



Northern Gateway

Area GMA 1.1 – Noise & Air Quality High Level Constraints Review

A104444-5

June 2021

Prepared by WYG Environment Planning Transport Limited
on behalf of Northern Gateway Development Vehicle LLP



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Drawings

A104444-5-MAN-N-01 Site Location Plan

A104444-5-MAN-N-601 Noise Receptor Location Plan





1.0 Introduction

WYG has been commissioned by Northern Gateway Development Vehicle LLP ('NGDV') to undertake a high-level desktop and site reconnaissance constraints and opportunities review of a site referred to as Area GMA 1.1 within the proposed Greater Manchester Northern Gateway development area.

The site is identified as Allocation GM 1.1 in the draft Greater Manchester Strategic Framework (GMSF). It forms part of the strategic cross-boundary 'Northern Gateway' allocation positioned around the intersection of the M60, M62 and M66 Motorways.

1.1 Instruction

This desk top assessment and constraints review provides information to support the promotion of GMA 1.1 for allocation in the Greater Manchester Spatial Framework (GMSF). The findings from the assessment will be used to inform the site masterplan as it is updated and refined.

This report has assessed the land shown on A104444-5-MAN-N-01. It forms the majority part of proposed allocation GMA 1.1 'Heywood/Pilsworth (Northern Gateway)' in the draft GMSF. The north-eastern part of the proposed allocation already benefits from an outline planning permission for mixed use employment and residential development (the 'South Heywood' scheme, granted in March 2020). Since this part of the site already benefits from permission and is currently being delivered, it is not included within this assessment work commissioned by the NGDV.

1.2 Objectives

The overall objectives of the report are to:

1. Provide background desk-top and site reconnaissance information
2. To assess the constraints and opportunities for development



3. To present next steps a) to assess constraints and opportunities and b) to address planning requirements (for allocation stage only).

The specialism specific objectives are:

1. Provide a desk-top review of the existing air quality and noise climate.
2. To review and identify any noise and air quality constraints and opportunities for the future development site for its intended end use.

1.3 Proposed Development

It is understood at this stage that Area GMA 1.1 will be developed primarily for commercial and industrial purposes (B1, B2 and B8 of the Town and Country Planning Use Classes Order 1987) with associated spine roads, and soft and hard landscaping, and around 200 residential dwellings in the west of the site, off Castle Road.

The 'South Heywood' scheme in the north-eastern part of the GMSF allocation already benefits from planning permission for a new link road, industrial development, 1000 new dwellings and a new local centre and primary school. This report does not consider this part of the allocation since it has already been subject to detailed assessment through the planning application.



2.0 Site Setting

2.1 Location and Size

Key details for Area GMA 1.1 are summarised in the table below.

Site Specifics	
Address	Land to the north of the M62 & M66 junction (Simister Island), Rochdale.
Grid Reference	383550, 407966
Site Area	500 Hectares

2.2 Site Description

The site currently comprises agricultural land with local & main roads crossing through the proposed development area. There are a number of farms & residential properties within the site boundary along with a golf course, Birch Industrial Estate, and Birchwood Services. The northern boundary is identified with a reservoir and watercourses.

Boundary	Description
North	Pilsworth Landfill Site, agricultural land and the South Heywood Development.
East	Agricultural land and residential properties.
South	M62 constraints the southern boundary beyond which Area GMA 1.2 is located.
West	M66 constraints the western boundary beyond which agricultural land and residential properties and GM Allocation 1.3 are located.

2.3 Site Walkover

At this site promotions stage, a desk top only assessment has been undertaken.



3.0 Desk Top Review

3.1.1 Noise Baseline

A desk top review of the site and surrounding area has been undertaken using Ordnance Survey plans and Google Maps. Based on this review, it is expected that the noise environment at the site will be dominated by road traffic noise sources from the M62 to the south of the site and M66 to the west. Noise from farming, commercial and industrial uses are also expected to be present within isolated areas within and adjacent to the site.

3.1.2 Air Quality Baseline

Source of Information Consulted

In order to complete the high-level constraints, a review of the following sources of information were consulted:

- National Planning Policy Framework, Ministry for Housing, Communities and Local Government, (Revised) February 2019.
- Planning Practice Guidance: Air Quality, Ministry for Housing, Communities and Local Government, November 2019.
- The Air Quality Standards Regulation (Amendments), 2016.
- Local Air Quality Management Technical Guidance LAQM.TG16, Defra, 2018.
- Guidance on the Assessment of Dust from Demolition and Construction, IAQM, 2014.
- Land-Use Planning & Development Control: Planning for Air Quality, EPUK & IAQM, 2017.
- Guidance on Monitoring in the Vicinity of Demolition and Construction Sites, IAQM, October 2018.
- A Guide to the Assessment of Air Quality Impacts on Designated Nature



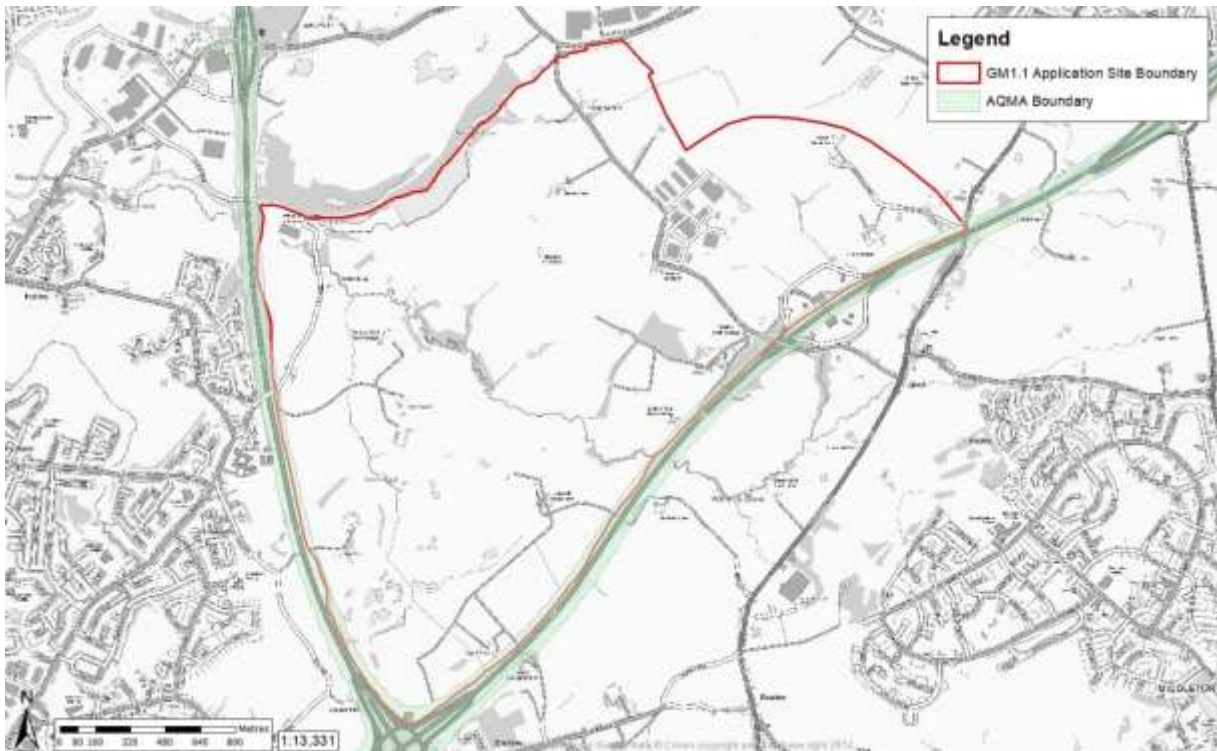
Conservation Sites (Version 1.0), IAQM, June 2019.

- Defra Background Maps (<https://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html>) (May 2019);
- Air Pollution Information Systems (APIS) (<http://www.apis.ac.uk/>); and,
- MAGIC maps (<http://www.natureonthemap.naturalengland.org.uk/magicmap.aspx>).

Existing Air Quality

The Proposed Development site is located within the Greater Manchester Combined Authority Area. This is comprised of the ten Manchester boroughs, including Rochdale Borough Council and Bury Council, which Area GMA 1.1 falls within. Greater Manchester have declared an Air Quality Management Area (AQMA) for Nitrogen Dioxide (NO₂) primarily from traffic emissions where there are exceedances of the national Air Quality Objective of 40µg/m³. The location of the AQMA in relation to the site is shown on Figure A104444-5-MAN-N-701 below. The AQMA is attributed to the motorway network.

Figure A104444-5-MAN-N-701 AQMA in Relation to the Site



Motorway emissions associated with the M66 and M62 are considered to be the greatest source of emissions surrounding the proposed development site.

The Greater Manchester Combined Authority monitoring locations, adjacent to the M62, monitored a nitrogen dioxide (NO₂) annual mean concentration during 2018 of 41.9 µg/m³. This monitored concentration is in exceedance of the NO₂ AQO of 40 µg/m³.

There is no monitoring available adjacent to the site boundary along the M66, however there is sufficient information available within the Air Quality Annual Status Reports for the neighbouring local authorities regarding NO₂ diffusion tube data, which can be used to create a reliable air quality dispersion model at later assessment stages. Monitoring undertaken by the local authority is located within the air quality study area for the development, including locations along the M60 and M62.

Following a review of the site and surrounding area using the online MAGIC facility, no ecological receptors sensitive to changes in pollutants were identified. WYG Air Quality Consultants have liaised with the Project Ecologist,



who have confirmed that there are no European or National designated sites within 2.0km of the site boundary. However, two Local Nature Reserves (LNRs) have been identified within 2.0km of the site boundary. In terms of Construction phase effects upon the ecological sites, LNRs are of 'low' sensitivity in terms of dust deposition in accordance with the IAQM Guidance on the 'Assessment of Dust from Demolition and Construction' (published in January 2014). Therefore, with implementation of recommended mitigation in the form of best practice site management measures, no adverse impacts are expected at the LNRs as a result of the development.



4.0 Constraints and Opportunities

4.1 Constraints Overview

4.1.1 Noise and Air Quality

A number of mitigation options have been considered in the following section with regard to both air quality and noise. Providing these mitigation options are considered at planning stage, it is not considered that any of the identified constraints would preclude the development. On this basis it is considered that through incorporation of these mitigation options it could be demonstrated that the site would be suitable for allocation.

4.2 Constraints and Potential Mitigation

4.2.1 Noise

Generally, there are a limited number of noise sensitive receptors within and around the site. An indicative receptor location plan is presented on Drawing No. A104444-5-MAN-N-601. The locations represent both isolated and clusters of residential receptors. Given the proximity of the site to motorways, low to high existing noise levels at the receptor locations are anticipated.

Primarily the key issues will be during the master planning and detailed design stages of the proposed development to ensure that, assuming these are retained as private residential premises, the isolated residential properties within and adjacent to the sites are protected sufficiently from noise from the development during both day and, particularly, night periods.

This could include measures such as:

- Positioning offices, light industrial units etc. between more 'noisy' units and the residential premises e.g. creation of a good neighbour zone which could then reduce risks / limit restrictions on any B2 / B8 use; and,



- Separation distance between the employment uses and residential properties.

In addition to the above, more detailed design considerations would include:

- Orientating service yards / access routes away from the properties.
- Screening around the service yards (barriers).
- Restriction of deliveries / servicing times within areas closest to residents.
- For B2 use, using the building construction to minimise noise breakout from processes etc; and,
- Careful consideration of B8 use for large food distribution centres where trailers with refrigeration units will be docked. Especially, during quieter night-time periods, noise from the unit's operating cumulatively could be audible at on / off site residential receptors. Therefore, careful consideration of the siting of these units and positioning of the service bays should be undertaken.

The above should also be applied to residential premises around the periphery of the site but adequate mitigation should be more easily manageable in these areas.

In addition, depending on the location of main internal spine routes, there is the potential that adverse noise impacts could occur at sensitive receptors (e.g. Coal Pits Farm and Unsworth Moss Farm) from Heavy Goods Vehicle (HGV) movement. Depending on the location of proposed sensitive receptors in proximity to internal spine routes, use of localised screening such as barriers or earth bunds, could be incorporated into the final design to offset any potentially adverse impacts. It is worth noting that within the southern part of the site, existing noise levels are expected to be high due to the proximity to the M62, as such it is anticipated that the impact from additional HGVs on internal spine routes within the southern part of the Site would be negligible.



In addition to the recommendations presented above, which consider the relationship between proposed commercial / industrial areas and residential areas, the following options presented below could be incorporated into the residential design to provide mitigation to existing sources of noise which is predominantly dominated by road traffic:

- Incorporation of a minimum provisional stand-off distance of 50m from the nearest motorway carriageway.
- Orientation of buildings towards noise sources, with gardens position to the rear to provide screening to private external amenity areas.
- Use of boundary treatment, such as bunds or barriers, along the perimeter boundaries between proposed residential areas and motorway boundaries to provide additional screening from sources of transportation noise.

4.2.2 Air Quality

Future development traffic has the potential to increase pollutant levels in the area and affect levels within the Air Quality Management Area. The screening criteria from the EPUK & IAQM guidance document is given below where if no exceedances of these levels occur, further assessment can be screened out:

- Change of light vehicles by
 - More than 100 annual average daily trips (AADT) within or adjacent to an AQMA
 - More than 500 AADT elsewhere
- Change of HGV by:
 - More than 25 AADT within or adjacent to an AQMA
 - More than 100 AADT elsewhere

It is expected that the above criteria will be exceeded based upon the



proposed use of the Development Site and therefore, a detailed Air Quality Assessment will be required at the planning application stage. Further information about the methodology of this future assessment is detailed within Section 5 of this Noise & Air Quality report.

Any receptors near roads experiencing less than this change in traffic would not be expected to be significantly affected by changes in pollutant levels.

With appropriate mitigation, any impact could be reduced with further details of opportunities presented in Section 4.2. below.

With regard to proposed residents, if relevant, it is considered likely that any stand-off from the motorways required due to noise constraints would be sufficient as a form of mitigation for Air Quality.

4.3 Opportunities

With regard to noise and air quality, opportunities include the large site area enabling consideration within the design to avoid or minimise significant adverse impacts. This could potentially include positioning sources of emissions, e.g. spine roads, away from sensitive receptors where feasible.

As stated within the 2019 Draft GMSF, development will be required to provide *'high quality green and blue infrastructure network to provide health benefits to workers and residents as well as creating a visually attractive environment. This should include the enhancement of existing features such as Whittle and Brightley Brooks'*. Such provision provides opportunities to for amenity space in a more tranquil environment.

Regarding air quality, there is the opportunity to include best practice mitigation measures as recommended below:

The provision of at least 1 Electric Vehicle (EV) “fast charge” point per 1000m² of commercial floorspace. Where development generates significant additional traffic, provision of a detailed travel plan (with provision to measure its implementation and effect) which sets out measures to encourage



sustainable means of transport (public, cycling and walking) via subsidised or free-ticketing, improved links to bus stops, improved infrastructure and layouts to improve accessibility and safety.

With these measures in place, and through appropriate assessment, there are unlikely to be any restrictions to the developability of the site.

4.4 Planning Requirements

4.4.1 Next Steps – Requirements for Allocation

Noise

The desk-based assessment has identified that there are no noise constraints that would preclude the proposed development subject to appropriate design measures. It is not considered that further steps are required to demonstrate that the proposed allocation of the Site is suitable in relation to considerations of noise impact.

Air Quality

The desk-based assessment has identified that there are no air quality constraints that would preclude the proposed development subject to appropriate design measures. It is not considered that further steps are required to demonstrate that the proposed allocation of the Site is suitable in relation to considerations of air quality.

4.4.2 Next Steps – Requirements for Future Planning Application

Noise

Noise surveys will be required to determine existing noise levels at identified sensitive receptor locations both on and off site (existing residential receptor locations shown in Figure A104444-5-MAN-N-601). These should include long term periods (for example, half a week to a week) to enable baseline conditions to be determined during a variety of periods including the more



sensitive evening, night-time and weekend and periods.

Input should be provided as necessary during master planning to agree on suitable acoustic mitigation measures. This could be particularly required as part of master planning to support a planning application. During this stage noise modelling should be undertaken based on illustrative proposals to more accurately define what noise control measures, e.g. stand-off distance, barriers, building orientation, will be required to be incorporated.

A road traffic noise assessment, which will also need to consider any on-site receptors which are located within proximity of any proposed internal access roads, will need to be undertaken. This could be undertaken once details of traffic generation and access arrangements associated with the development are known.

The recommendations stated above will also apply to proposed residential uses. In addition, mitigation could be incorporated into the residential design (such as building orientation, stand-off distances, barriers etc) which would be identified at later design stages, if appropriate.

Air Quality

Based on the likely number of development trips and master plan, a detailed air quality model should be developed to establish the significance of effects including the cumulative effect of development traffic on the surrounding Greater Manchester Air Quality Management Area (AQMA). This is in accordance with the IAQM Guidance for 'Land-Use Planning & Development Control: Planning For Air Quality' (January 2017) which states that if greater than 100 Annual Average Daily Traffic (AADT) flows car or 25 AADT HGV's, as a result of the proposed development, enter the AQMA, a detailed Air Quality Assessment would be required.

Given the proposed industrial use of the site and the likely number of development trips, the pollutants concentration at the surrounding existing residential dwellings and adjacent AQMA, are expected to increase.



The proposed Development Site is not generally considered to be sensitive in terms of air quality, however, the development may introduce a small number of highly sensitive receptors (e.g. residential dwellings). Although these are not located within an AQMA, an assessment of the predicted exposure from the adjacent and surrounding motorway road network would be required.

The results of the detailed Air Quality Assessment can be expected to show an increase in pollutant concentration associated with the development. A review of the existing surrounding local authority monitoring, and estimated car and HGV vehicle movements has shown that an increase of 100 AADT HGVs and/or 1,000 AADT cars are likely to show a significant effect in EIA terms.

Mitigation in the form of sustainable transport options should therefore be implemented. Sustainable transport options including a travel plan, which promotes sustainable transport measure (e.g. electric vehicle charging points and/or care share schemes) would provide a suitable mitigation measure to reduce the effects of air quality upon the surrounding and proposed sensitive receptors.

The results of the Air Quality Assessment, based upon the latest Defra predictions, will assume a reduction in pollutants over time based upon the use of more sustainable transport options (e.g. electric vehicle). However, the level of reduction in pollutants cannot not be quantified without undertaking a detailed assessment.

Following the implementation of the above mitigation, air quality effects would not be significant and there would be no air quality constraints that would preclude the proposed development of the Site.



5.0 Conclusion

The desk-based noise assessment has identified that there are no noise constraints that would preclude the proposed development subject to appropriate design measures.

The desk-based air quality assessment has determined that an assessment of the predicted exposure from the adjacent and surrounding motorway road network will be required. However, with the implementation of mitigation in the form of sustainable transport options, it is not expected that there will be adverse effects in terms of air quality as a result of the development.

No further work is considered to be required at this stage to support the allocation of the site as proposed.



Appendices

Appendix A – Report Conditions

This Report has been prepared using reasonable skill and care for the sole benefit of Northern Gateway Development Vehicle LLP (“the Client”) for the proposed uses stated in the report by WYG Environment Planning Transport Limited (“WYG”). WYG exclude all liability for any other uses and to any other party. The report must not be relied on or reproduced in whole or in part by any other party without the copyright holder’s permission.

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The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary, and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The “shelf life” of the Report will be determined by a number of factors including its original purpose, the Client’s instructions, passage of time, advances in technology and techniques, changes in



legislation etc. and therefore may require future re-assessment.

The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. WYG accept no liability for issues with performance arising from such factors.

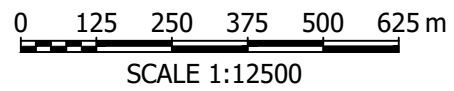
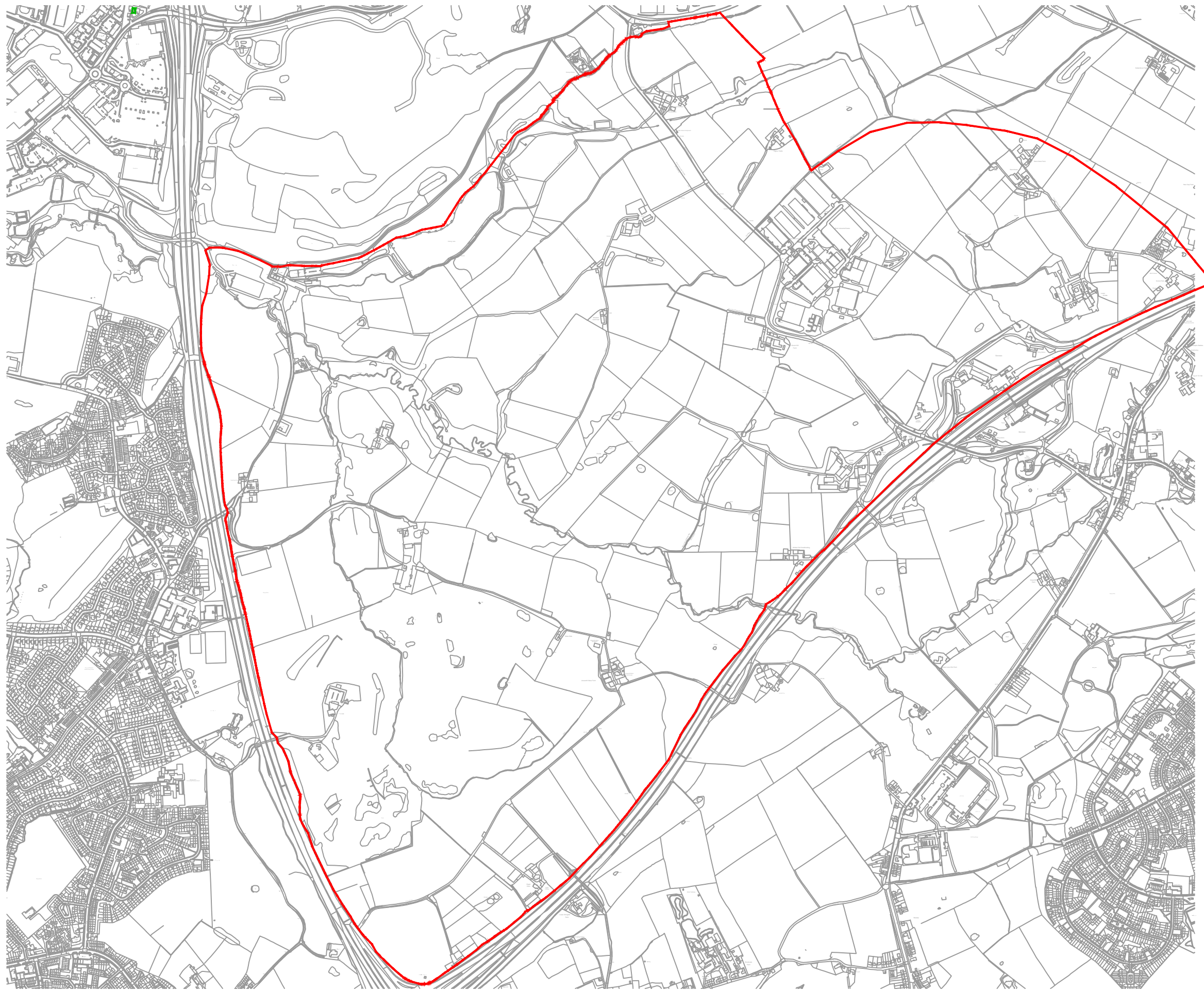


DO NOT SCALE: CONTRACTOR TO CHECK ALL DIMENSIONS AND REPORT ANY OMISSIONS OR ERRORS

KEY



GMA 1.1 - SITE BOUNDARY



B	PREVIOUS SITE BOUNDARIES REMOVED	CM	CEM	PG	04.12.19
A	GMA 1.1 BOUNDARY UPDATED	CM	CEM	PG	19.11.19
REV	DESCRIPTION	BY	CHK	APP	DATE

QUAY WEST at MediaCity UK
 TRAFFORD WHARF ROAD
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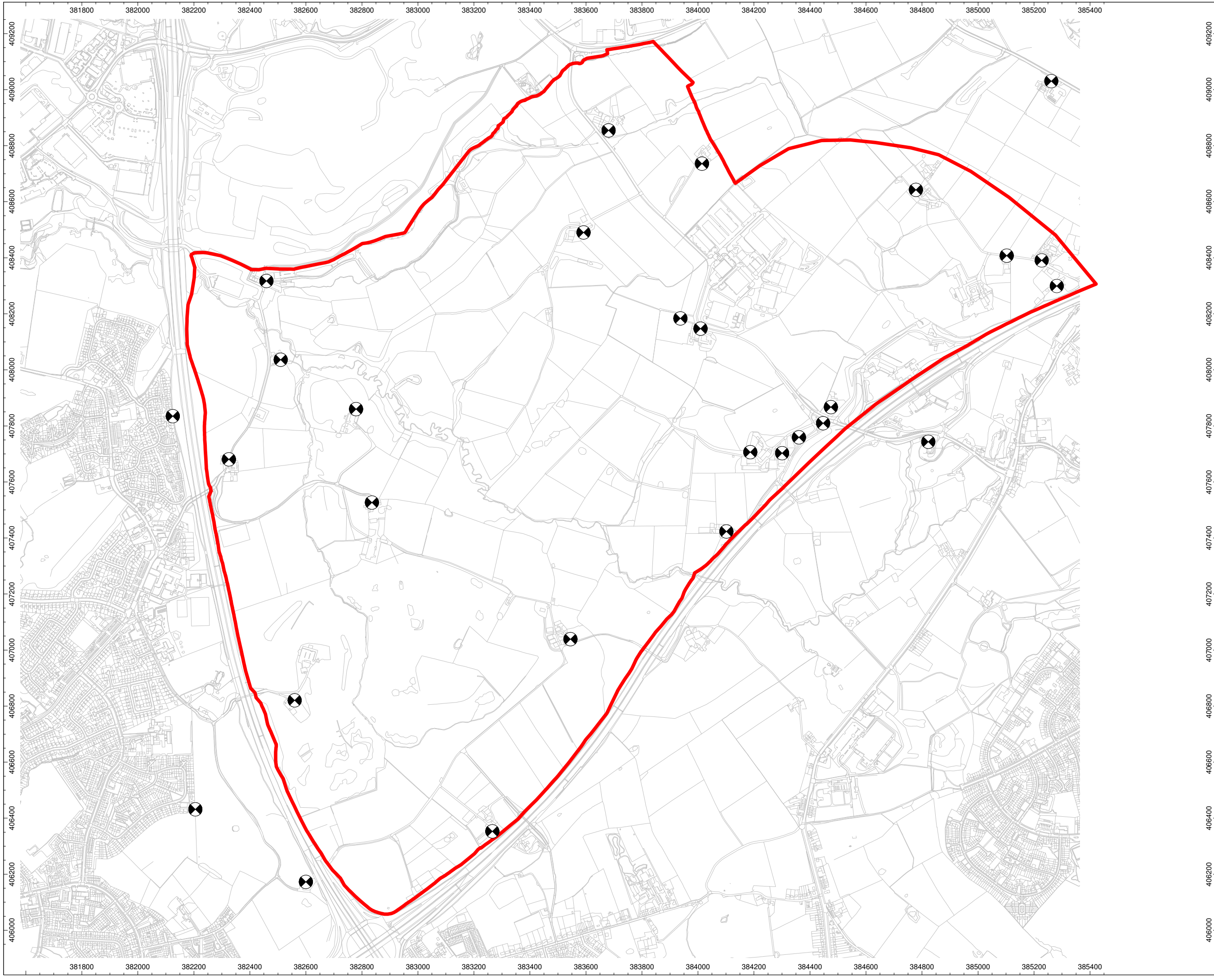


Client:
NORTHERN GATEWAY DEVELOPMENT VEHICLE LLP

Project: A104444-5
NORTHERN GATEWAY GMA 1.1

Drawing Title:
GMA 1.1: SITE BOUNDARY PLAN

Scale @	A3	Drawn	Date	Checked	Date	Approved	Date
1:12,500		CM	14.11.19	CEM	14.11.19	PG	14.11.19
Project No.	Office	Type	Drawing No.	Revision			
A104444-5	MAN	N	01	B			




Project:
Northern Gateway


Project Number:
A104444-5

Drawing Title:
Noise
Location Plan &
Existing Receptor Locations

Drawing Number:
Figure 104444-5-MAN-N-601

Key:

Site Boundary: 

Individual/Group of
Residential Receptors: 

Scale : Not to scale

WYGE Leicester 10.01.20



Executive Park
Avalon Way
Anstey
Leicestershire
LE7 7GR
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