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NORTH HYKEHAM RELIEF ROAD AIR QUALITY DUST MANAGEMENT PLAN

**NORTH HYKEHAM RELIEF ROAD
AIR QUALITY DUST MANAGEMENT PLAN**

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1. INTRODUCTION

1.1 Overview

Ramboll UK Limited ('Ramboll') has been commissioned by Balfour Beatty and Lincolnshire County Council (LCC) ('the Client') to prepare a Dust Management Plan (DMP) to a discharge a planning condition set by LCC for the North Hykeham Relief Road (NHRR) bypass scheme (hereinafter referred to as the 'Scheme') Located within the jurisdiction of North Kesteven District Council (NKDC).

1.2 Scope

The DMP is required to discharge the Lincolnshire County Council planning condition 3g for the Proposed Scheme which is outlined below:

'3. Prior to the commencement of development, a Construction Environmental Management Plan, incorporating a Construction Traffic Management Plan, shall be submitted to and approved in writing by the County Planning Authority. The Construction Environmental Management Plan shall be based on the Draft Construction Environmental Management Plan submitted on 21 March 2024 including, but not necessarily limited to, the following:

g. Construction Air Quality / Dust Management Plan, including implementation of best practice measures and regular road sweeping'.

1.3 Guidance

The DMP for this Scheme has been produced in accordance with the following guidance:

The Design Manual Roads and Bridges (DMRB) LA 105 Air Quality

The construction dust risk potential for the Proposed Scheme was determined in accordance with DMRB LA 105¹ based on the scheme type and distance of sensitive receptors (human and designated habitats) from construction activity (assumed to be at the scheme boundary as a worst case). A proposed materials processing area is located within the red line boundary, to the west of Grantham Road and therefore effects of dust from this location have been considered.

Institute of Air Quality Management: Construction Dust Guidance, 2022

The DMP for the Scheme has been produced in accordance with the IAQM Guidance on the assessment of dust from demolition and construction². This guidance provides a consistent methodology for assessing the risks of dust impacts from demolition and construction activities and for identifying the correct level of mitigation which should be applied to avoid significant air quality effects.

¹ Highways England, 2021. Highways England, Transport Scotland, Welsh Government and Department for Infrastructure (2021) Design Manual for Roads and Bridges. Sustainability and Environment Appraisal. LA 105 Air Quality. Revision 0.0.1

² Stoaling et al., 2024. Guidance on the assessment of dust from demolition and construction v2.1. Institute of Air Quality Management, London

2. CONTROL MEASURES

2.1 Dust Risk Potential

Construction dust effects associated with the Proposed Scheme were assessed in the North Hykeham Relief Road Environmental Statement Volume 2 Chapter 6³ using guidance provided by the DMRB LA 105. In accordance with this guidance the overall construction dust risk potential for the Proposed Scheme was found to be “high”.

For this Scheme, the general mitigation measures applicable to a high-risk site should be applied. However, there are some sections of the scheme where there are no receptors within 50m of the construction activities, where “low” mitigation measures may be applied where appropriate. Some of these areas include the western section of the bypass between the A46 and South Hykeham Road, land 800m to the west and east of the River Witham as shown in Figure 2.1.

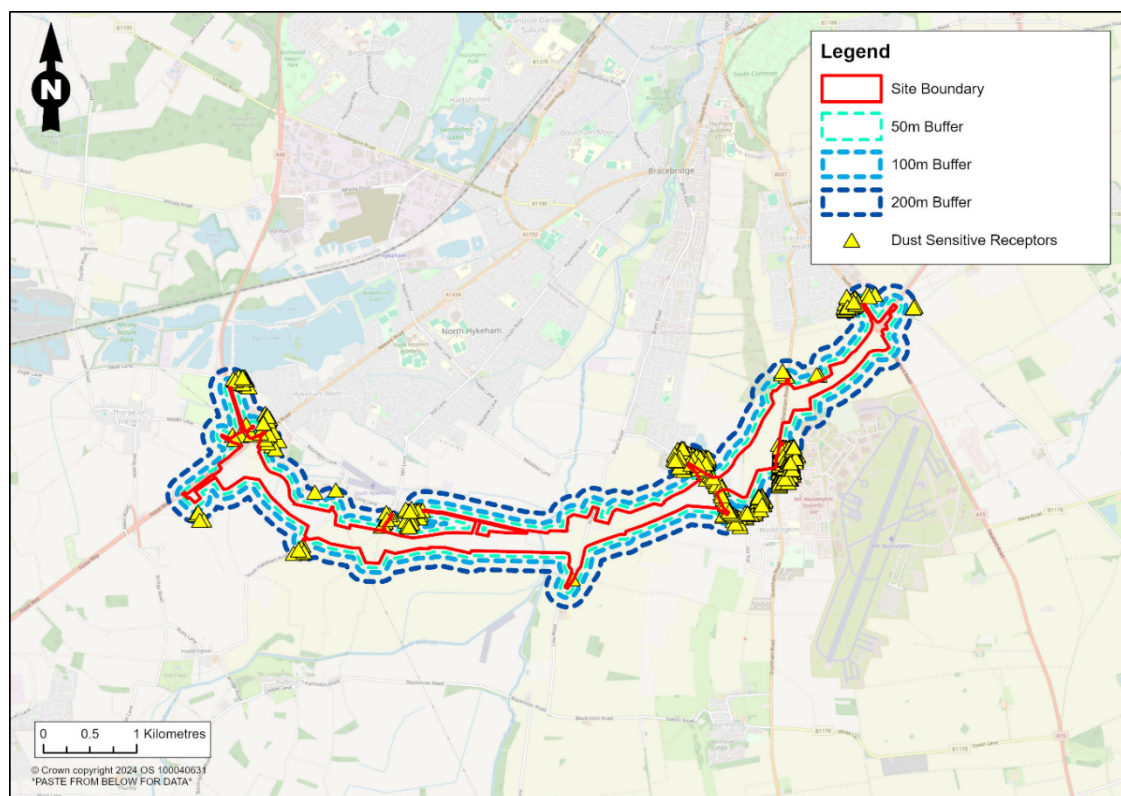


Figure 2.1 Dust Risk Assessment Study Area

2.2 Dust Mitigation Measures

The control of dust emissions from construction sites relies upon good site management and mitigation techniques to reduce emissions of dust and limit dispersion. A summary of the mitigation measures recommended in the IAQM guidance² to reduce impacts from high-risk sites is provided in Table 2-1 considering the nature of the development and its location. The proposed mitigations provided below are tried and tested and standard measures included in CEMPs on a regular basis.

³ Ramboll, North Hykeham relief Road Environmental Statement Vol1 Chapter 6 Air Quality (2023)

Table 2-1: Recommended Dust Mitigation Measures for Low and High Risk Sites (Based on IAQM Guidance)

Mitigation Measure	Low Risk	High Risk
N = Not Required; D = Desirable; H = Highly Recommended		
Communications		
Display name and contact details of responsible person for dust issues on Site boundary (Section 2.3.2) in addition to head/regional office contact information.	H	H
Develop and implement a Dust Management Plan (DMP) which would be included as part of the CEMP, to be approved by the LCC.	D	H
A Site Records Database will be maintained to record complaints and outcomes of the site inspections in the forms contained within (Appendix 2 and 3) and will be issued to the LCC upon request.	H	H
Site Management		
Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken in the log (Appendix 3)	H	H
Make the complaints log available to the LCC if requested.	H	H
Record any exceptional dust incidents on or off site.	H	H
Hold regular liaison meeting with other high risk construction sites within 500 m.	N	H
Monitoring		
Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the LCC when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100 m of site boundary, with cleaning to be provided if necessary.	D	H
Carry out regular inspections to ensure compliance with the DMP and record results in the site log book.	H	H
Increase the frequency of inspections during activities with a high potential to create dust or in prolonged dry weather.	H	H
Confirm with the LCC if dust deposition, dust flux, or real-time PM ₁₀ continuous monitoring is required. However, given that predicted PM ₁₀ within the study area are well below the objective, exceedances of the PM ₁₀ objectives at relevant receptors are unlikely and therefore a real-time monitoring programme is not considered to be required.	N	H
Preparing and Maintaining the Site		
Use solid screens around dusty activities and around stockpiles. Dusty activities can include crushing/screening, emptying dust bags into	H	H

Mitigation Measure	Low Risk	High Risk
N = Not Required; D = Desirable; H = Highly Recommended		
skips/containers, milling, grinding, sanding, sandblasting or other similar operations.		
Avoid site runoff of water and mud.	H	H
Fully enclose the site or specific operations where there is a high potential for dust production and the site is active for an extensive period (section 2.3.2).	D	H
Keep site fencing barriers and scaffolding clean using wet methods.	D	H
Remove dusty materials from site as soon as possible. Minimise emissions from stockpiles by covering, seeding, fencing or damping down.	D	H
Operating Vehicle/Machinery and Sustainable Travel		
Enforce an on-site speed limit of 15 mph on surfaced roads and 10 mph on unsurfaced areas.	H	H
Ensure vehicles switch off engines when stationary.	H	H
Avoid use of diesel or petrol generators where possible.	H	H
Produce a Construction Logistics Plan (CLP) to manage the sustainable delivery of goods and materials.	N	H
Implement a Travel Plan that supports and encourages sustainable travel.	N	H
Operations		
Cutting, grinding or sawing equipment only to be used with suitable dust suppression equipment or techniques.	H	H
Ensure adequate water supply for effective dust and particulate matter suppression.	H	H
Use covered skips.	H	H
Ensure suitable cleaning material is always available to clean up spills.	D	H
Waste Management		
Avoid bonfires.	H	H
Measure specific to Demolition (applies to the demolition of six residential buildings on Station Road (No. 46, 48, 50, 52, 58A and 58B).		
Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.	H	H

Mitigation Measure	Low Risk	High Risk
N = Not Required; D = Desirable; H = Highly Recommended		
Avoid explosive blasting using appropriate manual or mechanical techniques.	H	H
Bag and remove any biological debris.	H	H
Measures Specific to Construction		
Ensure aggregates are stored in bunded areas and are not allowed to dry out.	D	H
Avoid concrete scabbling where possible.	D	H
Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos.	N	H
For smaller supplies of fine powder materials ensure bags are sealed after use and stored appropriately to prevent dust.	N	D
Measures Specific to Trackout		
Use water-assisted dust sweepers to clean access and local roads.	D	H
Avoid dry sweeping of large areas.	D	H
Ensure vehicles entering and leaving the site are appropriately covered.	D	H
Inspections of haul roads to be recorded in site log, including any remedial action taken.	D	H
Implement a wheel washing system (section 2.3.4).	D	H
Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit.	N	H
Access gates to be located at least 10 m from the receptors where possible.	N	H
Measures Specific to Earthworks		
Re-vegetate earthworks and exposed areas / soil stockpiles to stabilise surfaces as soon as practicable.	N	H
Use Hessian, mulches or tackifiers where it is not possible to re-vegetate or cover with topsoil.	N	H
Only remove the cover in small areas during work and not all at once.	N	H

2.3 Detailed Scheme Mitigation Measures

2.3.1 Site Facilities

Site layouts have been planned as far as possible to mitigate dust impacts from sensitive receptors (**Appendix 3**).

2.3.2 Site Boundary

Hoardings and/or temporary noise/visual screening bunding will be placed around the construction compound areas and specific works activities. The remaining site boundaries will be formed via a mixture of existing boundary features, temporary fencing and where appropriate, the early installation of permanent fencing, to provide a clear and secure demarcation between construction activities and other areas. Particular attention will be paid to locations supporting high volumes of pedestrian movement, demolition and construction routes, access gates and security arrangements.

2.3.3 Site Water

The contractor will initially use water from the site that they collect into temporary ponds as part of their management of temporary surface water run-off/management of groundwater. Mains water will only be used as a last resort.

2.3.4 Wheel Washing Facilities

Wheel cleaning facilities with adjoining hard standings will be located at the egress points of the site. These wheel cleaning facilities will be supplemented by regular road cleaning during the excavation and road construction works and will have appropriate catchment areas.

2.3.5 Site Power

The contractor are looking at having semi-permanent electrical connections for compounds at:

- Brant Road;
- Grantham Road;
- A46 (Main Compound); and
- Station Road.

2.3.6 Site Personnel

The personnel to be will have responsibility for ensuring compliance with this DMP is to be confirmed, the below details will be updated when available. Balfour Beatty will have responsibility for ensuring community liaison to ensure that residents are kept appropriately informed regarding the works. The site contact responsible for community liaison is as follows:

Contact Name: To be confirmed

Contact Number: +44 (0) To be confirmed

Email: To be confirmed

2.3.7 Staff Welfare

Staff welfare facilities and offices for construction staff will be constructed on the site compounds. Figures showing the anticipated compound locations are presented in Appendix 4.

2.3.8 Hours of Work

Working hours are expected to be:

- 07:00 to 19:00 hours Monday to Friday;
- 09:00 to 13:00 hours Saturday; and
- No working on Sundays or Bank Holidays or full weekends

Any work outside the non-working hours will need written consent from LCC.

2.3.9 Training

The Training procedure is detailed in the CEMP, section detailed in Section 2.3.

3. SITE MONITORING

3.1 Logbook

A site log (**Appendix 2 and 3**) will be established and kept on-site. The site log will be used to record:

- The time, date, and result of the routine site inspections;
- The time and date of any exceptional dust incident on or off-site, and any steps taken to remedy the incident; and
- The details of any complaint and the action taken relating to the complaint;

The site logbook will be kept up to date and will be issued to LCC upon request. Supporting photographs taken will be appended to the report where relevant.

3.2 Visual Monitoring

A **daily visual inspection** will be carried out by the Site Manager, or an appropriately trained operator for visible dust emissions and deposition in the vicinity of the site boundary (internal and external) close to sensitive receptors shown in Figure 2.1 in the direction of the prevailing wind, indicative locations are shown in Figure 3.1 and are mainly focused around dust sensitive receptors are in Bracebridge Heath, Waddington, Hykeham Moor and South Hykeham. The results of this inspection shall be clearly recorded in the Daily Dust Monitoring Form (**See Appendix 3**) and will include:

- Observation of dust deposition on surfaces on-site and off-site, such as on;
 - Vehicles;
 - Signs; and
 - Other discernible surfaces.

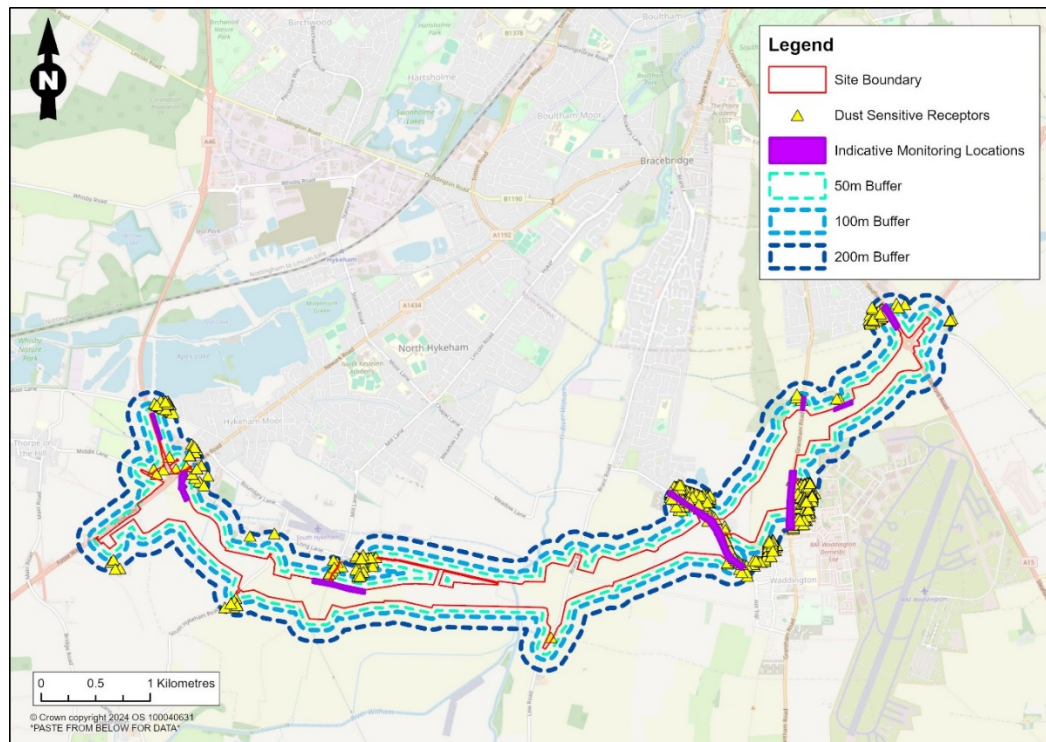


Figure 3.1: Indicative Monitoring Locations

If **significant dust** is identified beyond the site boundary, a DIC Form should be completed (see **Appendix 4**), and immediate investigation (e.g., though cross checking of site activities and monitoring data)/remedial action should be undertaken. The Site Manager will review Dust Event Forms regularly to ensure that any necessary actions have been implemented, and to identify problem areas where additional mitigation against further dust emissions may be necessary. LCC will be issued the Dust Event Form within 24 hours or the next working day if it occurs at a weekend or bank holiday.

3.3 Dust Incident Response

The following actions will be taken in the event of obvious visual impacts and / or complaints:

- On-site activities will be immediately inspected to identify likely sources;
- If on-site sources are identified as resulting in off-site dust deposition, the relevant activities will be halted until remedial mitigation activities can be implemented (e.g., wetting down, road sweeping, sheeting up);
- The activity will then be monitored to ensure that the mitigation measures are working and there is no repeat incident;
- Should a complaint be received, the complainant will be contacted by the person on-site responsible for community liaison (see section 3.4); and
- Incidents and actions taken will be recorded in the Site Log.

3.4 Community Liaison

The personnel to have responsibility for community liaison during the development phases is to be confirmed, the details will be updated when available.

Community liaison responsibilities will include the following:

- Recording and responding to enquiries or complaints from the local community, including local businesses and the general public;
- Communicating the programme of works, nature of the construction work and the mitigation measures being employed to the local community; and
- Updating the local community, including local businesses, of any disruptions or changes to the nature of works or programme of works, as necessary.

Site boards outlining information on the project and forthcoming works will be erected at the entrances to the site.

3.5 Complaints Procedure

A formal complaints procedure will be developed and displayed on the site boards at the entrance to the site. Stakeholders will also be informed of the complaint procedure as part of the communication programme.

The complaints procedure will satisfy the following requirements:

- Publication of contact details for relevant contacts, including telephone and email contact details;
- Conduction of an investigation, and development of any corrective actions;
- Undertaking of a written response to complainants; and
- All complaint communications will be logged and stored on site.

Should any **complaints** be received relating to dust soiling they will be recorded in the DIC Form (See **Appendix 3**) along with action taken. The DIC form will be issued to LCC within 24 hours or within the next working day if complaints are received at a weekend or bank holiday.

APPENDIX 1
DAILY VISUAL DUST MONITORING FORM

Daily Visual Dust Monitoring Form

Date	Time	Monitoring location	Weather conditions	Investigative action taken (to include on- and off-site observations)	Dust mitigation in place	Additional remedial measures undertaken to ensure compliance with the AQDMP	Preventative measures implemented to prevent further dust exceedances	Name and position of assessor	Signed by

APPENDIX 2

DUST INCIDENT AND COMPLAINT (DIC) FORM

DUST INCIDENT AND COMPLAINT (DIC) FORM					
Ref No.		Date		Time	
Complaint Notification (Yes/No)					
Contract Project Name:			Contract Project Number:		
Date:		Time:		Received By:	
Complainants Name:					
Telephone Number:					
Address:					
Weather Conditions:					
Type of Complaint (tick appropriate box)					
Dust:		Trigger alert:		Other:	
Description of complaint / incident:					
Investigative action taken:					
Details of mitigation in place:					
Remedial action taken:					
Preventative measures implemented to prevent further complains / incidents / exceedance:					
Is the complaint considered (please tick):	Justified <input type="checkbox"/>	Unsubstantiated <input type="checkbox"/>	Unfounded <input type="checkbox"/>		
Evidence:	Append photographic evidence as appropriate				

APPENDIX 3 SITE FACILITIES

