



THE
ENVIRONMENT
PARTNERSHIP



HAYDOCK GREEN
ST HELENS LOCAL PLAN
HAYDOCK GREEN ECOLOGICAL APPRAISAL
MAY 2021

TEP

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Summary

- 1.1 TEP was commissioned by Peel to carry out an ecological appraisal of Haydock Green, south of the A580.
- 1.2 The opportunity to be presented to the emerging St Helens Local Plan is for residential development, with some roadside amenities pertinent to the site's location near the M6 Junction 23. The site is centred at NGR SJ 57662 97051 (see Figure 1)
- 1.3 The land at Junction 23 has been identified by Peel as an area of Strategic Opportunity for Employment and Housing Growth. The main area (32.5ha) would be subject to development including enhancement of the site's green infrastructure. The triangular eastern parcel, west of the M6 (4.79ha) would be subject to habitat creation and management, including new public access.



Figure 1: Haydock Green

- 1.4 The area has been subject to ecological surveys by TEP since 2014 and there is a good evidence base to assess the effects on biodiversity from development, including the opportunities to deliver biodiversity net gain.

Ecological Survey History

- 1.5 In 2014 the whole area site was subject to desktop study including a walkover phase 1 habitat survey.
- 1.6 Subsequently the following surveys were carried out for Haydock Green:
 - Extended Phase 1 habitat survey in April 2015
 - Extended Phase 1 habitat survey updated in 2018;
 - Ornithology assessment and wintering bird surveys 2018-2019;
 - Breeding bird surveys 2015 & 2018;

- Daytime ground-based inspection of trees for bat roost potential 2016 & 2018;
- Nocturnal bat activity surveys 2015 & 2018;
- Water vole surveys 2016 & 2018;
- GCN habitat suitability index (HSI) assessment 2015 & 2018, environmental DNA (eDNA) surveys 2016 & 2018.

1.7 The above surveys can be made available on request. An extract of the phase 1 habitat survey is shown below (Figure 2).

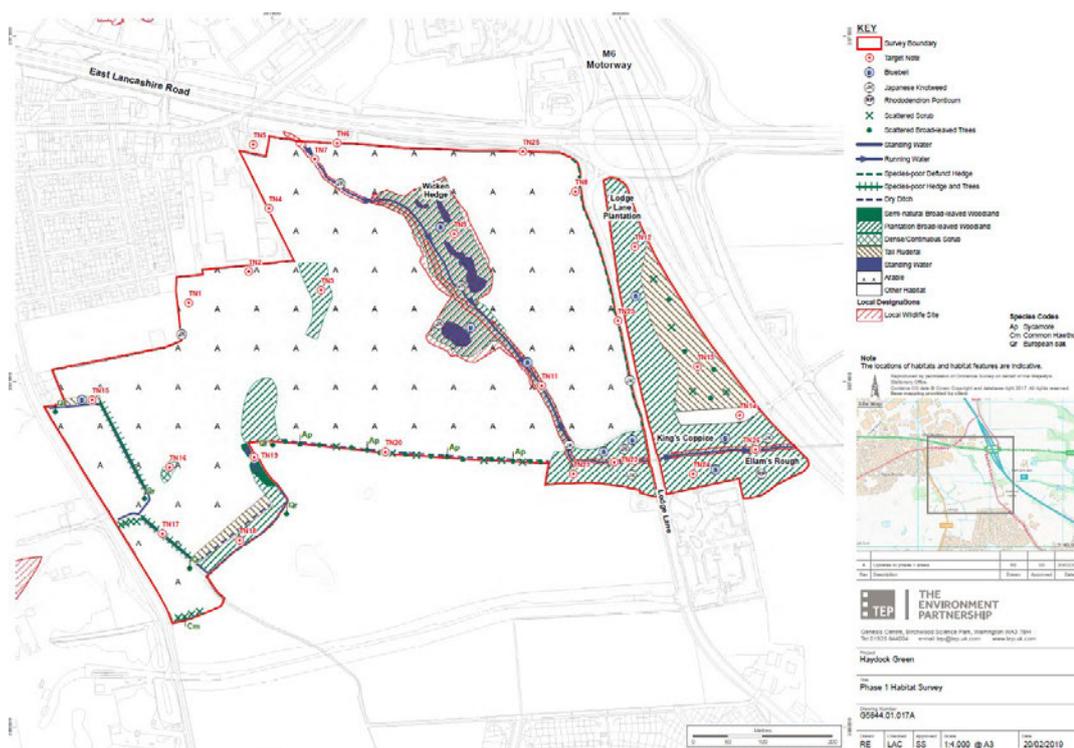


Figure 2: Phase 1 Habitat Survey, 2019

- 1.8 In 2021, TEP carried out a summary review and confirmation of the ecological survey in order to inform the emerging St Helens Local Plan process as to the ecological conditions of the site, mitigation and opportunities for biodiversity net gain.
- 1.9 TEP carried out a desktop study, a phase 1 habitat survey walkover and a Habitat Suitability Index Assessment of ponds in May 2021. The survey confirmed that there has been very limited changes to the habitats shown above. TEP will continue to carry out further surveys in summer 2021 to inform potential future planning applications.
- 1.10 Collectively this evidence base allows a robust and rigorous assessment of the ecological constraints and opportunities associated with development of the site.

Ecological Assessment

Designated Sites

- 1.16 There are no statutorily designated sites on or near Haydock Green. Haydock Green site lies within the Impact Risk Zone for Highfield Moss SSSI (2.8km east). However, residential development is not listed as a land use of risk.
- 1.17 There are two Local Wildlife Sites, shown in red hatch on the phase 1 habitat survey at Figure 2. They are contiguous with each other.
- 1.18 Ellam's Brook Local Wildlife Site (LWS) follows the line of the brook, entering the site in the north-west and flowing south-east, before turning eastwards to flow beneath A49 Lodge Lane and the M6. The Brook is designated for its population of breeding water voles and for general habitat diversity. The designation covers a long reach of the brook, including sections downstream (east) of the M6, as far as the St Helens boundary.
- 1.19 No water voles were found in this reach of the Brook during surveys in 2016 and 2018, and the phase 1 survey notes the presence of a sewage smell at the upstream end of the Brook.
- 1.20 The brook is generally quite well-wooded, flowing within a woodland called Wicken Hedge within the site, before turning east to flow within a woodland called Ellam's Rough. An occasional sewage smell suggests the brook appears to be influenced by upstream pollution discharges, perhaps from industrial uses and/or the A580. Nevertheless it has reasonable channel and bank habitat diversity.
- 1.21 Wicken Hedge LWS is a mature plantation woodland with several ponds and is found in the centre of the site, following the line of Ellam's Brook. It is designated for its woodland flora (English bluebell and hairy brome), presence of swamp and marginal vegetation, along with water voles historically breeding in the Ellam's Brook.
- 1.22 St Helens Council intend to review woodland Local Wildlife Sites to assess whether any might contain ancient woodland. Although Wicken Hedge is not on the register of ancient woodland, it does contain pockets of flora characteristic of long-established woodland (bluebell and wood sorrel). These are not exclusively associated with ancient woodland and it is clear that Wicken Hedge has been substantially modified by creation of numerous ponds and planting of beech, so it is unlikely that it would be classified as ancient woodland.
- 1.23 Nevertheless, a buffer zone should be allowed around Ellam's Brook and Wicken Hedge LWS to reduce any adverse effects of development such as construction-stage dust or operational stage nutrient enrichments.
- 1.24 The development would require a road crossing of the Ellam's Brook. There would also be creation of a footbridge crossing and a footpath/cycleway as part of the green infrastructure of the site.
- 1.25 The proposed crossing point has been selected on the basis that it is at a relatively unwooded section. Construction-stage controls would be required, including the use of wildlife-friendly crossing techniques and pollution control measures.

- 1.26 The development offers an opportunity to tackle the significant areas of invasive species affecting the Brook and Wicken Hedge, along with improving the ecological quality of the LWS's both of which are in moderate condition due to lack of management.

Irreplaceable Habitats

- 1.27 There is no ancient woodland on site. However, as noted above there are pockets of flora associated with long-established woodland in Wicken Hedge and Ellam's Rough. There is no over-riding policy requirement for a 15m buffer around the woodland, but where possible a buffer zone should be provided.
- 1.28 There may be veteran trees in the woodlands of the site. However, it is not intended to remove any woodlands or mature trees. There are opportunities to manage the mature trees to create future veterans and associated deadwood habitats. This would be an enhancement.

Priority Habitats

- 1.29 The ecological interest is formed by the woodland, watercourses, ponds, hedgerows and scattered mature trees. These areas provide varied breeding, feeding and roosting habitats for a variety of wildlife. The expanses of arable land, where built development would be focused, are of the lowest ecological value. The areas of proposed green space offer significant opportunity to extend grassland, tree and hedgerow planting, and ponds as a benefit to both biodiversity and to future residents for recreational use.
- 1.30 S41 priority habitats should be prioritised for retention and protection. Where possible, connectivity between these habitat features should be optimised and the extent of each increased, for example through planting, provision of open space and positive management. The following notable habitats have been identified on site:
- Lowland mixed deciduous woodland (including LWS and non-designated areas of this habitat type) is a S41 Priority habitat;
 - The hedgerows qualify as S41 and local BAP priority habitat, however as they are species-poor they are not classified as being important under the Hedgerow Regulations 1997. Despite this lack of legal protection the hedgerow will still support a range of species, such as nesting birds.
 - The stream (LWS designated Ellam's Brook) falls under the S41 type of 'rivers and streams'.
 - The ponds on site do not strictly qualify as S41 priority habitat, in the absence of other S41 species such as GCN. These offer opportunities for enhancement.
- 1.31 A Condition Assessment of all the woodlands on site was made on 17th May 2021, using the guidance provided by Defra for assessment of biodiversity (Crosher et al, 2019). All woodlands are classed as Moderate Condition, because they fail on three or four criteria:
- Criterion 2: Non-native species account for >10% of vegetation cover
 - Criteria 4 and 8: Damage - although stock damage is not present, there is vandalism

- Criterion 10: Invasive non-native plants are present (Japanese knotweed, Himalayan balsam, Rhododendron)
- Criterion 12: Low native tree and shrub species diversity

Important Hedgerows

- 1.32 There are no important hedges on site.

Protected and Priority Species

Great Crested Newts (GCN) and Common Toads

- 1.33 There are no GCN on site or within influencing distance. There are no recent historic records. Full surveys, including eDNA analysis of the ponds on site and within 250m, was carried out in 2018 with no findings of GCN. The 2021 Habitat Suitability Index assessment confirmed that the ponds remained in similar condition as recorded in 2018.
- 1.34 Common toads are likely to be present in the woodland ponds.

Bats

- 1.35 There are numerous bat species records within the local area, the closest of which is approximately 100m south-west of the site. A soprano pipistrelle roost has been recorded approximately 350m north-west of the site boundary.
- 1.36 The woodland, hedgerows and associated watercourses on site provide habitat suitable for bats to forage and commute. The woodland blocks have mature trees that have features suitable to support roosting bats. The open arable fields are comparatively poor, with limited diversity of plant species or sward structure, and so too limited value to support invertebrate prey.
- 1.37 Assessment of trees identified 11 trees of High bat roost suitability, five Moderate and 16 Low. The majority stand within the LWS woodland and the remainder are associated with the unploughed margins. Four mature trees stand in the western group close to the industrial buildings, and four along the south and western field boundaries.
- 1.38 During the activity surveys undertaken in 2015 and 2018, five confirmed bat species were recorded, as below:
- Common pipistrelle
 - Soprano pipistrelle
 - Noctule
 - Brown long-eared and;
 - Myotis species (a group consisting of Whiskered, Brandt's, Daubenton's and Natterer's which may occur in the area, but were not identified to species level)
- 1.39 The data suggests that while common pipistrelles are relatively abundant on site, soprano pipistrelle, big bats and species of Myotis are a much rarer occurrence. No roosting bats were identified during the 2015 or 2018 activity surveys.

Water vole / otter

- 1.40 Field surveys of 2016 and 2018 found no confirmed evidence of water voles in the Ellam's Brook or in other wet ditches on site.

Badger

- 1.41 Field surveys have not recorded badgers. The 2021 update visit did not record badgers.

Farmland birds

- 1.42 45 species were recorded during Breeding Bird Survey in 2015 and 35 species in 2018. This represents a moderate species diversity, with the majority of species being widely-occurring.
- 1.43 No significant breeding bird concentrations (i.e. 1% or more of the national breeding population) or nationally rare breeding bird species (i.e. between 1 and 1,000 breeding pairs) were recorded.
- 1.44 Fuller (1980) devised a method of classifying the ornithological interest of sites for conservation based on three site attributes: population size, rarity and diversity. Although there is moderate species diversity, almost all species are widely distributed and commonplace, meaning the site is of "less than local" significance.
- 1.45 Notable species confirmed as breeding in 2018 - dunnock and mallard - are associated with nesting in trees and hedgerows (dunnock), and on dry ground close to water (mallard). Yellowhammer was recorded to probably breed within the site in 2018. This species typically nests within low-ground flora of hedgerows and scrub in arable habitat. This habitat is present to the north, south, west and east of site and the loss of this habitat from site is unlikely to affect or fragment these habitats as the M6 motorway already lies adjacent to the site, causing fragmentation.
- 1.46 For the bird assemblage as a whole, woodland and hedgerow habitats present the most suitable nesting habitat for species on site, with moderate densities of common woodland species. There are opportunities to improve conditions for birds through works to bring the woodlands, the stream and scrub areas into management.

Other species

- 1.47 There are general records of some species of conservation value e.g. brown hare, hedgehog, and various invertebrates. Whilst these were not encountered on site, they may be present in low numbers and should be considered in construction-stage environmental management.

Invasive Species

- 1.48 There are infestations of Japanese knotweed, Himalayan balsam and Rhododendron in the site's woodlands.

Wildlife Corridors and Ecological Networks

- 1.49 The primary corridor is Ellam's Brook. It has been modified by long-term agricultural drainage which has created a somewhat artificial section in the arable areas. Within the woodland it was historically straightened but is not subject to ongoing impacts. It experiences poor water quality, perhaps due to emissions from industrial or highways sources upstream.
- 1.50 There is a good opportunity to improve habitat quality through better management of the stream corridor, including creation of biodiverse habitats in a buffer zone either side. The corridor is adversely affected by invasives (Japanese knotweed and Himalayan balsam) which can be removed as part of a long-term management plan.
- 1.51 The proposed road crossing will fragment continuity, but measures can be taken to incorporate a wildlife shelf and create channel habitats that improve oxygenation up and downstream of the culvert entrance.
- 1.52 The other corridors on or adjoining site are:
- The southern boundary hedge and tree line, with some sections also incorporating a ditch and ponds. This provides a local connection between Lyme and Wood Pits Tip Local Wildlife Site (west of Vista Road) and the Ellam's Brook LWS;
 - The A580 verges, which are shown on the Liverpool City Region Ecological Network.
- 1.53 There is an opportunity to improve the corridors within the site by linking small blocks of woodland with each other and with the Ellam's Brook corridor. This is shown on the indicative masterplan and will also improve connections between the southern boundary corridor and the A580 verges.
- 1.54 The proposed new road access to the A580 will fragment the existing verge, but the associated diversion and downgrading of Lodge Lane will allow for creation of an alternative roadside habitat which will be wider and more diverse.

Development Overview

- 1.55 The proposed development would retain the site's existing ecological infrastructure, with minor fragmentation of the Ellam's Brook corridor by the proposed main road crossing.
- 1.56 The residential development parcels can be created allowing for appropriate buffering and active frontages to the green infrastructure, incorporating any mature trees and allowing for new street tree and hedge planting. The development would almost exclusively occupy arable land of low botanical and faunal interest.
- 1.57 The development offers the opportunity to reinforce and create new green infrastructure corridors. Notably the Ellam's Brook corridor in the area south of the A580 could be diversified including reedbeds and species-rich grasslands which may also assist with water quality improvements.

- 1.58 The additional recreational pressure on the Ellam's Brook and Wicken Hedge LWS would require sensitive routing of footpath/cycleway infrastructure to avoid mature trees, and a vegetation management plan to maintain habitat diversity.
- 1.59 The re-routing of Lodge Lane offers the opportunity to create a diversity of habitats east of the new road. Bringing Lodge Lane Plantation and Ellam's Rough into management will also offer an opportunity to improve woodland condition and create new habitats.

Mitigation hierarchy

- 1.60 The scheme complies with the mitigation hierarchy set out in NPPF paragraph 175a as follows:
- 1.61 Avoid: Development can avoid direct impacts on designated sites or priority habitats, except for the unavoidable crossing point of the main road from Lodge Lane. Design iterations have taken place to provide a second western access from Vista Road, which reduces the need for two crossings of Ellam's Brook.
- 1.62 Design: The layout of the development has responded to ecological assessment by the retention of key habitats, use of buffer zones, use of SuDS, and establishment of a green infrastructure network (see also compensation and enhancement below);
- 1.63 Mitigate: Construction-stage environmental management controls can be secured e.g.
- Tree and Hedge and Watercourse Protection and Arboricultural Method Statements
 - Nesting Bird Protection
 - Pollution prevention controls at watercourse crossings
 - Micrositing of footpaths and cycleways to avoid impacts on mature trees
 - Sensitive Lighting Strategy adjacent the LWS's
 - Reasonable Avoidance Method Statements for priority species such as common toad, hedgehogs
- 1.64 Compensate: unavoidable losses of watercourse and hedge can be compensated by creation of wetland and hedgerow habitats. Loss of arable fields is not a significant impact, but the loss of opportunities for foraging by birds and invertebrates can be compensated by creation of alternative habitats that offer more intense prey (e.g. woodlands, scrub, wetlands). It is accepted the overall mix of birds and invertebrates will alter.
- 1.65 Enhance: There are several opportunities to enhance biodiversity e.g.
- Removal of invasive species;
 - Creation of new ponds, reedbeds, woodland, scrub and species-rich grassland;
 - Bringing the Local Wildlife Sites into the scope of a long-term Landscape and Habitat Management Plan (LHMP);
 - Bringing Lodge Lane plantation, Kings Coppice and Ellam's Rough, east of the A49, into the LHMP;
 - De-silting some of the ponds in woodland;

- Veteranisation of overmature trees to create invertebrate habitat;
- Connecting retained areas of habitat to form new green infrastructure corridors;
- In-channel improvements to Ellam's Brook to create a more meandering course and increase oxygenation and investigate use of reedbeds to address low water quality issues arising from upstream discharges;
- Use of a green roof on the roadside amenity building;
- Use of green walls at the roadside amenity and EV charging station;
- Provision of street trees and hedges;
- Use of raingardens in the development zone;
- A bat and bird box scheme in the green infrastructure and on buildings fronting it.

Biodiversity Net Gain

1.66 An initial estimate of the impact on biodiversity has been made using the Defra Metric 2.0 (current at the time of writing). This indicates that the scheme, along with the design and enhancement measures proposed above, should deliver 10% net gain on site. The headline results are reproduced at Figure 4 below.

Haydock Green		Return to results menu	
Headline Results			
On-site baseline	<i>Habitat units</i>		131.89
	<i>Hedgerow units</i>		0.00
	<i>River units</i>		0.00
On-site post-intervention (Including habitat retention, creation, enhancement & succession)	<i>Habitat units</i>		148.71
	<i>Hedgerow units</i>		0.00
	<i>River units</i>		0.00
Off-site baseline	<i>Habitat units</i>		0.00
	<i>Hedgerow units</i>		0.00
	<i>River units</i>		0.00
Off-site post-intervention (Including habitat retention, creation, enhancement & succession)	<i>Habitat units</i>		0.00
	<i>Hedgerow units</i>		0.00
	<i>River units</i>		0.00
Total net unit change (including all on-site & off-site habitat retention/creation)	<i>Habitat units</i>		16.82
	<i>Hedgerow units</i>		0.00
	<i>River units</i>		0.00
Total net % change (including all on-site & off-site habitat creation + retained habitats)	<i>Habitat units</i>		12.75%
	<i>Hedgerow units</i>		0.00%
	<i>River units</i>		0.00%

Figure 4: Biodiversity Net Gain at Haydock Green - Estimated net gain (May 2021)

- 1.67 The assessment focuses on habitat area units. Linear units have not been assessed at this stage. The limited losses of hedgerow and the numerous opportunities for hedgerow creation mean that there would certainly be a net gain of over 10% at planning application stage.
- 1.68 The rivers and stream calculation has not been carried out. Whilst there would be a loss of ca 10-15m of Ellam's Brook to form the main road crossing and associated infrastructure, there would be many opportunities to enhance the channel and bank habitat up and down stream of the crossing point, so delivery of >10% net gain is not in doubt.

Policy Compliance

- 1.69 Opportunities for ecological enhancement have been identified in line with the National Planning Policy Framework (NPPF) and the emerging St. Helen's Local Plan. These seek to optimise the terrestrial and aquatic habitat mosaic, particularly across areas of open green space. Long-term management of these areas can be delivered through a prescriptive Habitat Management Plan (HMP).

NPPF

- 1.70 Paragraphs 170 to 175 deal with biodiversity, as follows:
- 1.71 170a requires protection of sites of biodiversity value. This is achieved, as is discussed below in detail in relation to emerging St Helens policy LPC06.
- 1.72 170d requires minimisation of adverse impacts, and provision of net gains for, biodiversity. As noted above, the scheme achieves these goals by virtue of careful consideration of ecology in the design and layout.
- 1.73 171 seeks allocation of land with least environmental value. This development would occupy almost exclusively only the intensively-farmed areas of the site, retaining areas of higher ecological value. 171 also seeks a strategic approach to networks of habitats, something that is reflected in the layout and green infrastructure proposals for the site.
- 1.74 174a and 174b require that plans should safeguard wildlife-rich habitats and promote their conservation, restoration and enhancement. The proposal achieves safeguarding, conservation, restoration, enhancement and re-connecting habitat areas of value.
- 1.75 175a promotes the mitigation hierarchy, discussed above
- 1.76 175d promotes the use of detailed enhancement measures, again discussed above.
- 1.77 In summary, the proposed allocation, based on the indicative layout shown at Figure 3, complies comprehensively with the biodiversity ambitions of NPPF.

St Helens Local Plan

- 1.78 The draft Local Plan document can be viewed by following the link: <https://www.sthelens.gov.uk/media/9525/local-plan-written-plan-web.pdf>

- 1.79 The following emerging policies relate to biodiversity and nature conservation. For each policy, a brief commentary on compliance is added.

Policy LPA09 Green infrastructure:

- 1.80 The scheme fully complies in that long-term management can be secured for the site's GI, and the layout enables the existing GI assets to be safeguarded, with no fragmentation, and increased public access. New GI assets would be provided (increased tree, woodland and hedgerow cover, new ponds and wetlands, meadows and footpath/cycleways).

Policy LPC06 Biodiversity and Geological Conservation:

- 1.81 There would be no direct harm to any statutorily-protected sites. Adverse effects on Highfield Moss are not predicted and can be secured by construction-stage measures to prevent emissions to the Ellam's Brook and dust controls. Policy LPC06 notes that the Council may seek developer contributions to offset the indirect effect of population increases on the Sefton Coast SAC and other internationally designated sites (diffuse recreational pressure). It is noted that this scheme will contain accessible open space which will absorb day-to-day recreational pressure and in any case, the sites location adjacent Lyme and Wood Pits Country Park means that local recreational activity is well-provided.

- 1.82 There would be a small adverse effect on Ellam's Brook and Wicken Hedge LWS's due to the proposed road crossing and the installation of a footpath/cycleway. The point of impact has been optimised and mitigation measures can be used to reduce direct effects. Compensatory enhancements to the retained LWS and the creation of additional channel, bank and wetland habitats can also be secured on the site (which is the preferred location for mitigation measures).

- 1.83 Protection of priority habitats and species can be secured through construction-stage controls. Based on current evidence, it is unlikely that a Natural England licence would be needed to implement the development, as there are no GCN, no badgers, no likelihood of affecting a bat roost and probably no water voles.

- 1.84 The policy refers to the St Helens Nature Conservation SPD, which sets out how the mitigation hierarchy is to be followed. In this case, the proposed habitat creation and management measures, coupled with evidence from the biodiversity net gain assessment, indicates that the scheme would comply and deliver no avoidable losses and an overall net gain.

Policy LPC08 Ecological Network

- 1.85 The site does not sit within the Nature Improvement Focus Areas for St Helens, namely the "Knowsley and Sefton Mosslands" and the "Blackbrook and Sankey Valley Corridor".

- 1.86 Nevertheless the scheme does deliver a net gain in diversity and improves the resilience of the Ellam's Brook corridor and the long-term sustainability of the associated Local Wildlife Sites.

Policy LPC010 Trees and Woodland

- 1.87 The proposed development would result in minimal tree and hedgerow losses, with retention and buffering of the existing woodlands. Individual mature trees can be retained, with due allowance made for root protection at the construction stage.
- 1.88 There would be a net increase in tree and woodland cover, and a long-term LHMP addressing the reasons why existing woodlands are in moderate, rather than good condition (invasive species, neglect of understorey and non-woodland habitats within the wood, dominance of non-native species).

Conclusion

- 1.89 The proposed development of Haydock Green would have no adverse residual effects on ecological features of value. The design and layout would increase the quality and resilience of the existing ecological network of Local Wildlife Sites, woodlands and watercourses. Loss of intensively farmed land to development is of low adverse significance. No protected species would be adversely affected. A 10% net biodiversity gain can be delivered on site.

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HAYDOCK GREEN - LANDSCAPE AND VISUAL SUMMARY

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FIGURES

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Figure 2: Photosheets

Figure 3: Haydock Green Illustrative Masterplan

1.0 Introduction

- 1.1 The Environment Partnership (TEP) Ltd was commissioned by Peel to carry out a landscape and visual summary for a potential development site at Haydock Green. The site has been identified by Peel as an area of Strategic Opportunity for Housing Growth and is to be presented to the emerging St Helens Local Plan.
- 1.2 This report summarises the effects of the potential development on landscape and views for the site to the edge of Haydock, west of Junction 23 of the M6 Motorway and south of the A580 East Lancashire Road.
- 1.3 The site is 32.46 hectares and is characterised by agricultural fields, areas of woodland and wooded corridors and consists of two parcels of land. The main parcel is partly bound by the A580 to the north, Lodge Lane (A49) to the east and Vista Road (B5209) to the west. The smaller parcel is east of Lodge Lane, west of the M6 and is bounded to the south partly by office development at Woodlands Park and partly by an open agricultural field. The eastern and western boundaries taper with a narrow northern boundary at the junction between the large junction between the M6, A580 and A49 Lodge Lane. Most of this parcel is occupied by the wooded King's Coppice. There are no development proposals for the smaller parcel of land.
- 1.4 This report consists of the following sections:
 - Local landscape planning policy summary;
 - Published local landscape character assessment summary;
 - Landscape character of site;
 - Summary of baseline views;
 - Description of the potential development; and
 - Summary of impacts of development and potential for mitigation.
- 1.5 The report is supported by three drawings (Figures 1 to 3) provided at the end of the document. Figure 1 is a site location plan based on aerial photography and highlights the site boundary, public right of way (PRoW) network, location of photograph viewpoints and wider context. Figure 2 presents the photographs from the selected viewpoints and Figure 3 provides an illustrative layout of the potential development at Haydock Green.

2.0 Local Landscape Planning Policy Summary

2.1 The current local planning policy is provided by the St Helens Local Plan Core Strategy (CS) and those policies which have been saved from the St Helens Unitary Development Plan (UDP). Policies relevant to landscape and views are listed below.

St Helens Local Plan Core Strategy (October 2012)

2.2 Policies relevant to landscape and views are listed below:

- CP1 Ensuring Quality Development in St Helens;
- Policy CAS5 Rural St Helens;
- CQL1 Green Infrastructure; and
- CQL2 Trees and Woodlands.

St Helens Unitary Development Plan Saved Policies 2012

2.3 Policies relevant to landscape and views are listed below:

- S1 Green Belt;
- ENV1 Protection of Open Space;
- ENV3 Greenway;
- ENV10 The Mersey Forest;
- ENV13 New Tree Planting on Development Sites;
- ENV20 Landscape Renewal;
- ENV21 Environmental Improvements within Transport Corridors;
- REC5 Strategic Footpaths and Cycleways;
- REC6 Key Recreation Areas; and
- REC7 Water Features.

St Helens Borough Local Plan 2020-2035 (Submission Draft)

2.4 The St Helens Borough Local Plan 2020-2035 Submission Draft was submitted to the Planning Inspectorate for independent examination in October 2020.

2.5 Policies relevant to landscape and views are listed below:

- LPA02: Spatial Strategy;
- LPA03: Development Principles;
- LPA06: Safeguarded Land;
- LPA09: Green infrastructure;
- LPC06: Biodiversity and Geological Conservation;
- LPC07: Greenways;
- LPC08: Ecological Network;
- LPC09: Landscape Protection and Enhancement;
- LPC10: Trees and Woodland;
- LPC11: Historic Environment; and
- LPD01: Ensuring Quality Development.

3.0 Published Local Landscape Character Assessment

3.1 The relevant published local landscape character assessment for the site at Haydock Green is:

- St Helens Landscape Character Assessment: Haydock Park

St Helens Landscape Character Assessment: Haydock Park

3.2 The key characteristics of the Haydock Park landscape character area are:

- *a generally flat, open landscape with strong horizontal composition, subtly rising in elevation from the course of the Newton Brook to the south east at 25m AOD up to 50 metres at the urban edge with Ashton-in-Makerfield;*
- *a park landscape covering an extensive area to the extreme east of St Helens Borough, although highly fragmented and divided by the location of the M6 running north to south and the A580 running east to west often at elevation. In addition the character area has a complex indented boundary defined to the east by the location of the St Helens Council administrative boundary and to the north, west and south by a varied and indented predominantly urban edge;*
- *the predominant land use of the area is arable farmland cultivated within a large scale geometric regular field system. Hedged field boundaries vary in condition and where neglected they emphasise the sense of openness and scale of the landscape;*
- *mature woodland blocks, shelterbelts and plantations interrupt the field pattern to create an interesting spatial sequence and partially enclose several of the fields;*
- *to the north the character area is defined by the layout of the Haydock Race Course, for which the grassed white-fenced course sits relatively unobtrusively within the large scale open park landscape. Associated development to the racecourse including the entrance buildings, entrance road and parking is identifiable with the racecourse and defined by regular formal ornamental planting of conifers to the entrance area although the white stands extend above the tree crown;*
- *within the mature landscape structure a number of small dams, lakes and ponds and associated riparian woodland are found along the narrow valley to Newton Brook and tributaries which flows southwards and is dammed at intervals to form the Dean Dam and Newton Lake;*
- *there are remnants of former estate structures such as walls and ornamental gate features;*
- *the large grade separated elevated road junction of the M6 and A580 separates and divides the character area, dominating the experience of the landscape and detracting from the rural qualities of the area;*
- *within the area there is minimal settlement with buildings related to the functions of Haydock Park or a scatter of farm steading. The proximity and visual prominence of the surrounding settled edges imposes an urban character on the landscape.*

4.0 Landscape character of site

- 4.1 The site is on level ground and characterised by an irregular field pattern with field boundaries frequently containing hedgerows and trees. Fields are in arable use and are large, with the exception of two small fields next to Vista Road (B5209). The hedgerows are gappy in part but the strongest features are King's Coppice (east of the A49) and the trees that follow the line of Ellam's Brook which runs to the south of the coppice and then across the north eastern part of the site. Ellam's Brook links with Wicken Hedge, a small wooded area in the same part of the site.
- 4.2 The north-western boundaries of the land abut the eastern boundary of Haydock at Old Boston. The urban edge is relatively open to the farmland and comprises suburban housing, an area of public open space and a factory.
- 4.3 The northern boundary of the main parcel of the site abuts the wooded embankment to the A580 and the largely intact hedgerow to Lodge Lane (A49) forms the eastern boundary. A section of gappy hedgerow and wooded corridors form the southern boundary and the western boundary is defined by a low clipped hedgerow next to Vista Road.
- 4.4 PRoW 648 links the residential area at the northern edge of Newton-le-Willows (Billington Avenue) with Vista Road. There is another PRoW that links Billington Avenue with Ashton Road (A49) to the east.



View from the area of public open space looking east towards the site

5.0 Baseline Views

- 5.1 The field survey has considered receptors (public and private) where views towards the site are considered likely and a description of these views is summarised below.

Views from the north

- 5.2 There are open views from the properties at the eastern edge of Haydock at Old Boston, the area of public open space and the factory towards the north western part of the site. Views from the A580 are largely screened by the wooded embankment to the A580, although there are glimpsed views of the site from the roundabout interchange of the East Lancashire Road with the M6.

Views from the east

- 5.3 Views from Lodge Lane towards the site are largely screened by the roadside hedgerow and wooded Ellam's Brook corridor, although there are glimpses of the site where there are gaps in the hedge.
- 5.4 Views from the M6 towards the site are screened by King's Coppice.
- 5.5 There are some views from Ashton Road and the Woodlands Park office complex towards the southern edge of the site, although those views are partly screened by the wooded Ellam's Brook corridor.

Views from the south

- 5.6 There are a range of views from the properties fronting Billington Avenue and PRoW 648 towards the site. Open views of the site are feasible through the gappy hedge along the southern site boundary. However where the southern site boundary is defined by a wooded corridor, views towards the site are heavily filtered or screened.
- 5.7 Views from the entrance to the Lyme and Wood Pits Country Park towards the site are filtered by intervening vegetation south of the site.

Views from the west

- 5.8 Travelling in a northerly direction, there are views from Vista Road towards the site, although those views are partly screened by intervening vegetation.
- 5.9 However, where Vista Road passes next to the western site boundary there are views over the low clipped hedgerow towards the western part of the site.
- 5.10 There are open views from PRoW 648 (next to Vista Road) towards the site.

6.0 Description of Potential Development

- 6.1 The description of the potential residential development is based on the illustrative layout at Figure 3.
- 6.2 All existing landscape features including Wicken Hedge, the wooded Ellam's Brook corridor, wooded field boundaries and hedgerows would be retained and reinforced. Buffers to the existing landscape features would form a network of public open space across the site and would include tree and shrub planting and sustainable drainage (SuDS) infrastructure. Larger areas of public open space provision are proposed along the northern edge, the south east corner and south west corner of the site. The latter two areas would accommodate SuDS.
- 6.3 Lodge Lane would be reconfigured to provide a new link road with direct access to the A580, west of the existing interchange with the M6. A landscaped buffer would be provided between the new link road and the interchange with the M6. The new link road would provide access to the eastern part of the site.
- 6.4 Access to the western part of the site would be from Vista Road.
- 6.5 Approximately 525 residential units are proposed, ranging from two bed to four bed houses. Properties would be constructed in a series of smaller development parcels, set within the network of public open space and accessed by a pattern of streets. Tree and shrub planting is proposed along the streets and in the series public squares proposed across the development.
- 6.6 The net developable area would be 13.44 hectares of the gross site area would be 32.46 hectares. Public open space (including retained woodland, sustainable drainage (SuDS) and landscaped spaces) would be 10.89 hectares. The balance of the site are would comprise land east of the new link road and land reserved on the northern boundary for noise attenuation from the A580.

7.0 Summary of Impacts of Development and Potential for Mitigation

Landscape Effects

- 7.1 The potential development has been designed with embedded mitigation to minimise effects and to integrate building form and infrastructure into the wider landscape. This would be achieved by retaining all existing landscape features and providing a buffer to those features to form a network of public open space across the site. New tree and shrub planting would be provided in the network of public open space.
- 7.2 Larger areas of public open space provision are proposed along the northern edge, the south east corner and south west corner of the site. There would also be a landscaped buffer between the new link road and the interchange with the M6. These proposals would further assist in integrating the development into the wider area.
- 7.3 There would be a permanent change in land use across the site from arable fields to residential development set in a network of public open space. The proposed areas of tree and shrub planting would mature over time and along with the existing landscape features would help to integrate the development into the wider area.

Visual Effects

- 7.4 This section considers the effects on views towards the potential development.

Views from the North

- 7.5 There would be open views from the properties at the eastern edge of Haydock at Old Boston and the area of public open space towards the potential development, although the existing north to south running wooded corridor would help to integrate the development into those views.
- 7.6 Views from the factory would be heavily filtered by proposed tree planting along the site boundary.

Views from the East

- 7.7 The link road to the east of the potential development would be set in a wooded corridor limiting views towards building form. Views from Ashton Road and the Woodland Park office complex towards the potential development would be limited by the proposed southern wooded edge to Haydock Green.

Views from the South

- 7.8 Views from the properties on Billington Avenue, the PRoW and Country Park towards the potential development would be limited by the proposed southern wooded edge to Haydock Green.

Views from the West

- 7.9 The large area of public open space to the south west corner of the site would reduce the effects on views from Vista Road and the PRow. Proposed tree planting along the western site boundary would also mitigate effects on views from the same receptors.

Conclusion

- 7.10 Development would be consistent with existing landscape character of urban development set in areas of established and regenerated woodland, notably the office development at Woodlands Park, and also the edges of large residential and commercial development to the east and further south. There would be little harm to visual amenity primarily due to existing woodland and wooded corridors which screens views from the boundaries and within the larger parcel. Embedded mitigation in the masterplan would help to integrate the development into the wider area. The development would increase access and recreation opportunity in the area and provide good connectivity between existing development and the Country Park.

Figures

Figure 1 – Site Location Plan

Figure 2 – Photosheets

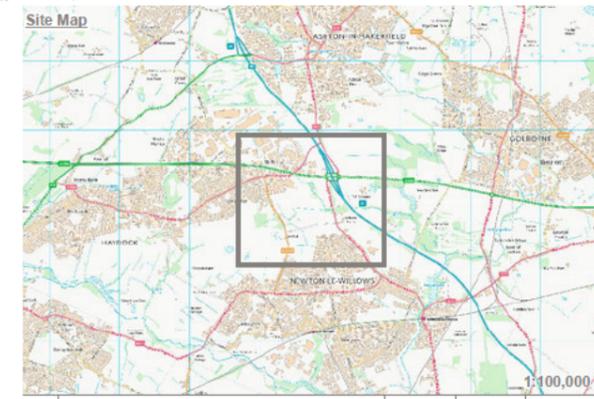
Figure 3 - Haydock Green Illustrative Masterplan



KEY

- Site boundary
- Public Right of Way (PRoW)
- ▼ Photo viewpoint location

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Rev	Description	Drawn	Approved	Date

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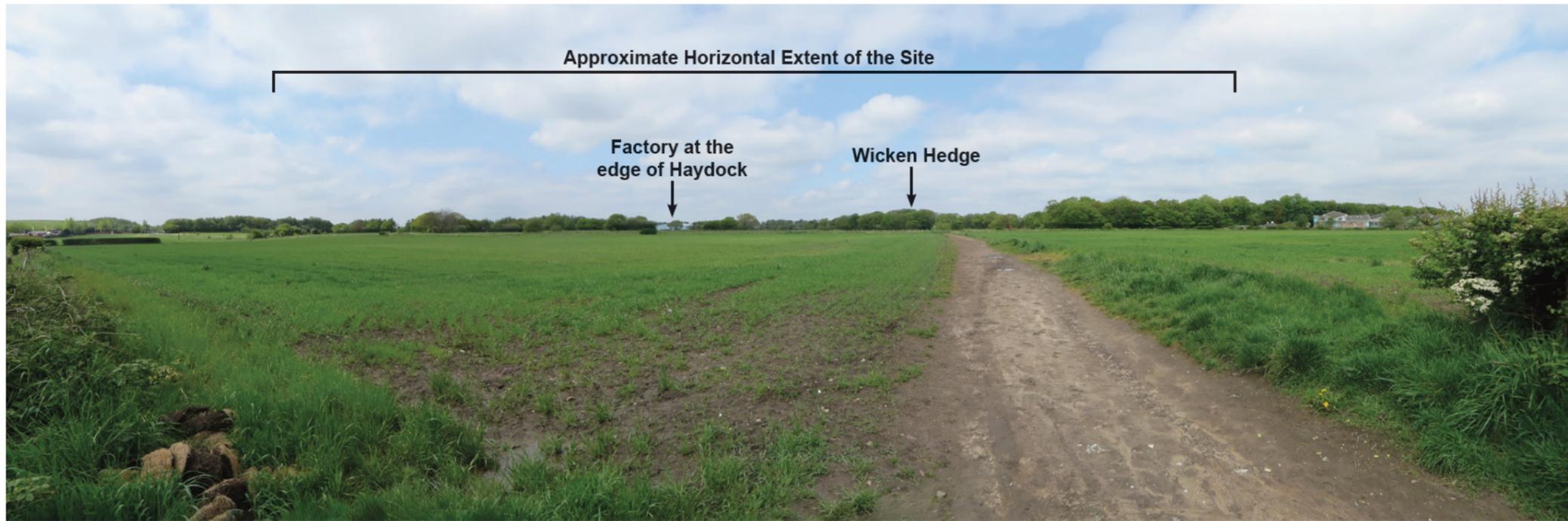
Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
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Project:
Haydock Green

Title:
Site Location Plan

Drawing Number:
G8834.001

Drawn	Checked	Approved	Scale	Date
SA	MK	TJ	1:7,000 @ A3	19/05/2021



Viewpoint 1 – View from Billington Avenue looking north towards the site.



Viewpoint 2 – View from entrance to Lyme and Wood Pits Country Park looking north east towards the site.

Rev	Description	Drawn	Approved	Date
Project				
Haydock Green				
Title				
Figure 2.1: Viewpoints 1 and 2				
Figure				
IN8834.001				
Drawn	Checked	Approved		
LC	TJ	TJ		



Viewpoint 3 – View from private road looking north east towards the site .



Viewpoint 4 – View from public right of way (PRoW) looking north east towards the site .

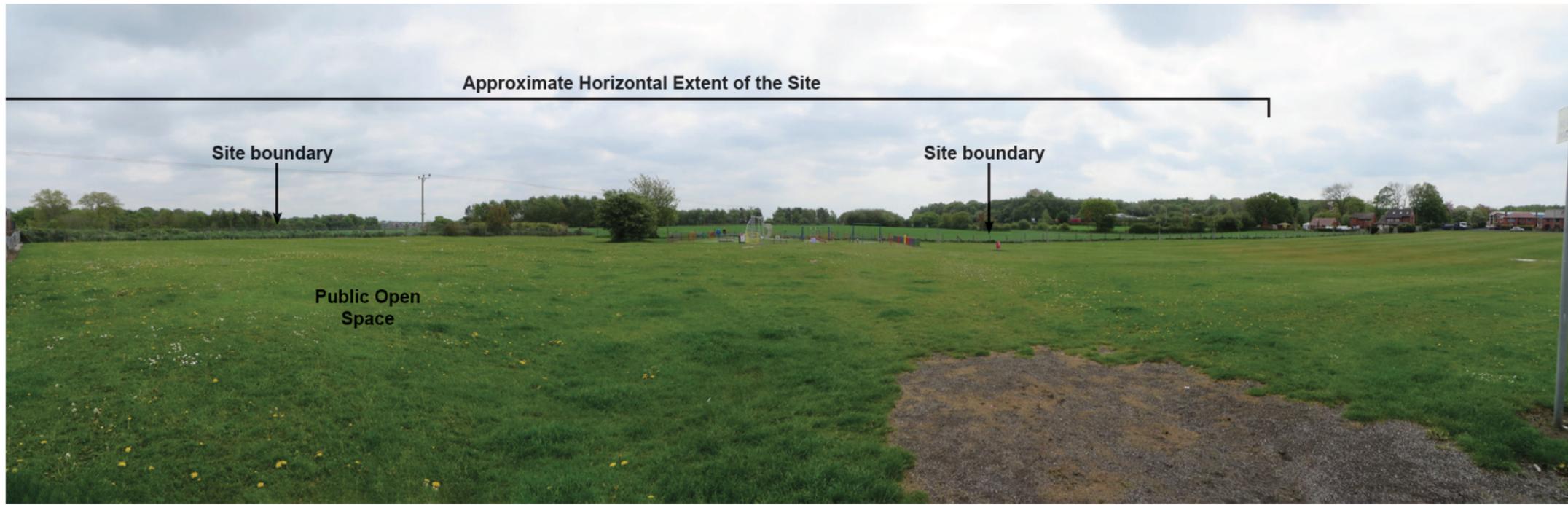
Rev	Description	Drawn	Approved	Date
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Project
Haydock Green

Title
Figure 2.2: Viewpoints 3 and 4

Figure
IN8834.001

Drawn	Checked	Approved
LC	TJ	TJ



Viewpoint 5 – View from public open space looking south towards the site.

Rev	Description	Drawn	Approved	Date
Project Haydock Green				
Title Figure 2.3: Viewpoint 5				
Figure IN8834.001				
Drawn LC	Checked TJ	Approved TJ		

Proposed Residential Development at Haydock Green, St Helens

May 2021
1:1250 @ A0




NORTHSTONE


Key	
	Residential Parcels
	Public Square
	Roads
	Site Boundary
	Footpath
	Roadside Amenities
	EV Charge Station
	Woodland
	Vegetation
	SUDS
	Existing Water



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Flood Risk Overview and Outline Drainage Strategy

at

Haydock Green
Haydock,
Merseyside



for



Contract No: 10809
Dated: 19th May 2021
Contract Ref: PG/MB/10809/HG

Prepared by	Signature	Date
Paul Graveney BEng (Hons), CEng, MICE		19/05/21
Verified		
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Issue	Description	Date	Originator	Approved
1	First Issue	19/05/21	PG	MB

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Appendix A – Architect Layout Plan**Appendix B – Thomason Drawings**

1.0 Introduction

This Flood Risk Overview [REDACTED] has been commissioned by Peel Land & Property to identify any flood and drainage strategy related issues associated with the potential development and any likely constraints that could be imposed. The following issues have been considered and are subsequently [REDACTED] report;

- Identification of flood zones and [REDACTED] specific flood risk issues.
- Determine whether the site is at risk from potential flooding from all sources, including but not exhaustive, from watercourse flooding, surface water flooding and/or ground water flooding.
- Determine the current foul and surface water drainage regime and assess any potential increase in surface water runoff as a result of the proposed development.
- Consider Sustainable Drainage Systems (SuDS) as an option for reducing surface water flood risk.
- Devise an appropriate outline surface water drainage strategy and likely attenuation volumes required on site deal with any increase in surface water runoff and include an allowance for climate change.
- Confirmation of foul drainage capacity in the area and outline discharge options.

The report and assessment within are based on the information available at the time of production. The study area (the 'Site') is limited to the areas of interest as shown in Appendix A. Thomasons have used their best professional endeavours in collating and interpreting this information but can take no responsibility for information for which they were not aware, or inaccuracies of information obtained.

2.0 Site Description

2.1 Site Location

The site is irregular in plan shape and encompasses two separate areas, split by an adopted highway (Lodge Lane). The larger western side is currently used for arable purposes and is undulating. The eastern area contains a small car park in the centre. There is a small watercourse passing south of the site.

Figure 1: EA Indicative Flood Maps



2.2 Site Visit

A site visit was carried out by a representative of Thomasons on Monday 17th May 2021. The general areas of the red line boundary were assessed, and the general contours and drainage infrastructure were recorded. The area includes a ditch running under the railway line from the north and flowing in a south easterly direction through the land. A small ditch was identified in the south west corner heading into the site from a culvert and flowing in a southerly direction. It couldn't be determined if the two watercourses were linked.

2.3 Photos

North West Corner Viewing South



North West Corner Viewing East



South Area Viewing South



Eastern Area Viewing North from Lodge Lane

3.0 Flood Risk Overview

3.1 Baseline Line Conditions

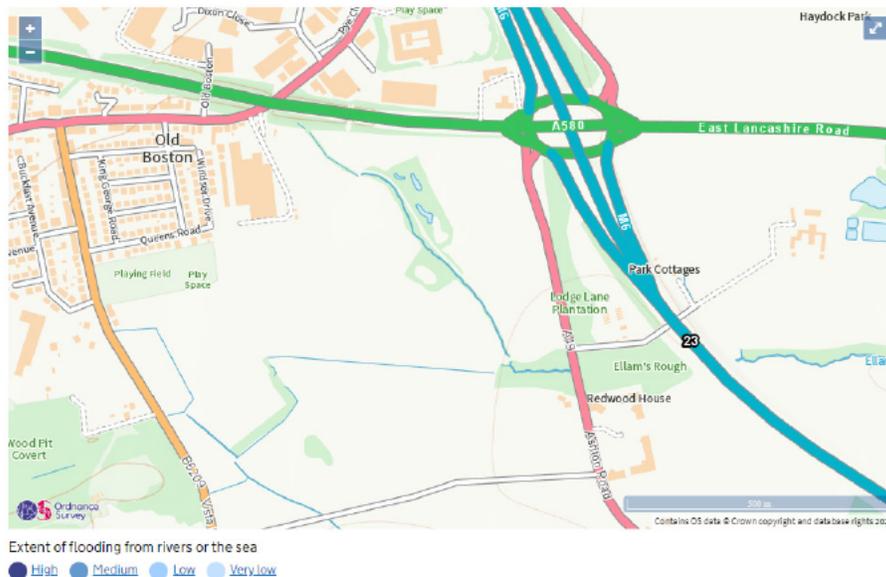
As indicated from the site [redacted] water courses passing through the site. All flows are generally in a south to south-easterly direction, to mimic the natural contours of the land. The features are predominantly [redacted] with culverts to pass beneath highways.

Ellam Brook is classed as a 'flooded' [redacted] additional powers from the Environmental Agency to make sure they are [redacted] and kept free flowing at all times.

3.2 Fluvial Flood Risk

Figure 2 below locates the site on the Environment Agency's indicative flood plain map. It is clear from this that the red line boundary sits outside of a fluvial generator of flood water from any identified water body or river. It is considered therefore that the site lays outside of the active 100-year and extreme event floodplains, thus lying within 'Flood Zone 1 Classification' in accordance with the National Planning Policy Framework (NPPF) Flood Risk Guidance Notes, i.e. probability of annual fluvial flooding significantly less than 1 in 1000 in any one year (<0.1%). The risk from fluvial flood water is diminished to acceptable levels, removing the requirement for further investigation and assessment of the fluvial flood regime.

Figure 2: EA Indicative Flood Maps



3.3 Surface Flooding (Overland Flow)

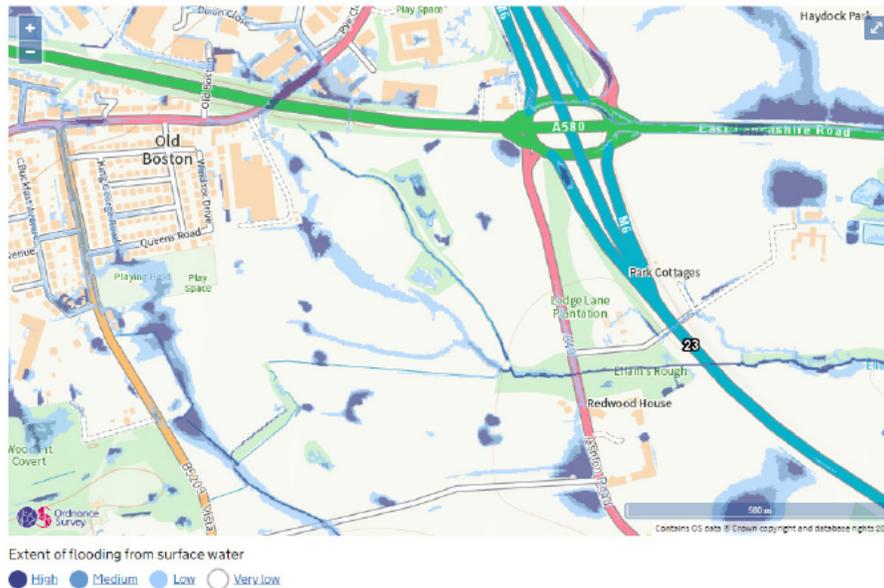
The Strategic Flood Risk Assessment (SFRA) for the area does not identify the site as being at risk from surface water flooding [redacted] historical flooding.

Low susceptibility surface water flooding from the SFRA Maps plus the indicative surface water maps from the EA website ([redacted]) have been identified at the site. These maps indicate the majority of the site [redacted]

There are a couple of areas of low, medium and high risk. This is associated with overland flows passing into the site from the residential area to the west and the low-lying areas within the site, thus having the potential to retain water. This is surface water runoff, based against data taken from digital terrain modelling. The new development levels will lose these low-lying areas and thus reduce the risk of surface water ponding. New drainage will also be incorporated into the layout to collect both permeable and impermeable rainwater runoff such that the only ponding from exceedance flooding will be located in controlled areas.

Overland flows passing into the site will be managed by the development layout to reduce flood risk to the units.

Figure 3 – The Environment Agency’s Indicative Surfaced Water Flood Map



3.4 Summary of Remaining Flood Risk Sources

Table 1 below considers the flood risk from each of the remaining sources and defines in tabular format the Probability of Flood [REDACTED] and the likely impacts.

Table 1: Flood Risk Summary

Source	Probability of Flood Risk	Impacts	Remarks / Mitigation
Tidal	Low	Low	Development site is not in close proximity for it to be tidally influenced
Fluvial	Low	Low	Site located in the low risk of Flood Zone 1
Surface (Overland Flood Flow)	Low/Medium	Low	EA Surface Water flood maps show some small areas at medium to high risk. These flow paths will be managed to reduce flood impact on the development intent.
Sewers and drains	Low	Low	There are a number of public sewers within the site. However, these are predominately foul only sewers, with risk being low due to their designed criteria.
Groundwater	Low	Low	Due to the falls of the site and lower laying watercourses, groundwater flooding is not anticipated to be a risk.
Artificial Sources	Low	Low	There are no artificial sources in close proximity.

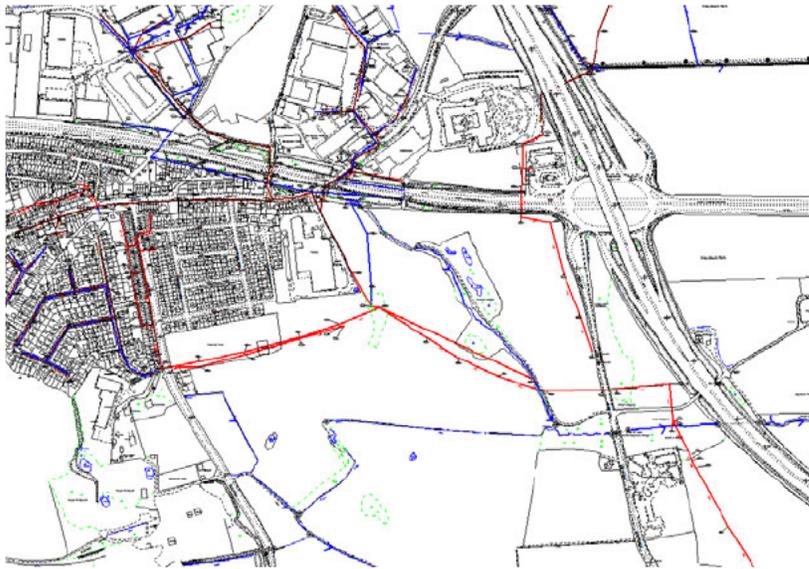
3.0 Outline Drainage Strategy

3.1 Sewer Records

The United Utilities (UU) Plan [REDACTED] was obtained and reviewed. Refer to Figure 4 below for details. In summary there are a number of combined and surface water public sewers within the development site.

There is a combined water sewer [REDACTED] entering the site from the north east corner in a southerly direction and another [REDACTED] entering from the north west corner where they merge in the centre of the site and flow south easterly, under Lodge Lane and away from the site.

Figure 4: Extract from UU Sewer Records



3.2 Ground Conditions

The British Geological Society website has been perused. This provides historic borehole data for all locations around the UK. For the Haydock area, the BGS Geological maps and boreholes indicate the area to incorporate shallow superficial deposits of clays over sandstone. This information would indicate that infiltration to ground would not be possible. However, further investigation will be necessary at the site to prove this is the case. This will also include permeability tests in line with BRE 365 guidance techniques.

3.3 Sustainable Drainage Systems

3.3.1 SuDS Objectives:

Sustainable drainage development [redacted] of sustainable development is collectively referred to as Sustainable Drainage Systems (SuDS). At a particular site, these systems are designed both to manage the [redacted] resulting from the urban runoff and to contribute wherever possible to environmental [redacted]. SuDS objectives are therefore to minimise the impacts from the development [redacted] of the runoff and maximise amenity and biodiversity opportunities (CIRIA C755, 2015).

3.3.2 The SuDS Management Train

The 'Management Train Approach' should be central to the surface water drainage strategy of the proposed site. The main objective is treatment and control of runoff as near to the source as possible protecting downstream habitats and further enhancing the amenity value of the site. This concept uses a hierarchy of drainage techniques to incrementally reduce pollution, flow rates and volumes of storm water discharge from the site, and is as follows:

1. **Prevention** – The use of good site design and housekeeping measures to prevent runoff and pollution and includes the use of rainwater reuse / harvesting.
2. **Source Controls** – Control of runoff at source or as close to source as possible (e.g. soakaways, green roofs, pervious pavements).
3. **Site Control** – Management of water in a local area and can include below ground storage / attenuation, detention basins, large infiltration devices.
4. **Regional Control** – Management of water from a site or various sites and can include wetlands and balancing ponds.

The drainage techniques for this development will seek to include where possible Prevention, Source Control and Site Control measures. The site constraints at Haydock Green in terms of the anticipated clay substrata will reduce the availability of most SuDS options.

3.3.4 SuDS Methods

Tables 2 & 3 on the following pages provide an assessment of various above and below ground SuDS methods that can provide water quality treatment and management of flows to reduce runoff rates and volumes and whether they can be suitably incorporated at this development site. The purpose of this assessment is to set out options to be considered at the planning stage with consideration to time constraints, viability and lifetime maintenance of the residential development.

Table 2 Surface SuDS Methods

Method	Comment	Suitability for Development
Green Roofs	<ul style="list-style-type: none"> Can be used on buildings to provide retention, attenuation and treatment of rainwater, and local b... 	<p><u>Not suitable:</u></p> <ul style="list-style-type: none"> Additional costs of installation would have severe effect on viability of the development. Long term maintenance costs would not be acceptable to school.
Water Butts	<ul style="list-style-type: none"> Plastic tanks placed at the base of rainwater down pipes to collect rainwater runoff from the roof areas. 	<p><u>Suitable:</u></p> <ul style="list-style-type: none"> To be located at the base of the rainwater pipes where possible.
Rainwater Harvesting	<ul style="list-style-type: none"> Rainwater harvesting reduces the total runoff volume from the developed site and reduces treated water consumption. 	<p><u>Not Suitable:</u></p> <ul style="list-style-type: none"> Additional costs of installation would have severe effect on viability of the development. Running and maintenance costs would not be acceptable to school. The ability to restrict peak flow rates and short-term peak volumes is non-existent where a critical storm event occurs.
Infiltration Options	<ul style="list-style-type: none"> Reduces total run off volume from the development. 	<p><u>Not Suitable:</u></p> <ul style="list-style-type: none"> Initial investigation would indicate that the underlying ground is not suitable for infiltration.
Permeable Surfacing (Infiltration)	<ul style="list-style-type: none"> Reduces total run off volume from the development. Can be used to enhance water quality. 	<p><u>Not Suitable:</u></p> <ul style="list-style-type: none"> Initial investigation would indicate that the underlying ground is not suitable for infiltration.
Permeable Surfacing (Standard)	<ul style="list-style-type: none"> Can be used to enhance quality of runoff water. Sub-base provides 'source' storage and reduces the volume of storage downstream. The storage can be created with selection of the stone fill or use of plastic box stems. Impermeable membrane at base of construction to prevent impact on pavement stability. 	<p><u>Suitable:</u></p> <ul style="list-style-type: none"> Could be utilised for parking areas and driveways subject to client approval.

Swales, basins and ponds	<ul style="list-style-type: none"> • Provide space for above ground surface • Swales also allow filtering of particulate matter, improving water quality 	<p><u>Suitable:</u></p> <ul style="list-style-type: none"> • Areas within the layout to incorporate a number of attenuation ponds.
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Table 3 Sub-Surface SuDS Methods

Method	Comment	Suitability for Development
Geocellular Storage	<ul style="list-style-type: none"> • Suitable for sites with insufficient space for basins etc. • Suitable for sites where topography prevents the use of open basins etc. • Can be very effective infiltration devices subject to ground conditions. 	<p><u>Suitable:</u></p> <ul style="list-style-type: none"> • Subject to detailed design and drainage layout.
Large Diameter Pipes, Culverts or Tanks	<ul style="list-style-type: none"> • Suitable for sites with insufficient space for basins etc. • Provide a volume of below ground storage with a high void ratio and good man entry provision to allow for future maintenance and cleaning. • Generally, be suitable for adoption by the statutory water company (e.g. Severn Trent Water). 	<p><u>Suitable:</u></p> <ul style="list-style-type: none"> • Oversized adopted sewers in the highways can be considered.

3.3.4 SuDS Design Philosophy

The SuDS philosophy for the development site is the promotion of Prevention, Source Control and Site Control techniques due to [REDACTED] es.

The following design philosophy is proposed:

- Surface water treatment [REDACTED] 'Train' approach to remove and isolate contamination at all SuDS [REDACTED] to the adjacent ditch network.
- Restrict the new development [REDACTED] rates to the pre-development Greenfield rates.
- Prevention measures by the inclusion of water butts.
- Source Control by the use of potential permeable paving and swales.
- Site Control features in the form of open attenuation ponds to accommodate the additional surface water runoff generated by the development site.
- Provision of suitable oil separators in line with current guidance.
- Aim to limit where possible the impermeable fraction of development.

3.4 Existing Surface Water Runoff & Existing Drainage Plan

As discussed in previous sections the natural rainfall currently drains onto the farmland and flows overland generally in a southerly direction, following the natural contours.

The proposed development is classed as Greenfield land and therefore Greenfield runoff rates should be applied for all new drainage discharges. These have been calculated based on the area of the site and can be found in Table 4 below.

Table 4: Existing Surface Water Runoff

Total Area (ha)	Total Development Impermeable Area (ha)	Greenfield Runoff Rates for Respective Storm Events (Based on Impermeable Area)			
		Qbar	1 Year	30 Year	100 Year
32.4	17.2	99l/s	86l/s	167l/s	205l/s

3.5 Surface Water Drainage Strategy

Overview

Surface water arising from [REDACTED] far as is practicable, be managed in a sustainable manner to mimic the surface water flows arising from the site prior to the proposed development, while reducing [REDACTED] itself and elsewhere, taking climate change into account. This is in line with [REDACTED] specific recommendations from the EA.

Surface Water Drainage Prop

Surface water runoff from the roof and external areas will be directed to the below ground gravity network. This water is considered to be generally clean and with limited contamination and may be discharged directly to the new drainage infrastructure and SuDS Facilities. Silt is to be prevented from entering the drainage system by the use of trapped gullies, channels with silt traps, infiltration trenches with silt traps or by the use of Sustainable Drainage techniques.

Although it is envisaged that Prevention and Source Control measures may be included in the final scheme, for outline calculations purposes the new adopted gravity drainage network will serve the residential plots and highways, and direct runoff to a number 'Site Control' detention ponds to suit the layout, ground levels and location of the existing watercourse. Taking into account the existing Qbar greenfield discharge rates, and assuming no preventative measures are incorporated and no infiltration to ground is possible from the base of the pond then the worst-case attenuation volumes are defined in Table 5 below. It is noted that these rates and volumes are preliminary for this outline assessment and are likely to alter at detailed design stage when more site-specific information is made available.

Table 5: Outline Attenuation Volumes

Impermeable Area (70% of Total Area)	Attenuation Volumes based on Return Period Storm Events with Qbar Greenfield Runoff Rates Utilised	
	30 Year	100 Year + 40% Climate Change
17.2ha	5,978m ³	11,523m ³

The proposed drainage layout will though be designed in accordance with BS EN 752: 2008, Building Regulations part H guidance and the latest Sewers for Adoption / UU Guidance. SuDS Guidance will be in the form of Ciria C753.

It is a requirement of national guidance that the drainage systems be designed not to flood any part of the site in a 1 in 30-year return period design storm (3.33% annual probability of occurrence). The below ground surface [REDACTED] at some areas of the hard standing areas experience minor flooding [REDACTED] and the 30-year design criterion. This is classed as Exceedance Flooding or Secondary Storage and is common for this type of development. Any such flood [REDACTED] away from residential units, where it will discharge into the drainage in [REDACTED] exceedance. All exceedance flood water will be retained on site up to the 100- [REDACTED] flood impact to the adjoining neighbours. All drainage designs will include the appropriate climate change allowance, in this case a 40% increase in rainfall.

Pollution Control

Silt is to be prevented from entering the drainage system by the use of trapped gullies, channels with silt traps, french drains with silt traps or by the use of Sustainable Drainage techniques.

3.6 Foul Water Drainage Strategy and Proposals

It is anticipated that where possible all new drainage will be put up for adoption by the local sewerage authority, in this case UU. The proposed private drainage layout for the new development site will be designed in accordance with BS EN 752: 2008 and Building Regulations part H guidance with the adopted elements in line with Sewers for Adoption.

There are a number of medium sized foul / combined sewers flowing south through the site. Connection to these will be via gravity where possible. Where levels do not allow this then an adopted foul water pumping chamber and rising main will be constructed.

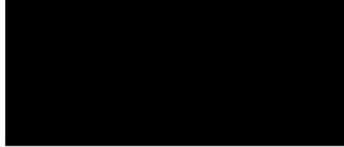
This strategic approach will need to be agreed with United Utilities, although they have a statutory right to accept all foul flows from new developments.

4.0 Further Recommendations

There are a number of further considerations with regard to both the foul and surface water drainage plus works relating to existing [REDACTED] summarised below:

- No culverting of existing watercourses will be allowed except for minor lengths to suit new highway alignment [REDACTED] open at all times. In most cases this will require a minimum [REDACTED] minimum 0.5m bed width. Diversion will be feasible but should [REDACTED] could be removed and at this time as we don't believe there to be any attenuation issues to be associated with them, they are purely for ecological purposes.
- There are a number of adopted public sewers passing through the site that may potentially need diverting to suit to the development proposals. All diversions are to be agreed with United Utilities with appropriate easements put in place. These are generally a minimum of 3m either side. Topographical survey and CCTV to be completed to confirm the exact locations and passed to the wider design team.
- Predevelopment enquiry to be submitted to UU to confirm their acceptance of the additional foul flows entering the network.
- Write to the Lead Local Flood Authority to ascertain their commentary on the proposals and their approach on the allowable Greenfield Runoff Rates.
- Assess the completed topographical survey and work with the design team on the preferred location of the SuDS features such as swales and attenuation to suit the development intent.

THOMASONS

Appendix A – Architect Layout 

Proposed Residential Development at Haydock Green, St Helens

May 2021
1:1250 @ A0




NORTHSTONE


Key	
	Residential Parcels
	Public Square
	Roads
	Site Boundary
	Footpath
	Roadside Amenities
	Low carbon mobility + community hub.
	Woodland
	Vegetation
	SUDS
	Existing Water



Appendix B – Thomason Drawings

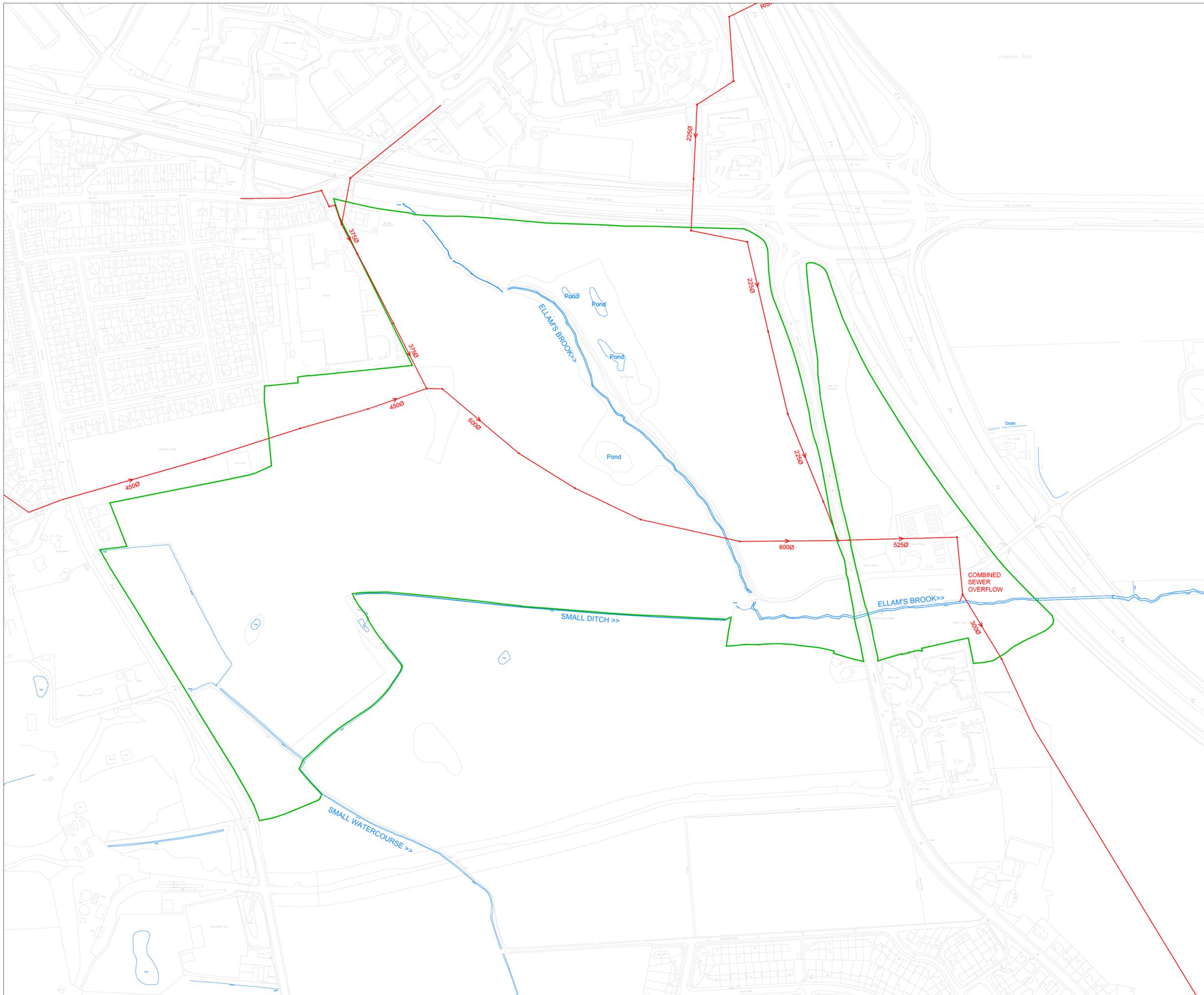


GENERAL NOTES

1. DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIFICATIONS, ENGINEERS, ARCHITECTS & SERVICES DRAWINGS, INCLUDING APPROVED BUILDERS WORK DRAWINGS. CONTRACTOR TO NOTIFY ENGINEER OF DISCREPANCIES BETWEEN STRUCTURAL DRAWINGS AND SPECIFICATIONS OR OTHER DRAWINGS.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
3. DO NOT SCALE FROM THE DRAWINGS OR THE COMPUTER DIGITAL DATA, ONLY FIGURED DIMENSIONS ARE TO BE USED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, FABRICATION, ERECTION AND REMOVAL OF ALL TEMPORARY WORKS AND SHALL PROVIDE ALL TEMPORARY BRACING AS NECESSARY TO MAINTAIN STRUCTURAL STABILITY DURING CONSTRUCTION.
5. IF THE CONTRACTOR CONSIDERS THAT HE DOES NOT HAVE SUFFICIENT INFORMATION TO SAFELY COMPLETE THE WORKS DETAILED ON THIS DRAWING, HE SHOULD CONTACT THE ENGINEER.

KEY

- EXISTING SURFACE WATER PUBLIC SEWER
- EXISTING FOUL WATER PUBLIC SEWER
- EXISTING WATERCOURSE / DITCH / DAM / POND
- SITE BOUNDARY



P1	INFORMATION	PG	20.05.21	MB
Rev	Description	By	Date	Chkd



**HAYDOCK GREEN
ST HELENS**

EXISTING DRAINAGE FEATURES

Status
INFORMATION

Drawing No. 10809-HG-DS-001		Revision P1		
Scale 1:2000	Size A1	Drawn PG	Date MAY 21	Chkd MB
				Passed -

AIR QUALITY BRIEFING NOTE

on behalf of

PEEL L&P INVESTMENTS (NORTH) LTD

for

HAYDOCK GREEN

REPORT DATE: 20TH MAY 2021

REPORT NUMBER: 100824-2HG

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Summary

This air quality briefing note has been produced to inform evidence presented to the St Helens Local Plan examination in relation to a proposed development site close to Junction 23 of the M6. It provides a review of existing air quality in the vicinity of the site and its suitability for the proposed use.

Existing air quality around the development has been reviewed. Concentrations of NO₂ and PM₁₀ are likely to be below their respective long and short-term objectives across the vast majority of the site. Local air quality is poor in areas directly adjacent to parts of the M6, A49 and A580 roads. Generally, these areas are in locations where there is little residential development currently. The masterplan indicates that residential uses will generally be located outside of areas of poor air quality. Provided a detailed air quality assessment is undertaken at the planning application stage, and the results are used to inform site layout, the site is considered suitable for residential use with regards to air quality.

The road traffic associated with the proposed development has the potential to have a significant impact on local air quality. There are, however, two access points to the site, allowing road traffic associated with the development to disperse across the road network. Construction and operational traffic generation will need to be assessed in detail but it is noted that mitigation in the form of highway improvements and provision of electric vehicle charging points could contribute to the reduction of the impact of the development on local air quality and to improved air quality across parts of the road network. Overall, it is considered that, with careful design and mitigation, the proposed development of Haydock Green would have no significant adverse residual effects on air quality.

Prepared By Lesley Goodall

Reviewed By Philip Walton

Signed

20th May 2021

Signed

20th May 2021

Date 20th May 2021

Date 20th May 2021

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1 Introduction

- 1.1 This air quality briefing note has been produced to inform evidence presented to the St Helens Local Plan examination. The report provides a review of the existing air quality at and in proximity to the proposed development site known as Haydock Green, and assesses the potential impact of the proposed development on local air quality. The masterplan for the site is shown in **Appendix 1**.
- 1.2 Haydock Green is located to the immediate southwest of junction 23 of the M6 and is earmarked for a residential development of 550 to 600 dwellings. The A580 East Lancashire Road lies immediately to the north of the site. Lodge Lane lies to the east of the site, with woodland located beyond that and the M6 motorway beyond that. The woodland between Lodge Lane and the M6 would be brought into management as part of the overall biodiversity scheme for the area. To the northeast of the site lies land known as Haydock Point North, a proposed logistics hub, recently the subject of a planning enquiry. To the east, beyond the M6, lies land known as Haydock Point South which is earmarked for a logistic based development scheme. To the west lie residential property and open land. The masterplan for the site shows that dwellings are generally to be focussed on areas away from areas of poor air quality.
- 1.3 There is potential for poor air quality generated primarily by the local road network to impact upon future residents of the new dwellings. The development itself may also impact upon air quality and the potential effects of the Haydock Green development on local air quality relate to dust and road traffic emissions associated with both construction activities, and road traffic emissions associated with the operation of the development.
- 1.4 The main pollutants of health concern from road traffic exhaust releases are nitrogen dioxide (NO₂) and fine particulates – normally assessed as the fraction of airborne particles of mean aerodynamic diameter less than ten micrometres (PM₁₀), since these pollutants are most likely to approach their respective air quality objectives in proximity to major roads and in congested areas. This assessment has therefore focused on the impact of the proposed development on concentrations of NO₂, PM₁₀ and PM_{2.5}.
- 1.5 Access to the development is suggested from Vista Road and the A49 Lodge Lane. The development will facilitate the diversion of the A49 south arm of Junction 23.
- 1.6 Traffic consultants, Vectos, advise that the overall increase in traffic flows associated with the development will be more than 500 AADT.

2 Air Quality Standards

- 2.1 The current air quality standards and objectives applicable in the UK are presented in **Table 1**. Pollutant standards relate to ambient pollutant concentrations in air, set on the basis of medical and scientific evidence of how each pollutant affects human health. Pollutant objectives incorporate target dates and averaging periods that take into account economic considerations, practicability and technical feasibility.

Table 1: Air Quality Strategy Objectives (England) for the Purposes of Local Air Quality Management

Pollutant	Air Quality Objective		To be Achieved by
	Concentration	Measured As*	
Nitrogen dioxide (NO ₂)	200 µg/m ³	1-hour mean not to be exceeded more than 18 times per year	31/12/2005
	40 µg/m ³	Annual mean	31/12/2005
Particles (PM ₁₀)	50 µg/m ³	24-hour mean not to be exceeded more than 35 per year	31/12/2004
	40 µg/m ³	Annual mean	31/12/2004
Particles (PM _{2.5})	25 µg/m ³	Annual mean (target)	2020
		15% cut in annual mean (urban background exposure)	2010-2020

Note:*how the objectives are to be measured is set out in the UK Air Quality (England) Regulations (2000).

- 2.2 Where an air quality objective is unlikely to be met by the relevant deadline, local authorities must designate those areas as Air Quality Management Areas (AQMAs) and take action to work towards meeting the objectives. Following the designation of an AQMA, local authorities are required to develop an Air Quality Action Plan (AQAP) to work towards meeting the objectives and to improve air quality locally.

3 Baseline Air Quality

3.1 Introduction

- 3.1.1 Air quality data is not yet available for 2020 and, in any event, would be unrepresentative of conditions at and around the site due to the effect of the covid-19 pandemic on road traffic. Therefore baseline conditions for 2019 have been considered and described in this section.

3.2 Background Concentrations

- 3.2.1 Background concentrations of NO₂, PM₁₀ and PM_{2.5} have been obtained from the background concentration maps provided by Defra for the grid squares covering the proposed development and potential receptor locations¹. These are shown in Table 2 below.

¹ <http://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018>

Table 2: Background Pollutant Concentrations Obtained for the 1km x 1km Grid Squares Covering the Site and Receptor Locations*

OS Grid Reference		2021		
		NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)
356500	395500	11.60	11.28	7.49
356500	396500	11.36	11.19	7.35
356500	397500	13.36	12.32	8.00
357500	395500	12.65	11.67	7.76
357500	396500	13.41	12.55	8.08
357500	397500	16.91	13.94	8.63
358500	395500	13.01	11.88	7.86
358500	396500	16.91	13.64	8.58
358500	397500	15.72	14.54	8.61

* Background concentrations obtained from the latest 2018 based background maps

3.2.2 The data in **Table 2** indicates that the background levels of NO₂ and PM₁₀ are below their respective annual average objectives of 40 µg/m³ and that the background levels of PM_{2.5} are below the target value of 25 µg/m³ at and around the development site. However, areas adjacent to the M6, A580 and A49 are likely to be exposed to higher concentrations of these pollutants due to their proximity to road traffic emissions, particularly in the northeast of the site closest to the M6 junction. Pollutant levels, however, are recognised to decrease rapidly with distance from the source.

3.3 Local Authority Monitoring

3.3.1 The site lies within the boundaries of St Helens Borough Council (SHBC), close to its boundary with Wigan Metropolitan Borough Council (WMBC). To assess air quality many local authorities, including SHBC and WMBC, carry out monitoring of pollutants of interest within their administrative areas. SHBC undertakes monitoring of nitrogen dioxide (NO₂) and particulate matter (PM₁₀), WMBC undertakes monitoring of nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}).

- 3.3.2 Possible exceedances of air quality objectives are generally assessed in relation to those locations where members of the public are likely to be regularly present and are likely to be exposed for a period of time appropriate to the averaging period of the objective. Guidance on this is provided by Defra².

NO₂ Monitoring

- 3.3.3 The locations of the monitoring locations used by SHC and WMBC to monitor NO₂ close to the site are shown in **Appendix 2**. The results from these monitoring locations are shown in **Table 3**.

Table 3: Annual Mean NO₂ Concentrations Monitored by the LAs within the Study Area

Site ID	Local Authority	OS Grid reference	Level of nitrogen dioxide (µg/m ³)				
			2015	2016	2017	2018	2019
SR / AN2 Southworth Road – automatic monitoring site	SHC	360045,395643	53	51	50	45	43
HS / AN3 High Street – automatic monitoring site	SHC	358975,395804	33	38	31	35	31
T8 157 High Street	SHC	358774,395880	26.5	25.5	22.5	24.1	23.0
T25 Co Located with AN3	SHC	358975,395804	32.5	34.2	31.4	30.8	29.8
T32 Co Located with AN3	SHC	358975,395804	32.0	32.59	30.7	31.5	30.0
T23 19 High Street	SHC	359147,395705	34.1	33.7	33.3	31.6	30.7
T14 19 High Street	SHC	359147,395705	34.9	33.3	33.3	31.3	32.5
T1 170 Southworth Road	SHC	360109, 395661	32.77	29.2	26.5	25	24.9
T7 (T31) 160 Southworth Road	SHC	360055, 395638	40.3	36.4	37.6	33.16	30.7
T10 160 Southworth Road	SHC	360055, 395638	41.7	37.3	37.9	33.6	31.0
T15 (T34) Parkside Cottages	SHC	358220, 397077	32.8	32.3	31.4	28.4	27.1
T16 (T26) 297 Liverpool Road	SHC	354377, 397475	24.5	23.7	22.3	22.2	20.7
T17 (T27) 446 Liverpool Road	SHC	354403, 397561	28.9	31.4	29.3	27.5	28.4
Wigan 35	WMBC	357134, 398671	38.9	39.0	41.0	34.9	37.3

² Department for the Environment Food and Rural Affairs (2018) 'Local Air Quality Management Technical Guidance Document LAQM.TG (16)', London: Defra.

Site ID	Local Authority	OS Grid reference	Level of nitrogen dioxide ($\mu\text{g}/\text{m}^3$)				
			2015	2016	2017	2018	2019
Wigan 52	WMBC	362138, 396947	41.1	41.7	41.6	37.3	39.4

**the annual air quality objective for NO₂ is 40 $\mu\text{g}/\text{m}^3$*

- 3.3.4 The monitoring results in **Table 3** indicate that annual mean concentrations of NO₂ have been below the annual mean objective for NO₂ since 2017 except at the Southworth Road automatic monitoring station. They also indicate that the short-term objective for NO₂ is unlikely to be exceeded at any of these monitoring sites as annual mean concentrations are less than 60 $\mu\text{g}/\text{m}^3$ ⁽²⁾.

Particulate Matter (PM₁₀)

- 3.3.5 SMBC undertakes PM₁₀ monitoring at the SR / AN2 Southworth Road automatic monitoring station and the results from this site are shown in **Table 4**.

Table 4: Annual Mean NO₂ Concentrations Monitored by the LAs within the Study Area

Site ID	Local Authority	OS Grid reference	Annual Mean Concentrations of PM ₁₀ ($\mu\text{g}/\text{m}^3$)				
			2015	2016	2017	2018	2019
SR / AN2 Southworth Road – automatic monitoring site	SHC	360045, 395643	19	19	16	18	20

- 3.3.6 The monitoring results in **Table 4** indicate that annual mean concentrations of PM₁₀ have been below the annual mean objective for PM₁₀ since 2015.

Particulate Matter (PM_{2.5})

- 3.3.7 Neither SHBC nor WMBC undertakes PM_{2.5} monitoring close to the site.

Air Quality Management Areas.

- 3.3.8 SMBC has declared four AQMAs;

- M6 AQMA No.1 declared in April 2009 - an area encompassing the M6 for its entire length within the borough;
- Newton High Street AQMA (No. 2) declared in April 2009 which encompasses High Street, Newton le Willows (A49) between the junctions of Ashton Road and Church Street;
- AQMA No. 3 Borough Road declares in November 2011 between the junctions of Westfield Street and Prescott Road including 5-9 Alexandra Drive and 1-17 Prescott Road; and

- AQMA No. 4 declared in November 2011 which encompasses Reflection Court, Linkway West, St Helens.

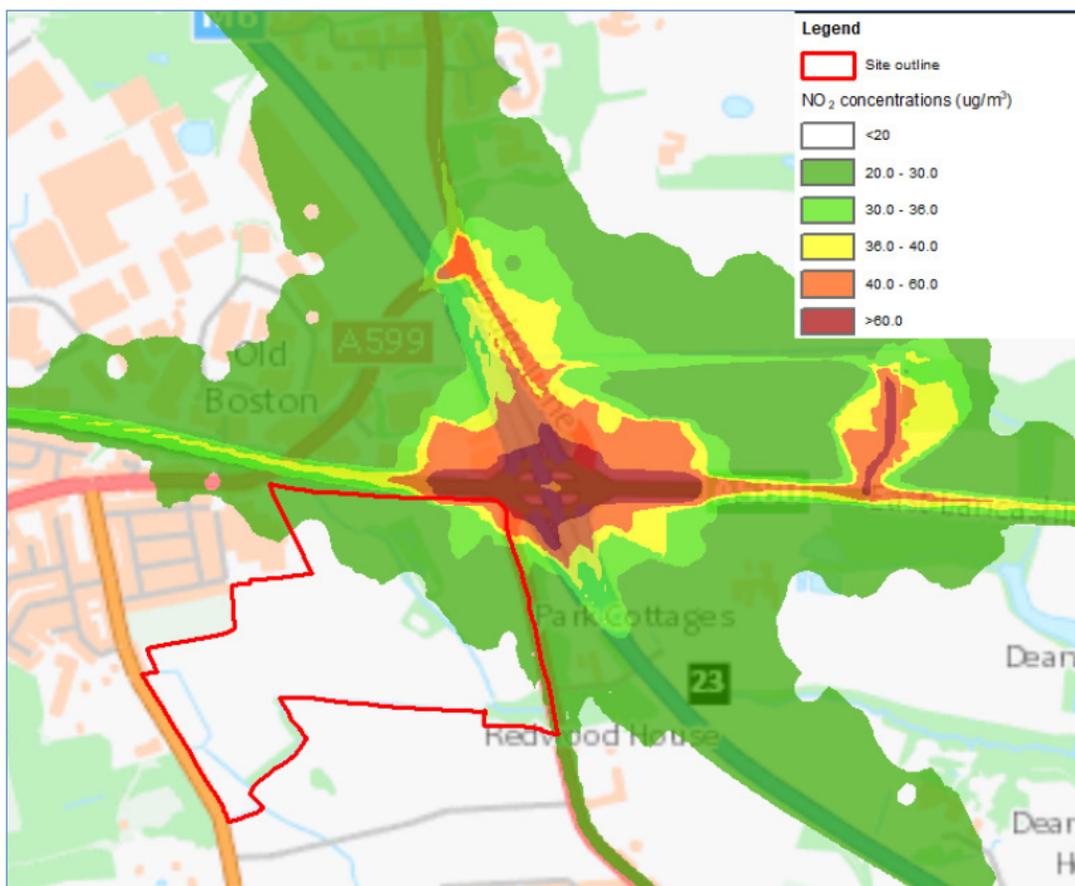
3.3.9 All of these AQMAs were declared in respect of annual mean levels of NO₂.

3.3.10 The site is not located within an AQMA. However, as is the case with many development sites in urban areas, there are AQMAs located close to the development through which traffic associated with the development may be expected to travel, including AQMA No. 2. These AQMAs also include those declared by the Greater Manchester Combined Authority which includes sections of the M6 north of J23 and areas of the A580 East Lancashire Rd to the east of the site. The locations of these AQMAs are shown in **Appendix 2**. The provision of two access points to the development will, however, provide the opportunity for road traffic to disperse across the road network.

3.4 Previous Air Quality Modelling

3.4.1 A detailed air quality assessment was completed for the Haydock Point North Planning application. Modelled annual average levels of NO₂ concentrations in 2026 with Haydock Point North in place and operational were produced for the planning application. The study area extended along the A580 past this development site and along the A49 to the east of the site. The NO₂ concentration contours produced for 2026 with Haydock Point North in operation are shown in **Figure 1**.

Figure 1 Modelled Annual Average NO₂ levels across Junction 23 and surrounding areas



- 3.4.2 The contours indicate that average annual levels of NO₂ will be close to, and in some areas above, the relevant air quality objective in areas adjacent to junction 23 in 2026 with the Haydock Point development in place. However, these are locations where there are no existing relevant receptors i.e. no dwellings, schools, hospitals etc and where residential development is not proposed. The effect of increasing distance from the source of emissions can be seen in Figure 1 which shows levels of NO₂ decreasing with distance from Junction 23. Within the Haydock Green site, average annual mean levels of NO₂ are predicted to be below the relevant air quality objective across the vast majority of the site.

4 Potential Impact of Air Quality on the Proposed Development

- 4.1 The evidence from the existing information sources discussed is that the vast majority of the proposed development site is likely to experience levels of NO₂, PM₁₀ and PM_{2.5} below the relevant annual mean and short-term objectives and target level for these pollutants. The site can, therefore, be considered suitable for residential development. Any future planning application for the site would need to confirm air quality across the site and this would require detailed dispersion modelling, possibly supported by air quality monitoring by the applicant. This would ensure that future residents would not be exposed to adverse air quality exceeding the air quality objectives and target level.

5 Potential Impact of the Proposed Development on Existing Air Quality

- 5.1 It is considered that potential effects created by demolition and construction dust associated with the development of the Haydock Green site can be mitigated with the implementation of a dust management plan.
- 5.2 The scale of this development and its location will necessitate a detailed assessment in order to understand the effect of the development on local air quality. This will entail dispersion modelling using proprietary software. However, the development is expected to introduce an increase in AADT flows of more than 500 LDV AADT and IAQM guidance³ indicates that the impact of this level of increase in road traffic has the potential to have a significant impact on local air quality.
- 5.3 The impact of the site on air quality can not be quantified without detailed dispersion modelling and thus construction and operational traffic generation will need to be assessed in detail but it is noted that mitigation in the form of highway improvements associated with the development, including the rerouting of the A59 south of the M6, and provision of electric vehicle charging points could contribute to improved air quality across parts of the road network. Further mitigation may be required and consideration of this would form part of any future detailed assessment work.

³ EPUK and IAQM (January 2017) *Land Use Planning and Development Control: Planning for Air Quality (v1.2)*

6 Conclusion

- 6.1 The effects of disamenity dust and particulate matter generation during the construction phase has been considered. With the inclusion of a dust management plan, the impacts during the construction phase can be mitigated.
- 6.2 Concentrations of NO₂, PM₁₀ and PM_{2.5} are likely to be below their respective long-term and short-term objectives and target levels across the vast majority of the development site. Local air quality is poor directly adjacent to parts of the M6, A49 and A580 roads. Generally, these areas are in locations where there is currently little residential development. Provided a detailed air quality assessment is undertaken at the planning application stage, and the results are used to inform site layout, the site is considered suitable for residential use with regards to air quality.
- 6.3 The road traffic associated with the proposed development has the potential to have an adverse impact on local air quality. Construction and operational traffic generation will need to be assessed in detail but it is noted that mitigation in the form of highway improvements and provision of electric vehicle charging points could contribute to improved air quality across parts of the road network. It is also noted that based on the masterplan for the site, vehicles can access and exit the site at multiple locations so promoting a high level of dispersal of traffic so as to not direct it all into AQMAs.
- 6.4 Overall, it is considered that, with careful design and mitigation, the proposed development of Haydock Green would have no significant adverse residual effects on air quality.

APPENDICES

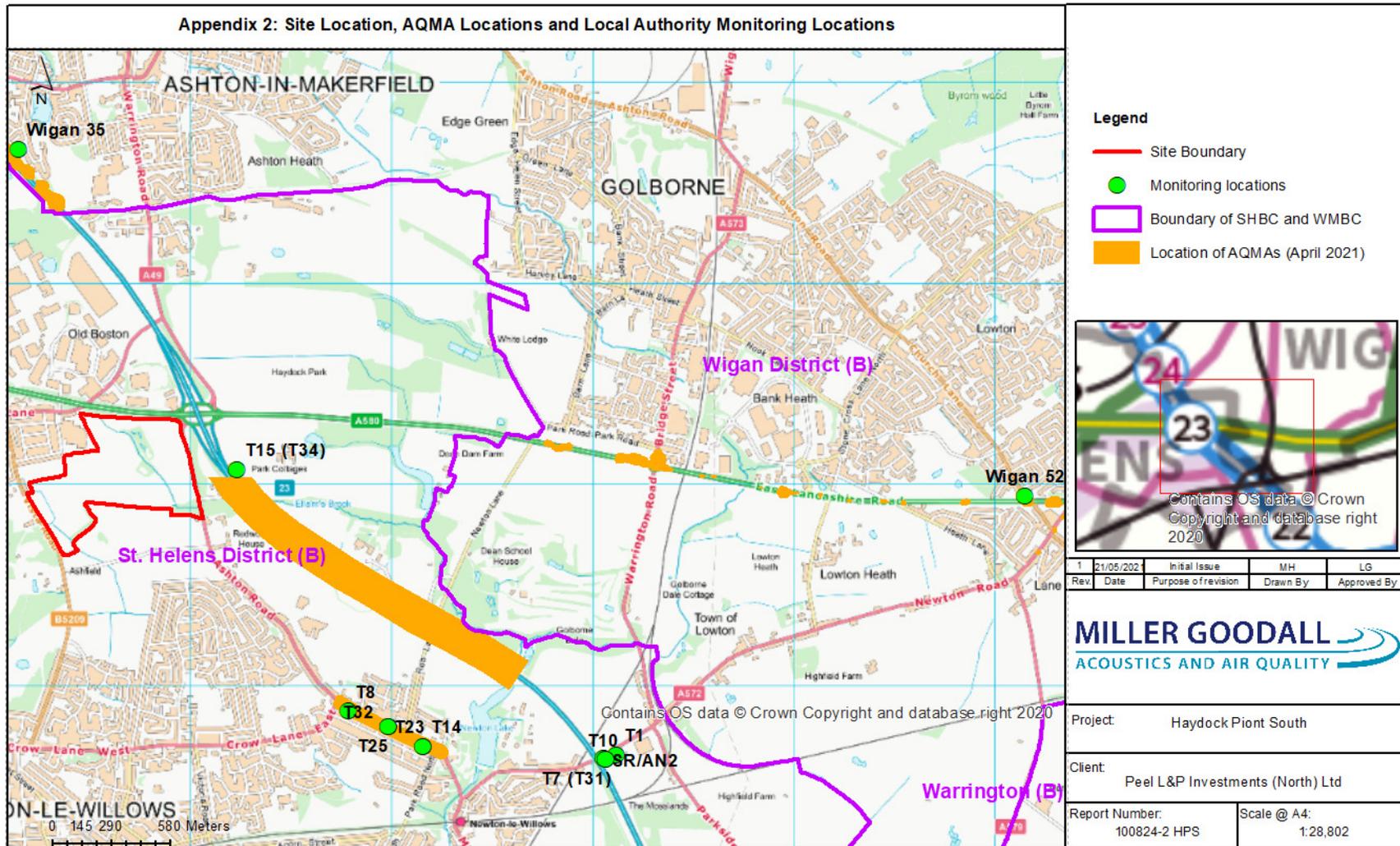
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Appendix 1 Masterplan



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Appendix 2



Glossary of Terms

AADT Annual Average Daily Traffic flow

Air Quality Standard Pollutant standards relate to ambient pollutant concentrations in air, set on the basis of medical and scientific evidence of how each pollutant affects human health and the environment

Air Quality Objective Pollutant Objectives incorporate future dates by which a standard is to be achieved, taking into account economic considerations, practicability and technical feasibility

Annual Mean A mean pollutant concentration value in air which is calculated on a yearly basis, yielding one annual mean per calendar year. In the UK air quality regulations, the annual mean for a particular substance at a particular location for a particular calendar year is:

- (a) in the case of lead, the mean of the daily levels for that year;
- (b) in the case of nitrogen dioxide, the mean of the hourly means for that year;
- (c) in the case of PM₁₀, the mean of the 24-hour means for that year.

Annoyance (Dust) Loss of amenity due to dust deposition or visible dust plumes, often related to people making complaints, but not necessarily sufficient to be a legal nuisance.

AQAP Air Quality Action Plan

AQEG Air Quality Expert Group

AQMA Air Quality Management Area

AQMP Air Quality Management Plan

AQO Air Quality Objective

AQS Air Quality Strategy for England, Scotland, Wales and Northern Ireland

Background Concentrations The term used to describe pollutant concentrations which exist in the ambient atmosphere, excluding local pollution sources such as roads and stacks

CO Carbon monoxide

Construction Any activity involved with the provision of a new structure (or structures), its modification or refurbishment. A structure will include a residential dwelling, office building, retail outlet, road, etc.

Construction Impact Assessment An assessment of the impacts of demolition, earthworks, construction and trackout. In this Guidance, specifically the air quality impacts.

Defra Department for Environment, Food and Rural Affairs

Demolition Any activity involved with the removal of an existing structure (or structures). This may also be referred to as de-construction, specifically when a building is to be removed a small part at a time.

Deposited Dust that is no longer in the air and which has settled onto a surface. Deposited dust is also sometimes called amenity dust or nuisance dust, with the term nuisance applied in the general sense rather than the specific legal definition.

DMRB Design Manual for Roads and Bridges

DMP Dust Management Plan; a document that describes the site-specific methods to be used to control dust emissions.

Dust Solid particles that are suspended in air, or have settled out onto a surface after having been suspended in air. The terms dust and particulate matter (PM) are often used interchangeably, although in some contexts one term tends to be used in preference to the other. In this guidance the term 'dust' has been used to include the particles that give rise to soiling, and to other human health and ecological effects. Note: this is different to the definition given in BS 6069, where dust refers to particles up to 75 µm in diameter.

Earthworks Covers the processes of soil-stripping, ground-levelling, excavation and landscaping.

Effects The consequences of the changes in airborne concentration and/or dust deposition for a receptor. These might manifest as annoyance due to soiling, increased morbidity or mortality due to exposure to PM₁₀ or PM_{2.5} or plant dieback due to reduced photosynthesis. The term 'significant effect' has a specific meaning in EIA regulations. The opposite is an insignificant effect. In the context of construction impacts any effect will usually be adverse, however, professional judgement is required to determine whether this adverse effect is significant based in the evidence presented.

EPAQS Expert Panel on Air Quality Standards

EPUK Environmental Protection UK

HDV Heavy Duty Vehicle

Impacts The changes in airborne concentrations and/or dust deposition. A scheme can have an 'impact' on airborne dust without having any 'effects', for instance if there are no receptors to experience the impact.

LAQM Local Air Quality Management

LDF Local Development Framework

LDV Light Duty Vehicle

Mg/m³ Microgrammes (of pollutant) per cubic metre of air. A measure of concentration in terms of mass per unit volume. A concentration of 1 µg/m³ means that one cubic metre of air contains one microgramme (millionth of a gramme) of pollutant

NO₂ Nitrogen Dioxide

NO_x A collective term used to represent the mixture of nitrogen oxides in the atmosphere, as nitric oxide (NO) and nitrogen dioxide (NO₂)

NPPF National Planning Policy Framework

Nuisance The term nuisance dust is often used in a general sense when describing amenity dust. However, this term also has specific meanings in environmental law:

Statutory nuisance, as defined in S79(1) of the Environmental Protection Act 1990 (as amended from time to time).

Private nuisance, arising from substantial interference with a person's enjoyment and use of his land.

Public nuisance, arising from an act or omission that obstructs, damages or inconveniences the right of the community.

Each of these applying in so far as the nuisance relates to the unacceptable effects of emissions. It is recognised that a significant loss of amenity may occur at lower levels of emission than would constitute a statutory nuisance.

Note: as nuisance has a specific meaning in environmental law, and to avoid confusion, it is recommended that the term is not used in a more general sense.

PM_{2.5} The fraction of particles with a mean aerodynamic diameter equal to, or less than, 2.5 µm. More strictly, particulate matter which passes through a size selective inlet as defined in the reference method for the sampling and measurement of PM_{2.5}, EN 14907, with a 50% efficiency cut-off at 2.5 µm aerodynamic diameter

PM₁₀ The fraction of particles with a mean aerodynamic diameter equal to, or less than, 10 µm. More strictly, particulate matter which passes through a size selective inlet as defined in the reference method for the sampling and measurement of PM₁₀, EN 12341, with a 50% efficiency cut-off at 10 µm aerodynamic diameter

RSS Regional Spatial Strategy

Running Annual Mean A mean pollutant concentration value in air which is calculated on an hourly basis, yielding one running annual mean per hour. The running annual mean for a particular substance at a particular location for a particular hour is the mean of the hourly levels for that substance at that location for that hour and the preceding 8759 hours

Trackout The transport of dust and dirt from the construction/demolition site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network. This arises when heavy duty vehicles (HDVs) leave the construction/demolition site with dusty materials, which may then spill onto the road, and/or when HDVs transfer dust and dirt onto the road having travelled over muddy ground on site.

VoGC Vale of Glamorgan Council



NOISE BRIEFING NOTE

on behalf of

PEEL L&P INVESTMENTS (NORTH) LTD

for

HAYDOCK GREEN

REPORT DATE: 21ST MAY 2021

REPORT NUMBER: 100824-2

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Summary

This noise briefing note has been produced to inform evidence presented to the St Helens Local Plan examination in relation to a proposed development site close to Junction 23 of the M6. It provides a review of existing noise in the vicinity of the site and its suitability for the proposed use.

This report provides a review of the existing noise environment in the vicinity of the proposed development and its suitability for the proposed use. It also provides a simple assessment of the impact of the proposed development on local noise levels during both its construction and operational phases.

Existing noise levels around the development have been reviewed and identify the two most significant sources as road traffic noise and noise from industrial/commercial activities. A detailed noise assessment to inform the design of the masterplan will be required as part of the planning process to ensure National noise standards are achieved.

The traffic associated with the proposed development is not expected to have a significant impact on the local noise environment.

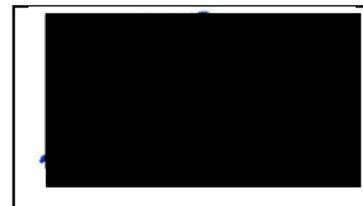
Prepared By Jo Miller MIOA

Reviewed By Matt Wilson MIOA

Signed



Signed



Date

21st May 2021

Date

21st May 2021

Record of changes

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1 Introduction

- 1.1 This noise briefing note has been assembled to inform evidence for the St Helens Local Plan examination. The report provides a review of the existing noise levels at and in proximity to the proposed development known as Haydock Green and assesses the potential impact of the proposed development on the local noise environment.
- 1.2 Haydock Green is being presented to the emerging St. Helens Local plan for a residential development, consisting of between 550 and 600 units, located to the immediate south-west of junction 23 of the M6. To the north of the site lies the A580 East Lancashire Road and the Old Boston Trading Estate beyond, a logistics hub. To the east lies the M6 with Haydock Point South beyond a proposed logistics site. To the south lies agricultural land and to the west a food manufacturing site and residential development.
- 1.3 Traffic consultants, Vectos, have provided traffic flows associated with the development which have been reviewed as part of the assessment.
- 1.4 The site redline is provided in Figure 1 and the proposed site plan is shown in Figure 2 below.

Figure 1: Location of Haydock Green

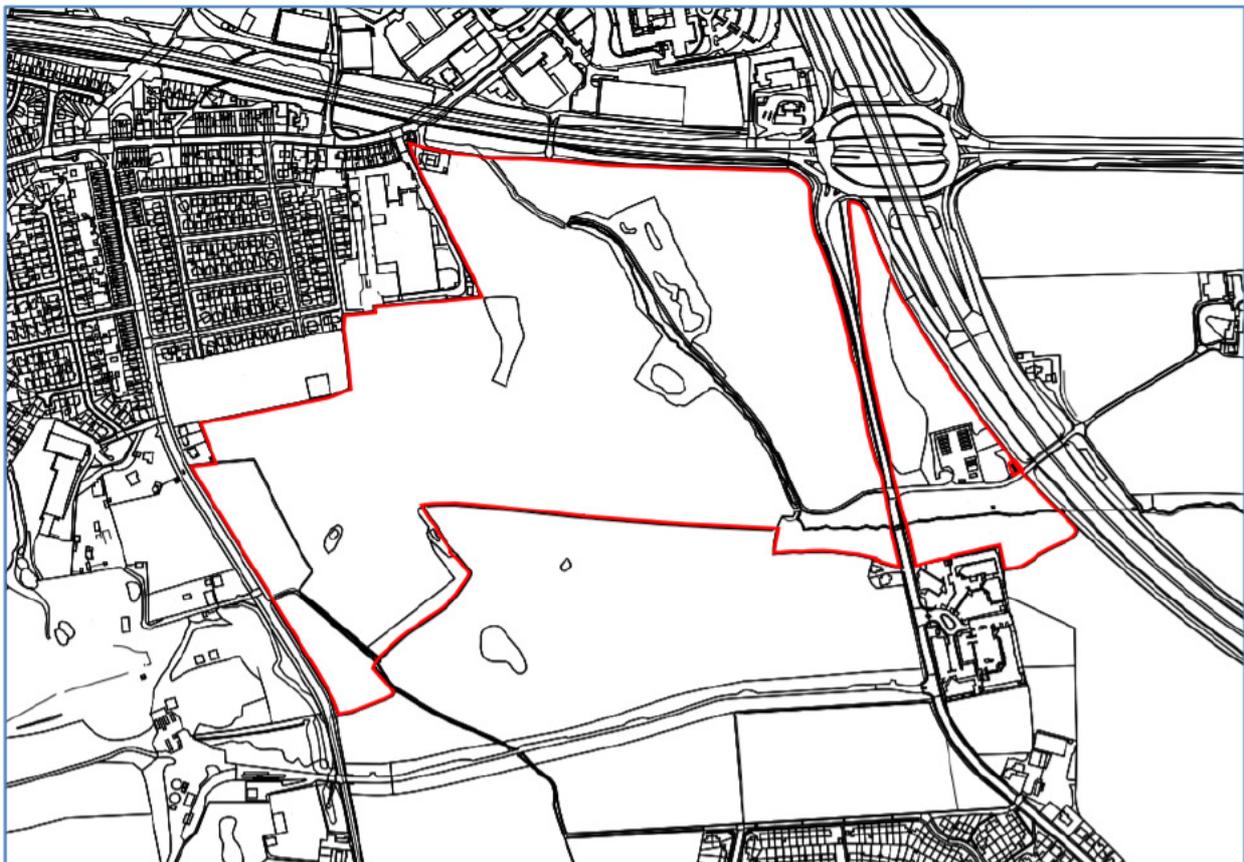


Figure 2: Illustrative Master Plan



2 Baseline Noise Levels and Impact of Noise on the Development.

2.1 Noise Monitoring

2.1.1 Miller Goodall Ltd undertook a noise assessment in 2014, report ref: 100825V3, which included some short term measurements of noise at Haydock Green. The report can be provided should it be required for the Local Plan Examination. This report provides full noise monitoring data for the site, which is summarised in Table 1 below. The measurement locations are identified in Appendix 1.

Table 1: Summary of noise measurements

Measurement Location	Period/Date	Time Measured*	$L_{Aeq,T}$ Range (dB)	L_{AFmax} Range (dB)	$L_{AF10,T}$ Range (dB)	$L_{AF90,T}$ Range (dB)
L1	Daytime logger: 17/02/14	13:05 – 16:05	68 – 68	77 – 79	69 - 69	66 - 66
L1	Daytime attended: 17/02/14	09:18 – 16:06	49 – 67	62 – 75	51 – 68	47 - 65
L1	Night-time attended: 21/02/14	01:35 – 02:45	49 – 53	56 – 65	53 - 68	45 - 65

2.2 Noise Mapping – Road Traffic

- 2.2.1 Further noise monitoring and modelling has not been undertaken at the site at this stage. Data from noise mapping undertaken by Department of Environment Food and Rural Affairs (DEFRA) in 2017 has been utilised. The noise maps for the area are shown for road traffic noise in Appendix 2. The results show the predicted daytime $L_{Aeq,16hour}$ results around the site, taken at a grid height of 4 m.
- 2.2.2 Results of the noise mapping show that the site is affected by considerable noise from both the M6 and the A580 to the northern boundary. The A49 also has an impact on the noise levels in the area. Noise levels across the majority of the site exceed 55 dB $L_{Aeq,16hour}$, the guideline noise level for external noise to not exceed.
- 2.2.3 The road network in this area is the main significant noise source. The area will require a more detailed noise assessment, including noise monitoring and modelling to show how National noise standards, including BS8233:2014 and ProPG may be achieved. The assessment would include noise modelling predictions of the existing road network along with the proposed new layout of the A49, and identify preferred mitigation measures to protect future residents.

2.3 Industrial Noise

- 2.3.1 Noise from the industrial areas to the north and west of the site have the potential to impact on the future development, with sources such as HGV movements, deliveries and plant noise. The closest industrial site is Aimia Foods on the western boundary. This facility has a loading bay facing the proposed housing site. A detailed noise assessment will be required in this area to the standard of BS 4142:2014, to ensure the amenity of the proposed development is not adversely impacted by the industrial noise sources.

3 Potential Impact of Noise from the Proposed Development

3.1 Transport Noise

- 3.1.1 New residential developments of this size will result in additional vehicles on the local road network. Vectos have provided indicative traffic figures for the proposed Haydock Green development, dated May 2021. The assessment has identified the likely increases in traffic as a result of the proposed development.
- 3.1.2 In order to assess whether traffic increases impact on the noise environment, it is useful to determine whether there are any road increases in traffic flow this may necessitate the requirement for a detailed noise assessment. Design Manual for Roads and Bridges (DMRB) November 2011 section A1.8 (ii), which states:

Changes in traffic volume on existing roads or new routes may cause either of the threshold values for noise to be exceeded. A change in noise level of 1 dB $L_{A10,18h}$ is equivalent to a 25% increase or a 20 % decrease in traffic flow, assuming other factors remain unchanged and a change in noise level of 3 dB $L_{A10,18h}$ is equivalent to a 100 % increase or a 50 % decrease in traffic flow.

- 3.1.3 Traffic data has been provided by Vectos and shows predicted increases in traffic along the links coming off the M6 J23 / A580 interchange are typically below 1%, although if the site is accessed from Lodge Lane, there is expected to be a 9% increase between the site entrance and J23. This indicates that there will be no perceptible change in traffic noise level when traffic associated with the development is taken into account along the A580, or Lodge Lane.
- 3.1.4 Where the site development results in a diversion in Lodge Lane south of J23, the additional traffic on the A580 between J23 and the site entrance, will not pass close to any residential receptor and therefore is not considered to be a possible route for adverse traffic noise increase.
- 3.1.5 Although a full detailed assessment of the traffic noise has not as yet been undertaken, it is considered that the impact will be not be significant. The detailed assessment will need to consider the new development and methods to minimise any potential impacts.

3.2 Construction Noise and Vibration Impacts

- 3.2.1 It is common for the control of construction noise, vibration and dust emission to be addressed by the application of Best Practicable Means (BPM) and detailed within a Construction and Environmental Management Plan (CEMP). The impact of construction noise from a development of this size is likely to be the main noise impacting on existing noise sensitive receptors, albeit over a relatively short period of time.
- 3.2.2 Prior to commencement of works, a quantitative noise impact assessment using guidance in BS 5228¹ on site may also be required but in our experience is usually only necessary where long term remediation of a site is required, or where large scale piling works are required in close proximity to existing sensitive receptors. It will be necessary to provide a robust CEMP which is agreed by the Local Authority.

¹ BS 5228 Noise and Vibration Control on Construction and Open Sites - Part 1: Noise: 2009+A1:2014

4 Further Assessment and Possible Mitigation

- 4.1 The proposed master plan has a buffer zone of approximately 80 m from the J23 roundabout and approximately 100 m from the M6 motorway. The northern boundary is also approximately 80 m from the A580. These buffer zones will assist in reducing the noise levels in external private amenity spaces. Careful consideration at the design stage will be required to ensure external amenity standards are achieved.
- 4.2 The location of residential areas to the west of the site, close to the commercial/industrial area will need to be assessed in accordance with BS4142 to ensure a suitable level of amenity from noise.
- 4.3 Noise measurements and modelling will be required to demonstrate how the site can be designed to achieve the National acoustic standards for noise. The standard mitigation measures which are likely to be suggested as part of this design process include:
- Suitable buffer zones between noise sources and proposed residential developments;
 - Orientation of properties to provide the most protection to noise sensitive areas, such as bedrooms and private garden areas;
 - The use of noise bunds and barriers to protect private garden areas; and
 - Noise mitigation in the form of acoustic glazing and ventilation for those properties where the internal guidance values cannot be achieved with open windows.
- 4.4 This form of noise assessment is very common in urban areas and it is considered that suitable mitigation measures and careful design will enable guidance levels to be achieved.

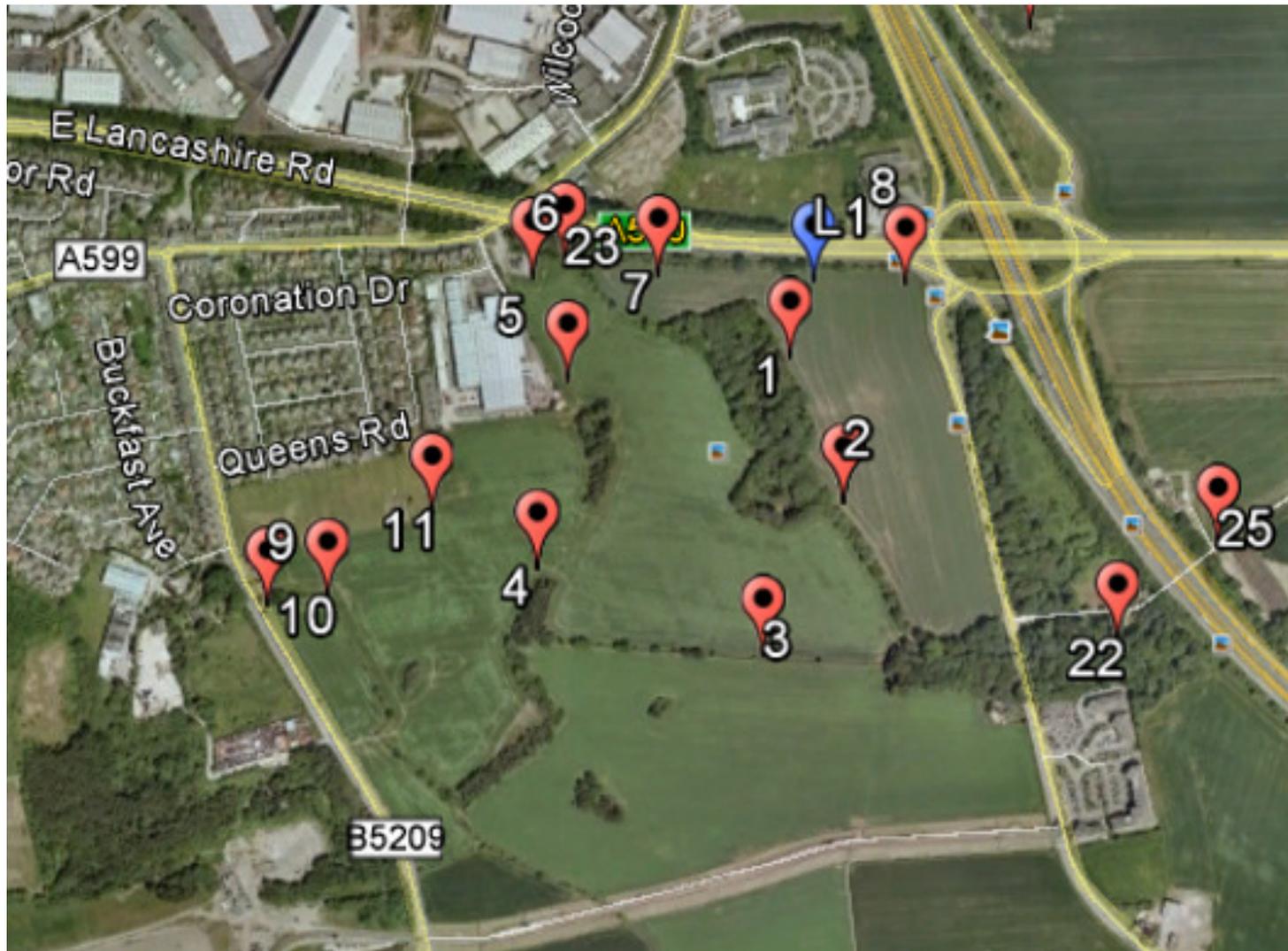
5 Summary and Conclusions

- 5.1 A noise screening assessment has been undertaken to identify any potential noise sources which are likely to have an impact on the development of a site for future residential use. The high level assessment indicates that noise is a potential risk for adverse effect and will need to be carefully considered at the planning and detailed design phase of any future development. Any application at this site should demonstrate a good acoustic design process and provide an acoustic design statement, confirming how the adverse impacts of noise will be mitigated and minimised, and which clearly demonstrate that a significant adverse noise impact will be avoided in the finished development.
- 5.2 The assessment has identified a number of possible noise sources which may impact on the proposed development. There are a number of recommendations in relation to noise which will assist in minimising the potential impact on both the future and existing noise sensitive receptors. With good acoustic design it is considered that National standards for noise will be achieved for the proposed Masterplan.
- 5.3 The recommendations include:
- Detailed assessment of noise from road transport around the site including the inclusion of noise mitigation measures as the detailed masterplan is developed for the site.
 - Detailed assessment of noise from industrial and commercial sources located around the periphery of the site and include where necessary mitigation measures and use of good acoustic design as the masterplan is developed to a full planning application.

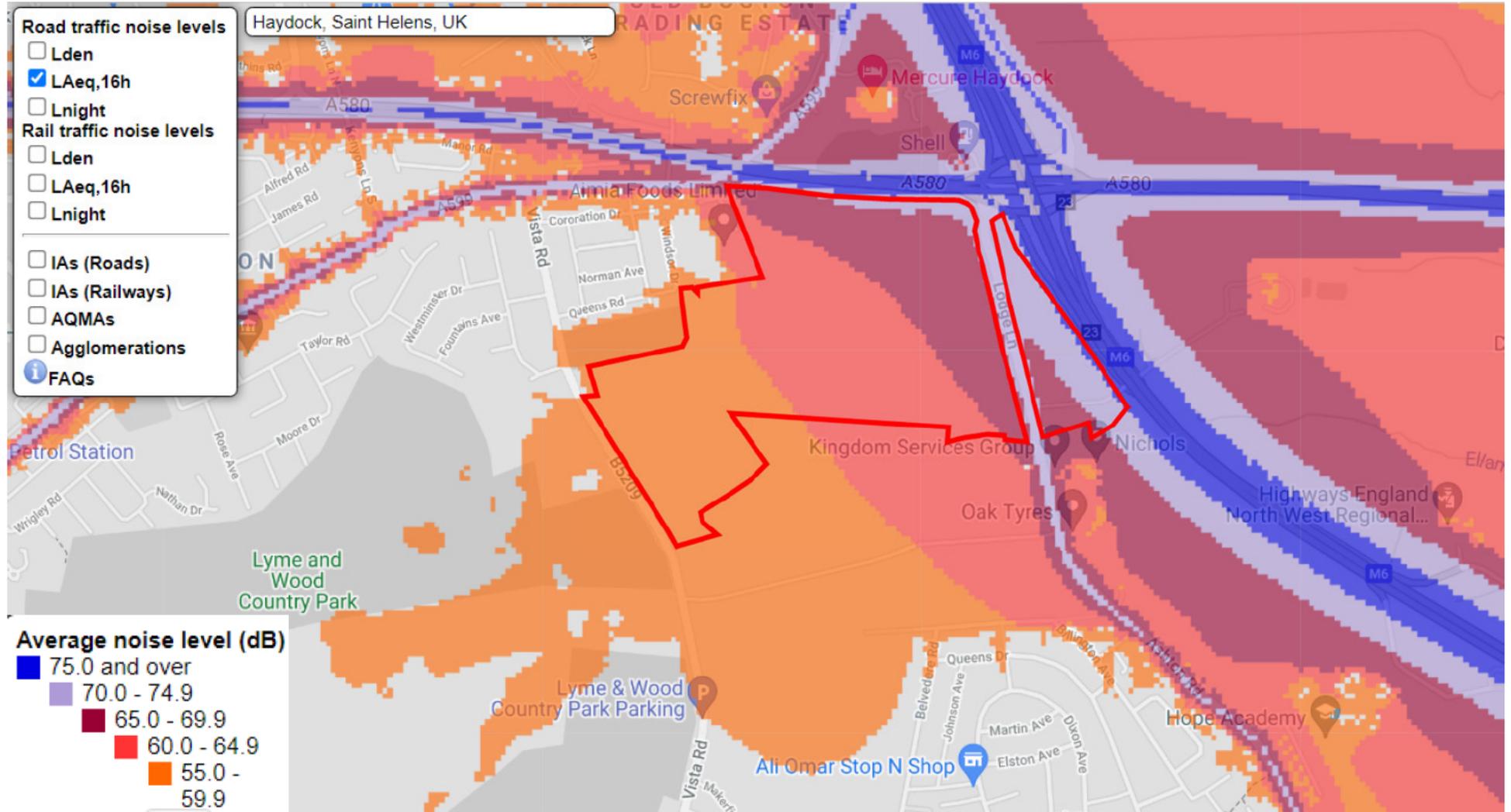
- 5.4 It is considered that part of the detailed noise assessment will include the consideration of a number of mitigation measures for acoustics, including;
- Careful design of the site to ensure National target for noise are achieved at noise sensitive receptors;
 - Consideration of acoustic mitigation measures to control noise levels to National guidance levels, including acoustic glazing and ventilation.
- 5.5 An assessment of the impact of the development in terms of noise from; transport and construction sources will need to be undertaken as part of the planning submission for the application site. The initial screening assessment does not consider that there is likely to be a significant impact as a result of the development. Good acoustic design should be considered as the masterplan is developed to protect existing noise sensitive receptors.
- 5.6 It is considered that with good acoustic design a suitable and commensurate level of protection against noise will be provided to the occupants of the proposed accommodation. Good acoustic design will also assist in reducing the potential impacts of the development for existing noise sensitive receptors.

APPENDICES

Appendix 1: Noise Monitoring Locations



Appendix 2: Road Traffic Predicted Noise Contours Daytime $L_{Aeq,16hour}$



Glossary of Terms

- Decibel (dB)** The unit used to quantify sound pressure levels; it is derived from the logarithm of the ratio between the value of a quantity and a reference value. It is used to describe the level of many different quantities. For sound pressure level the reference quantity is 20 μPa , the threshold of normal hearing is in the region of 0 dB, and 140 dB is the threshold of pain. A change of 1 dB is usually only perceptible under controlled conditions.
- dB L_A** Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB L_A broadly agree with an individual's assessment of loudness. A change of 3 dB L_A is the minimum perceptible under normal conditions, and a change of 10 dB L_A corresponds roughly to halving or doubling the loudness of a sound. The background noise level in a living room may be about 30 dB L_A ; normal conversation about 60 dB L_A at 1 meter; heavy road traffic about 80 dB L_A at 10 meters; the level near a pneumatic drill about 100 dB L_A .
- $L_{Aeq,T}$** The equivalent continuous sound level. The sound level of a notionally steady sound having the same energy as a fluctuating sound over a specified measurement period (T). $L_{Aeq,T}$ is used to describe many types of noise and can be measured directly with an integrating sound level meter.



St Helens Local Plan Examination

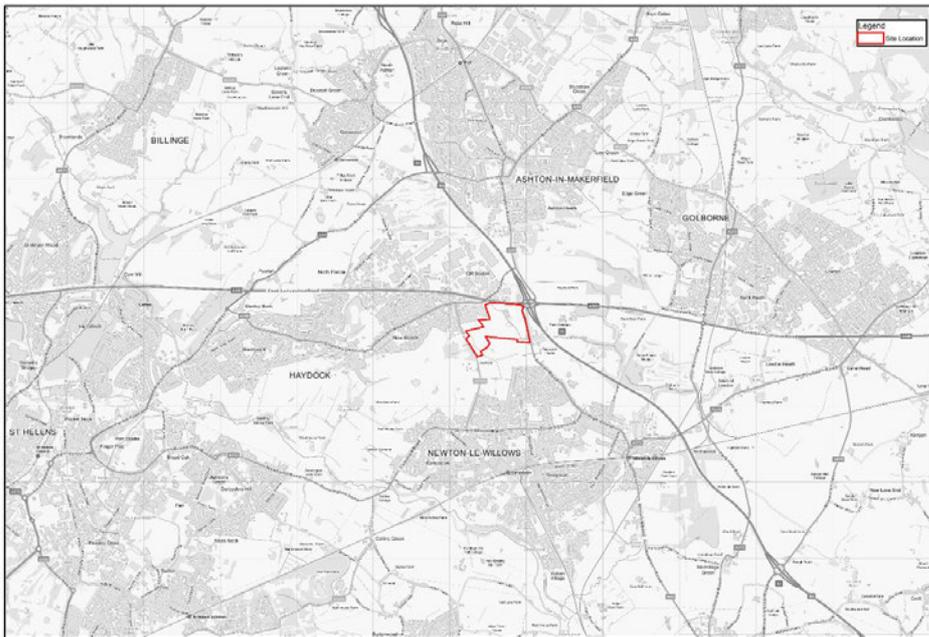
Residential Led Development Haydock Green (SW of Junction 23)

Transport Statement

VN211929

Introduction

1. Vectos has been instructed by Peel Investments (North) Ltd since 2012 to advise on transport matters in connection with development opportunities on their land holdings surrounding Junction 23 M6, Haydock. In this capacity, transport advice includes representation throughout the Local Plan process, support for the planning application for employment development on Site 2ES Haydock Point, and recently representation at the Appeal against non-determination for that planning application. Vectos therefore has an excellent understanding of transport policy and technical matters associated with the development of Peel landholdings in this locale.
2. This Technical Note deals with transport matters associated with advancing residential led development proposals on Peel's land at the South West Quadrant of J23 M6, known as Haydock Green, see site location plan below. Comment is also made in respect of transport matters associated with development of land to the South East of J23 for strategic logistics development.



Plan 1 – Site Location

3. Peel has promoted this site for development throughout the production of the Local Plan, including the preparation of a Development Framework which dealt with matters of sustainable accessibility and highway access. Since production of the Development Framework progress has been made by St Helens Council (SHBC) and Highways England (HE) in respect of identified need for improvements to Junction 23 M6. This is covered in the following sections on background, description of proposed development and masterplan, accessibility by sustainable modes of transport, assessment of highway impacts, including J23 M6, followed by summary and conclusions.

Background

4. The Haydock Green site was included as an allocation in an earlier version of the Local Plan as was Site 2ES Haydock Point.
5. TRA003 Local Plan Transport Impact Assessment January 2019 (LPTIA) modelled a number of scenarios using a Saturn Model developed for the purpose of assessing the impact of Local Plan allocations. At the time of the modelling work, this included Site 2ES Haydock Point (NE Quadrant J23) and the Haydock Green (SW Quadrant J23) as allocations, thus the conclusions to the LPTIA are relevant to delivery of both these sites.
6. In respect of J23 the LPTIA concludes:
 - The addition of development from the Local Plan preferred allocations would result in traffic conditions and congestion at Junction 23 becoming substantially worse;
 - Travel demand management would have a minor beneficial effect;
 - A strategic improvement is required to J23 to deliver substantial operational benefits.
7. In overall terms the LPTIA concludes:

“The additional traffic growth (in the region of 14-16%) associated with traffic from the Local Plan Sites is also forecast to worsen the level of operation at some locations. However, the forecast models indicate that the impact can be substantially mitigated by a combination of committed and emerging future highway infrastructure projects, modest changes in travel behaviour and lower cost improvements across key junctions.”
8. The LPTIA explains that SHBC, in conjunction with Wigan Council and Highways England, had commissioned a feasibility study into improvement options at M6 J23 to address issues of growth including that associated with Local Plan development. TRA007 M6 Junction 23 Haydock Island Capacity Feasibility Study June 2019 (J23 Study) states that due to existing and forecast congestion issues at the junction *“it is considered essential that the junction’s capacity is improved to manage the existing traffic flows and to facilitate the projected development growth anticipated in the area”*.
9. Key outputs from the J23 Study are quoted below:

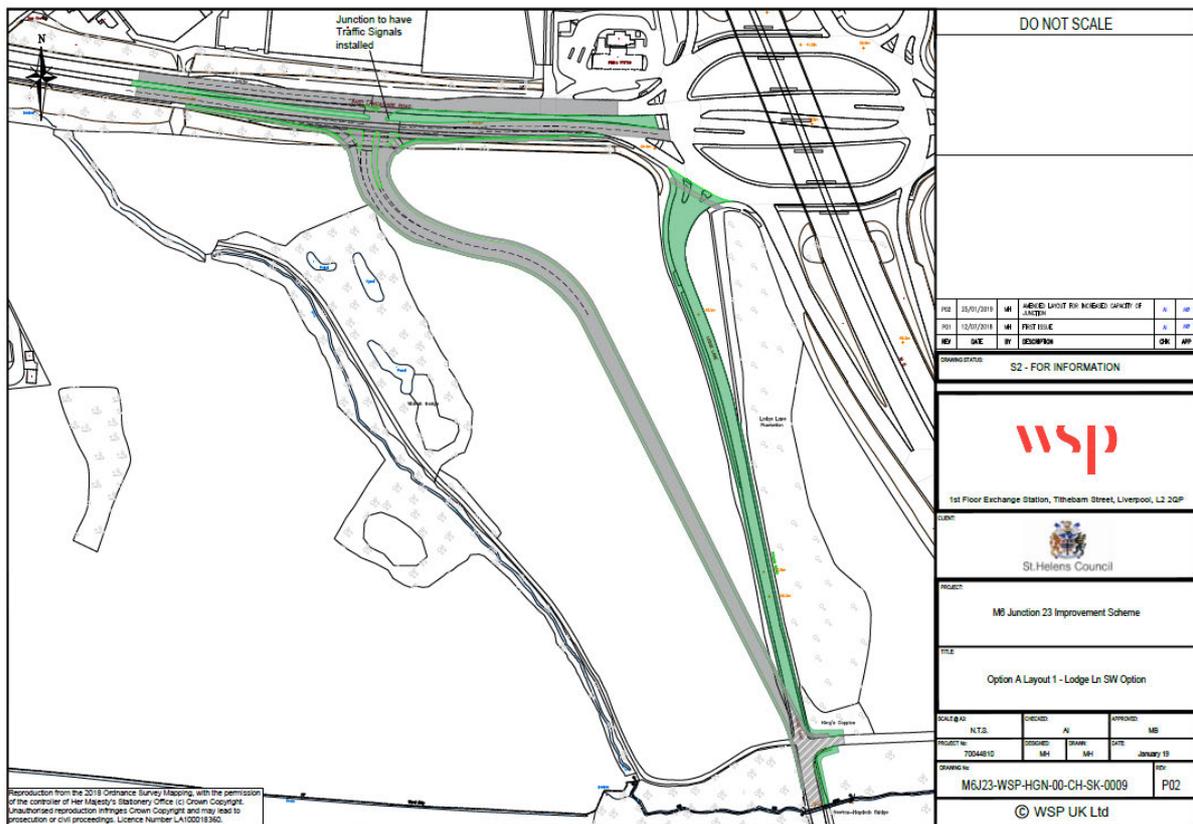
“The Steering Group resolved that to achieve any significant level of improvement, and which ever additional option for improvement was taken forward, A49 Lodge Lane should be diverted on both sides of the junction, removing the connections with the existing roundabout. New junctions would have to be constructed with A580 at a likely distance of 400m to 600m from M6 J23.”

“This study has revealed that any significant improvements at the junction hinge on the diversion of Lodge Lane away from the gyratory carriageway, either in isolation or in conjunction with another junction improvement scheme.”
10. These findings are important in the context of advancing the highway access proposals for both the Haydock Green (SW Quadrant) and Haydock Point (NE Quadrant) sites.
11. The above evidence base has led to improvements to Junction 23 M6 being identified as necessary in the IDP and Policy LPA07 as being a priority to accommodate future growth including Local Plan development.
12. Vectos produced a Transport Assessment to support the planning application for employment development at Haydock Point followed by a wide range of technical highways evidence submitted to SHBC and HE. This allowed agreement with the relevant highway authorities that the development could be progressed subject to conditions and planning obligations.

- 13. During the course of progressing this planning application, Peel were informed of emerging outputs from the J23 Study and encouraged by SHBC to amend the access proposals to create a link road through the site, to deliver the A49 (N) diversion as advocated as essential for wider improvements to J23. The access arrangements were amended accordingly which facilitated agreement that these accord with, and provide, an essential aspect of potential future wider strategic improvements to capacity and safety at M6 J23, as identified by the J23 Study.
- 14. A Highways Statement of Common Ground between SHBC and Peel confirmed the above position for the Appeal.
- 15. A similar approach to access strategy has been adopted for the Haydock Green (SW Quadrant J23) proposed development.

Proposed Development and Access Arrangements

- 16. Plan 2 below shows the proposed alignment of the A49 (S) diversion obtained from the J23 Study. This takes out a conflict node with the J23 signalised roundabout, increasing stacking space, hence reducing the potential for blocking back, and would improve highway capacity and safety as explained in the J23 Study.



Plan 2 – A49 Diversion M6 Junction 23 Improvement Scheme (WSP Junction 23 Study)

- 17. The latest masterplan for the proposed Haydock Green site accords with the J23 Study proposed diversion of the A49 (S) as shown in Plan 3 below.



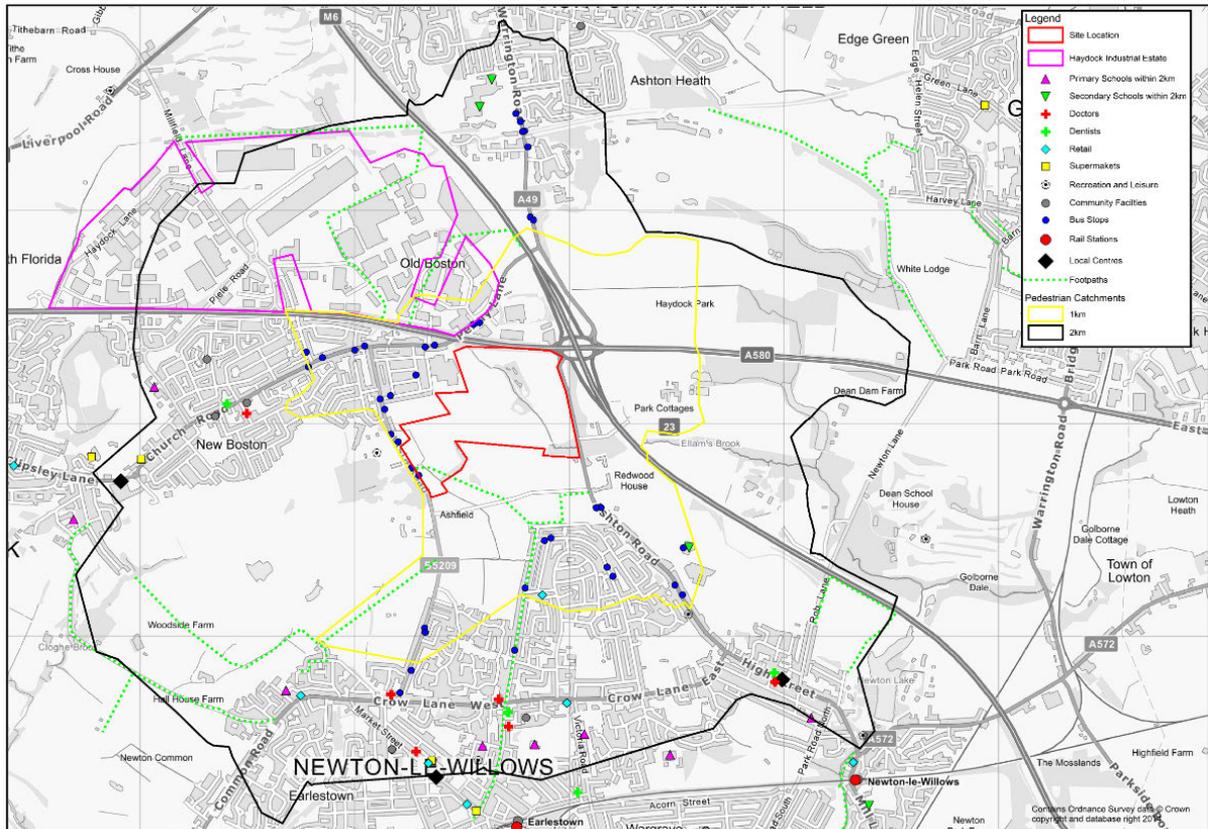
Plan 3 – Haydock Green Masterplan

18. The masterplan shows a residential led development of some 525 two, three and four bedroom houses, forming a sustainable urban extension to the western side of Haydock.
19. A Low Carbon Mobility and Community Hub with road side facilities is also proposed. Vectos are promoting similar Hubs throughout the country for strategic residential sites and is likely to include EV charging points, car share, car club, potential e-cycle/e-scooter facilities, bike hire and repair, retail, café and community concierge.
20. Access to the development is proposed via the diverted section of the A49 Lodge Lane to the east and Vista Lane to the west. The access points are connected by an internal distributor road which will allow access to be gained whilst distributing vehicle trips on the network in the most efficient manner. Additional pedestrian/cycle access points are proposed and there would be the opportunity for buses to divert to use the internal road network.
21. Further information is provided in the Haydock Green Masterplan and Design Statement.

Access by Sustainable Transport

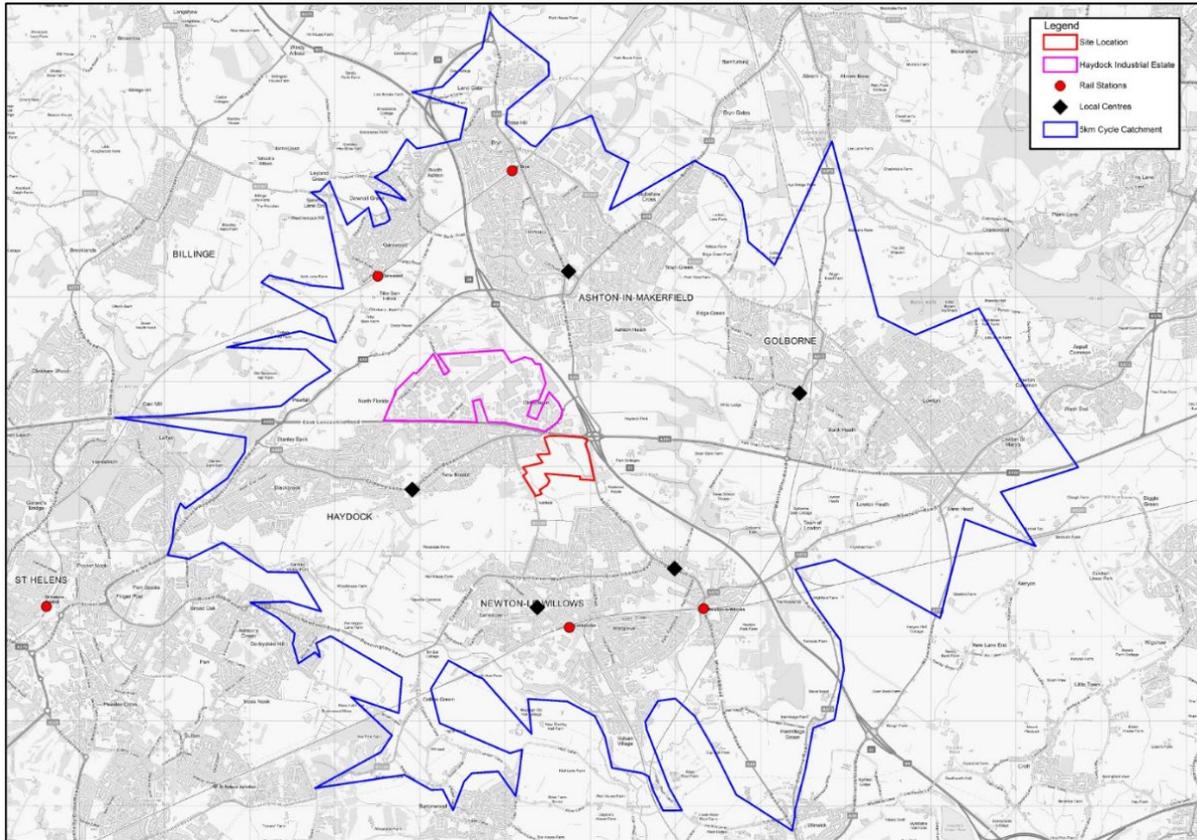
Access by Walking And Cycling

22. Plan 4 provides 1 and 2 kilometre walking catchments, identifying various facilities within these areas. Such facilities include bus stops on Vista Road, Penny Land and Lodge Lane. Local facilities such as primary and secondary schools, doctors, dentist, recreation and leisure, plus other community facilities are within the walk catchments. This would be complemented by the Low Carbon Mobility and Community Hub, including local retail and café uses, reducing the need to travel beyond the residential development site.



Plan 4 – Walking Catchments and Amenities

23. Plan 5 provides a cycle catchment of 5 kilometres, which covers the areas of Haydock, Ashton-in-Makerfield, Newton-le-Willows, Golborne, plus Rose Wood rail station to the north and Newton-le-Willows and Earlestown railway stations to the south. Fronting the site the A580 provides an off-carriageway shared footway/cycleway which extends east/west which continues into Greater Manchester along the southern side of the A580 forming part of the GM strategic cycle network.



Plan 5 – Cycle Catchment

- 24. The Liverpool City Region Combined Authority (LCRCA) Local Cycling and Walking Infrastructure Plan (LCWIP) provides a strategic approach to developing a cohesive network of high standard active travel routes across the region. This includes proposals for improving cycle links along the A580 corridor from the the strategic cycle network in Manchester via the development site and west via Haydock and through to St Helens. The proposals to remove the A49 links to Junction 23 would also benefit active travel movements through the intersection. A focus on cycling as an element of the Mobility and Communiuty Hubs would also encourage people to undertake trips by this active travel mode.

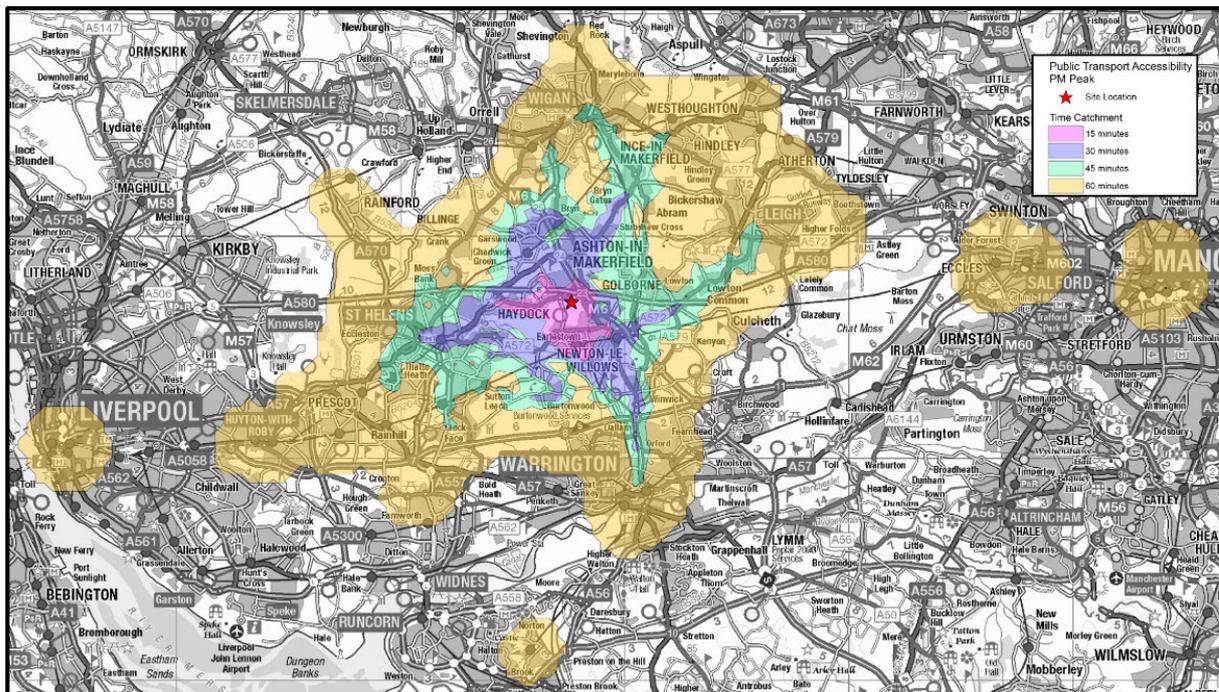
Public Transport Accessibility

- 25. The site provides ease of access on to the public transport network with bus stops and routes on Penny Lane, Vista Drive and Lodge Lane, plus services on Queens Drive, which in total provide access to some 5 bus service routes with a combined frequency of 10 services per hour. The services provide access to a range of destinations including St Helens, Earlestown, Newton-le-Willows, Warrington, Ashton-in-Makerfield, Wigan, and Leigh. There are service connections to Earlestown and Newton-le-Willows railway stations to the south and Bryn and Garswood stations to the north.
- 26. Rail services from Newton-le-Willows provide frequent links between Liverpool and Manchester, Manchester Airport and Chester. Services from Garswood/Bryn link between Liverpool and Wigan.

27. Public transport accessibility mapping has been undertaken in the form of journey times to show the level of accessibility of the site, taking into account walking and interchange times. Plans 6 and 7 indicate travel time isochrones for the AM and PM peak hours respectively.



Plan 6 – Public Transport Catchment AM Peak



Plan 7 – Public Transport Catchment PM Peak

28. The isochrones demonstrate accessibility to a ranges of destinations, including Liverpool and Manchester, Warrington, Wigan, Leigh, to more local areas of St Helens, Ashton-in-Makerfield,

Newton-le-Willows, Golbourne, and Haydock. In summary, the site benefits from a high level of accessibility by public transport.

Highway Impact Assessment

- 29. As indicated in paragraph 5 above, the LPTIA included the Haydock Green and Haydock Point sites in the modelling work and thus the strategy advocated is equally applicable to these sites as to the proposed site allocations.
- 30. This section of the Technical Note provides a preliminary highway impact assessment for the proposed residential led development, adopting a similar approach to that progressed and agreed for the Haydock Point development. The assessment focuses on J23 M6 including the proposed diversion of the A49 (S) arm to accord with the J23 Study recommendations.

Trip Generation & Assignment

- 31. Forecast traffic generation for the residential led development has been derived by reference to the TRICS database. The resultant trip rates and trip generation associated with a development quantum of 525 residential dwellings is set out in Table 1 below.

	Trip Rate/Dwelling		Trips		
	Arr	Dep	Arr	Dep	Two-Way
AM Peak	0.140	0.377	74	198	271
PM Peak	0.350	0.148	184	78	261

Table 1: Trip Rates and Trip Generation

- 32. The forecast trip generations have been assigned to the network based on the existing trip distributions on the local highway network taking into account the proposed access locations. In considering scenarios where arms of the A49 have been removed from the junction, the associated traffic flows have been re-distributed to the diverted routes.

Junction 23 Model

- 33. The traffic modelling utilises the agreed LinSig model of the M6 / A580 / A49 Junction 23 M6, originally developed for assessment of the proposed Haydock Point development. The model has been the subject of discussion with St Helens Council and with Highways England and is regarded as an agreed model for assessment of this junction.
- 34. In addition to being used to model the existing layout of the junction, the model has previously been used to assess a 'Mitigation' layout which features additional capacity on the A580 approaches and in the lanes through the central section of the roundabout.
- 35. The proposed residential development to the south-west of the junction envisages the diversion of the southern arm of the A49 to a separate junction with the A580, further to the west of the existing junction. For this traffic modelling exercise, therefore, a version of the model has been developed which incorporates the diversion of southern A49 arm. This model essentially replicates the approach used for modelling the similar diversion of the northern A49 arm.

Junction 23 Model Scenarios

36. In the previous technical assessment for the Haydock Point proposals, traffic assessments have been undertaken for a number of scenarios at J23. A future assessment year of 2027 has been developed which includes agreed committed developments and also growth in background traffic levels. This 2027 scenario has been adopted as the Baseline for this modelling assessment.

37. The scenarios considered in this traffic modelling are as follows:

- 2027 Base (inclusive of agreed committed development and background traffic growth). This scenario assumes the existing layout of the J23.
- 2027 With Proposed Residential Development. This scenario assumes the existing layout of the junction, except that the A49 southern arm is diverted to a separate junction with the A580 to accord with the J23 Study.

38. Table 2 summarises the modelling results for J23 AM Peak allowing a comparison between the 2027 Base scenario and the scenario with the proposed residential development plus the A49 (S) diversion. As can be seen from Table 1, the scenario with the proposed residential development and the A49 (S) diversion would result in a substantially improved level of operation at J23, with substantial reductions in overall queues and delays.

	Queues (pcu)	Delay (pcuHr)
AM Peak Base	444	424
AM Peak With Development and A49 (S) Diversion	256	240
Difference Actual (%)	-188 (-42%)	-184 (-43%)

Table 2 – Junction 23 Capacity Assessment Summary AM Peak

39. Table 3 summarises the modelling results for J23 PM Peak comparing the 2027 Base scenario to the with development plus A49 (S) diversion scenario. As can be seen from Table 2, the scenario with the proposed residential development and the A49 (S) diversion would result in a substantially improved level of operation at J23, with substantial reductions in overall queues and delays, as with the AM Peak.

	Queues (pcu)	Delay (pcuHr)
PM Peak Base	530	526
PM Peak With Development and A49 (S) Diversion	231	241
Difference Actual (%)	-299 (-56%)	-285 (-54%)

Table 3 – Junction 23 Capacity Assessment Summary PM Peak

40. In summary, J23 modelling demonstrates that the diversion of the A49 (S) arm of J23, delivered as part of the proposed residential development on land at the SW Quadrant of the junction, would result in substantial benefits to the operation of J23. It should be noted that this is in the absence of wider potential improvements to J23, including the A49 (N) diversion, which would be delivered by development at Haydock Point.

41. Removal of the A49 (S) arm, in a similar manner to the A49 (N) arm, would in itself lead to improved operation at Junction 23, including removal of the short stacking distance on the J23 signalised roundabout, with the modelling showing no blocking back, which occurs in the base model. This leads

to overall improvement in capacity and safety as acknowledged in the J23 Study. Removal of the A49 (S) arm would also benefit active travel movement through the junction by taking away the conflict point.

42. The proposed new junction onto the A580 has been modelled in LinSig to demonstrate that a traffic signal controlled junction can be designed to operate within capacity, similar to the proposed signal junction arrangement on the A580 (East) for Haydock Point and the A49 (N) diversion. This includes accommodating traffic from the proposed residential development.
43. In conclusion there are no highway reasons why the proposed residential development at Haydock Green would be prevented from coming forward. There is a compelling highways reason for this site to be brought forward which is that it would deliver the A49 (S) Lodge Lane diversion, a fundamental element of wider J23 improvements identified as necessary to support Local Plan development.
44. The Haydock Point employment development on land to the NE of J23 would deliver the A49 (N) arm diversion in accordance with the requirements of J23 Study. This together with additional highway improvements at J23 agreed as part of that development, would improve capacity and safety at J23, substantially reducing overall queues and delays, as evidenced by the finally agreed traffic modelling of the junction to support the planning application.
45. A combination of delivery of the diversion of both A49 arms as advocated in the J23 Study, plus already agreed mitigation works, through development on the NE and SW Quadrants of J23, would clearly result in enhanced benefits to J23 capacity, safety and accommodation of active travel modes.
46. Peel are also promoting the site Haydock Point South (Land to the South East of Junction 23) for strategic logistics development. Whilst the LPTIA has not accounted for this site in the wider modelling the robust traffic forecast adopted for the J23 Study would suggest no barriers in transport terms to this site coming forward, subject to the Local Plan requirement for improvements to be delivered at J23. Vectos has previously designed an access strategy for this site in conjunction with the Haydock Point site to the north, demonstrating a workable access solution can be delivered.

Summary and Conclusions

47. This Technical Note deals with transport and highway matters associated with the proposed allocation of land to the SW of Junction 23 for residential development. Key conclusions are set out below.
48. The proposed residential development would provide an extension to the urban area, well served by public transport, walking and cycling. The development of the Low Carbon Mobility and Community Hub would benefit promotion of more sustainable transport alternatives, in accordance with national and local transport policies.
49. The Local Plan transport evidence base has identified that improvements are required to Junction 23 of the M6 Motorway to accommodate growth including proposed Local Plan allocations, as set in the IDP and Policy LPA07.
50. TRA007 M6 Junction 23 Haydock Island Capacity Feasibility Study (June 2019) makes it clear that the diversion of both A49 arms of the junction away from the signalised roundabout are a fundamental aspect of achieving improvements at the junction.
51. The proposed residential development masterplan and access strategy has been developed to accord with the diversion of the A49 (S) arm, as proposed in the J23 Study.
52. Capacity assessments at J23 have been undertaken using the LinSig model agreed with SHBC and HE, taking into account a proposed residential development of 525 dwellings plus the diversion of the A49 (S). The capacity assessments demonstrate that the removal of the A49 (S) arm would result in a substantially improved operation at J23, even allowing for residential development traffic. Removal of

the A49 arm would remove the problematic short stacking distances prevalent with the existing design, thus minimising risks of blocking back and thus benefit highway safety. Removal of the A49 arm would also benefit active travel movements through the junction. These conclusions accord with those in the J23 Study.

53. Capacity assessments using LinSig of the proposed new traffic signal controlled junction on the A580 west of J23 demonstrate a workable solution can be achieved.
54. In conclusion there are no highway reasons why the proposed residential development at Haydock Green would be prevented from coming forward. There is a compelling highways reason for this site to be brought forward as this would deliver the A49 (S) Lodge Lane diversion, a fundamental element of delivering wider J23 improvements required to support Local Plan development.
55. The diversion of the A49 (N) arm would be delivered as a result of the employment development at Haydock Point (Site 2ES). Additional mitigation works are also proposed at Junction 23 through widening the A580 approaches and through lanes, forming part of the planning application highway improvement proposals. It has been agreed with the highway authorities that with the A49 (N) diversion and these mitigation works there would be a superior level of operation at Junction 23 in terms of capacity and safety, as indicated in the Statement of Common Ground associated with employment development planning application.
56. A combination of delivery of the diversion of both A49 arms as advocated in the J23 Study, plus already agreed mitigation works, through development on the NE and SW Quadrants of J23, would clearly result in enhanced benefits to J23 capacity, safety and accommodation of active travel modes.