
Environmental Statement – Non-Technical Summary (Addendum)

Land at Bailrigg Lane, Lancaster

On behalf of Gladman Developments Ltd.

Document title: Non-Technical Summary (Addendum)
Project: Land at Bailrigg Lane, Lancaster
Client: Gladman Developments Limited
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30-08-2019	-	PT	
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11-11-2021	B	LS	PT
21-09-2023	C	RW	PT



Land at Bailrigg Lane, Lancaster

In September 2019 Gladman Development Limited (The Applicant) submitted a planning application to Lancaster City Council (LCC), which is registered with the reference number 19/01135/OUT.

The planning application area, shown by the red line on the figures below, is located to the south of Lancaster between Bailrigg Village and the southern settlement edge of Lancaster, approximately 3 kilometres (km) from the City Centre.

Since 2019, discussions have taken place between the Applicant, LCC and consultees regarding the proposals. As a result, a number of changes have been made to the proposed scheme. These have been submitted to LCC as updates to the planning application, initially in 2022, and now with further amendments consolidated within this 2023 Non-Technical Summary Addendum (NTS). For clarity, updates in this 2023 Addendum are highlighted by red text.

Planning context – Since the application was submitted, the national and local planning policy context has evolved. The Lancaster District Local Plan Part One: Strategic Policies and Land Allocations DPD was adopted in 2020. The Application Site, Land at Bailrigg Lane, is located within the Lancaster South Broad Area for Growth, including Bailrigg Garden Village (Policy SG1). This is identified to accommodate at least 3,500 new dwellings, of which 1,205 are to be delivered in the plan period to 2031. Development at South Lancaster, including Land at Bailrigg Lane is pivotal to the Lancashire growth agenda. South Lancaster has been identified as the most sustainable location for growth in Lancaster over the course of the new Local Plan.

A number of revisions have also been made to the National Planning Policy Framework (NPPF) since the submission of the application.

The planning application covers approximately 39 hectares (ha) and comprises land currently in agricultural use as pasture land and is farmed by tenant farmers.

The outline planning application proposes the development of up to 644 dwellings (C3). Alongside this, a second planning application was submitted seeking detailed planning permission for an extension of the Health and Innovation Campus road. This would provide access to the land at Bailrigg Lane. A second road connection to the north is proposed at Hala Hill.

The planning application is accompanied by an Environmental Statement (ES), which reports on the findings of the Environmental Impact Assessment (EIA) carried out for the scheme. Environmental Impact Assessment is a process through which the likely significant environmental effects of a development proposal are identified and reported in an ES, which is submitted with a planning application.

This document is the Non-Technical Summary of the ES. A summary of the assessment for the issues scoped into the assessment is provided in the following pages of this NTS.

What studies are included in the ES? In April 2019, on behalf of the Applicant, Savills submitted a request to the Council to ask which environmental matters, in their opinion, should be included in the assessment and presented within the ES. The request was accompanied by an EIA scoping report which set out the environmental information known at that stage.

Taking into account the consultation responses it received, the Council identified the following issues for consideration in the EIA:

- Landscape and visual Impacts;
- Ecological matters, including an assessment of if the site is functionally linked to the Morecambe Bay SPA, SAC and RAMSAR;

- Highways and transportation, including other development sites which should be considered for cumulative impacts;
- Water environment (Surface Water Drainage and Flood Risk Assessment);
- Air quality;
- Noise;
- Greenhouse gas emissions / Climate Change;
- Description of the measures envisaged to prevent, reduce and where possible offset any significant adverse impacts;
- A non-technical summary of the information provided (this document).

An integral part of the EIA process is consultation as part of the technical assessments in order to establish the environmental baseline and appropriate assessment methodologies. Pre-planning application meetings and discussions between the project team and the Council (and its advisors) have taken place to consider the principle of development and the necessary technical and design issues.

Environmental Impact Assessment (Addendum) - A number of changes have been made to the proposed scheme as it has evolved since first submission in 2019. These amendments are reflected on the Development Framework Plan (DFP) (Rev.U) that has been submitted to the Council. The amendments to the proposals between 2019 and 2023 are summarised in the table below.

Feature	2019 DFP (Rev K)	2023 DFP (Rev U)	Comment
Site Area	39.36	39.36	No Change
Number of Dwellings	Up to 680	Up to 644	Reduced number of dwellings
Residential Development Area	21.6ha	20.13ha	Reduction in area
Public Open Space	16.28ha	17.7ha	Increase in overall open space
Area of Surface Water attenuation basins	1.69ha	1.69ha	No Change
Area of 'off-lead dog walking area'	0.43ha	0.66ha	Increased area
Other features:			
<ul style="list-style-type: none"> - Addition of allotments - Addition of 'Trim Trail' exercise stations within Public Open Space - Introduction of Community Hall of no more than 150 square metres internal floorspace - Proposed acoustic barrier within the site alongside the M6 			

The amendments to the scheme have resulted in fewer dwellings being proposed on site, and an increase in green and recreational space. An update of the Drainage, Landscape and Biodiversity chapters has been undertaken, and the Transport, Noise and Air Quality assessment chapters have been updated where required to reflect the current situation. The results of this update are outlined within this addendum.

The Site in context - The site comprises a network of semi-improved grassland fields with additional hedgerow, woodland and aquatic habitats. The Application area also includes the Low Hill property on Bailrigg Lane.

Burrow Beck bounds the site to the north west. The site is bound to the west by Burrow Beck and residential development, with the A6 beyond; to the north by residential development; to the east by the M6 motorway; and to the south by Bailrigg village with Lancaster University and its Sports Centre beyond. The University's Health and Innovation Campus (HIC) is currently under construction to the south west of the site, including an access road from the A6, which will link it to Bailrigg Lane.

The wider surrounding area to the west of the A6 comprises agricultural farmland, interspersed with residential properties and farmsteads and the west-coast mainline railway line; the north of the site is the predominately residential edge of Lancaster; to the east of the M6 motorway land comprises agricultural land interspersed by Blea Tarn Reservoir and Langthwaite Reservoir; to the south of Lancaster University is the linear hamlet of Ellel with farmland surrounding and the village of Galgate beyond.

The character of the site is defined by the undulating topography and existing landscape features such as hedgerows, ditches and trees. Overhead electricity cables have been present across the centre of the site since the 1970s. There are a number of mature trees, hedgerows and woodlands located on the site boundaries and a Public Right of Way runs north-south through the site.

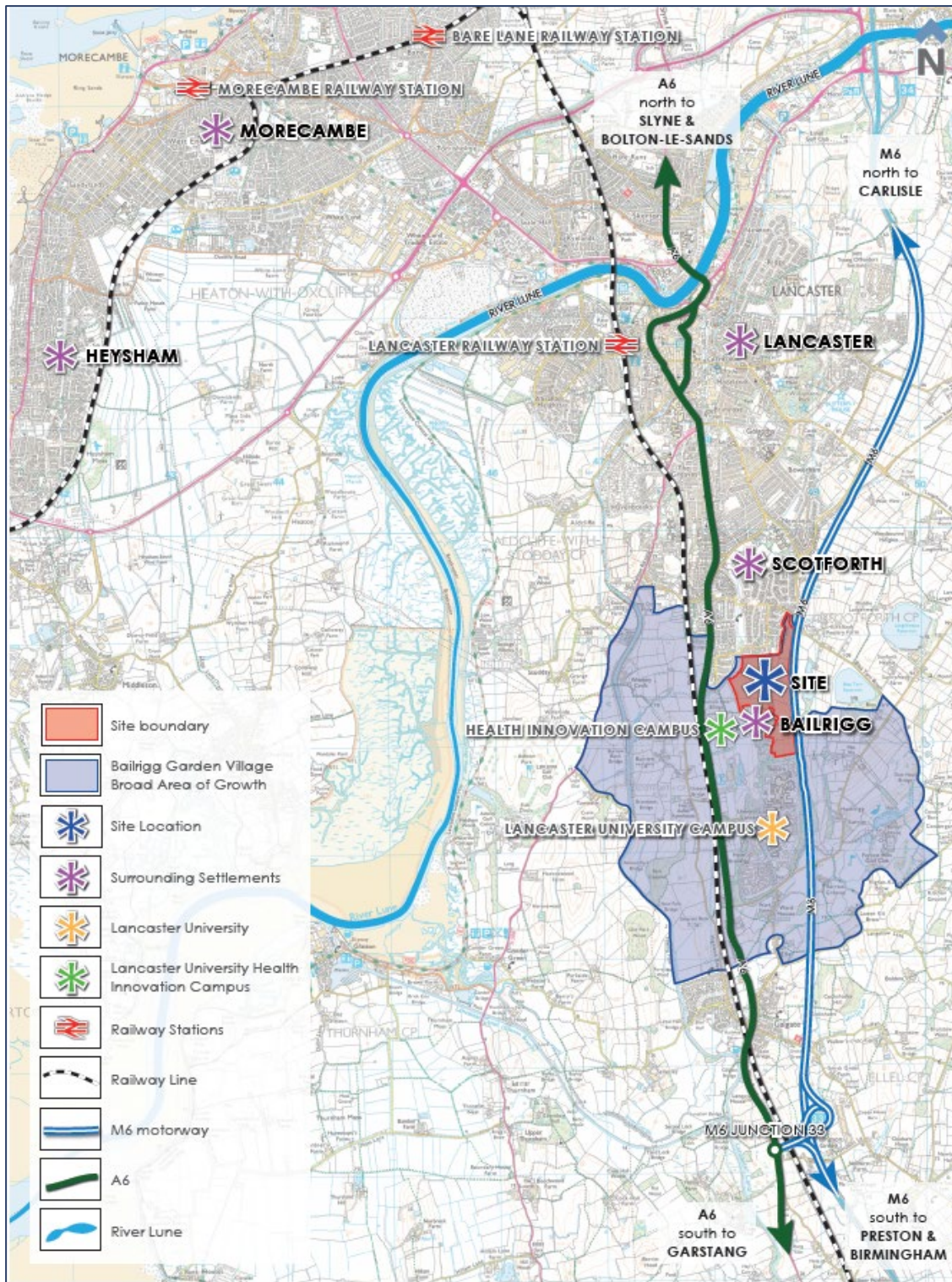
Highways and Access - The surrounding highway network consists of the M6, the A6, Bailrigg Lane and Hala Hill and Winmarleigh Road.

The M6 bounds the site to the east. In this location, the M6 consists of 6 lanes with street lighting and is subject to a speed limit of 70mph. Road traffic noise is a consideration in the design and assessment of the proposals.

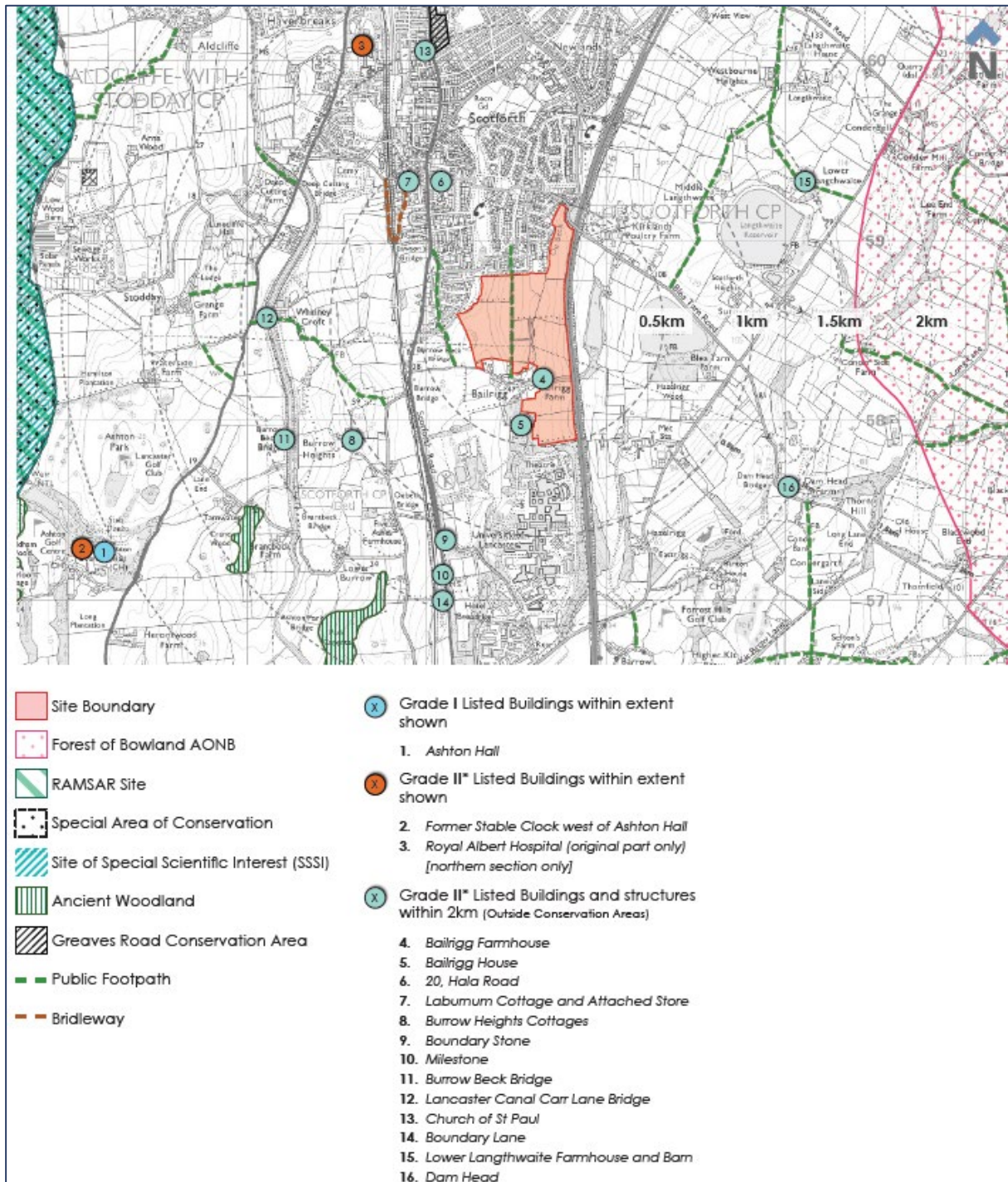
A6 Scotforth Road - is located to the west of the site. Scotforth Road is a single carriageway local distributor road with street lighting and is subject to a speed limit of 40mph. A new access to the Health and Innovation campus from Scotforth Road has **been constructed**. A separate application for the construction of a road from the HIC to Bailrigg Lane has been submitted **(19/01137/FUL)** in conjunction with the main planning application. This link road will constitute the main access to development at Bailrigg Lane.

Bailrigg Lane - is a single carriageway road subject to a speed limit of 40mph. No street lighting or footways are provided.

Hala Hill and Winmarleigh Road - are both single carriageway residential roads, with a speed limit of 30mph. Both have street lighting and footways on one or both carriageways. Access to the north of the application site is proposed from Hala Hill, and a pedestrian access to the site is proposed from Winmarleigh Road **(including a proposed collapsible bollard to allow emergency vehicle access)**.



Site context



Key environmental designations and receptors

Bailrigg Farmhouse (4 on Figure above) is in close proximity to the site boundary. Bailrigg Farmhouse is a Grade II Listed former farmhouse building which is currently occupied for residential use.

Bailrigg House (5 on Figure above) is a Grade II listed former private residence which has now been converted into offices. There is no intervisibility between the site and Bailrigg House due to screening from structures and historic planting.

There are no statutory designations for nature conservation covering any part of the site. There are no trees on or adjacent to the Site that are listed on the Ancient Tree Inventory. Eight Biological Heritage Sites (BHS) lie within 2km of the Site - the closest is Burrow Beck which runs along the north-west boundary of the Site.

International designations within 10km of the Site include Bowland Fells SPA, Calf Hill and Cragg Woods SAC, Morecambe Bay SAC/Ramsar. One national statutory designation, the Lune Estuary SSSI is within 3km of the Site (it forms part of the Morecambe Bay SPA/SAC/Ramsar). A similar area is also now a Marine Conservation Zone (MCZ).

The Environment Agency Flood Zone map indicates that most of the Site lies within Flood Zone 1, the lowest risk of flooding, categorised as 'Low Probability' (less than 1 in 1000 (0.1%) annual probability of fluvial or tidal flooding). The underlying bedrock is classified as capable of supporting water supplies at a local scale, but there are no source protection zones within 1km. The soil in this location is made up of slowly permeable seasonally wet acid loamy and clayey soils and the land is classified as being of Moderate agricultural quality (ALC Grade 3b).

In respect of radon gas, the Site is in a lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Therefore, no radon protective measures are considered necessary in the construction of new dwellings.

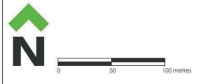
The development proposed and assessed in the EIA (as amended) comprises -

- Up to 644 residential dwellings (Use Class C3);
- Informal open space and landscaping (17.7ha);
- A single retail unit / Local Centre of up to 280 square metres;
- A single community hall of up to 150 square metres **internal floorspace**;
- **Incorporation of an acoustic barrier within the site alongside the M6**;
- Equipped areas of play;
- Footpaths and cycle links;
- Areas for the attenuation and infiltration of surface water run-off;
- Vehicle, pedestrian and cycle access from Health and Innovation Campus Spine Road;
- Pedestrian access from Winmarleigh Road;
- Vehicle, pedestrian and cycle access from Hala Hill.

At the start of the design process, the influences and constraints on the Site and surroundings were mapped. The team then prepared a number of layout options which sought to establish the capacity of the site and test layouts that responded to the surroundings; topography; noise from vehicles using the M6; the position of mature trees and root protection areas; and the presence of services underground and overhead.

The layout of the scheme has evolved further through consultation with the Council and statutory consultees, in particular concerning aspects of landscape, open space, heritage, **residential amenity in respect of road traffic noise**, and urban design considerations. This approach has sought to deliver mitigation that is integral to the scheme, thereby avoiding or reducing negative effects where possible as part of the design process.

Development parameter plans form the basis of the assessment. They are submitted to the Council for approval as part of an outline planning permission. Drawing CSA/4047/122.**revJ**, 125.**revB** & 108 **revU** overleaf show the distribution and scale of the development assessed. This ensures that the Council has control of the detailed design of development that will be subject of further Reserved Matters applications, which will need to be within the limitations set by the parameter plans.



Site Boundary: 39.36ha

Proposed uses

Proposed vehicular access points

Potential future vehicular access link

Proposed developable area - predominately 2 storeys dwellings, with a limited number of 2 storey dwellings (maximum height of 11.5m)

Proposed developable area - up to 2 storey dwellings (maximum height of 9.6m). Local shop to be 2 storeys

* Includes 1.21ha of remaining infrastructure

Community facilities: 0.32ha

- Small local centre: 280m²

- Community hall: 150m²

Indicative internal road layout/bus route

Proposed locations for Pump Stations (15m cordon sanitare)

Proposed acoustic fence

Green Infrastructure

Proposed public open space to include natural & semi-natural greenspace, amenity greenspace, allotments, children's play areas, SuDS basins and an off-lead dog walking area: 17.70ha

Allotments with associated car parking (max. 250sqm per plot): 0.24ha

Existing vegetation within the Site to be retained

New woodland and hedgerow planting along boundaries with Bailrigg to provide an area of separation (please see plan for approximate depths of woodland planting)



Approved Planning Application: 10/00251/FUL
Erection of a new supermarket

Approved Planning Application: 17/00073/FUL
Erection of 7 dwellings

Approved Planning Application: 19/00332/OUT
Erection of up to 95 residential dwellings

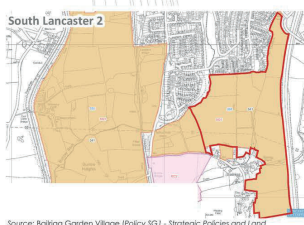
Approved Planning Application: 18/01374/VCN
Demolition of existing care home and outbuilding and erection of a replacement 63 bed care home

Lancaster University Health Innovation Campus (currently under construction)

Grade II Listed Building: Bailrigg Farmhouse

Grade II Listed Building: Bailrigg House

Gaps in woodland to ensure tree roots do not impact the existing underground utilities.



Source: Bailrigg Garden Village (Policy SG) - Strategic Policies and Land Allocations (DPP)

Rev	Date	By	Description
J	15.06.23	RC	Minor text amendment
I	17.06.22	RC	Minor text amendment
H	26.05.22	RC	Allotments added and minor updates
G	18.03.22	JC	Allotments added and minor updates
F	18.11.21	JC	Community facility added
E	20.09.21	JC	Updated to reflect latest DPP
D	23.08.19	RC	PGS figure amended
C	14.08.19	RC	Layout amended
B	13.08.19	RC	Access added
A	02.08.19	RC	Minor amendments

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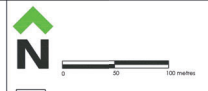
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Project: Land off Bailrigg Lane, Bailrigg

Title: Parameters Plan

Client: Gladman Developments Ltd.

Scale: 1:2500 @ A1	Drawn: RC
Date: July 2019	Checked: RR
Drawing No: CSA/4047/122	Rev: J



Site Boundary: 39.36ha

Proposed uses
 Proposed vehicular access points
 Potential future vehicular access link

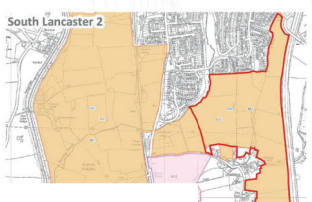
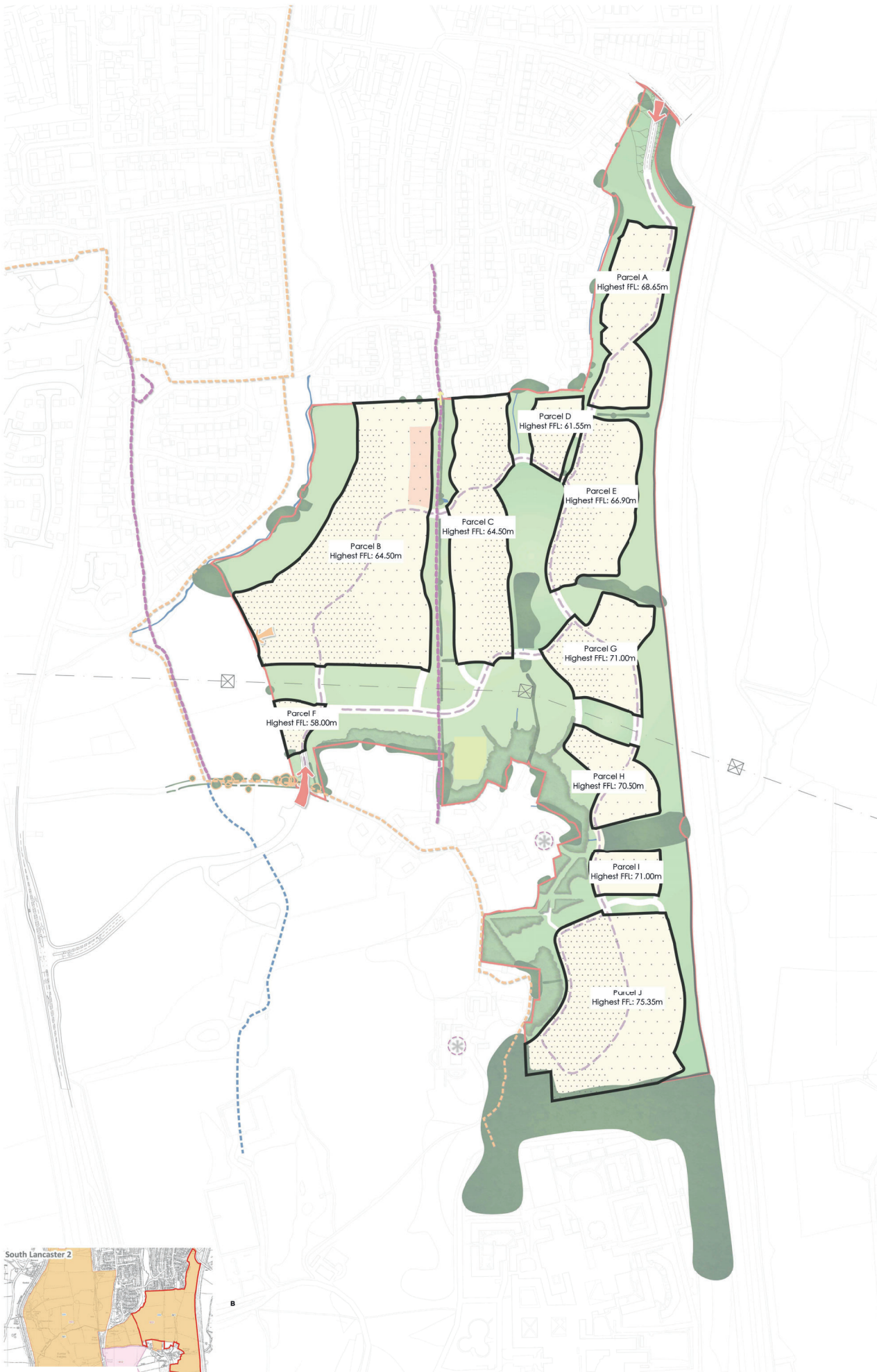
Proposed developable area - predominantly 2 storey dwellings, with a limited number of 2 storey dwellings (maximum height of 11.5m)
 Proposed developable area - up to 2 storey dwellings (maximum height of 9.6m). Local shop to be 2 storeys

* Includes 1.2ha of remaining infrastructure
 Community facilities: 0.32ha
 - Small local centre: 280m²
 - Community hall: 150m²

Indicative internal road layout/bus route
 Proposed locations for Pump Stations (15m cordon sanitaire)
 Proposed acoustic fence

Green Infrastructure
 Proposed public open space to include natural & semi-natural greenspace, amenity greenspace, allotments, children's play areas, SuDS basins and an off-lead dog-walking area: 17.70ha
 Allotments with associated car parking (max. 250sqm per plot): 0.24ha
 Existing vegetation within the Site to be retained
 New woodland and hedgerow planting along boundaries with Bailrigg to provide an area of separation (please see plan for approximate depths of woodland planting)

Highest finished floor levels (FFL):
 - Parcel A: 68.65m
 - Parcel B: 64.50m
 - Parcel C: 64.50m
 - Parcel D: 61.55m
 - Parcel E: 66.90m
 - Parcel F: 58.00m
 - Parcel G: 71.00m
 - Parcel H: 70.50m
 - Parcel I: 71.00m
 - Parcel J: 75.35m



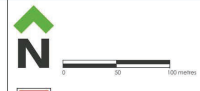
Source: Bailrigg Garden Village (Policy SG1 - Strategic Policies and Land Allocations DPD)

Rev	Date	By	Description
B	25.09.23	RC	Amended to reflect DFP
A	23.08.19	RC	Amended to reflect DFP

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Project Land off Bailrigg Lane, Bailrigg
 Title Finished Floor Levels Parameters Plan
 Client Gladman Developments Ltd.

Scale	1:2500 @ A1	Drawn	RC
Date	Aug 2019	Checked	RR
Drawing No.	CSA/6047/1/2	Rev.	B



Site Boundary: 39.36ha

Proposed uses
 Residential developable area: 20.13ha (up to 644 dwellings @ 32 dph)
 Community facilities: 0.32ha
 - Small local centre: 280m²
 - Community hall: 150m²

Access & Movement
 Proposed vehicular access points
 Potential future vehicular access link
 Proposed bus route/primary road through the development
 Proposed secondary streets
 Proposed pedestrian, cycle and emergency access
 Proposed shared pedestrian/cycle routes
 Pedestrian and cyclist desire line between Bailrigg Lane and public footpath

Green Infrastructure
 Proposed public open space: 17.70ha
 New woodland and hedgerow planting
 Existing vegetation within the Site to be retained
 Existing vegetation covered by TPO
 Locally Equipped Areas for Play x3 (LEAP)
 Trim Trail exercise stations (min. 10) along recreational routes
 Allotments with associated car parking (max. 250sqm per plot)
 Proposed attenuation basins: 1.69ha
 Existing watercourses
 Proposed reroute of Ou Beck/new drainage ditch
 Proposed off-lead dog walking zone: 0.66ha

Other
 Proposed pump stations (requires 15m easement from the nearest habitable room)
 Proposed acoustic fence
 M6 Motorway
 Existing bus routes and bus stops
 Existing public footpaths
 Strategic Cycle Network (Source: Local Plan 2018)
 Proposed Strategic Cycle Network (Lancaster University Health Innovation Campus)
 Lancaster University
 Listed Buildings
 Existing overhead High Voltage Powerline/Large Pylon

Approved Planning Application: 10/00251/FUL
 Erection of a new supermarket

Approved Planning Application: 17/00073/FUL
 Erection of 7 dwellings

Approved Planning Application: 19/00332/OUT
 Erection of up to 95 residential dwellings

Approved Planning Application: 18/01374/VCN
 Demolition of existing care home and outbuilding and erection of a replacement 63 bed care home

Potential new woodland and thicket planting to strengthen the existing vegetation, whilst also improving the Site's habitats and biodiversity value.

New dwellings will be orientated to overlook areas of public open space.

Existing public footpath to be retained and will form a key north-south connection through the Site. The proposed recreational routes will be integrated with this public footpath, and will provide links with the network of various open spaces throughout the Site.

Proposed vehicular access to be taken from access road for Lancaster University Health Innovation Campus to the south of the Site. Stone wall gateway to be provided on Bailrigg Lane marking entrance to Bailrigg.

New woodland and thicket planting to provide an area of separation between Bailrigg and the proposed dwellings.

New landscaping along the Site's eastern boundary will help to physically separate the new homes from the M6, whilst also providing a green backdrop to the Site in views from the west, helping integrate the proposed development into the wider landscape setting.

Area of open space within the centre of the Site to be fenced off to provide an off-lead dog zone.

Pedestrian, cycle and emergency access from Winmarleigh Road.

Proposed off-lead dog walking zone: 0.66ha

Grade II Listed Building: Bailrigg Farmhouse

Grade II Listed Building: Bailrigg House

Lancaster University Health Innovation Campus (currently under construction)

Community Facilities

Allotments

LEAP

SUDS

Winmarleigh Road

M6

Bailrigg Lane

Scottforth Road

Appletree Drive

Hala Hill

Armside Close

Heversham Close

Knowe Hill Crescent

Barnacre Close

Bay Horse Drive

Shireshead

Dunkens Haw

Winmarleigh Road

Winmarleigh Road

Winmarleigh Road

Winmarleigh Road

Winmarleigh Road

Winmarleigh Road

Winmarleigh Road

Winmarleigh Road

Winmarleigh Road

Rev	Date	By	Description
U	26.05.23	RC	Acoustic fence added
T	17.04.22	RC	Minor text amendments
S	15.02.22	KP	Minor updates
#	04.11.21	RC	Community facilities added
Q	20.09.21	JC	Updated with revised drainage inputs
R	23.06.21	JC	Updated with Allotments and Trim Trail
O	22.02.21	RC	Internal road amendment
N	14.02.21	JC	Amended to reflect client comments
M	16.02.21	JC	Density amended
L	19.01.21	JC	Amended to reflect Case Officer comments

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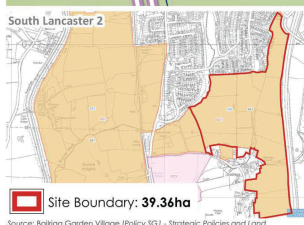
Project: Land off Bailrigg Lane, Lancaster

Title: Development Framework Plan - Option 1

Client: Gladman Developments Ltd.

Scale: 1:2500 @ A1
 Date: March 2019
 Drawing No: CSA/4047/108

Drawn: RC
 Checked: RB
 Rev: U



South Lancaster 2
 Site Boundary: 39.36ha
 Source: Bailrigg Garden Village (Policy SG) - Strategic Policies and Land Allotments (DPP)

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The principal land use will be residential development, with a significant area of public open space throughout, including drainage and attenuation features. Two points of vehicle access into the development are proposed in the locations shown by the red arrows. A small local centre of up to 280 sq. m of floorspace and a community hall of up to 150 square metres of floorspace are proposed to serve the day to day needs of future residents.

The scheme layout has been informed by a survey of the slopes across the Site, so although the scheme is an outline proposal, a greater level of detail has been used to ensure that drainage, parking and housing can be accommodated within the EIA parameter plan parcels. Precise alignments will be confirmed at the reserved matters design stage through the submission of Reserved Matters applications.

The Development Framework Plan on the following page (CSA/4047/108.revU) is provided to assist in understanding how the Proposed Development could be delivered. This will be subject to refinement at the reserved matters design stage, but will accord with the parameters assessed.

Construction / waste - During construction it will be important to minimise the handling and storage of soils in order to maintain them suitable for re-use in landscaping and garden areas.

The assessment has considered the potential effects of dust from construction to affect local residents. It used recognised guidance and indicates that the implementation of good site practice should reduce the residual effects to a level categorised as not significant. The effects of noise from construction would be temporary and intermittent at the existing properties closest to the Site.

An estimate of construction waste potentially generated in developing the proposal shows that in total, approximately 8,000 tonnes of waste may arise. This does not account for waste minimisation, reuse or recycling that will take place, and is therefore the baseline figure from which a reduction will be targeted.

When completed and occupied, the development could generate 310 tonnes of municipal waste each year. The area is working towards the UK target to recycle at least 50% of household waste by 2020.

Interaction between environmental aspects - The assessment has considered the potential for effects from a combination of impacts to act collectively (beneficial and adverse effects may be experienced simultaneously). As an example, a change in visual amenity through the introduction of new built development may be experienced at the same time as beneficial landscape enhancements and the introduction of new recreational access routes.

Climate change and greenhouse gas emissions - Planning policy directs patterns of growth in order to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which enable people therefore to reduce travel-related greenhouse gas emissions. The focus is on reducing the need to travel in the first place, prioritising sustainable transport, creating more attractive places, improving health, minimising pollution and ensuring the effective and efficient operation of the transport network.

An effective approach to reducing greenhouse gas emissions from housing is the use of efficient designs and insulation products to achieve high levels of thermal efficiency - the 'fabric first' approach. The details of how this will be achieved are not available at the outline planning stage, but the key principals that will be followed to meet the Council's requirements and the minimum requirement of the Building Regulations: using less energy/demand reduction; supplying energy efficiently; and using renewable energy.

Water environment - Rain water runoff from the housing area and roads will be managed through attenuation basins, which will hold and return water at a controlled rate (site tests show that infiltration would not be feasible due to low rates of infiltration and shallow groundwater). Measures to control pollutants from entering the water environment will be incorporated into the drainage system. The basins will also be sized to allow for future changes in predicted rainfall intensity associated with climate change. The basins will be designed to create some permanently wet areas and other seasonally wet areas, which would be planted with vegetation that would benefit wildlife.

A new Flood Risk Assessment report has been provided and the ES updated accordingly. With the implementation of mitigation measures during construction activities, the assessment concluded that effects will not be significant, apart from the possibility of an intermittent minor effect on surface water quality or water course water quality.

Waste water from the housing would be connected to the public foul sewerage network and is likely that foul flows would be directed towards Lancaster Wastewater Treatment Works (WWTW), which discharges to the River Lune/ Morecambe Bay.

Landscape and visual amenity – the effects of the Proposed Development have been assessed for the landscape character and features of the Site, the local and wider landscape character and changes to views. It also considers visual impacts for those using routes where views towards the Site are possible, including motorists, walkers, local residents and visitors. The viewpoints have been agreed with Lancaster City Council.

The Site's character and the surrounding landscape is strongly influenced by the southern built edge of Lancaster, and the new development at the Lancaster University Health Innovation Campus will be a prominent feature. Although the university is mainly screened by tree belts, it can be seen to the south of the Site. The character of the Site is also influenced by the M6 motorway and by the line of high voltage power cables across the Site and their supporting metal pylon.

The assessment found that the nature of change during the construction phase of the project would be adverse because the construction period would incorporate a number of visually disruptive elements such as hoardings, plant and machinery, lighting and built features. However, these temporary effects would be reduced by complying with an approved Construction Environmental Management Plan ("CEMP") which will include protection of identified landscape features.

During the initial period before the growth of the planting has matured, the assessment found that there would be a range of negligible to severe adverse effects on site features, landscape character areas, receptors, existing properties close to the Site boundaries, recreational routes and transport routes. It also identified that for a limited number of existing residential properties which lie adjacent to the Site's boundaries, there would be a substantial effect.

As the growth of the proposed tree, woodland and hedgerow planting on the boundaries and within the Proposed Development matures over a 15-year period, the assessment concludes, as a worst case that there would be some residual adverse effects on views. However, in most views there would be moderate to negligible adverse effects, as views would be filtered or screened by boundary and intervening vegetation, and by other buildings around the Site.

The review in 2023 found that the majority of visual effects will remain unchanged from those previously assessed, apart from slight change in the nature of the view experienced from the M6 motorway with the acoustic barrier installed. Here, the residual effect changes to moderate adverse, which, for a receptor of low sensitivity, is not a significant effect. Otherwise, the levels of effects remain the same as reported in 2022.

Habitats and biodiversity - The habitats on-site are dominated by species-poor semi-improved grassland. Habitats of greater ecological value include hedgerows, trees, pockets of woodland and minor water courses. The Burrow Beck, a locally designated site is present along part of the western boundary. These features are to be retained alongside the development proposals wherever possible although some impacts will be needed to hedgerow and tree habitats to facilitate the development. Compensatory native planting is proposed to provide alternative opportunities for wildlife, improve green networks and improve biodiversity at the site. Some drainage works are also likely to be required to the on-site section of Ou Beck and the Burrow Beck. These are not considered to significantly impact the existing ecological quality of these features - works will need to be undertaken in a way that minimises the risk of harm and fully considers protected species, such as otter.

A range of habitat and protected species surveys have been undertaken within the Study Area to inform the assessment, including for bats, badger, otter, wintering birds and great crested newts. No overriding constraints to the development have been found in relation to protected species. A range of bat species have been confirmed to use the Study Area and the detailed landscape proposals will be designed to enhance foraging and commuting opportunities at the site as far as possible. A sensitive lighting strategy will be developed at the reserved matters design stage to minimise impacts to nocturnal wildlife. Otter have been found to use the adjacent Burrow Beck and nesting birds will also need to be considered during the construction phase.

Himalayan balsam is present along the western boundaries of the site which will need to be considered during the construction phase and ongoing management of new habitats.

The 2023 update has considered the proposed installation of an acoustic fence and the potential for the interruption of species movements. The assessment concluded there would be no significant effects as a result of this.

The site is in proximity to several statutory international designated sites. A shadow Habitats Regulations Assessment was submitted in 2019 to inform Lancaster City Council and Natural England on the likely significant effects of the proposed development. Potential adverse effects to the suite of Morecambe Bay designated sites (SAC/SPA/Ramsar) have been considered as a result of increased recreational pressure at the coast and hydrological changes associated with the Burrow Beck. Mitigation measures have been incorporated into the development design including the provision of a large area of public open space which has been increased throughout the course of determination thus far. This aims to provide alternative means of recreation for new residents. The incorporation of sustainable drainage features (SuDS) have been included to protect the water quality of the Burrow Beck. Overall, with these measures in place, it is considered there would be no likely significant effect on international statutory sites.

Subsequently, in 2023, the Greater Manchester Ecology Unit, as a specialist ecological adviser to Lancaster City Council, prepared a Habitats Regulations Assessment. This also considered the special qualifying features of interest of the Morecambe Bay and Duddon Estuary SPA, the Morecambe Bay Ramsar and the Morecambe Bay SAC. The assessment screened for potentially harmful operations on these features arising from the implementation of the proposed development. With the consideration of measures available for mitigating identified effects and possible in-combination effects from other relevant developments, the Assessment concluded that the proposed development will not have any Likely Significant Impacts on the special interest of any European Protected Sites.

There are also a small number of local designated sites in the vicinity, including the Burrow Beck and Lancaster Canal. The mitigation measures described above will also help to avoid significant adverse effects on these sites.

Subject to the completion of ongoing survey information and implementation of avoidance and mitigation measures that will be secured in the CEMP, no significant adverse effects on biodiversity are anticipated as a result of the development.

Transport and access – The frequency of construction traffic will vary depending upon the work associated with each phase of development, however, management of effects will be controlled by an approved CEMP. This will include measures to robustly enforce traffic management, to protect the environment, amenity and safety of local residents and the general public in the vicinity of the Proposed Development. A construction vehicle routeing regime for access to the construction site will be identified and agreed with the local and strategic highway authorities, to ensure that drivers do not use routes that are unsuitable due to their width, alignment or character. The regime will ensure that construction vehicles avoid residential and other sensitive areas wherever possible.

Following the implementation of the development, all junctions except the Bowerham Road/Hala Hill/Blea Tarn Road junction are predicted to experience an increase in traffic of less than 20% during the weekday AM and PM peak periods at 2029, with a majority of junctions predicted to experience an increase in traffic of less than 10%. As such, the effect of the Proposed Development with respect to road users and pedestrians will not be significant in EIA terms.

Potential enhancement measures for the Proposed Development will be subject to further consultation to secure a Travel Plan which will identify and encourage sustainable travel behaviour in accordance with National and Local Transport Policy. The effects of the project on the surrounding local highway network will not result in any significant adverse effects.

The interaction between the population using vehicles on the road and the link with noise and local air quality has been considered by using the transport modelling to inform the assessment of future changes to noise levels in the area and for air quality related to vehicle use.

Air quality – The construction works have the potential to create dust. During construction it will therefore be necessary to apply a package of mitigation measures to minimise dust emissions. With control measures as part of the CEMP in place, it is expected that any residual effects will not be significant.

The effects of traffic emissions arising from the development traffic on local roads has been assessed. Concentrations have been modelled for 34 receptors representing existing properties where impacts are expected to be greatest. In addition, the impacts of traffic emissions from local roads on the air quality for future residents have been assessed at five locations considered to represent the 'worst-case' within the new development itself. In the case of nitrogen dioxide, a sensitivity test has also been carried out which considers the potential under-performance of emissions control technology on future diesel cars and vans.

This assessment found that concentrations of particulates (PM₁₀ and PM_{2.5}) will remain below the health-based objectives set by the Government at all existing receptors **in both 2025 and 2029**, with or without the proposed development.

In the case of nitrogen dioxide (NO₂), the predicted concentrations using DEFRA's Emission Factor Toolkit (EFT v.11.0) are below the nationally defined objective at all existing receptors **in both 2025 and 2029**, with or without the proposed development.

It is concluded that concentrations of nitrogen dioxide and particulates will remain below the objectives at all existing receptors in both 2025 and 2029, with or without the proposed development. This conclusion is consistent with the outcomes of the reviews and assessments prepared by LCC. The assessment also demonstrated that impacts of the scheme can be classified as negligible at most receptors, for both the considered years.

Updating the findings of the previously reported assessment of air quality effects, it is concluded that no adverse impacts are predicted to affect any properties. Overall, it is considered that the proposed development would not have a significant effect on local air quality.

Noise - The study of noise considers existing and proposed residential and non-residential receptors within 500 metres of the Proposed Development or located close to road sections that are predicted to have an increase in road traffic movements of more than 25% or a decrease of more than 20%.

The assessment of construction noise demonstrated that the noise standard adopted for the assessment (British Standard 5228-1:2009+A1:2014) could be exceeded at the closest residential receptor during earthworks/excavation/piling works. However, the exceedance is only marginal (1 decibel) at this 'worst-case' receptor (Barnacre Close), and it is anticipated that any potential effects would be temporary and intermittent during part of the construction phase. During the majority of the construction phase, where works would be carried out away from receptors, noise levels are anticipated to be much lower. Additional noise attenuation would be provided by the proposed buildings for any work undertaken behind them. Construction noise effects on residential receptors are therefore considered as not significant.

Additional reduction in noise levels would be achieved through the implementation of the measures outlined in a **Construction Management Plan and the construction of an acoustic barrier along the eastern boundary near the M6.**

For some new properties, habitable rooms on façades exposed to the highest levels of road traffic noise, an enhanced level of glazing will be required to provide the noise reduction necessary to achieve internal day time and night-time noise levels compliant with guideline criteria. Upgraded glazing specifications will provide adequate mitigation against excess noise.

With regard to noise levels in rear gardens, there are some areas where, despite following a good acoustic design process, the guideline limit is exceeded. The proposed development includes the provision of publicly accessible spaces that would provide future residents access to amenity spaces that meet the guideline noise levels.

Sound levels will reduce with increased distance from road noise due to the screening effects of intervening buildings. The specification for any enhanced glazing and ventilation that is required will be determined at the detailed planning stage.

It is considered that, with the implementation of the proposed mitigation, noise exposure will not lead to any significant effects on health and quality of life.

The full Environmental Statement can be viewed via the Council's planning applications website: <https://www.lancaster.gov.uk/planning>

Comments will be considered as part of the Council's consultation on the planning application. A copy of the Environmental Statement on USB flash drive is available at a charge of £25.00. Enquiries in respect of these or printed copies of the ES and Appendices should be made to Gladman House, Alexandria Way, Congleton, Cheshire, CW12 1LB.

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