



KEY

SITE LOCATION
25.39 HECTARES / 62.74 ACRES

PROPOSED RESIDENTIAL DEVELOPMENT

PROPOSED 1 HECTARE FOR 1 FORM ENTRY SCHOOL + 1 HECTARE SAFE GUARDED LAND

PUBLIC OPEN SPACE (INCLUDING SuDS) - 8.08 HA / 19.97 ACRES

RETAINED EXISTING LANDSCAPE

ADDITIONAL/ REINSTATED VEGETATION

PRIMARY STREET / AVENUE

KEY FOCAL JUNCTION

SECONDARY STREET

SIDE STREET / SHARED SURFACE

PRIVATE LANES

RETAINED PUBLIC OF RIGHT OF WAY

KEY PEDESTRIAN MOVEMENT WITHIN SITE

SUSTAINABLE URBAN DRAINAGE

NEIGHBOURHOOD EQUIPPED AREA OF PLAY

LOCALLY EQUIPPED AREA OF PLAY

LOCAL AREA OF PLAY/ NATURAL PLAY SPACE

KEY VISUAL CORRIDORS

- KEY PRINCIPLES**
1. PROPOSED NEW ACCESS VIA HIGHWAYS IMPROVEMENTS TO STOKE ROAD;

2. PRIMARY STREET PROVIDING VEHICULAR, PEDESTRIAN AND CYCLE MOVEMENT;

3. SECONDARY MOVEMENT ROUTES PROVIDING A LOOPED INFRASTRUCTURE TO PRIMARY MOVEMENT ROUTES;

4. SHARED SURFACE ROUTES SERVING CLUSTERS OF DEVELOPMENT;

5. PRIVATE LANES SERVING OUTWARD FACING DEVELOPMENT PROVIDING PASSIVE SURVEILLANCE OVER NEWLY CREATED OPEN SPACE;

6. HIGHWAYS IMPROVEMENTS ALONG NORMANDY ROAD PROVIDING DEDICATED CROSSING POINTS TO EXISTING DEVELOPMENT;

7. RETAINED PUBLIC RIGHT OF WAY RUNNING NORTH-SOUTH THROUGH DEVELOPMENT, PICKING UP KEY EAST-WEST MOVEMENT ROUTES;

8. KEY PEDESTRIAN MOVEMENT ROUTES RUNNING IN A NORTH-SOUTH AND EAST-WEST MOVEMENT ROUTES OFFERING FULL PEDESTRIAN PERMEABILITY;

9. KEY MEETING POINT AT HIGHEST POINT OF DEVELOPMENT PROVIDING KEY VISUAL CORRIDORS TO SURROUNDING CONTEXT;

10. KEY PLAY SPACES ALONG PEDESTRIAN MOVEMENT ROUTES SERVING MAXIMUM RESIDENTS

11. MAXIMUM RETENTION OF EXISTING FIELD BOUNDARIES AND WOODED AREAS;

12. CREATION OF COMMUNITY SPACES IN THE FORM OF COMMUNITY ORCHARDS AND INFORMAL KICK ABOUT AREAS;

13. CREATION OF A SERIES OF GREENWAYS PROVIDING A KEY WILDLIFE NETWORK THROUGHOUT DEVELOPMENT;

14. PROPOSED ADDITIONAL PLANTING TO THE NORTHERN EDGE TO AID BIO-DIVERSITY AND WILDLIFE OPPORTUNITIES;

15. POTENTIAL SCHOOL SITE WITH SAFE GUARDED LAND FOR FUTURE SCHOOL EXPANSION;

16. KEY (PEDESTRIAN MEETING POINTS PROVIDING RESIDENTS OPPORTUNITIES WITH SOCIAL INCLUSION;

17. SITE LOW POINTS UTILISED FOR SUSTAINABLE URBAN DRAINAGE AIDING WETLAND HABITATS ALONG EXISTING WATERCOURSES;

18. MAXIMUM CONTINUOUS FRONTAGE ALONG DEVELOPMENT ABUTTING NORMANDY WAY TO REDUCE IMPACT OF ACOUSTIC INTERFERENCE TO REAR GARDEN SPACES;

19. STREETS AND DEVELOPMENT ORIENTATED TO RUN WITH CONTOURS REDUCING IMPACT OF RETAINING STRUCTURES ON STREET SCENE;

20. 2M HIGH PLANTED BUND TO REDUCE ANY POTENTIAL ACOUSTIC DISTURBANCE; AND

21. POTENTIAL ACCESS POINT FOR FUTURE DEVELOPMENT.

APPENDIX C: PLANNING POLICY AND LEGISLATION

National Legislation and Planning Policy

The UK Air Quality Strategy

European Union (EU) legislation forms the basis of air quality policy and legislation in the UK. The EU 2008 ambient Air Quality Directive¹ sets limits for ambient concentrations of air pollutants including nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}). The air quality standards and objectives are prescribed through the Air Quality (England) Regulations 2000², as amended, for the purpose of the Local Air Quality Management Framework.

The UK Government are required under the Environment Act 1995³ to produce a national Air Quality Strategy (AQS). The AQS was first published in 1997⁴ and was most recently reviewed and updated in 2007⁵. The AQS provides an overview of the Government's ambient air quality policy and sets out the air quality standards and objectives to be achieved and measures to improve air quality.

Part IV of the Environment Act³ requires local authorities in the UK to review local air quality within their administrative area and, if relevant air quality standards and objectives are likely to be exceeded, designate Air Quality Management Areas (AQMAs). Following the designation of an AQMA, local authorities are required to publish an Air Quality Action Plan (AQAP) detailing measures to be taken to improve local air quality and work towards meeting the relevant air quality standards and objectives.

National Planning Policy Framework

The National Planning Policy Framework (NPPF)⁶ was amended in July 2021 and sets out the Government's planning policies for England and how these are expected to be applied.

The NPPF⁶ recognises air quality within Section 15: Conserving and enhancing the natural environment, and states that:

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

[...]

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans;

[...]

Ground conditions and pollution

[...]

Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development.

[...]

Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan."

With regard to assessing cumulative effects the NPPF⁶ states:

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development.

[...]"

Planning Practice Guidance

The Planning Practice Guidance (PPG) for air quality⁷ was updated in November 2019 and provides guiding principles on how the planning process can take account of the impacts of new development on air quality.

The PPG⁷ sets out the following with regard to air quality and planning:

- "What air quality considerations does planning need to address;
- What is the role of plan-making with regard to air quality;
- Air quality concerns relevant to neighbourhood planning;
- What information is available about air quality;
- When could air quality considerations be relevant to the development management process;
- What specific issues may need to be considered when assessing air quality impacts;
- How detailed does an air quality assessment need to be; and
- How can an impact on air quality be mitigated".

The PPG⁷ sets out the pollutants for which there are legally binding limits for concentrations and those which the UK also has national emissions reduction commitments.

The PPG⁷ states that development plans may need to consider:

- *“what are the observed trends shown by recent air quality monitoring data and what would happen to these trends in light of proposed development and / or allocations;*
- *the impact of point sources of air pollution (pollution that originates from one place);*
- *the potential cumulative impact of a number of smaller developments on air quality as well as the effect of more substantial developments, including their implications for vehicle emissions;*
- *ways in which new development could be made appropriate in locations where air quality is or is likely to be a concern, and not give rise to unacceptable risks from pollution. This could, for example, entail identifying measures for offsetting the impact on air quality arising from new development including supporting measures in an air quality action plan or low emissions strategy where applicable; and*
- *opportunities to improve air quality or mitigate impacts, such as through traffic and travel management and green infrastructure provision and enhancement”.*

The PPG⁷ also states what may be considered relevant to determining a planning application and these include whether a development would:

- *“Lead to changes (including any potential reductions) in vehicle related emissions in the immediate vicinity of the proposed development or further afield. This could be through the provision of electric vehicle charging infrastructure; altering the level of traffic congestion; significantly changing traffic volumes, vehicle speeds or both; or significantly altering the traffic composition on local roads. Other matters to consider include whether the proposal involves the development of a bus station, coach or lorry park; could add to turnover in a large car park; or involve construction sites that would generate large Heavy Goods Vehicle flows over a period of a year or more;*
- *Introduce new point sources of air pollution. This could include furnaces which require prior notification to local authorities; biomass boilers or biomass-fuelled Combined Heat and Power plant; centralised boilers or plant burning other fuels within or close to an air quality management area or introduce relevant combustion within a Smoke Control Area; or extraction systems (including chimneys) which require approval or permits under pollution control legislation;*
- *Expose people to harmful concentrations of air pollutants, including dust. This could be by building new homes, schools, workplaces or other development in places with poor air quality;*
- *Give rise to potentially unacceptable impacts (such as dust) during construction for nearby sensitive locations;*
- *Have a potential adverse effect on biodiversity, especially where it would affect sites designated for their biodiversity value”.*

The PPG⁷ provides guidance regarding what should be included within an air quality assessment. Examples of potential air quality mitigation measures are also provided.

Local Planning Policy

Hinckley & Bosworth Borough Council, Core Strategy (2009)

The Core Strategy is a key document which makes up the Local Plan 2006 – 2026 for Hinckley & Bosworth Borough Council. The Core Strategy was adopted in 2009 and sets out the strategies and policies to be used to guide development in the borough until 2026. There were no relevant policies relating to air quality.

Hinckley & Bosworth Borough Council are in the process of updating the local plan which will guide development in the borough until 2039. This was subject to consultation and is aimed for examination in 2022. Although not yet adopted, the following policies from the draft local plan will relate to air quality and were reviewed and considered:

“PMD01 High Quality Design

The Borough Council will require the highest standards of design, architecture, inclusivity and place-making.

[...]

Development will be supported where the following requirements are met:

The amenity and privacy of nearby residents are not adversely affected, including by matters of lighting, air quality, odour, noise, vibration and visual intrusion

[...].”

“PMD03 Preventing Pollution

Adverse impacts from pollution will be prevented by ensuring that development proposals demonstrate that:

It will not adversely impact air quality

[...].”

The above policies were taken into consideration throughout the undertaking of the assessment.

APPENDIX D: TRAFFIC DATA UTILISED IN THE AIR QUALITY ASSESSMENT

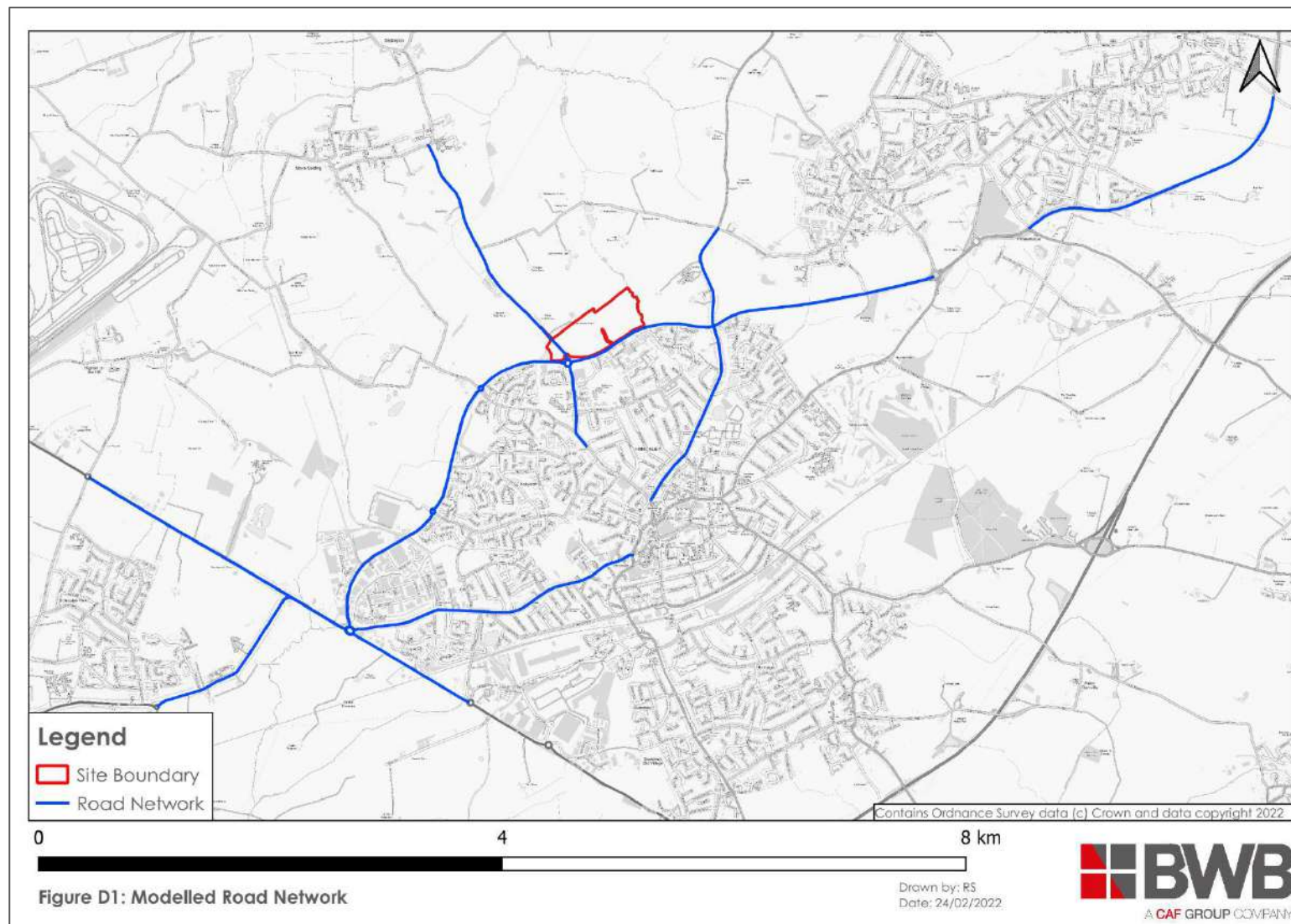
Table D1: Traffic Data Utilised in the Air Dispersion Modelling Assessment

Road Link	Speed	Scenario 1: 2019 Verification Year		Scenario 2: 2022 Base Year		Scenario 3: 2024 Opening Year Without Development		Scenario 4: 2024 Opening Year With Development	
	Km.hr ⁻¹	24 hour AADT Total Flow	HDV Flow	24 hour AADT Total Flow	HDV Flow	24 hour AADT Total Flow	HDV Flow	24 hour AADT Total Flow	HDV Flow
Stoke Road – North of Site	96	6,006	56	6,062	57	7,206	58	7,346	58
A47 Normandy Way – East of Stoke Road	64	25,044	652	25,274	658	29,601	670	30,441	670
Stoke Road – South of A47	64	8,506	86	8,585	87	9,135	89	9,950	89
A47 Normandy Way – West of Stoke Road	64/80*	16,099	609	16,247	614	20,041	625	20,991	625
A47 Normandy Way – West of Ashby Road	64	19,645	935	19,826	944	24,300	961	25,140	961
B4667 Ashby Road – South of A47	48	13,008	450	13,127	454	13,250	463	13,470	463
A47 Normandy Way – East of Ashby Road	96	15,521	743	15,664	750	17,718	764	18,288	764
A447 Ashby Road – North of A47	48	13,150	766	13,271	773	16,631	787	16,681	787
A5 – Between A47 The Long Shoot and A47 Dodwells Road	64	34,002	3,229	34,315	3259	36,621	3,318	37,051	3,318
A47 Dodwells Road – North of A5	64/80*	17,900	1,911	18,064	1929	20,786	1,964	21,331	1,964
B4666 Coventry Road – North of A5	48	13,081	859	13,201	867	12,630	883	12,710	883
A5 – South of Dodwells Road	80	20,555	2,979	20,744	3006	21,750	3,061	21,780	3,061
A47 The Long Shoot – South of A5	48	21,626	1,120	21,824	1131	23,589	1,151	23,938	1,151
A5 – West of A47 The Long Shoot	80	15,731	2,832	15,876	2858	16,612	2,909	16,693	2,909
A47 Normandy Way – East of Leicester Road	64	13,513	518	-	-	-	-	-	-

* Lower speed utilised in Scenario 3 and 4 to reflect proposed reduction in speed limit, - data not required in scenario

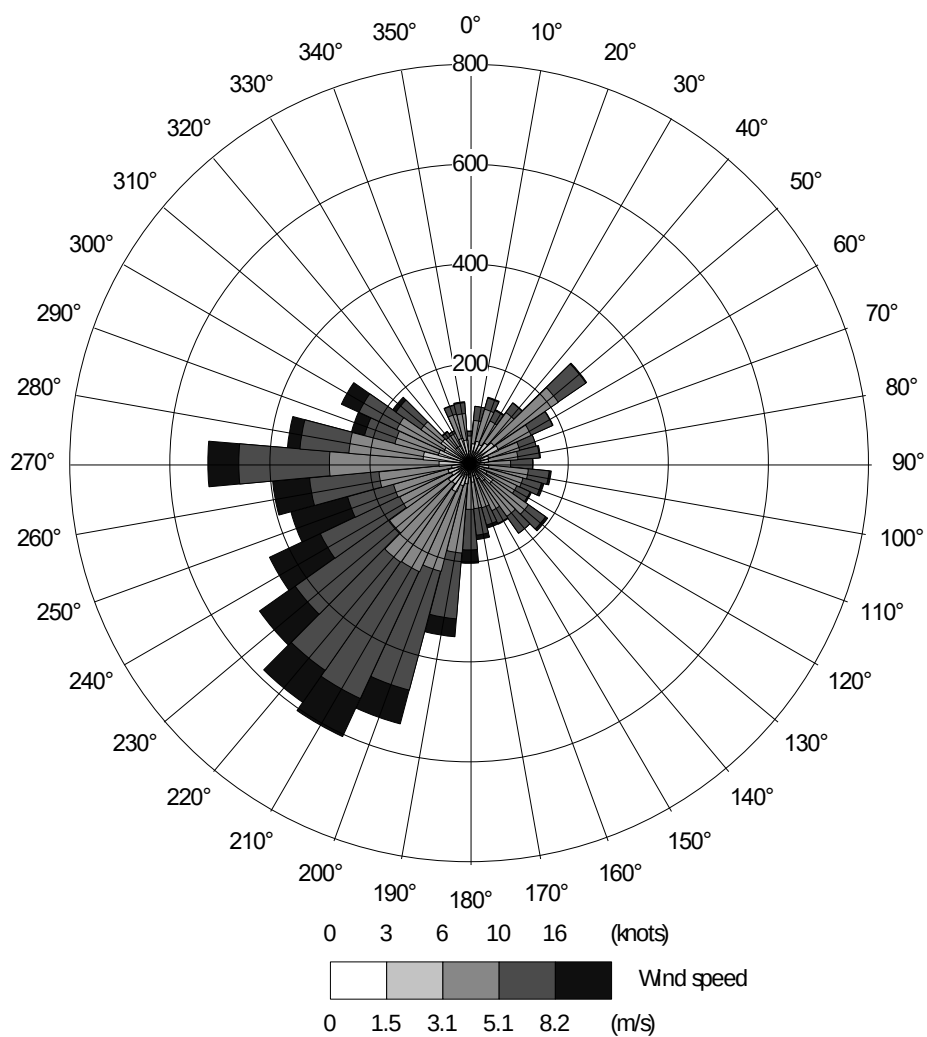
An illustration of the road links included in the ADMS-Roads model is provided in **Figure D1**.

Figure D1: Road Links Included in the ADMS-Roads Model



**APPENDIX E: WIND ROSE FOR 2019 FOR EAST MIDLANDS AIRPORT METEOROLOGICAL
RECORDING STATION**

Meteorological data for 2019 Verification Year scenario for the East Midlands Airport recording station was obtained for use in the air dispersion modelling assessment. The wind rose for 2019 is detailed below and illustrates a predominant wind direction from the southwest.



APPENDIX F: MODEL VERIFICATION

Whilst ADMS-Roads is widely validated for use in this type of assessment, model verification for the area around the Site will not have been included. To determine model performance at a local level, a comparison of modelled results with monitored results in the study area was done in accordance with the methodology provided by Defra. This process of verification aims to minimise modelling uncertainty by correcting modelled results by an adjustment factor to give greater confidence to the results.

The model was run for Scenario 1: 2019 Verification Year to predict the 2019 annual mean road contributions of NO_x at the monitoring locations in the study area. The model NO_x outputs at these locations were compared to the 2019 monitored concentrations to provide adjustment factors. **Tables F1** presents the verification process for NO_x. **Figure F1** detailed the monitoring locations utilised in the model verification.

No monitoring of PM₁₀ or PM_{2.5} is undertaken within the study area. Therefore the adjustment factor calculated during the NO_x verification process was utilised to adjust predicted concentrations of PM₁₀ and PM_{2.5}.

Table F1: NO_x Verification Process

Model Verification Steps	DT8	NB35
2019 monitored total NO ₂ (µg.m ⁻³)	19.1	23.3
2019 background NO ₂ concentration (µg.m ⁻³)	11.5	15.0
Monitored road contribution NO _x (µg.m ⁻³)	14.2	15.5
Modelled road contribution NO _x (µg.m ⁻³)	4.5	4.5
Ratio of monitored road NO _x to modelled road NO _x	3.2	3.4
Adjustment factor for modelled road contribution NO_x	3.2803	
Adjusted modelled road contribution NO _x (µg.m ⁻³)	14.7	14.9
Modelled total NO ₂ concentration (µg.m ⁻³)	19.4	22.9
Monitored total NO ₂ concentration (µg.m ⁻³)	19.1	23.2
% difference between modelled and monitored total NO ₂ concentration	+1.5	-1.3
RMSE % (should be less than 25% and ideally less than 10%)	0.7	

* Road-NO_x component, determined from NO_x to NO₂ calculator

A road-NO_x factor of **3.2803** was determined as the slope of the best fit line between the 'measured' road contribution and the model derived road contribution, forced through zero. This factor was then applied to the modelled road-NO_x concentration at each receptor, before conversion to NO₂ concentrations using the NO_x to NO₂ calculator provided by Defra and the adjusted NO₂ background concentration.

Figure F1: Monitoring Locations Utilised in the ADMS-Roads Model Verification Process

