/03/24	DB	AB	AV	08/03/24
P04	Noise barrier added CH7100 to 7500	DB	AV	AV	15/03/24
P05	Fifth Issue	DB	BW	AV	19/03/24
P06	Update to proposed footway on Grantham Road	DB	BW	AV	20/03/24

Suitability: S5
Drawing Status: Suitable for Review & Acceptance

Project Name: North Hykeham Relief Road

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

Project Contractor: Balfour Beatty

Project Designer: RAMBOLL
tel 01244 311855 chester@ramboll.co.uk
www.ramboll.co.uk

Drawing Legend:

- EXISTING BACKGROUND MAPPING
- PROPOSED DESIGN
- RED LINE BOUNDARY
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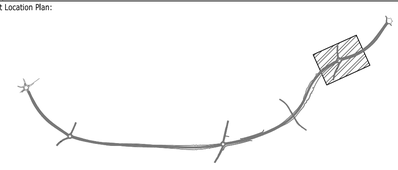
- DITCH / WATERCOURSE
- MARGINAL PLANTING
- CONSTRUCTION HAUL ROUTE (INDICATIVE)
- INDICATIVE COMPOUND / PROCESSING AREA
- LAND RETURNED TO AGRICULTURE
- 1 1 NOISE BARRIER
- EX INDICATIVE LOCATION OF EXOLUM DIVERSION

Sheet Location Plan:

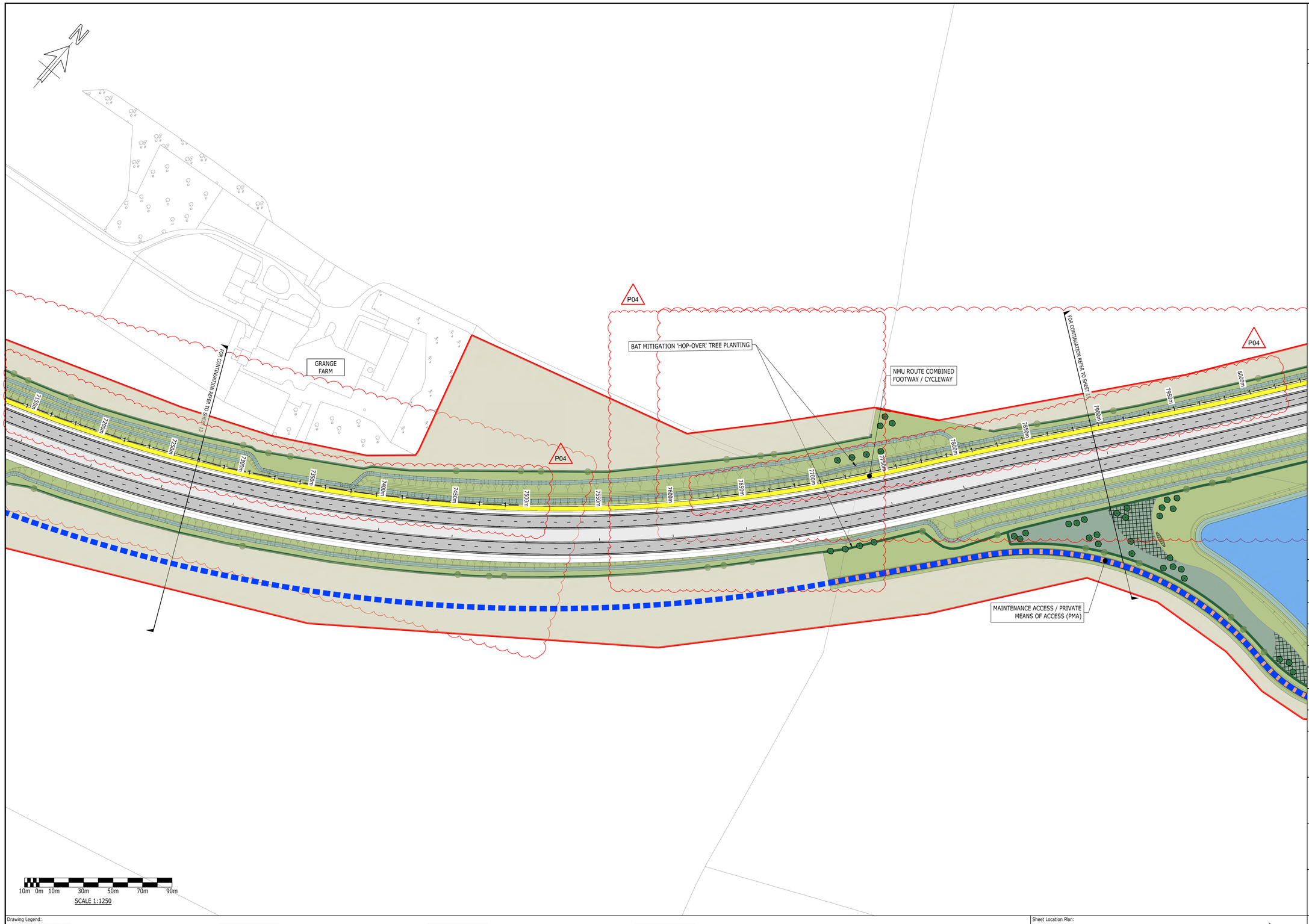


Drawing Title: PLANNING APPLICATION GENERAL ARRANGEMENT

SHEET 13 OF 18

Project No:	Scale (@A1):	Drawn:	Date:
1620013942	1:1250	DB	20/03/24

Drawing No: NHRR-RAM-HGN-HYKE-DR-CH-00023
Rev: P06



Notes

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Rev	Description	Drawn	Checked	Approved	Date
P01	20/10/23	DB	2023/10/20	BW	20/10/23
P02	26/10/23	DB	LF	BW	26/10/23
P03	Third Issue	DB	AB	AV	08/03/24
P04	Noise barrier & bat hope over dded	DB	AV	AV	15/03/24
P05	Fifth Issue	DB	BW	AV	19/03/24

Suitability: S5
Drawing Status: Suitable for Review & Acceptance

Project Name: North Hykeham Relief Road

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

Project Contractor: Balfour Beatty

Project Designer: RAMBOLL
tel 01244 311855 chester@ramboll.co.uk
www.ramboll.co.uk

Drawing Legend:

- EXISTING BACKGROUND MAPPING
- PROPOSED DESIGN
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- PROPOSED CARRIAGEWAY
- PROPOSED TRAFFIC ISLAND / CENTRAL RESERVE / HARDSTANDING
- PROPOSED NMU ROUTE COMBINED FOOTWAY / CYCLEWAY
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- PROPOSED FOOTWAY
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- MARGINAL PLANTING
- CONSTRUCTION HAUL ROUTE (INDICATIVE)
- INDICATIVE COMPOUND / PROCESSING AREA
- LAND RETURNED TO AGRICULTURE
- 1 1 NOISE BARRIER
- EX INDICATIVE LOCATION OF EXOLUM DIVERSION

Sheet Location Plan:

Drawing Title: PLANNING APPLICATION GENERAL ARRANGEMENT

SHEET 14 OF 18

Project No:	Scale (@A1):	Drawn:	Date:
1620013942	1:1250	DB	19/03/24

Drawing No: NHRR-RAM-HGN-HYKE-DR-CH-00024
Rev: P05

Notes

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SLEAFORD RD

CONNECTION TO EXISTING FOOTWAY

SIGNAL CONTROLLED CROSSING

NMU ROUTE COMBINED FOOTWAY / CYCLEWAY

CONNECTION TO LINCOLN EASTERN BYPASS NMU FACILITIES

P04

LINCOLN EASTERN BYPASS EXTENSION

7800m 7850m 7900m 7950m 8000m 8050m 8092m

SLEAFORD ROAD ROUNDABOUT

LINCOLN EASTERN BYPASS

FOR CONTINUATION REFER TO SHEET 14

BLOXHOLM LN

SLEAFORD RD

MAINTENANCE ACCESS / PRIVATE MEANS OF ACCESS (PMA)

10m 0m 10m 30m 50m 70m 90m

SCALE 1:1250

Drawing Legend:

- EXISTING BACKGROUND MAPPING
- PROPOSED DESIGN
- RED LINE BOUNDARY
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Sheet Location Plan:

Rev	Description	Drawn	Checked	Approved	Date
P01	20/10/23	DB	2023/10/20	BW	20/10/23
P02	26/10/23	DB	LF	BW	26/10/23
P03	Third Issue	DB	AB	AV	08/03/24
P04	Noise barrier added CH7620 to 8092	DB	AV	AV	15/03/24
P05	Fifth Issue	DB	BW	AV	19/03/24

Suitability: S5

Drawing Status: Suitable for Review & Acceptance

Project Name: North Hykeham Relief Road

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

Project Contractor: Balfour Beatty

Project Designer: RAMBOLL

tel 01244 311855 chester@ramboll.co.uk
www.ramboll.co.uk

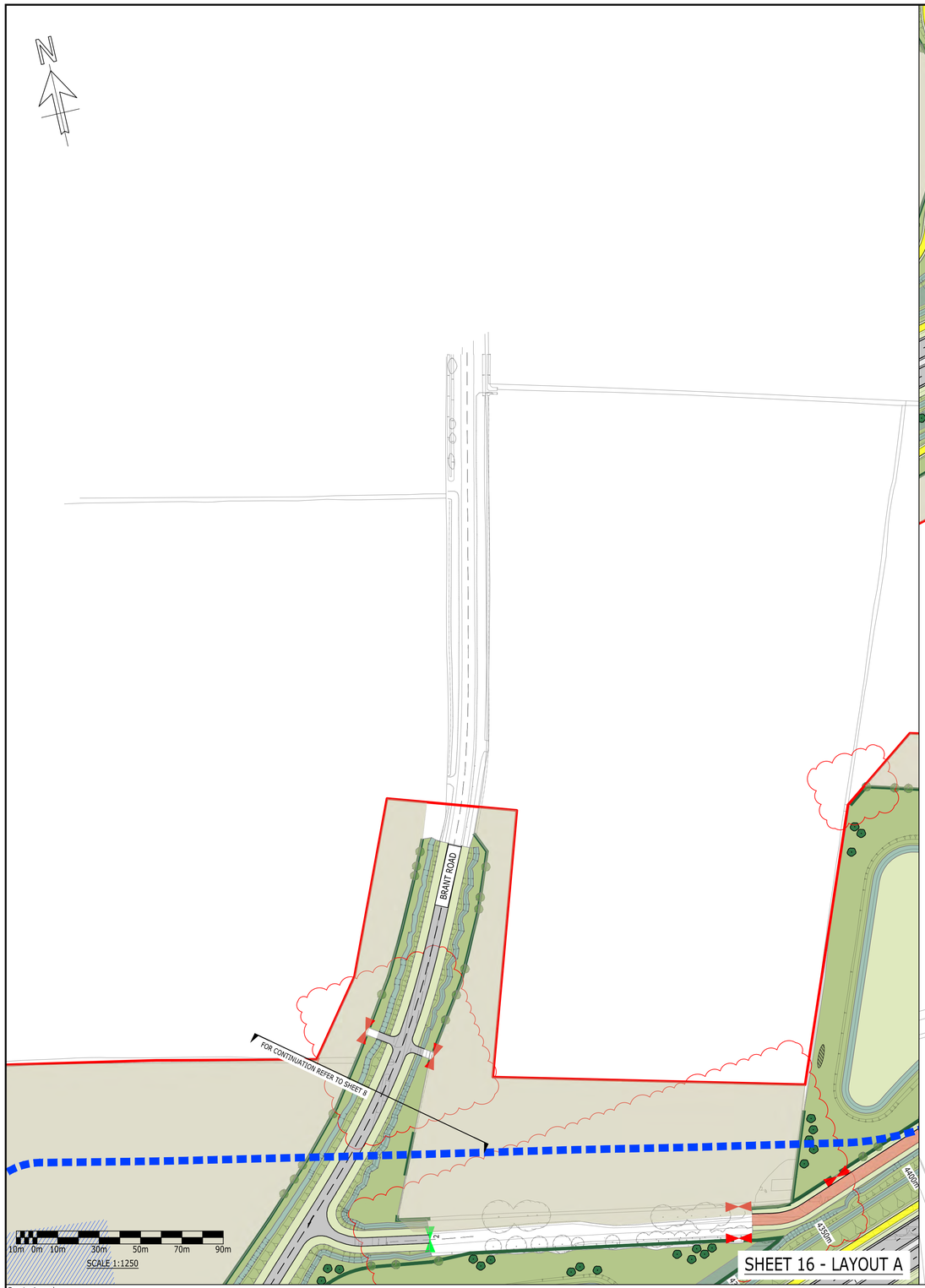
Drawing Title: PLANNING APPLICATION GENERAL ARRANGEMENT

SHEET 15 OF 18

Project No:	Scale (@A1):	Drawn:	Date:
1620013942	1:1250	DB	19/03/24

Drawing No: NHRR-RAM-HGN-HYKE-DR-CH-00025

Rev: P05



SHEET 16 - LAYOUT A

SHEET 16 - LAYOUT B

Drawing Legend:

- EXISTING BACKGROUND MAPPING
- PROPOSED DESIGN
- RED LINE BOUNDARY
- PROPOSED CARRIAGEWAY
- PROPOSED TRAFFIC ISLAND / CENTRAL RESERVE / HARDSTANDING
- PROPOSED NMU ROUTE COMBINED FOOTWAY / CYCLEWAY
- PROPOSED ACCESS TRACK - MAINTENANCE / PRIVATE MEANS OF ACCESS (PMA)
- PROPOSED ACCESS TRACK / BRIDLEWAY MAINTENANCE / PRIVATE MEANS OF ACCESS (PMA)
- PROPOSED FOOTWAY
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- PROPOSED FOOTPATH
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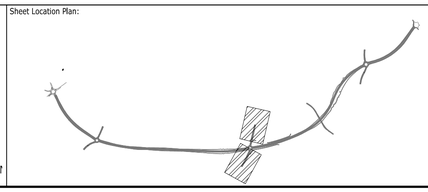
- LAND RETURNED TO AGRICULTURE
- 1 1 NOISE BARRIER
- EX INDICATIVE LOCATION OF EXOLUM DIVERSIOI

Sheet Location Plan:



Notes

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Rev	Description	Drawn	Checked	Approved	Date
P01	First Issue	DB	LF	BW	20/10/23
P02	Second Issue	DB	LF	BW	26/10/23
P03	Third Issue	DB	BW	AV	19/03/24

Suitability: S5
Drawing Status: Suitable for Review & Acceptance

Project Name: North Hykeham Relief Road

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

Project Contractor: Balfour Beatty

Project Designer: RAMBOLL
tel 01244 311855 chester@ramboll.co.uk
www.ramboll.co.uk

Drawing Title: PLANNING APPLICATION GENERAL ARRANGEMENT

SHEET 16 OF 18

Project No:	Scale (@A1):	Drawn:	Date:
1620013942	1:1250	DB	19/03/24

Drawing No: NHRR-RAM-HGN-HYKE-DR-CH-00026
Rev: P03

Notes

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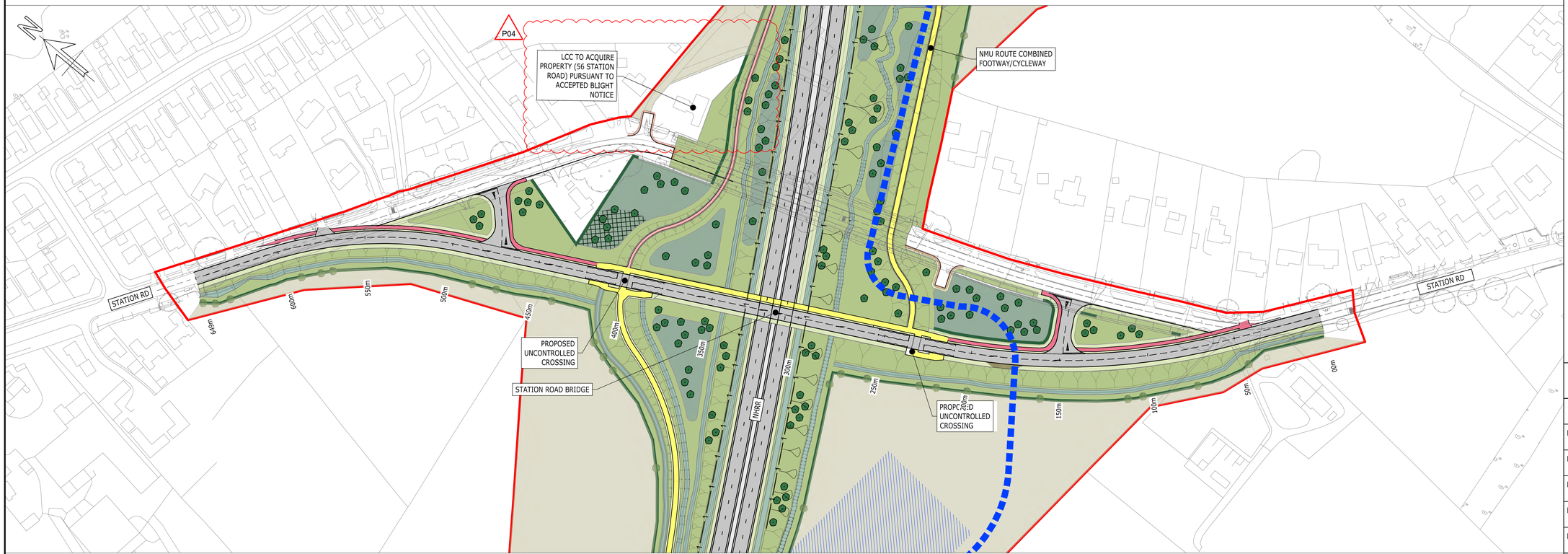

10m 0m 10m 30m 50m 70m 90m

SCALE 1:1250

Drawing Legend:

- EXISTING BACKGROUND MAPPING
- PROPOSED DESIGN
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- PROPOSED CARRIAGEWAY
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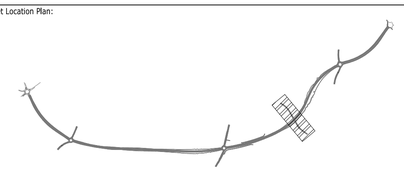
- 1 1 NOISE BARRIER
- EX INDICATIVE LOCATION OF EXOLUM DIVERSION

Sheet Location Plan:



Rev	Description	Drawn	Checked	Approved	Date
P01	20/10/23	DB	2023/10/20	BW	20/10/23
P02	26/10/23	DB	LF	BW	26/10/23
P03	Third Issue	DB	AB	AV	08/03/24
P04	56 Station Rd updated	DB	AV	AV	15/03/24
P05	Fifth Issue	DB	BW	AV	19/03/24

Suitability: S5

Drawing Status: Suitable for Review & Acceptance

Project Name: North Hykeham Relief Road

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

Project Contractor: Balfour Beatty

Project Designer: RAMBOLL

tel 01244 311855 chester@ramboll.co.uk
www.ramboll.co.uk

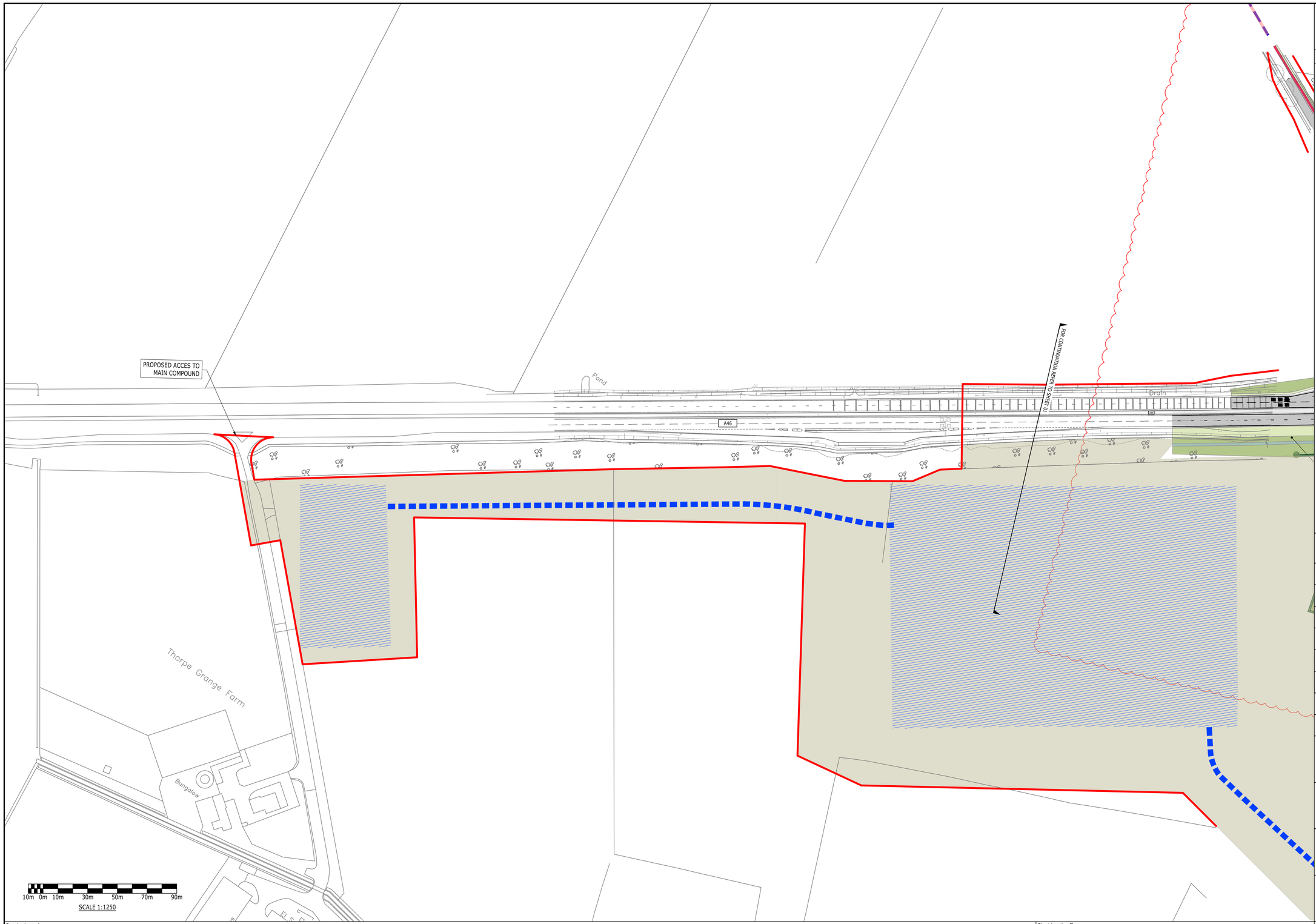
Drawing Title: PLANNING APPLICATION GENERAL ARRANGEMENT

SHEET 17 OF 18

Project No:	Scale (@A1):	Drawn:	Date:
1620013942	1:1250	DB	19/03/24

Drawing No: NHRR-RAM-HGN-HYKE-DR-CH-00027

Rev: P05



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Rev	Description	Drawn	Checked	Approved	Date
P01	20/10/23	DB	DB	BW	20/10/23
P02	Second Issue	DB	LF	BW	26/10/23
P03	Third Issue	DB	BW	BW	09/11/23
P04	Fourth Issue	DB	BW	AV	19/03/24

Suitability: S5 — Drawing Status: Suitable for Review & Acceptance

Project Name: North Hykeham Relief Road

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

Project Contractor: Balfour Beatty

Project Designer: RAMBOLL

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- 1 1 NOISE BARRIER
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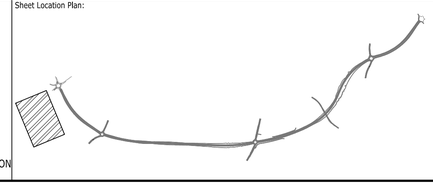
Sheet Location Plan:



Drawing Title: PLANNING APPLICATION GENERAL ARRANGEMENT

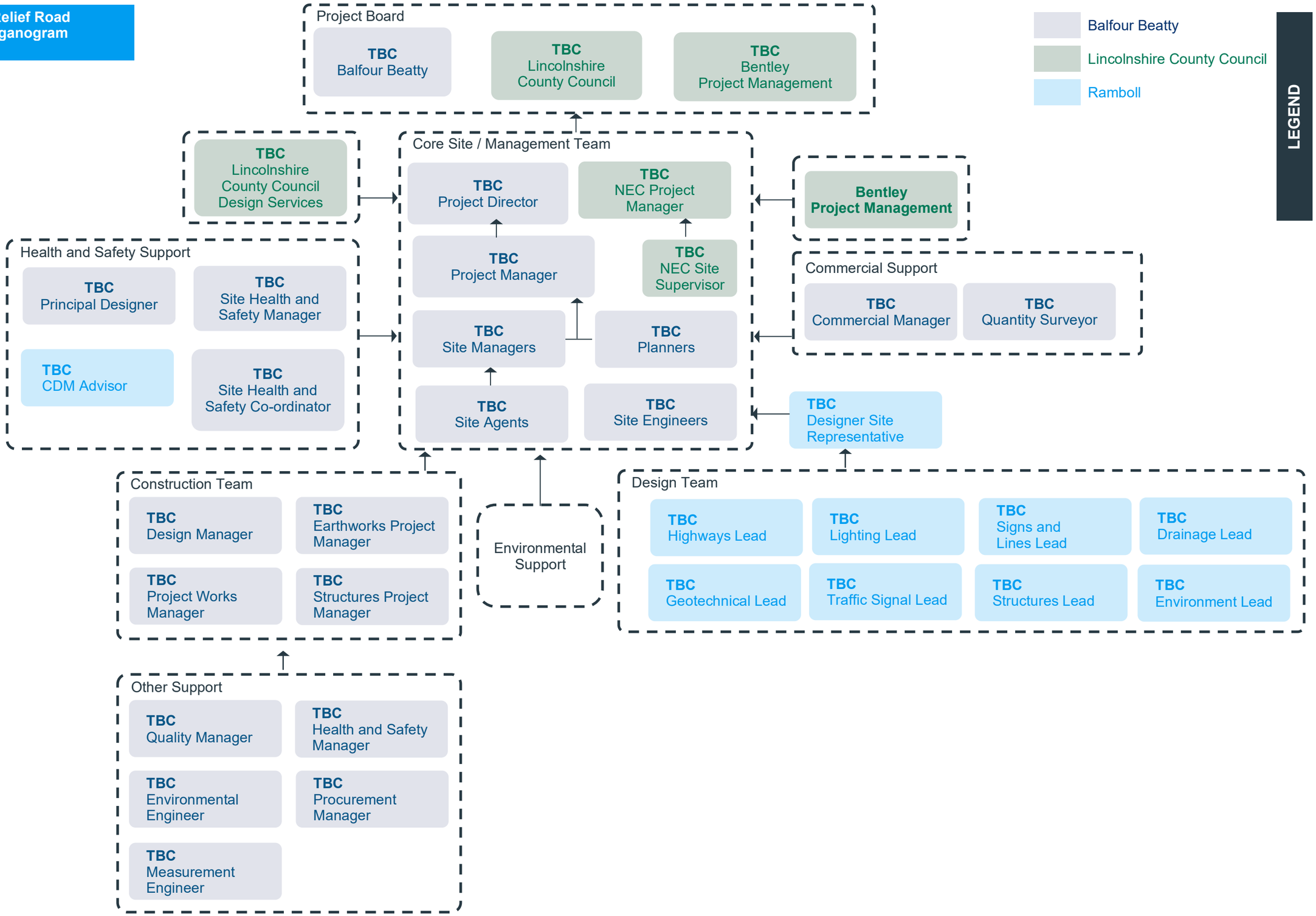
SHEET 18 OF 18

Project No:	Scale (@A1):	Drawn:	Date:
1620013942	1:1250	DB	19/03/24

Drawing No: NHRR-RAM-HGN-HYKE-DR-CH-00028 Rev: P04

APPENDIX E – PROJECT TEAM

North Hykeham Relief Road Project Team Organogram



Project Lead	
Name(s)	
Deputy Name(s)	
Contact Number:	
Area of Designated Responsibility	

Health, Safety, Environmental, Quality & Sustainability Responsibilities

- Overall responsibility for management of HSEQS matters;
- Preparation of Project Management Plan and supporting documentation
- Monthly review of Project Management Plan and its appendices
- Allocation of sufficient resources
- Production of monthly reports
- Resolution of findings from functional inspections
- Chair monthly site HSEQS meeting(s)
- Review & approval of direct & sub-contract documentation (including Work Package Plans/Method Statements, Risk Assessments & Inspection & Test Plans etc.)
- Completion of Site Safety Organisation and Emergency Arrangements Chart
- Signing of all Licenses, Consents and Authorisations
- Main point of contact with Regulatory bodies
- Ensuring the Balfour Beatty Permanent Works Fire Safety requirements are met.
- Liaison with design team
- Designated approval authority for contractors' submissions
- Customer satisfaction
- Establishment and monitoring of Health, Safety, Environment, Sustainability and Quality Performance Indicators
- Production and review of Site Waste Management Plan
- Ensures the project has a relentless focus on Zero Harm, Right First Time, Defect free delivery and our sustainability strategy – Building New Futures

The Contractor	
Name(s)	
Deputy Name(s)	
Contact Number:	
Area of Designated Responsibility	

Health, Safety, Environmental, Quality & Sustainability Responsibilities

- Comply with the Employer's (LCC's) environmental policies.
- Ensure that the construction, maintenance, and monitoring of the works complies with all existing UK and relevant EU legislation concerning environmental protection. The Acts and Regulations themselves should be referred to for the exact wording.
- Ensure that measures to safeguard the environment and mitigate the effects of the Scheme and its construction are prepared and implemented in accordance with planning requirements (including the planning conditions when available), the detailed design, DMRB, and relevant CIRIA documents.
- Take all necessary steps to avoid or minimise environmental impact within the design of the temporary and permanent works and the methods employed in their construction and ensure that the specific ecological mitigation requirements are fully complied with.
- Ensure that the works do not destroy or disturb the habitats, species, historic, archaeological, and other environmental resources protected by law.
- Ensure that details of all habitats and species protected by law within the site or adjacent areas are kept confidential and are not disclosed to any person except with the approval of the Project Manager and where it is necessary to carry out the works.
- Ensure that areas designated for environmental mitigation are used for the intended purpose only.
- Wherever possible, integrate environmental mitigation measures into the design to avoid conflict between measures for different environmental issues.
- Make all staff aware of the information detailed in this CEMP.

The Environmental Co-Ordinator (ECO)	
Name(s)	
Deputy Name(s)	
Contact Number:	
Area of Designated Responsibility	

Health, Safety, Environmental, Quality & Sustainability Responsibilities

The Environmental Co-ordinator (ECO) shall have a prominent role in the project delivery and co-ordinate the activities of the environmental specialists. The ECO has the following responsibilities and will be supported by the Environmental Clerk of Works (ECoW):

- To develop the CEMP document, systems, and maintain it as a working document, undertaking reviews and updates.
- To be the contact in case of an environmental emergency at the site.
- To ensure the commitments made in the Environmental Commitments Register are met during, and where necessary, following construction.
- To ensure environmental quality standards are adhered to and monitor compliance during the detailed design and construction phases of the Project.
- Periodically to provide review reports, including monitoring data where appropriate, to consultees and relevant stakeholders. These reports will indicate compliance and non-compliance with the CEMP and will provide assurance that a high standard of environmental protection is being maintained, as well as identifying the implications of failure to meet standards of mitigation, the reasons for this and remedial actions to be taken.

Environmental Clerk of Works (ECoW)	
Name(s)	
Deputy Name(s)	
Contact Number:	
Area of Designated Responsibility	

Health, Safety, Environmental, Quality & Sustainability Responsibilities

The Environmental Clerk of Works (ECoW) will have suitable qualifications and experience to undertake the role. They shall have a prominent role in the project delivery and co-ordinate the activities of the environmental specialists. The ECoW has the following responsibilities:

- To develop the CEMP document and systems and maintain it as a working document, undertaking reviews and updates.
- To ensure the commitments made in the Register of Commitments are met during, and where necessary, following construction.
- To ensure environmental quality standards are adhered to and monitor compliance during the detailed design and construction phases of the Project.
- Periodically to provide review reports, including monitoring data where appropriate, to consultees. These reports will indicate compliance and non-compliance with the CEMP and will provide assurance that a high standard of environmental protection is being maintained, as well as identifying the implications of failure to meet standards of mitigation, the reasons for this and remedial actions to be taken.
- Have the authority to direct members of the Contractor's site staff on environmental issues.
- Undertake site inspections and monitoring where necessary.
- Be responsible for ensuring all relevant licences, consents, and method statements are in place prior to relevant construction activities commencing.
- Take responsibility for maintaining, updating, and auditing the CEMP, the Environmental Commitments Register and environmental mitigation measures on site.
- Monitor construction activities to ensure that identified and appropriate control measures are effective and in compliance with the CEMP.
- Identify training needs and provide environmental training on site, such as inductions and toolbox talks, for the Contractor's site staff.
- Provide advice and assistance to site personnel on environmental matters.
- Ensure correct procedures are followed in the event of an environmental incident.
- Assist the site foreman in maintaining environmental records.
- Disseminate waste reduction and waste management procedures to all relevant personnel on site.
- To have a prominent role in the project delivery and co-ordinate the activities of the environmental specialists.

Project Landscape Architect/Landscape Clerk of Works (LCoW)	
Name(s)	
Deputy Name(s)	
Contact Number:	
Area of Designated Responsibility	

Health, Safety, Environmental, Quality & Sustainability Responsibilities

The Project Landscape Architect/Landscape Clerk of Works (LCoW) will be responsible for inspection of the landscape typologies and planting on the site and for making recommendations to the overseeing organisation for any additional management or maintenance activities required in addition to those identified in Section 5 for five-years following completion. The Project Landscape Architect will be appointed by LCC. The role of the LCoW includes but is not limited to the following:

- Monitoring of temporary material storage;
- Overseeing the preparation of planting areas;
- Supervising landscape implementation;
- Monitoring newly planted areas;
- Reporting on the establishment of landscaping prior to handover; and
- Ensuring that the control of invasive and noxious weeds within all planting and grassed areas is carried out four times between April to September during the growing season for weeds or follow such other guidance from specialists when appropriate.

Project Ecologist	
Name(s)	
Deputy Name(s)	
Contact Number:	
Area of Designated Responsibility	

Health, Safety, Environmental, Quality & Sustainability Responsibilities

The Project Ecologist will be responsible for monitoring of ecological mitigation and enhancement measures for the prescription in this management plan, where necessary by a licensed ecologist, and notifying the overseeing organisation of any necessary replacement requirements as stated in the LEMP (NHRR-TEP-ELS-HYKE-RP-LS-30007).

Project Arboriculturalist	
Name(s)	
Deputy Name(s)	
Contact Number:	
Area of Designated Responsibility	

Health, Safety, Environmental, Quality & Sustainability Responsibilities

The Project Arboriculturalist will be responsible for assessing the trees and hedgerows on site and identifying any tree surgery, felling, protection, or remediation work required to ensure public health and safety and tree health as stated in the LEMP (NHRR-TEP-ELS-HYKE-RP-LS-30007).

Works Manager	
Name(s)	
Deputy Name(s)	
Contact Number:	
Area of Designated Responsibility	

Health, Safety, Environmental, Quality & Sustainability Responsibilities

The Works Manager will report on environmental activities to the ECoW and will be responsible for the following:

- Implementation and maintenance of environmental controls on site;
- Attendance to any spills or environmental incident that may occur on site;
- Reporting any activity that has resulted, or has the potential to result, in an environmental incident immediately to the ECoW;
- Completion of a daily environmental log; and
- Maintenance of the waste register and ensure correct waste management procedures are being implemented.

Project Communications Advisor	
Name(s)	
Deputy Name(s)	
Contact Number:	
Area of Designated Responsibility	

Health, Safety, Environmental, Quality & Sustainability Responsibilities

The Project Communications Advisory (PCA) shall be responsible for liaison with the public and stakeholders including the following:

- Providing advance notice of operations and duration of work that may cause additional nuisance to local residents and businesses;
- Acting as the point of contact for residents affected by the Scheme, as a direct link between them and the contractor, to advise when works will be near to them, how they will be affected, and for how long;
- Working with community groups, charities, schools, and colleges, be it to assist with fundraising, making donations, support with projects and enterprises, as well as involving the community in the Scheme, such as visits to site, and visits to schools, aiming to leave both a positive impression and legacy;
- Public relations in terms of community engagement and the Scheme's progress; and
- Maintenance and reporting on the "Enquiries Register" for all environmental issues.

Other Environmental Staff

The core project team will be able to call upon the services and support of a range of other environmental specialists. These are to be provided into the CEMP when available.

In the case of an emergency such as a fire the PMP: CPP, should be the initial point of reference.

SITE ENVIRONMENTAL MANAGEMENT ROLES AND RESPONSIBILITIES

This table is to be completed and displayed at the site office.

Role	Responsibilities
All site workers/contractors/ sub-contractors and persons working on site	All site personnel will be required to be familiar with the requirements of the CEMP. Attend site induction with site manager to be briefed on the environmental sensitivities of the site and the requirements of this CEMP.
Site manager Name: [Insert] Tel: [Insert]	Accountable for the overall performance of the CEMP and adherence to environmental commitments. Responsible on-site for the day-to-day management of the construction project and practical implementation of the CEMP.
Environmental manager Name: [Insert] Tel: [Insert]	Responsible for the overall environmental performance. To develop the CEMP document and environmental management systems and maintain it as a working document, undertaking reviews and updates as required. Responsible for ensuring compliance with the relevant environmental legislation, regulations, and standards. Responsible for obtaining environmental specialist support as and when required. Responsible for advising on activities that have a potential impact on the environment and undertaking of monitoring as where appropriate. Responsible for ensuring mitigation measures are implemented correctly across the site and implementing any required remediation measures. Manage any environmental incidents which may occur in line with the requirements in the CEMP Emergency Responses.
Public Communications Advisor (PCA) Name: [Insert] Tel: [Insert]	Responsible for facilitating communication with the public and businesses during construction. Contact details will be made available for consultation regarding construction impacts such as noise.
Logistics manager Name: [Insert] Tel: [Insert]	Responsible for all lorries delivering to, or exiting from, the worksite. Responsible for the People, Vehicle and Plant, Construction Traffic Management Plan, to maintain it as a working document, undertaking reviews and updates as required. Ensures that delivery drivers meet the requirements of the CEMP.
Environmental specialists Name: [Insert if Required] Tel: [Insert if Required]	In the event that environmental specialists are required, the environmental manager will provide these services or identify and obtain suitable persons (e.g. ecologist). Responsible for specific environmental aspects and management of construction activities that could have an impact on the specialist area.

APPENDIX F – ENVIRONMENTAL COMPLAINTS LOG AND MONITORING RECORD

COMPLAINTS LOG

Reference	Date	Nature of Complaint	Cause of Complaint	Remedial Action Taken	Follow Up
[Insert]	[Insert]	[Insert]	[Insert]	[Insert]	[Insert]

MONITORING RECORDS

Date	Name, Role and Signature	Comments, Issues and Actions Taken
Weekly Review of Mitigation and Management Measures Review the mitigation and management measures and ensure they are being implemented		
Week 1 XX/XX/XX	[Insert]	[Insert]
Weekly Visual Checks of Material Storage on Site Ensure the prevention of dust generation and the safe storage of potential pollutants		
Week 1 XX/XX/XX	[Insert]	[Insert]

APPENDIX G – AIR QUALITY: EFFECTS AND MITIGATION MEASURES

Air Quality

Baseline

The Scheme is not located within an Air Quality Management Area (AQMA); therefore, pollutant concentrations are likely to meet the Government's national air quality objectives.

The nearest AQMA is the Lincoln AQMA designated due to exceedances of the objective for annual mean nitrogen dioxide (NO_2). It is understood that the last reported exceedance of the annual mean objective within the AQMA was in 2018, and concentrations have been decreasing over the past five years. The City of Lincoln Council (CLC) intend to remove the Lincoln NO_2 AQMA in 2024 if the annual mean concentrations for 2022 remain below the annual mean national air quality objective.

There are no declared AQMAs in the NKDC administrative area. CLC and NKDC carry out air quality monitoring (for NO_2 and particulate matter, also known as PM_{10} and $PM_{2.5}$) at a few locations. A scheme specific NO_2 diffusion tube monitoring survey was also undertaken to complement the local authority monitoring and inform the ES. The monitoring data indicates that long- and short-term national air quality objectives are currently being met.

The construction works have the potential to create dust and PM_{10}. These will be effectively controlled through the use of suitable mitigation measures implemented through the Air Quality and Dust Management Plan (AQDMP) (NHRR-RAM-EAQ-HYKE-RP-LA-00007) which is attached to the PMP. The effective management of air quality and dust discharges planning condition 3g (Application No. 23/1447/CCC and LCC Ref. No. PL/0087/23).

Construction Impacts

- The impacts of the Scheme during construction will be temporary and likely to occur within 50 m of the construction site and site vehicle routes. The impacts during construction will include the release of dust and particulate matter into the air from earthworks, general construction activities, and heavy construction traffic.
- Construction activities may cause dust nuisance such as the soiling of windows, cars, and other property. The generation of construction dust has the potential to affect approximately 600 high and medium risk human health receptors located within 200 m of the Scheme. The dust sensitive receptors have been identified in Bracebridge Heath, Waddington, Hykeham Moor and South Hykeham.
- The prevailing wind direction recorded by RAF Waddington meteorological station is from the south-west. Therefore, it is likely that sensitive receptors located around Bracebridge Heath will be most affected.
- In accordance with DMRB, the overall construction dust risk potential for the Scheme is "high". It is likely that all elements of the Scheme will be constructed alongside one another. There are some sections of the Scheme where there are not any receptors within 200 m of the construction activities, where "low" mitigation measures may be applied where appropriate.

Mitigation Measures

Air Quality impacts generated from construction works will be managed by means of the following measures:

- Development and implementation of an AQDMP (NHRR-RAM-EAQ-HYKE-RP-LA-00007) which should be discussed with and approved by LCC;
- Site plant, vehicles, and equipment will be properly maintained in accordance with best practice; and
- Implement sensitive working practices.

Dust generated from construction works will be managed by means of the following measures:

- Development and implementation of the AQDMP (NHRR-RAM-EAQ-HYKE-RP-LA-00007);
- Maintaining appropriate site hoardings;
- Agreeing working hours with LCC;
- Where possible, starting-up of plant and vehicles sequentially rather than simultaneously;
- Undertaking regular road sweeping;
- Arranging and locating potentially high impact site activities and plant away from neighbouring receptors;
- Implementing good site housekeeping measures;
- Keeping internal haul routes well maintained;
- Screening scaffolding and active construction activities above hoarding levels, where practical;
- Implementing a PVPCTMP, as agreed with LCC;
- Implementing and monitoring dust management measures;
- Avoiding unnecessary revving of engines and switching off equipment when not required;
- Providing briefings for all site-based personnel so that issues are understood, and mitigation measures are adhered to; and
- Community liaison and communication regarding construction works.

General dust management measures include:

- Development of a site layout so that machinery and dust causing activities are located away from receptors, as far as is reasonably practicable;
- Recording all dust and air quality complaints, identifying cause(s), taking appropriate measures to reduce emissions in a timely manner, and recording the measures taken;
- Making the complaints log available to the local authority when asked;
- Properly maintaining site plant in accordance with best practice;
- Recording any exceptional incidents that cause dust and/or air emissions, either on or offsite, and the action taken to resolve the situation in the logbook;
- Carrying out regular site inspections to monitor compliance with the AQDMP (NHRR-RAM-EAQ-HYKE-RP-LA-00007), recording inspection results, and inspecting the log available to the local authority when asked;
- Increasing the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions;
- Fully enclosing the site or specific operations where there is a high potential for dust production and the site is active for an extensive period;
- Keeping site fencing, barriers and scaffolding clean using wet methods;
- Avoiding site runoff of water or mud;
- Removing materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site covering to removal the source of dust; and
- Covering, seeding, or fencing stockpiles to prevent wind whipping.

Monitoring

Air quality monitors will be set up on site and monitored as detailed in the AQDMP (NHRR-RAM-EAQ-HYKE-RP-LA-00007).

APPENDIX H – CULTURAL HERITAGE: EFFECTS AND MITIGATION MEASURES

Cultural Heritage

Baseline

Cultural heritage includes archaeology, historic buildings/structures, and historic landscapes. There has been evidence of people, settlements and industry throughout the Palaeolithic, Mesolithic, Neolithic, Bronze Age, Iron Age, Roman, Early Medieval, Medieval, Post Medieval and Modern period in Lincolnshire.

There are 57 designated heritage assets within 2 km of the Scheme including:

- One scheduled monument, Hall Close, which is a medieval hall complex located to the south of Dovecote Land;
- Three conservation areas including Harmston Conservation Area, Waddington Conservation Area, and Cathedral and City Centre Conservation Area; and
- 53 listed buildings including three Grade I and six Grade II* listed buildings of very high (international) significance and 43 Grade II listed buildings which are of high (national) significance.
- There are also 374 non-designated heritage assets within the Scheme footprint, most of which are no longer in-situ and therefore their importance has been assessed as negligible.

Construction Impacts

- **Direct Impacts**
  - The construction phase effects relate predominantly to physical effects on heritage assets within the Scheme area. Construction activity and any ground-breaking works or any activities likely to result in ground disturbance has the potential to disturb or destroy known or not yet known archaeological remains. The magnitude of impact, at its greatest, will be moderate and the significance of the effect will be moderate adverse before mitigation and low adverse after the effective implementation of mitigation.
  - The construction of the Scheme will completely remove the above ground earthworks that are associated with a medieval ridge and furrow; however, these features are considered to be of low value. The construction of the Scheme will also result in localised modification and loss of 19th century field systems, which form part of the local historic landscape character and the loss of historic hedgerows, which are of low sensitivity.
- **Indirect Impacts**
  - The Scheme has the potential to affect some of the designated heritage assets in the surrounding area through changes to their setting. Setting is the way in which an asset is understood and experienced and is not the asset itself. Changes to setting could include the loss of surrounding rural and agricultural land, impacts from traffic flow and noise, and impacts from road infrastructure, including road lighting.
  - Listed buildings in the surrounding area of the Scheme are expected to experience a low adverse (temporary, short term) effect or a negligible neutral effect due to the distance from the Scheme, design or screening/mitigation of noise, lighting, and vibration.

Mitigation Measures

To reduce the effects on cultural heritage during the construction and operation of the Scheme the following mitigation/enhancement measures will be implemented:

- **Built Heritage**
  - the management of construction traffic, controlled via a PVPCTMP (HSF-TF-0047a);
  - A report of the historic building record shall be submitted to the County Planning Authority and the Historic Environment Record Officer at LCC within three months of the historic building recording works having been commenced;
  - noise bunds and barriers; and

  - dust suppression measures.
- **Archaeology**
  - development of a Written Scheme of Investigation (WSI) (NHRR-TEP-HER-HYKE-RP-LH-30006);
  - a programme of archaeological excavation to record known and as yet unknown archaeology in the vicinity of the site of the Roman high-status estate and other areas of archaeological interest;
  - an earthworks survey to record the medieval ridge and furrow;
  - minimise direct impacts on the identified archaeological remains through sensitive design;
  - embedded mitigation provided in the Landscaping Strategy;
  - noise barriers and low noise road surface to reduce noise levels; and
  - monitoring during construction by an appropriately qualified archaeologist.

The general archaeological mitigation measures are as follows:

- The archaeological watching brief will be undertaken by suitably qualified archaeologists. They will work with the construction Contractor and will maintain a permanent presence during groundworks until the formation has been fully exposed or the supervising archaeologist is satisfied that there are no features of archaeological interest within the designated areas of the development;
- Should multiple machines be excavating at the same time, more than one watching brief archaeologist may be required to monitor their progress. If the plans are changed then the appropriate advisor at the Archaeology Planning Advisory Service (APAS) will be consulted;
- Machine excavation in the targeted areas would proceed under archaeological observation and the machine will be halted if significant archaeological deposits are encountered;
- The supervising archaeologist will work with the works manager and excavation team to record any features as work progresses and will do so within an appropriate timescale to avoid any unnecessary delays to the work programme;
- If any significant archaeological finds or features are identified, the construction contractor will be immediately informed, and works may be temporarily delayed while the remains are recorded. The supervising archaeologist will have the authority to halt earth moving activities if necessary to define, investigate and record any areas of (or potential) archaeological interest;
- If complex or extensive remains are identified, the archaeological contractor will safeguard the area of interest and immediately inform the client;
- The archaeological watching brief will provide an accurate record of any archaeological and paleoenvironmental finds, features, artefacts or ecofacts identified;
- If, in the professional judgement of the archaeologist on site, the watching brief reveals below ground conditions, which indicate that potentially archaeological deposits are absent, the APAs will be contacted.
- The archaeological contractor will make appropriate pre- and post-excavation site records including photographs;
- All finds or environmental samples recovered during the archaeological works will be assessed and reported on by internal and external specialists of the archaeological contractor;
- All finds will be treated in accordance with current best practice as set out in Chartered Institute for Archaeologists and Historic England guidance; and
- If human remains are encountered during the excavation, they will be left in situ and APAS and the Coroner notified.

Monitoring

The use of the mitigation/enhancement measures above will be monitored by an appropriately qualified archaeologist and LCC's archaeological representative.

APPENDIX I – LANDSCAPE AND VISUAL: EFFECTS AND MITIGATION MEASURES

Landscape and Visual

Baseline

The landscape and visual assessment has considered impacts within a study area of 2 km either side of the centre line of the Scheme and has been guided by the potential visibility of the Scheme within this area, as shown on Zone of Theoretical Visibility (ZTV) mapping.

In summary the landscape characteristics comprise:

- the existing settlement edges of North Hykeham, Waddington, and Bracebridge Heath;
- agricultural farmland bound by hedgerows and ditches and dissected by minor lanes;
- undulating, generally enclosed arable farmland;
- landform rising more steeply into the Lincoln Cliff/Lincoln Edge, which forms a prominent landscape feature and allows panoramic views towards Lincoln Cathedral;
- scattered, rectilinear woodland blocks;
- overhead electricity lines and pylons;
- traffic noise;
- glimpsed traffic movements and tall lighting columns along the A15 and A46; and
- distant views towards Lincoln, including some views towards Lincoln Cathedral along the River Brant.

Construction Impacts

- The overall sensitivity of the landscape potentially affected by the Scheme is moderate. Overall, proposed construction works will not fit the character of the landscape and will have an adverse impact on characteristic features including open arable farmland, roadside trees and hedgerow, and the prominent landform of the Lincoln Cliff/Lincoln Edge. The overall significance of effect on landscape during the construction phase will be moderate adverse.
- The greatest level of visual effects during construction will be experienced by the closest receptors: primarily users of PRoW within and surrounding the Scheme and residential properties adjoining the site along Station Road. The significance of effect will range from slight to large adverse during construction.

Mitigation Measures

Where there is potential for adverse landscape or visual effects, these have been avoided or reduced through careful planning, siting, and design of the Scheme. The purpose of landscape mitigation is to avoid, minimise, restore, or offset potential landscape and visual impacts. The principal means of mitigation are embedded in the design of the Scheme and include, but are not limited to, the following:

- The route alignment was optimised to retain existing features or vegetation of interest and reduce visual impact. This has included lowering the vertical alignment in more sensitive areas and adjusting the horizontal alignment where possible to minimise landscape and visual intrusion, subject to engineering considerations;
- Prior to the installation of the landscape fencing and gates; details of the size, specification and materials shall be submitted to and approved in writing by LCC;
- During construction, mitigation will include hoarding and screen fencing around compounds and the positioning of storage mounds to maximise screening around compounds or areas of higher activity;
- Lighting will be designed to reduce light spill, energy consumption and environmental impact generally, which discharge planning condition 3j (Application No. 23/1447/CCC and LCC Ref. No. PL/0087/23);
- Where adverse effects may arise, landscape proposals have been incorporated in the form of hedgerow, tree, and woodland planting to reduce or offset any significant adverse effects; and

- Embedded mitigation proposals illustrated on the Landscape Masterplan have been designed to avoid or reduce potential effects on the environment including landscape, views, ecology, and cultural heritage.

Monitoring

The proposed planting will be monitored and maintained by the LCoW in accordance with a Landscape and Ecological Management Plan (LEMP) (NHRR-TEP-ELS-HYKE-RP-LS-30007) and a Landscape and Hedgerow Management Plan (LHMP) (NHRR-TEP-EGN-HYKE-RP-LE-30005) to ensure that it establishes and becomes effective as mitigation in the long term. Both management plans are attached to the PMP.

Landscape and Ecology Design

The Contractor requires specific landscape and ecological features to be created and managed during the construction and maintenance phases.

During the post construction period, landscape and ecological features will be managed in accordance with the LEMP (NHRR-TEP-ELS-HYKE-RP-LS-30007). The LEMP (NHRR-TEP-ELS-HYKE-RP-LS-30007) will provide a framework for long term landscape management and maintenance of the open space and landscaping associated with the Scheme. Responsibility for the implementation of this plan post construction will be LCC.

The LHMP (NHRR-TEP-EGN-HYKE-RP-LE-30005) which will detail receptors and key areas, along with measures for protecting and managing the landscape within the scheme boundary throughout the construction period. Roles and responsibilities will be defined along with protection measures for trees and hedgerows to be retained, management of landscape areas within the scheme boundary and reinstatement requirements.

The LEMP (NHRR-TEP-ELS-HYKE-RP-LS-30007) and LHMP (NHRR-TEP-EGN-HYKE-RP-LE-30005) will provide recommendations for the management of all landscaping within the planning application boundary, describing the Scheme in terms of landscape elements and management operations and providing recommendations for the duration of 30 years. They will detail responsibilities, responsible parties, maintenance and management objectives of landscape and ecological assets, both existing and proposed.

Retained Vegetation

Certain trees and areas of vegetation will be retained within the Scheme footprint as shown on the Environmental Masterplan and Site Clearance Drawings. Measures for nesting bird checks, tree propagation, tree and hedgerow works, and root protection zones will also be established.

The protection measures for retained vegetation management are as follows:

- The installation of physical tree protection measures must be completed before commencement of each construction phase, including the creation of compounds, access by vehicles or plant, delivery of materials, ground investigations or works, or any other construction works;
- Tree protection must be retained throughout construction and not modified in any way or removed except in strict compliance with this method statement;
- Tree Protection fencing will be inspected by the appointed Project Arboriculturist prior to any form of construction;
- Following the completion and sign-off of tree works, the Works Manager will arrange protection fencing to be installed. This may be phased to align with the build programme. It will be the responsibility of the Works Manager to ensure that adequate fencing is in place to protect

retained trees during each phase of construction and that unprotected trees are not inadvertently harmed;

- The alignment of fencing will be set out by a topographical surveyor. This must be done accurately to ensure that tree protection does not obstruct construction;
- A contractor will be engaged to install the tree protection;
- Tree protection will remain in situ for the duration of the construction unless directed by the Project Arboriculturist to enable works;
- The installation and maintenance of tree protection measures will be verified by the Project Arboriculturist; and
- The fencing will be subject to ad hoc inspection by the Project Arboriculturist not less than every two months. It will be the responsibility of the Project Arboriculturist to report their findings to the Works Manager.

Minimising the Working Corridor

As the Principal Contractor, Balfour Beatty will aim to minimise the working corridor wherever possible. As the works will be confined to the red line boundary, work will not be undertaken outside of the red line boundary but may extend to the entirety of the area within the red line boundary.

APPENDIX J – BIODIVERSITY: EFFECTS AND MITIGATION MEASURES

Biodiversity

Introduction

This Appendix should be read in conjunction with the following topic-specific documents held within the PMP:

- Biodiversity Net Gain (BNG) Plan (NHRR-TEP-ELS-HYKE-RP-LS-30007);
- Water Vole and Otter Survey and Mitigation (NHRR-TEP-EGN-HYKE-RP-LE-30026);
- Reptile Survey and Mitigation (NHRR-TEP-EGN-HYKE-RP-LE-30027);
- Badger Survey and Mitigation (NHRR-TEP-EGN-HYKE-RP-LE-30030);
- Amphibian Survey and Mitigation (NHRR-TEP-EGN-HYKE-RP-LE-30025);
- Species PWMS (NHRR-TEP-EGN-HYKE-RP-LE-30028);
- Sensitive Lighting Strategy (NHRR-RAM-HLG-HYKE-TN-EO-13101);
- Arboricultural Method Statement (AMS) (NHRR-TEP-EGN-HYKE-RP-LE-30023);
- Bird Hazard Management Plan (BHMP) (NHRR-TEP-EGN-HYKE-RP-LE-30022);
- Landscape and Ecological Management Plan (LEMP) (NHRR-TEP-ELS-HYKE-RP-LS-30007);
- Landscape and Hedgerow Management Plan (LHMP) (NHRR-TEP-EGN-HYKE-RP-LE-30005);
- Invasive Non-Native Species (INNS) Strategy (NHRR-TEP-EGN-HYKE-RP-LE-30029);

Appendix J does not replicate the information contained within these documents, save to summarise a timetable of requirements and confirm the role of the Ecological Clerk of Works (ECoW).

Baseline

The nature conservations designations within and surrounding the site include the following:

- One nationally designated site for nature conservation within 5 km of the site, Swanholmes Lakes Site of Special Scientific Interest (SSSI), located approximately 4.4 km north;
- The SSSI Impact Risk Zone (IRZ) for Swanholme Lakes SSSI. IRZs identify likely impacts upon SSSIs, Special Areas of Conservation (SACs), Special Protection Areas (SPAs) or Ramsar sites that may result from the Scheme;
- One statutory wildlife site of local significance within 2 km of the site (Whisby Nature Park Local Nature Reserve (LNR), located 1 km north-west; and
- Sixteen non-statutory Local Wildlife Sites (LWSs) within 2 km.

The site and adjacent land supports badgers, otter, grass snake, common toad, brown hare, bats and nesting birds. It also contains several INNS.

Construction Impacts

Potential impacts on biodiversity during the construction stage include, but are not limited to, the following:

- Loss of and/or degradation of designated nature conservation sites and the species they support;
- Loss of and/or degradation to habitats of ecological value e.g. woodland and trees;
- Killing or injuring protected species; and
- Disturbance and/or displacement of protected species or those of conservation concern, due to loss of habitat, noise, light, and physical activity.

Mitigation Measures

Ecological Clerk of Works

RUK and TEP will provide the Project Ecologist for the construction phase of the NHRR project. This will ensure consistency in the delivery of ecological support, taking the planning stage knowledge

into the construction phase. The Project Ecologist (ECoW) will be responsible for ensuring appropriately experienced and (where relevant) licensed ecologists are delivering the necessary support to the project including advanced surveys and contributing to mitigation delivery. As set out in Section 10 and Appendix E, they will report to the Environmental Clerk of Works and work alongside the contractor to ensure timely delivery of phased pre-works support, to support in the undertaking of precautionary working methods and delivery of mitigation requirements. They will also keep a record of the findings of surveys and relevant work completed as required by the various ecology related planning conditions, and they will respond to ecology issues or changing timeframes as they arise.

Attendance on site by the ECoW and supporting ecologists will vary based on project needs. It is likely that the enabling phase of construction and the early months of the works programme will require high levels of oversight and action. Surveys and precautionary working methods for vegetation clearance will be concentrated in these phases. Whereas later phases when the working footprint is already established will likely require less activity by the ecologists.

The ECoW will be responsible for the approving the ecology elements of the site induction and will deliver location/task-specific toolbox talks. Delivery of toolbox talks may be delegated to other ecologists on the project as appropriate, but in these instances the ECoW will approve the content.

Surveys in advance of site clearance works

Surveys have been undertaken prior to and post submission of the NHRR planning application, however, due to the length of the construction phase, it may be necessary to undertake updated surveys during construction. Table J.1 summarises the current date of ecological surveys and will be used by the EcoW to determine the need for survey updates throughout the build. Reference should be made to the ES or relevant documents in the PMP to review survey results. Survey results are summarised in this appendix only when they are not already presented in the ES or PMP.

Table J.1 Ecology surveys undertaken to date

Species	**Surveys Undertaken to Date**	**Species Present or Likely Absent**
Badger	September/October 2022 and September/October 2024	Present
Bats – buildings (Roost)	May to September 2023 and May to September 2024	Present
Bats – Trees (Roost)	May to September 2023 and May to September 2024	None confirmed but potential roost habitat present
Bats – Activity	Autumn 2022 to Summer 2023	Present
Water Vole	September 2022 / June 2023 and April / September 2024	Absent
Otter	September 2022 / June 2023 and April / September 2024	Present but no holts
Reptile	September 2024	Very low grass snake population at one location
Great Crested Newt (eDNA)	June 2022, May 2023 and April 2024	Absent
Birds – Wintering	Daytime Oct 2022 to April 2023. Nocturnals January & February 2024	No species requiring specific mitigation measures

Birds – Breeding	March to July 2023 and 2024	Present
INNS (as part of habitat survey)	September to October 2022 and April 2023	Present

With the exception of the early Exolum pipeline diversion, works on site are anticipated to commence in late 2025. Taking account of the age and findings of the surveys, Table J.2 summarises the proposals for survey updates. This is a whole site overview and the EcoW will respond to detailed works phasing and timeframes so updates are timed to ensure current data is available but balanced with the need for lead-in times to accommodate mitigation or licensing requirements.

Depending on when works take place across the site, surveys may be required to provide up to date survey information to support licence applications from Natural England. The table below provide a summary of surveys undertaken to date and a timetable for updated surveys. The timescales for updated survey information is based on CIEEM Advice Note (CIEEM 2019b). This suggests that a survey report that is less then 12 months old is likely to be valid in most cases, reports 12 to 18 months old are likely to be valid with some exceptions, reports 18 months to 3 years old require a site visit plus consideration of repeating surveys (depending on the circumstances) and reports older then this are likely to require most of the surveys to be repeated. The timetable of works for each species below is based on Table 9.1 Indicative Construction Programme.

The timescales for updated survey information is based on CIEEM Advice Note (CIEEM 2019b). This suggests that a survey report that is less then 12 months old is likely to be valid in most cases, reports 12 to 18 months old are likely to be valid with some exceptions, reports 18 months to 3 years old require a site visit plus consideration of repeating surveys (depending on the circumstances) and reports older then this are likely to require most of the surveys to be repeated.

Table J.2 Summary of survey requirements

Species	**Updated Survey Requirements**
Badger	Sett A (Exolum works): Feb/March 2025 All other setts: April 2025 Sett G: Sept 2025, April 2026, 2027 and 2028 Ongoing monitoring 2026 to 2028 as set out in the PMP
Bats – buildings (Roost)	Daytime building surveys: April 2025* Dusk emergence surveys: May to September 2025*
Bats – Trees (Roost)	One to three aerial inspections: May to September 2025**
Bats – Activity	None required
Water Vole	None required
Otter	River Witham: September 2025
Reptile	None required
Great Crested Newt	None required
Birds – Wintering	None required but monitoring is detailed within the BHMP
Birds – Breeding	Quail: Six fortnightly visits mid-May to July 2025 Barn owl: Spring/Summer 2025
INNS	Spring/Summer 2025

*Assumes demolition is required before Autumn 2026

** For any tree removal prior to Autumn 2026

Where surveys are not required, there may still be a need for checks and precautionary working methods, these are detailed within relevant documents of the PMP (for references, see the bullet list under the Introduction section of this appendix) or within this appendix. Most actions relate to vegetation clearance stages of works and approaches vary depending on the species and the season the clearance takes place. Generally, the approach is to undertake clearance outside the bird nesting season but if impacts on other species outweigh this timing (for example hibernating species) or there is a technical reason for different timing then clearance will be adjusted accordingly and precautionary working measures applied (see later section on nesting bird checks).

A timetable of ecological works for each species / species group is presented at Table J.3 and is based on Table 9.1 Indicative Construction Programme. This is a high-level summary of ideal timings and reference must always be made to the detailed species information to inform the timing and method of works with due reference to the habitats being cleared. Generally, clearance should take place in 2025 or early 2026 before the main works commence. A balance will be struck between early clearance with ongoing management of habitats to dissuade species from returning and undertaking clearance the latest season before works commence in any one area. The former reduces risk of delays but the latter removes the need for habitat management.

Table J.3 Summary of ecological works

Species / Species Group	**Timing of Ecological Work**
Birds	Clearance of vegetation with nesting potential October 2025 to February 2026. Nesting checks by an ecologist required outside this period.
Bats	Works impacting confirmed roosts must be linked to licence requirements which will depend on type of roost. Assuming no breeding roosts, supervised licensed works will likely take place April to October 2025 or 2026. Trees with bat potential but bats confirmed absent can take place at any time but seek to avoid winter if hibernation potential is identified.
Otter	No breeding and no holts have been identified as such there are no timing restrictions to supervised vegetation clearance.
Water vole	None present, but updated checks will be required in suitable habitat if clearance takes place after August 2025.
Amphibians	Checks for amphibians (namely common toad) required in suitable habitat prior to chemical treatment of invasive species or vegetation clearance within 50m of a pond. Supervised drain-down of pond P1 ideally during November 2025 to January 2026, but possible at other times with consideration to amphibian breeding. Pond P9 is the receptor location for any amphibians.
Reptile	Receptor sites will be identified prior to vegetation clearance as will identification of reptile habitats. Supervised clearance works to reptile habitats can take place at any time but if hibernation habitat is present this shouldn't be disturbed in winter.
Brown Hare	Brown hare can use the agricultural fields on site. Measures are required during soil stripping to prevent brown hare death or injury. There are no timing restrictions to these works although Feb to September is breeding season and leverets may be encountered.
Hedgehog	Receptor sites will be identified and established prior to vegetation clearance as will identification of hedgehog habitats. Supervision/PWMS will be required for clearance of these habitats.

Species / Species Group	Timing of Ecological Work
Harvest Mouse	Receptor sites will be identified and established prior to vegetation clearance as will identification of harvest mouse habitats. Supervision/PWMS will be required for clearance of these habitats. Core breeding season is May to October and young may be vulnerable if disturbed during this period and therefore measures are required for relocating nests.
INNS	JK treatment during growing season 2025 CT ideally removal Winter 25/26 YA treatment during growing season 2025

Bats and Buildings

Updated bat surveys of the buildings were undertaken in 2024 and there was no change to the baseline. Number 46 Station Road supports a day roost of soprano pipistrelle bats as per previous surveys. None of the other buildings on Station Road, that are impacted by the works, were found to support roosting bats.

On the assumption that demolition will take place after Autumn 2025 and before Autumn 2026, to ensure survey data is sufficiently up to date prior to demolition works and to inform and support a Natural England licence application, updated daytime surveys will be undertaken of properties 46, 48, 50, 52, 58a and 58b Station Road in Spring 2025. Across to May to September 2025, nocturnal emergence bat surveys of 46 Station Road (plus any additional properties identified in the daytime surveys as requiring nocturnal survey) will be undertaken.

Prior to demolition of any properties with confirmed bat roosts, a licence will be obtained from Natural England. Supervision of works will be undertaken by a licensed bat ecologist who is permitted to do so under the licence. During demolition of the building and as part of the conditions of a Natural England licence, the roost and any bat roosting features, where practicable, will be dismantled by hand under the supervision of the ecologist named on the Natural England licence. The features will include, but are not limited to, lifted roof slates, lifted barge and soffits and gaps in barge boards and soffits. Once the bat ecologist is confident no roosting bats are present then the building will be signed off for demolition. If any roosting bats are found then they will be allowed to disperse overnight. If this is not possible, ie if bats are in danger or the building is unsafe then they will be translocated to a bat box that has been placed in nearby retained tree. If bats appear sick or injured then they will be taken into care by a local Bat Conservation Trust Volunteer Carer and then released back on site when they have recovered. Bats must not be handled by contractors. They must only be handled by a licensed bat ecologist that has been rabies vaccinated.

Bats and Trees

Updated bat surveys of the trees were undertaken in 2024 there was no change to the baseline. None of the trees assessed as having suitability to support roosting bats were found to support bat roosts.

On the assumption that tree felling will take place after Autumn 2025 and before Autumn 2026, a single aerial inspection of trees assessed as having bat suitability will be undertaken in May/June 2025. Depending on findings of surveys, two further aerial surveys may be required during the period June to September 2025 with each visit being three weeks apart.

Prior to felling of any trees with confirmed bat roosts, a licence will be obtained from Natural England. Supervision of works will be undertaken by a licensed bat ecologist who is permitted to do so under the licence.

Of the trees identified with roosting potential, if no bats are found, then the roosting features will be section felled and lowered to the ground and re-inspected by a licensed bat ecologist. If bat(s) are found at this stage then Natural England will be informed.

If any roosting bats are found then they will be allowed to disperse overnight. If this is not possible, ie if bats are in danger, then they will be translocated to a bat box that has been placed in nearby retained tree. Where possible, the roost feature will also be strapped to a nearby retained tree. If bats appear sick or injured then they will be taken into care by a local Bat Conservation Trust Volunteer Carer and then released back on site when they have recovered. Bats must not be handled by contractors. They must only be handled by a licensed bat ecologist that has been rabies vaccinated.

Bat flyways

During the construction period temporary measures will be provided to allow barbastelle bats to commute across the landscape impacted by construction activities. These will be provided during the bat active season (April to October inclusive) and will be in place when site activities cease for the day, from dusk to dawn. Alternatively, they can be left in place day and night in areas when they do not obstruct access or works areas. They will be in the form of harass fencing with green netting fixed to the top half (or similar). Locations for these measures will tie into existing retained linear features to link them to the permanent bat hop-over locations, the Somerton Gate Lane culvert and the bat bridge. It is recognised that there may be periods during the development where installing these measures every night may not be practical (e.g. due to extensive excavations or mid installation of infrastructure or landscape planting), but these should be discussed with the ECoW and kept to a minimum.

The ECoW will contribute to advice on the construction/creation of the permanent bat bridge, the culvert and the bat hop-overs which will be in line with the submitted plans.

Quail

In line with Condition 16, quail surveys will be undertaken in 2025 ahead of the main works to determine if the species is present. The surveys will entail six visits roughly a fortnight apart from mid-May to end of July. They will be undertaken around dusk, avoiding rainy and windy conditions.

In the event that quail is present, then no works shall take place until a method statement on measures to protect quail from the works has been approved by the County Planning Authority.

All works will be carried out in accordance with the method statement and confirmation of implementation will be submitted to the County Planning Authority prior to the development coming into use.

Nesting birds

Updated breeding bird surveys undertaken during 2024 no additional Schedule 1 species to those recorded during previous surveys in 2023 were identified. No vegetation clearance or soil stripping and building demolition shall be undertaken between March and September inclusive unless

otherwise approved in writing with the LPA. If these works cannot be undertaken outside this time, the land affected should be evaluated and checked for breeding birds by a suitably qualified ecologist and if appropriate, an exclusion zone set up. No work shall be undertaken within the exclusion zone until the birds and any dependent young have vacated the area.

Barn owl boxes are present on site. Previous checks for the planning application did not confirm any occupancy. Barn owls have an extended breeding season and therefore undertaking works outside the generic bird breeding season may not be sufficient to avoid impacting this species. Ahead of works coming within the vicinity of a box, an updated check by a licensed owl ecologist will be undertaken.

It is illegal to disturb a Schedule 1 (Wildlife & Countryside Act) species from when a breeding pair establishes through to when the young have dispersed from the nest site. Works within at least 30m of an occupied box (or other nest site) are likely to be considered disturbing. There is no licensing route to allow development activities that constitute as disturbing. A method statement will be produced for the PMP should barn owl nesting be identified.

Ditch 18 culvert crossing

Desktop records have recorded European eel and spined loach on the River Witham. European eel[15] and spined loach[16] are species of conservation importance and are on the Lincolnshire Local Biodiversity Action Plan.

The River Witham is connected to ditch 18. Ditch 18 will be temporary culverted to allow a temporary haul road crossing of the river to facilitate construction of the Witham viaduct. Potential impacts on fish within ditch 18, in the absence of mitigation include:

- Death or injury to fish during construction of the temporary haul road across ditch 18.
- Fragmentation or severance of fish migration routes during installation of the temporary haul road and during dewatering periods.
- Disturbance at spawning sites during installation of temporary haul road.
- Prevention of passage along eel migration routes during temporary haul road installation and within de-watered sections.
- Death or injury to eel on land from construction traffic and/or activity.

Specialists will be brought in to manage these works as they may require fish rescue. The following text outlines the likely approach to the temporary haul road works to ditch 18 but this will be reviewed with the specialist advising on the works:

- Sensitive working methods will be employed during haul road works at ditch 18 and works within 9m of ditch 18. Bankside vegetation clearance will take place within the works footprint. Dams either side of any de-watered working area (sandbags, piling or other material) will be carefully installed under supervision of a fish specialist to avoid killing or injury of fish or eels.
- Dams will cause temporary severance of the habitat but once the culvert is installed connectivity for fish will be returned to the watercourse. It may be necessary for over-pumping of water to

[15] Listed as Critically Endangered on the International Union for Conservation of Nature (IUCN) Red List of Threatened Species. Species of principle importance for the purpose of conserving of biodiversity under the Natural Environment and Rural Communities Act 2006. Protected under the European Eel Regulation (European Commission) No 1100/2007 and the Eels (England and Wales) Regulations 2009.

[16] Listed on the International Union for Conservation of Nature (IUCN) Red List of Threatened Species and is listed on Appendix III of the Bern Convention and Annex II of the European Commission Habitats and Species Directive.

take place during the culvert installation depending on flow. And filters may be necessary to prevent fish being pulled into the pumps.

- Fish rescues will be carried out in the latter stages of de-watering operations. Fish will be released, likely into the adjacent sections of the ditch (up or downstream release, to be determined on a case-by-case basis depending on the connectivity of the time of year). The fish specialist will identify the fish release site in a brief method statement to be produced prior to each fish rescue operation.
- Ditch 18 will be netted during the de-watering process, fish may be placed in temporary bankside water-tanks. Fish species and numbers will be recorded prior to their release at the agreed location. The works will be undertaken by subcontractors who are accredited under the 'Performing Section 30 Fish Health Checks Accreditation Scheme'. This Accreditation Scheme has been developed in response to discussions between the EA and the Institute of Fisheries Management (IFM). The Accreditation Scheme evaluates the experience and technical ability of individuals to perform fish examinations, to meet the requirements of the EA under Section 30 of the Salmon & Freshwater Fisheries Act 1975 (SFFA) and similar requirements under future legislation.
- Some fish species can retreat into burrows in the ditch bed during de-watering and may not be recovered by netting. Further discussions with the EA will take place to determine if other methods, such as electrofishing is required. Discussion with EA will also inform the need for permits and licencing for fish rescue and translocation methods.
- Once the temporary haul road is in place, flow will gradually be allowed to return through the culvert.
- Bankside and in-channel vegetation will be allowed to regenerate naturally.
- The same process will be followed for removal of the temporary culvert.

Speed limits and defined access/haul routes will be adhered to during construction in order to minimise risk to eels on land. There is a low risk that eels traversing land may be obstructed by soil bunds or become caught in open excavations. Temporary soil bunds will have regular gaps to reduce flood risks and breaks will also be present at hedgerow crossings, these gaps will also serve to reduce any barrier effects to eels traversing land. Sloped edges to open trenches will be used to allow egress for any caught wildlife including eels.

General Mitigation Measures

In addition to the actions described above and the measures outlined in the various ecology documents of the PMP, the following construction stage, mitigation measures for biodiversity will be implemented:

- Measures to prevent degradation of habitats including silt fencing and pollution prevention strategies;
- Tree/woodland/hedgerow protection measures;
- Bat and bird boxes as detailed on the landscape drawings, will be installed at the site;
- As necessary, Natural England protected species licences will be obtained.

A Bird Hazard Management Plan (BHMP) (NHRR-TEP-EGN-HYKE-RP-LE-30022) has been produced for the Scheme and attached to the PMP and includes how the proposed development of the site will affect the presence of birds that are of concern and sets out what measures can be put in place through design and management to reduce the risk of hazardous bird activity in the RAF Waddington Safeguarding Zone.

A Biodiversity Net Gain (BNG) Plan (NHRR-TEP-ELS-HYKE-RP-LS-30007) has been produced for the Scheme and attached to the PMP, which details the ecological enhancements proposed including:

- Plans showing details and positions of trees and hedgerows to be retained and the root protection areas;
- Details and positions of protection barriers; and
- Details of construction working methods to be employed to accommodate the protection of retained trees and hedgerows.

An Arboricultural Method Statement (AMS) (NHRR-TEP-EGN-HYKE-RP-LE-30023) has been produced for the protection of the trees and hedgerows to be retained and attached to the PMP.

An Invasive Non-Native Species (INNS) Strategy (NHRR-TEP-EGN-HYKE-RP-LE-30029) has been produced and attached to the PMP, and prescribes the approach to eradicate these species prior to site clearance commencing and includes:

- Detailed mapping and marking out of the species prior to construction (to be carried out during the growing season to ensure complete and accurate mapping whilst the plants are readily identifiable);
- Appropriate control measures for the removal and disposal, or the in-situ treatment. Control measures will be specific to the species, location, and future use of the area where each stand is located;
- Biosecurity measures will be included in all site inductions and, where appropriate, vehicle and boot washing facilities will be provided in the construction compound; and
- Monitoring for re-growth (to continue for at least five years post-works), with appropriate remedial measures (such as spot-treatment with appropriate herbicide) prescribed.

Monitoring and management of invasive non-native species (INNS) for at least 5 years post construction will be undertaken. In accordance with the LEMP (NHRR-TEP-ELS-HYKE-RP-LS-30007) and LHMP (NHRR-TEP-EGN-HYKE-RP-LE-30005), monitoring will also be required to ensure that tree, hedgerow, and shrub planting is successful.

Lighting (External)

The Sensitive Lighting Strategy (NHRR-RAM-HLG-HYKE-TN-EO-13101) for the Scheme has been designed with due consideration of the environment and with the intention of striking a suitable balance between lighting the required task, meeting the Scheme requirements, and reducing impact of flora, fauna, and the night sky. The Sensitive Lighting Strategy will mitigate the potential for impacts on bats which reside in proximity to the Scheme, as the design is in accordance with the Institute of Lighting Professionals/Bat Conservation Trust Guidance Note 08/23: Bats and Artificial Lighting in the UK[17]. The Sensitive Lighting Strategy also minimises impacts on other species identified in proximity to the Scheme, particularly barn owls and badgers.

In accordance with the requirements of the local highway authority and Scheme promotor LCC, lighting has been detailed at each of the junctions along the Scheme in order to ensure that the immediate approaches to the junctions are lit. A46 Hykeham Roundabout and A15 Sleaford Roundabout are currently illuminated. In addition, the realigned Station Road will be lit. The lighting design seeks to avoid unnecessary visual clutter, impact on the ecology and the environment and obtrusive light; decrease distractions to drivers and pedestrians; and minimise capital, operating and maintenance costs and energy usage. In order to achieve this, five departures from standard have been agreed, reducing the extent and amount of lighting provided.

[17] Miles, J., Ferguson, J., Smith, N. & Fox, H. (2018). Guidance Note 08/18 Bats and Artificial Lighting in the UK. Institute of Light Professionals.

The mitigation measures proposed for lighting impacts include:

- During construction, as the Scheme progresses there will be a requirement to remove minimal existing street lighting features and provide temporary lighting. Prior to any lighting being removed a temporary lighting scheme will be approved by the overseeing organisation which will detail the type of temporary lighting to be used and LUX levels provided.
- Where temporary task lighting is required for undertaking the works, the Contractor will review lighting positions during the development of task specific Method Statements, which will then be approved by the overseeing organisation prior to first use.
- Lighting towers will be positioned in such a way that lights are not pointing directly into nearby properties, shining directly into oncoming vehicles on the public highway or lighting key environmental features or sensitive locations.
- The supply chain will provide support in temporary lighting designs for the site, including car parking, walkways, and activity areas, as necessary. As part of the design, LUX levels will be detailed to demonstrate the optimum solution and uniformity of lighting and have the capabilities to remotely monitor with only essential lighting units left on during the hours of darkness for safety and site security.
- In connection with Ecology, where possible, the temporary lighting used, will be task focussed and positioned to minimise light spillage and upward light and ensure that temporary lighting is turned off when not in use, as well as, where possible, sourcing temporary lighting without Ultra-Violet (UV) component to the light (to provide a warm white light colour appearance, with cool white light being avoided).
- All temporary lighting will adhere to industry best practice.

For construction activities undertaken at night-time the following mitigation measures will be used to minimise any adverse impacts on biodiversity:

- Avoidance of unnecessary lighting – activities requiring task lighting will be minimised where possible, avoiding existing and proposed habitats;
- Minimising the horizontal and vertical spread of artificial light, taking account of primary and reflected light sources – methods to focus lighting on the required task, considering angle and orientation of beam, use of baffles or cowls etc;
- Consideration of timing and duration of lighting – use of timers and motion sensors and/or dimming where appropriate to ensure that light is provided only when necessary for the task; and
- Intensity and colour of lighting – lowest appropriate light intensity for the task and selection of suitable colour light to minimise the effect on ecological receptors.

The developed strategy will detail the frequency and content of reviews and inspections and contain method statements detailing how the mitigation and control measures will be implemented.

APPENDIX K – GEOLOGY AND SOILS: EFFECTS AND MITIGATION MEASURES

Geology and Soils

Baseline

A review of desktop data, a site walkover, and Ground Investigation (GI) have identified the potential for land contamination. The land uses and potential sources of contamination include farms, a fuel pipeline, biodigester plant, waste transfer station, and a petrol station. Receptors of potential contamination include human health, surface water and groundwater. However, from the ground investigations there have been no contamination exceedances within the soils relating to human health, with the exception of one incidence of chrysotile board asbestos. The risk of unexploded ordnance (UXO) is also considered to be low. The agricultural land required for the Scheme is considered to be of moderate quality.

During construction works, it is anticipated that several potentially contaminative liquids and chemicals including diesel required for plant, temporary and emergency generators for site operations could be stored on site. A Remediation Strategy (NHRR-RAM-EGT-HYKE-RP-LE-00006) has been created and attached to the PMP, to describe how unexpected contamination will be addressed.

An Outline Surface and Groundwater Management Plan (NHRR-BB-HDG-HYKE-RP-CH-00001) has been produced prior to construction commencing for the excavations and cuttings to be undertaken. For further information refer to Road Drainage and the Water Environment.

Construction Impacts

Geology and Contaminated Land

The likely effects from land contamination on human health, surface water and groundwater receptors indicate that the Scheme is unlikely to encounter widespread or high concentrations of contamination.

Agricultural Soils

Activities that could affect agricultural land, soils and farm businesses at the construction stage include temporary movement and reinstatement of soils during construction and loss of agricultural land.

Mitigation Measures

Geology Contaminated Land

Standard best practice design and construction methods will mitigate the potential adverse impacts on geology and soils from contamination, including:

- This CEMP;
- Properly maintained site plant in accordance with best practice;
- Use of personal protective equipment (PPE); and
- A Remediation Strategy (NHRR-RAM-EGT-HYKE-RP-LE-00006) which provides a contingency plan to address unexpected contamination.

The storage of all liquids and solids onsite of a potentially hazardous nature, which discharge planning condition 3k (Application No. 23/1447/CCC and LCC Ref. No. PL/0087/23), will comprise the following:

- Ensuring that the Principal Contractor controls and bunds any hazardous substances used on site including oil drums or containers, in accordance with the Control of Substances Hazardous to Health (COSHH) Regulations (as amended)[18] and the Control of Pollution (Oil Storage)

[18] Control of Substances Hazardous to Health (COSHH) (Amendment) Regulations, 2014. [Online] Available at: https://www.legislation.gov.uk/uksi/2004/3386/made

(England) Regulations 2001[19] and ensure that oil or other contaminants are not allowed to reach watercourses or groundwater sources including aquifers;
- Preventing pollution from above ground storage tanks;
- Storing on surfaced areas with bunding in accordance with the EA's Pollution and Prevention Guidelines 2 (PPG2)[20] (whilst the EA's PPGs are no longer valid, these represent good practice and will therefore be followed);
- Bunding will be specified to ensure secondary containment of at least 110% of the volume of the largest tank within the bund;
- All filling points, gauges, and vents will be within the bund;
- Tanks will be placed on impermeable bases to reduce the risk of spillage to groundwater. Integral or self-bunded tanks will be favoured; and
- Sealing the drainage system of the bund with no discharge to any watercourse, land, or underground strata. Associated pipe work will be located above ground and protected from accidental damage.

Agricultural Soils

A Soil Management Plan (SMP) (NHRR-RAM-EGT-HYKE-RP-CE-00001) has been produced in accordance with the DEFRA guidance Code of Practice for the Sustainable Use of Soils on Construction Sites[21] so that good practice is followed with respect to the stripping, movement, and restoration of soils, as far as possible. In addition, field drainage schemes will be developed to ensure that no land will experience poorer drainage conditions than currently exist. This is attached to the PMP.

[19] UK Government, 2001. The Control of Pollution (Oil Storage) (England) Regulations 2001. [Online] Available at: https://www.legislation.gov.uk/uksi/2001/2954/contents

[20] Environment Agency, 2011. Pollution and Prevention Guidelines 2; [Online] Available: https://assets.publishing.service.gov.uk/media/5a74a09240f0b616bcb18074/pmho0811bucr-e-e.pdf

[21] DEFRA, 2009. Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. [Online] Available at: https://assets.publishing.service.gov.uk/media/5b2264ff40f0b634cfb50650/pb13298-code-of-practice-090910.pdf

APPENDIX L – MATERIAL ASSETS AND WASTE: EFFECTS AND MITIGATION MEASURES

Material Assets and Waste

Baseline

The baseline for the assessment of material assets and waste for the Scheme is defined through identification of existing materials assets in the region and waste infrastructure which may be impacted.

A Materials Management Plan (MMP) (NHRR-RAM-EGT-HYKE-RP-LE-00005) has been produced for the Scheme and attached to the PMP. The Site Waste Management Plan (SWMP) (NHRR-RAM-EGN-HYKE-RP-LE-00012) has also been produced, and attached to the PMP, which details waste disposal methods. The effective management of materials discharge planning condition 3f (Application No. 23/1447/CCC and LCC Ref. No. PL/0087/23).

Construction Impacts

Construction of the Scheme will require the use of materials such as aggregates from primary, secondary, and recycled sources, along with manufactured construction products such as road surfacing and pre-cast construction elements. However, some of the material will be generated onsite, for example excavated soils or recycling of concrete for use as aggregate from existing structures.

Construction is expected to result in potentially significant volumes of surplus materials and waste, leading to potential impacts on the available waste management infrastructure. Waste will predominantly be coming from excavations and demolition of existing structures, and also from materials brought to site that may be damaged, off cuts and/or surplus.

Mitigation Measures

The Contractor will use the Building Research Establishment (BRE) Framework Standard for Responsible Sourcing (BES 6001)[22] to verify that imported materials are sustainably sourced and managed, in order to reduce the environmental impacts throughout the supply chain.

The Scheme will be designed to avoid and prevent adverse effects on materials and waste by adopting good design principles. Mitigation measures will include:

- Waste arisings prevented and designed out where practicable;
- Off-site prefabrication, where possible;
- No burning of waste or unwanted materials. The burning of waste or unwanted material will not be permitted on site;
- All hazardous material including fuels, chemicals, cleaning agents or solvent products to be kept in sealed containers and stored and managed appropriately;
- Materials requiring removal from the site will be transported using licensed carriers and records will be kept detailing the types of waste moved;
- All contaminated materials encountered on site to be assessed through further ground investigation and site-specific risk assessment to determine the requirement for treatment and potential for re-use;
- Re-use, recovery and materials optimisation being considered during the detailed design phase;
- Confirmation of the types and quantities of materials including information on secondary and recycled content;
- Properly maintained site plant in accordance with best practice;
- Seeking opportunities to reuse material resources and support the circular economy;

[22] BRE Global Limited, 2022. Building Research Establishment (BRE) Framework Standard for Responsible Sourcing (BES 6001). [Online] Available at: https://bregroup.com/services/standards/bes-6001-the-framework-standard-for-responsible-sourcing/

- An Outline Surface Water and Groundwater Management Plan (NHRR-BB-HDG-HYKE-RP-CH-00001) for excavations and cuttings;
- Methods to control spillage and prevent contamination of adjacent areas;
- Management of human exposure for construction workers and people living and working nearby;
- Methods for the storage and handling of excavated materials and water;
- Management of any unexpected contamination and remedial works;
- Methods to monitor and manage flood risk and extreme weather events;
- Movement of plant and machinery within the development area and to and from compounds;
- Balance of cut and fill works to minimise off site material movements;
- Soil stripping and excavation and Soil Management Plan (SMP) (NHRR-RAM-EGT-HYKE-RP-CE-00001);
- Segregation of topsoil and subsoils;
- Use of standard open trenching techniques for excavations;
- Storage of materials and stockpiling; and
- Development of this CEMP, a SWMP, and an MMP (NHRR-RAM-EGT-HYKE-RP-LE-00005).

The MMP (NHRR-RAM-EGT-HYKE-RP-LE-00005) has been developed in line with the CL:AIRE Protocol to provide a brief description of the planned project and how excavated materials are to be reused. The MMP (NHRR-RAM-EGT-HYKE-RP-LE-00005) outlines how site won materials will be managed and reused, in accordance with best practice requirements and the controls for material management and storage. The MMP (NHRR-RAM-EGT-HYKE-RP-LE-00005) will contain a location plan for the site and a plan of the site identifying where different materials are to be excavated from, stockpile locations proposed and where materials are to be treated/processed, along with where the materials are to be reused. The MMP (NHRR-RAM-EGT-HYKE-RP-LE-00005) will also contain a schematic (Mass Haul Diagram) of proposed material movement.

The re-use of excavated materials will be undertaken in accordance with the Contaminated Land: Application in Real Environments (CL:AIRE) Definition of Waste: Development Industry Code of Practice[23].

In line with the target set out in DMRB LA 110[24], a minimum of 14% of aggregates used in construction will be from recycled or secondary, for those applications where it is technically and economically feasible to substitute these alternative materials for primary aggregates. To comply:

- The contractor will calculate the total aggregate required to achieve the detailed design, and the total where the design specification dictates only primary aggregate is used; and
- During construction, the contractor will record the amount of primary and secondary/recycled aggregate by weight and demonstrate compliance with the target (offsetting the amount excluded by the design specification).

Where practicable, approaches implemented to minimise the quantities of waste requiring disposal will comprise:

- Agreements with material suppliers to reduce the amount of packaging or to participate in a packaging take-back scheme;
- Implementation of just-in-time material delivery system to avoid materials being stockpiled, which increases the risk of their damage and disposal as waste;
- Attention to material quantity requirements to avoid over-ordering and generation of waste materials;

[23] Contaminated Land: Applications in Real Environments (CL:AIRE), 2011. The Definition of Waste: Development Industry Code of Practice

[24] Highways England, 2019. Design Manual for Road and Bridges (DMRB) LA110 Material Assets and Waste. [Online] Available at: https://www.standardsforhighways.co.uk/search/6a19a7d4-2596-490d-b17b-4c9e570339e9

- During site clearance and construction, re-use of materials wherever feasible for example, re-use of excavated soil for earthwork embankments and landscaping;
- The materials to be sorted or processed and, where materials excavated on site are initially unable to meet the re-use criteria, they will either be treated to make them suitable for use or, as a last resort, disposed off-site as waste;
- Segregation of waste at source, where practical; and
- Re-use and recycling off-site where re-use on site is not practical.

A SWMP has been produced for the Scheme which details the waste disposal methods which will be implemented on site, which discharge planning condition 3p (Application No. 23/1447/CCC and LCC Ref. No. PL/0087/23). It is the responsibility of the Principal Contractor and ECO to ensure that the SWMP is being adhered to throughout construction.

Monitoring

Material assets and waste will be monitoring continuously by the Principal Contractor via means such as a carbon dashboard. It is also a requirement of DMRB for an assessment of material assets and waste to be undertaken during the first year of operation to reduce impacts; improve efficiency of resource use; and prevent and/or reduce adverse effects associated with the generation and management of waste.

Construction Material Selection

Material and Waste Management Construction materials will be selected in line with the Manual of Contract Documents for Highway Works (MCHW), Volume 1 – Specification for Highway Works, LCC's Specification and relevant British Standards.

The following construction materials will be required for the construction of the Scheme:

- Aggregates, both primary and recycled;
- Soils;
- Concrete;
- Asphalt;
- Steel; and
- Timber.

The Principal Contractor will also use the Building Research Establishment (BRE) Framework Standard for Responsible Sourcing (BES 6001)[25] to verify that imported materials are sustainably sourced and managed, in order to reduce the environmental impacts throughout the supply chain.

The majority of excavated material will be reused on site, such as used as fill. It is anticipated that approximately 12,314 m^3 of earthworks material will be classified as unacceptable U1A material requiring off-site disposal, with an estimated further 10,831m^3 of material excavated from soft spots being unsuitable for reuse. Overall, it is expected that the Scheme will result in a net surplus of approximately 25,604m^3 of excavated materials that will need to be removed off site.

Waste arising from the Scheme will be managed through this CEMP, the MMP (NHRR-RAM-EGT-HYKE-RP-LE-00005), and the SWMP. There will be a requirement to review the design and investigate opportunities to standardise, where practicable, construction components to increase

[25]Building Research Establishment (BRE) Framework Standard for Responsible Sourcing (BES 6001). [Online] Available at: https://bregroup.com/services/standards/bes-6001-the-framework-standard-for-responsiblesourcing/#:~:text=The%20Framework%20Standard%20for%20Responsible,harvested%2C%20through%20manufacture%20and%20processing

efficiency of materials' use in production and reduce waste production. This initiative will be progressed through detail design and documented in a Material Efficiency Design Report submitted to LCC prior to construction.

The MMP (NHRR-RAM-EGT-HYKE-RP-LE-00005) will also outline how site won materials will be managed and reused, in accordance with best practice requirements and the controls for material management and storage. This approach for managing materials is consistent with the waste hierarchy defined in the Waste Framework Directive (Directive 2008/98/EC)[26].

The Waste and Recycling Action Programme (WRAP) and the EA Quality Protocol: Aggregates from inert waste[27] will be followed with respect to the production and use of aggregates from inert waste. In line with the target set out in DMRB LA 110[28], the Scheme will target 70% recycling and reuse on site. Where reuse is not practical, recycling and recovery will be the next preferred option. To facilitate this, the contractor will demonstrate the recovery of non-hazardous construction waste, with a target of 90%. The contractors will aim to achieve a minimum recovery of 70% (by weight) of non-hazardous construction waste.

It will be necessary to remove some unsuitable and excess materials from site, which could result in impacts on waste management infrastructure and the local road network. When applying the waste hierarchy, measures will be implemented to ensure the options that deliver compliance with The Waste (England and Wales) Regulations 2011[29] are selected to ensure the best environmental outcome.

In order to maximise the reuse of materials within the Scheme, thereby reducing consumption of finite resources from elsewhere, the Contractor has prepared a SWMP and a MMP (NHRR-RAM-EGT-HYKE-RP-LE-00005) in accordance with CL:AIRE Definition of Waste: Development Industry Code of Practice (CL:AIRE, 2011) as detailed in Section 13 above.

Waste management measures are documented in the MMP (NHRR-RAM-EGT-HYKE-RP-LE-00005), to minimise the likelihood of any localised impacts of waste on the surrounding environment and will include:

- Off-site prefabrication, where possible;
- All contaminated materials encountered on site to be assessed through further GI and site-specific risk assessment to determine the requirement for treatment and potential reuse; and
- Materials requiring removal from the site will be transported using licensed carriers and records will be kept detailing the types of waste moved.

In order to reduce the need for waste disposal, the generation and environmental impacts of wastes arising during the works will be minimised and opportunities for the reuse and recovery of waste maximised.

Where practicable, approaches implemented to minimise the quantities of waste requiring disposal will comprise:

- Agreements with material suppliers to reduce the amount of packaging or to participate in a packaging take-back scheme;

[26] The Waste Framework Directive (Directive 2008/98/EC). Available at: https://www.eea.europa.eu/policy-documents/waste-framework-directive-2008-98-ec

[27] Environment Agency, 2013. Quality Protocol: Aggregates from inert waste. [Online] Available at: https://assets.publishing.service.gov.uk/media/5a7c38bce5274a1f5cc769c8/LIT_8709_c60600.pdf

[28] National Highways, 2019. Design Manal for Roads and Bridges (DMRB) LA 110.

[29] The Waste (England and Wales) Regulations 2011. [Online] Available at: https://www.legislation.gov.uk/uksi/2011/988/contents/made

- Implementation of just-in-time material delivery system to avoid materials being stockpiled, which increases the risk of their damage and disposal as waste;
- Attention to material quantity requirements to avoid over-ordering and generation of waste materials;
- During site clearance and construction, reuse of materials wherever feasible for example, reuse of excavated soil for earthwork embankments and landscaping;
- The materials to be sorted or processed and, where materials excavated on site are initially unable to meet the reuse criteria, they will either be treated to make them suitable for use or, as a last resort, disposed off-site as waste;
- Segregation of waste at source, where practical; and
- Reuse and recycling off-site where reuse on site is not practical.

APPENDIX M – NOISE AND VIBRATION: EFFECTS AND MITIGATION MEASURES

Noise and Vibration

Baseline

The noise and vibration assessment for the Scheme was informed by a desktop study, site visits and noise and vibration monitoring.

To the west of the Scheme, the noise environment is dominated by road traffic noise from the A46 Trunk Road and Newark Road (A1434). Moving east there is a minor contribution from road traffic on the nearby local rural roads, albeit at a low level. In some locations there are moderate levels of road traffic noise from relatively busy existing roads, such as the A607. Between Station Road and the eastern end of the Scheme, some receptors are affected by operational noise and aircraft noise from the RAF Waddington. At the eastern end of the Scheme, the noise climate is dominated by road traffic noise from Sleaford Road and the A15. For receptors not located near to existing primary roads, the Scheme covers a predominantly rural area within which existing ambient noise levels are relatively low.

Noise Important Areas are locations identified as containing the 1% of the population in England that are exposed to the highest level of road traffic noise. The closest Noise Important Area is not located within the 2 km study area surrounding the Scheme.

A Noise and Vibration Management Plan (NVMP) (NHRR-RAM-ENV-HYKE-RP-LE-00006) has been produced and attached to the PMP. The NVMP (NHRR-RAM-ENV-HYKE-RP-LE-00006) for the Scheme details the location, size, and height of all environmental mitigation bunds to be constructed for use during the construction phase of the development, including cross sections and a timetable for implementation, which discharge planning condition 3l (Application No. 23/1447/CCC and LCC Ref. No. PL/0087/23). The effective management of noise and vibration will which discharge planning condition 3h (Application No. 23/1447/CCC and LCC Ref. No. PL/0087/23)

Construction Impacts

Noise generated by demolition and construction activity has the potential to adversely affect noise-sensitive receptors.

The proposed mitigation is sufficient to minimise the potential for any adverse effects due to construction noise. No significant residual effects are expected due to construction noise apart from noise generated by the following:

- Earthworks in the vicinity of 6 Wath Lane and South Hykeham Community Primary School; and
- Road removal works and earthworks in the vicinity of Station Road dwellings.

The vast majority of sensitive receptors in the vicinity of the Proposed Scheme are further than 100 m from the closest construction activity likely to result in high levels of construction vibration. With effective mitigation, the expected residual effects of construction vibration are not significant.

Construction traffic has the potential to result in temporary significant effects at sensitive receptors. Most construction traffic movements will be directly to and from the main and satellite compound areas. Residual significant effects are expected to arise as a result of noise from construction traffic movements along Wath Lane due to the low-traffic nature of this road. During diversions, potential significant effects are likely at receptors within 25 m of the diversion routes used for night-time closures of the proposed junctions at the A46, South Hykeham Road and Brant Road.

Mitigation Measures

The design interventions and mitigation measures that have been introduced to reduce the potential for significant effects from the construction of the Scheme associated with noise and vibration include but are not limited to the following:

- Using the CEMP, the PCA is to maintain regular open and good public relations;
- A Construction NVMP (NHRR-RAM-EGN-HYKE-RP-LE-00010) will be used during construction, and will include:
- The implementation of best practice measures;
- Commitment to using noise attenuated and well-maintained plant and equipment;
- A schedule of agreed maximum acceptable noise levels at sensitive receptors;
- Arrangements for advanced notice to the County Planning Authority and local community of operations that may cause noise and disturbance; and
- A schedule of noise and vibration monitoring.

The following best practice measures will be implemented where appropriate:

- Selection of noise attenuated plant;
- Use of equipment that is fitted with silencers/mufflers and no unnecessary idling;
- Properly maintained site plant in accordance with best practice;
- The Contractor shall advise members of the construction team during toolbox talk briefings on quieter working methods;
- Contractor to manage deliveries to prevent queuing of site traffic near to sensitive receptors.
- Where working outside of normal working hours is unavoidable, the Contractor will assess noise and vibration prior to works commencing and develop methods of mitigation that avoid significant adverse effects;
- A solid hoarding or fence around the perimeter of site compounds;
- Temporary noise barriers to protect noise-sensitive receptors in key locations during key work stages; and
- The permanent acoustic screening that forms part of the embedded mitigation for operational noise to be built as early as possible.

Embedded operational noise mitigation measures comprise acoustic barriers and bunds at appropriate locations along the Scheme; and the provision of a low noise surface material along high-speed sections of new or altered carriageways. This will provide a reduction in road traffic noise level of 3.5 dB when compared to a standard hot-rolled asphalt road.

General noise measures include:

- The Contractor will obtain formal consent from the local authority to the proposed methods of work and to the steps he proposes to minimise noise and shall obtain consents or other approvals where required by the Local Authority;
- This shall include the agreement of acceptable noise levels at the properties close to the proposed works (as identified in the ES); and
- A schedule of noise monitoring could be agreed with the Environmental Department at LCC, if required, including the process of reporting the noise levels to the local authority and the steps to be taken if noise levels are recorded as exceeding the acceptable noise levels over a prolonged period.

General vibration mitigation measures include:

- The Contractor shall select and utilise methods of working and items of plant so that the maximum measured ground vibrations do not exceed a peak particle velocity of 1mm per

second at any occupied property and 3mm per second at any other property or structural element;

- In exceptional circumstances the Contractor may exceed the specified limit of ground vibration, providing the Contractor demonstrates that he intends to take all reasonable measures to mitigate the nuisance and obtains the written approval of the LCC Environmental Health Officer;
- A schedule of vibration monitoring could be agreed with the Environmental Department at LCC, if required;
- The Contractor provides instrumentation suitable for monitoring vibration if any of the following occur:
  - there is reasonable concern that the limits might be exceeded;
  - there are complaints from the public; and
  - when required by the Supervisor.
- Such monitoring shall include locations outside the limits of the Scheme;
- The noise levels highlighted above for periods outside the normal working hours will only be permitted when consent has been given to exceptional working; and
- Compliance with these conditions will not constitute any defence against proceedings under Part III of the Environmental Protection Act 1990 or Part III of the Control of Pollution Act 1974 or their successors unless the works are covered by a Section 60 or 61 notice issued by the Local Authority (Control of Noise on Construction Sites). Such a notice will provide no defence against proceedings from an occupier of premises who may complain to a Magistrate's Court of a noise nuisance.

Monitoring

To ensure that the mitigation measures are being implemented effectively, noise and vibration monitors will be set up to collect real time data from the beginning of the construction phase. Measurement of construction noise will be carried out at locations at Station Road and South Hykeham during key work stages. Monitoring will take place throughout the construction phase to ensure compliance of measures in this CEMP that prevent degradation of habitats. This monitoring shall provide real-time alerts and will enable the Contractor to gauge whether a change of working method is necessary to avoid significant effects due to construction noise. Verification checks will also be carried out to ensure that noise mitigation measures such as temporary screening are in place for activities where there is potential for likely significant effects to occur in their absence.

APPENDIX N – ROAD DRAINAGE AND THE WATER ENVIRONMENT: EFFECTS AND MITIGATION MEASURES

Road Drainage and the Water Environment

Baseline

The Scheme crosses the River Witham, a main river, broadly at the middle of the Scheme, with the river flowing in a south-north direction. No other main rivers are crossed by the Scheme. However, the River Brant, a main river, joins the River Witham approximately 300 m south upstream. A second main river known as 'The Beck' is situated approximately 100 m north and flows in a west-east direction to also join with the River Witham. A sluice gate on the River Witham for flood control is situated approximately 100 m south upstream of the Scheme alignment.

Several drainage watercourses are present throughout the agricultural floodplain and are also crossed by the Scheme. A flood storage area, also known as the Witham Washlands, is present to the west of the sluice gate and features a grassed bund/embankment on its northern edge of approximately 1.2 km, running approximately parallel to south of the Scheme. There are several surface water abstractions located within the study area. One is an active licensed abstraction located along the River Witham for spray irrigation. There are five other active licensed surface water abstractions located within 3 km.

The Scheme is situated within a groundwater source protection zone 2, outer protection zone, with a source protection zone 3, total catchment, in the east. The Scheme is situated mostly within Flood Zone 1. This is defined by the Environment Agency as having a low probability of flooding from rivers or the sea. The Scheme also crosses flood zones 2 and 3 both associated with the River Witham. Additionally, within the study there is a Flood Zone 2 associated with The Beck watercourse and flood Zones 2 and 3 of the River Brant.

An Outline Surface Water and Groundwater Management Plan (NHRR-BB-HDG-HYKE-RP-CH-00001) has also been produced and attached to the PMP. This strategy includes how surface water run off on and from the development will be managed during construction and protection measures for any sustainable drainage features, which discharge planning condition 3d (Application No. 23/1447/CCC and LCC Ref. No. PL/0087/23). This plan also details how groundwater will be managed which discharges which discharges planning condition 3i (Application No. 23/1447/CCC and LCC Ref. No. PL/0087/23). It also includes drawings showing how the drainage systems, temporary or permanent, connect to an outfall, temporary or permanent, during construction. Similarly, a Sustainable Drainage (SuDS) Management Plan (NHRR-RAM-HDG-HYKE-RP-CD-05006) has been produced for the drainage at the site.

Construction Impacts

The potential effects relate to pollution from suspended solids, oils and hydrocarbons, cement and concrete products, heavy metals and metalloids, bentonite, dust, and solvents/paints. Sources of these pollutants can include excavations, stockpiles, plant and wheel washing, fuel storage tanks, general plant use and maintenance, and accidents and spillages.

During construction there is the potential for:

- Increases in peak surface water flows to the River Witham and The Beck due to the construction process and removal of vegetation;
- Construction damage to watercourses such as the channel of the River Witham at the proposed bridge crossing; and
- Contamination of groundwater aquifers or freshwater springs.

General potential contamination includes:

- Fuel/oil spillage resulting in contamination of the watercourse;
- Contamination of watercourse with cement material;
- Contamination of watercourse with chemicals; and
- Contamination of watercourse with sediments.

Mitigation Measures

The following mitigation measures will minimise, avoid, or offset impacts on road drainage and the water environment during construction:

- This CEMP will be implemented to ensure that good site practice is followed at all times including standard pollution mitigation measures compliant with EA guidance;
- An Outline Surface Water and Groundwater Management Plan (NHRR-BB-HDG-HYKE-RP-CH-00001) will be implemented, which details the temporary drainage infrastructure to control surface water runoff;
- A SuDS Management Plan (NHRR-RAM-HDG-HYKE-RP-CD-05006) will be implemented for the site drainage; and
- Works are to being suspended during intense rainstorms.

General pollution prevention and mitigation measures include:

- All operatives would be made aware of the need to protect watercourses from contamination, including EA guidance and legal obligations;
- Properly maintained site plant in accordance with best practice;
- When construction activities, including stock piling and plant and vehicle washing occur in close proximity to a watercourse they would be separated from the watercourse with barriers (e.g. sediment fences) to prevent surface runoff entering the watercourse;
- Geotextile-material silt fences would be installed to filter suspended solids from runoff;
- Timing of works must be carefully considered. If possible, the construction would be carried out during periods of low flow and rainfall (typically during summer months) to reduce the risk of scour and erosion around structures and reduce runoff from the construction area;
- Where watercourses contain important fish populations or spawning habitats, works would be timed to avoid key migration periods and fish spawning to avoid impacting on these key stages;
- The works would be carried out in accordance with the principles within pollution prevention guidelines;
- Pollution spill kits would be kept on site and in the event of an incident these would be used effectively;
- Any soils contaminated would be removed immediately to a suitable landfill site;
- Bins would be provided on site for debris;
- Bank works where possible would be carried out operating from the bank rather than within the watercourse;
- Where possible avoid excavating into the watercourse and limit the extent of disturbance;
- Cleaning of tools and shuttering would be carried out in water not draining directly to the watercourse; and
- In any event of expected heavy rain, pouring concrete and other activities which increase the risk of contaminating runoff would not be undertaken.

APPENDIX O – CLIMATE CHANGE: EFFECTS AND MITIGATION MEASURES

Climate Change

Baseline

The assessment of climate considers the potential impacts from greenhouse gas emissions associated with constructing and operating the Scheme and its ability to cope with changes as a result of extreme weather events and climate change. UK climate projections predict an increase in annual temperatures and rainfall, with wetter winters and drier summers, and increases in the frequency of heatwaves, prolonged periods with no rainfall and days with heavy rainfall.

Construction Impacts

Construction emissions have been estimated based on information regarding the quantity and types of materials needed and the estimated amount of waste produced. Emissions from the exhaust pipes of vehicles transporting materials to site, and from equipment being used on site, have also been estimated.

Mitigation Measures

Mitigation measures will be implemented to reduce greenhouse gas emissions during construction. Where practicable, the construction contractor will implement measures to manage material resource use and selection during construction, including but not limited to:

- Using materials with lower greenhouse gas emissions and water consumption;
- Using ultra-low carbon concrete; and
- Using reused, recycled, or secondary materials.

The Principal Contractor will develop and implement a plan to reduce and associated carbon emissions. A Plan is included in the PMP which contains environmental objectives and targets for the scheme, detailing elements, and activities for reducing associated carbon emission reductions, along with how these will be measured, recorded, reviewed, and evaluated.

The Scheme has been designed to be resilient to impacts arising from projected future weather events and general weather conditions and in accordance with current planning, design and engineering practice and codes.

Monitoring

in accordance with the monitoring requirements set out in DMRB LA 114 Climate, and to be secured through the CEMP, quarterly GHG emissions returns during construction and operation shall be reported. Data provided for the GHG returns shall be evaluated to inform any ongoing monitoring of GHG emissions and feed back into future assessment of projects during design development and planning approval.

APPENDIX P – MAJOR ACCIDENTS AND DISASTERS: EFFECTS AND MITIGATION MEASURES

Major Accidents and Disasters

Baseline

The baseline for major accidents and disasters is as follows:

- Features external to the Scheme that present a source of hazard and/or pathway to it;
- Sensitive receptors at risk of a significant effect if a major event were to occur; and
- Current (without the Scheme) major event risks.

Construction Impacts

The Scheme may be vulnerable to major accidents and disasters ('major events') during the construction stage. The potential major events include:

- River flooding;
- Pollution incidents;
- Drought;
- Major transport accidents;
- Electricity failures;
- Malicious attack on publicly accessible locations, transport systems, or infrastructure; and
- An explosion caused by utility or unexploded ordnance strike.

Mitigation Measures

The following mitigation measures include embedded mitigation and best practice measures to minimise or avoid a major event:

- Managing all construction risks in accordance with the Construction, Design and Management Regulations 2015;
- Establishment of this CEMP;
- Production of risk assessments and method statements including for future maintenance;
- Compliance with design standards including designing with environmental considerations in mind including climate change; and
- Co-ordination between the Applicant, the Principal Contractor and maintenance contractors to ensure that risks are managed in a coordinated way.

APPENDIX Q – CONSTRUCTION TRAFFIC MANAGEMENT: EFFECTS AND MITIGATION MEASURES

Construction Traffic Management

Baseline
Local receptors include local residents, local schools and other users of the local road network, users of PRoW and cycleways.

Potential Impacts
- Increase in traffic during the construction period on the local road network;
- Lane closures and night-time road closures expected to be required; and
- Temporary disruption to the public right of way is expected.

Mitigation Measures
- Works shall be designed and carried out in such a way as to minimise disruptions to traffic flows causing inconvenience to the public and without jeopardising the safety of road users.
- Designated managed site entrance and exit points.
- Construction traffic routing and site access points to be agreed with LCC – detailed construction route and phasing plan will be provided in the PVPCTMP (HSF-TF-0047a) following the appointment of the Principal Contractor.
- HGV deliveries, movements to and from the construction site will be coordinated and scheduled outside of peak operational hours and shift changeover times, where possible.
- The HGV delivery times will be known and fixed, and this information will be displayed on the temporary signage and could potentially be passed on to local residents via leaflet or notice.
- Construction traffic vehicle operators to be given clear directions and to be considerate of other road users and the local community.
- Banksman will be utilised to aid plant movement and enforce parking/loading rules. Vehicles will not be allowed to load, unload, or wait on any of the roads outside of the site area.
- Appropriate signage and site safety notices along length of fencing, including details of hazards, contact details and emergency telephone numbers.
- Consolidation of loads for delivery to site wherever possible.
- Provision of storage and marshalling yard for materials on site to avoid vehicles reversing onto highway.
- Encourage construction workers to use sustainable modes of transport (bus, cycle and/or walking) wherever possible to reduce impact of road traffic on local communities in the region.
- Control of visitors and personnel parking will be maintained, with no parking permitted in adjacent streets.
- The contractor will be required to ensure that public access and roadways are kept clean and free of debris. Appropriate wheel washing facilities will be installed at the site entrance.
- Where suitable security fencing does not exist, site to be secured using timber hoarding (or similar) fence panelling, double clipped and located securely using footings. Fencing shall surround the entire site to prevent unauthorised access and shall be maintained throughout the duration of the works. The gates to the site shall remain padlocked except during vehicle movements.
- Site inductions will be undertaken to ensure awareness of all personnel to travel and transport measures.

Monitoring
Environmental manager to carry out weekly checks of mitigation and management measures, and record appropriately. The effective implementation of construction traffic management and the associated plans discharges planning condition 3c (Application No. 23/1447/CCC and LCC Ref. No. PL/0087/23).

The PVPCTMP (HSF-TF-0047a) and Temporary Traffic Management Procedure (TTM-PR-0001) has been produced considering legislative requirements (e.g. Highways Act 1980; the New Roads and Street Works Act 1991; Town and Country Planning Act 1990; Traffic Management Act 2004; Police, Fire Authority and Health and Safety Executive Guidance; LCC Transport Schemes and Neighbourhood Lorry Restrictions). These are attached to the PMP and included here in Appendix Q.

The PVPCTMP (HSF-TF-0047a) will be reviewed and updated in line with the construction programme. It will typically include details of the following:

- Preferred hours of deliveries and removals (out of peak hours);
- Agreed demolition and construction traffic routing and site access points;
- Road cleaning facility provisioning;
- Temporary traffic control measures;
- Temporary and permanent access to the works for personnel/vehicles;
- Off-loading and storage areas;
- Traffic management procedures for waste disposal vehicles;
- Personnel and vehicle segregation;
- Equipment (e.g. temporary fencing, signage etc.);
- Temporary and permanent closures and diversions of footpaths;
- Street furniture removal, if required; and
- Site inductions.

General Traffic Management to Minimise Environmental Impacts

The general measures to mitigate the adverse impacts of vehicle activity include:

- The phasing of the Scheme to include access construction;
- The on-site parking of all vehicles of site operatives and visitors with no parking permitted in adjacent streets;
- The on-site loading and unloading of all plant and materials;
- The on-site storage of all plant and materials used in constructing the Scheme;
- The contractor will be required to ensure that public access and roadways are kept clean and free of debris. Appropriate wheel washing facilities will be installed at the site entrance;
- The routes of construction traffic to and from the site including any off-site routes for the disposal of excavated material;
- Works shall be designed and carried out in such a way as to minimise disruptions to traffic flows causing inconvenience to the public and without jeopardising the safety of road users;
- Designated managed site entrance and exit points;
- Construction traffic routing and site access points to be agreed with LCC;
- HGV deliveries, movements to and from the construction site will be coordinated and scheduled outside of peak operational hours and shift changeover times, where possible;
- The HGV delivery times will be known and fixed, and this information will be displayed on the temporary signage and could potentially be passed on to local residents via leaflet or notice;
- Construction traffic vehicle operators to be given clear directions and to be considerate of other road users and the local community;
- Appropriate signage and site safety notices along on fencing including details of hazards, contact details and emergency telephone numbers;
- Consolidation of loads for delivery to site wherever possible;
- Provision of storage and marshalling yard for materials on site to avoid vehicles reversing onto the highway; and

- Site inductions will be undertaken to ensure awareness of all personnel to construction traffic and vehicle measures.

Best practice construction measures will be implemented to ensure that hoarding is designed to account for wind loading. These will be strengthened along the boundaries of the site and kept in good working order. This will ensure that hoardings will be resilient to windstorms/gusts and can be erected and removed safely. Traffic signage and cones will be weighed down and signs will be removed prior to storm events to prevent damage.