

COUNTY PLANNING LTD

Moving Development Forward

LOCAL PLAN REPRESENTATION STATEMENT

REPRESENTATION: OBJECTION TO POLICIES GB1; DEV1; DEV4 AND
SITE ALLOCATIONS OS8 AND MD2 OF THE WARRINGTON BOROUGH
COUNCIL EMERGING LOCAL PLAN (DRAFT SUBMISSION VERSION)

IN RELATION TO LAND AT: LYMM GARDEN VILLAGE (PROPOSED)
LAND NORTH AND WEST OF CHERRY LANE, LYMM

CALL FOR SITES REFERENCE NO.S:

R18/081; R18/P2/152; R18/008; R18/101; R18/P2/009; LY27; AND R18/113.

ON BEHALF OF: BRENRUN LTD

(OUR REF. BRE680/6)

JUNE 2019

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CONTENTS

	<u>Page</u>
1 INTRODUCTION	1
2 OBJECTIONS TO EMERGING POLICIES	2
3 LYMM GARDEN VILLAGE CONCEPT (SPATIAL VISION)	15
4 CONSTRAINTS EVALUATION/DELIVERABILITY ASSESSMENT	21
5 GREEN BELT ASSESSMENT	27
6 NEW SITE ALLOCATION "MD5 -LYMM GARDEN VILLAGE"	30
7 CONCLUSIONS	32
PLANS/APPENDIX SCHEDULE	33

ABOUT COUNTY PLANNING LTD

This document is prepared by County Planning Ltd (we/us/our). We are professional town planning and development consultancy regulated by the Royal Town Planning Institute. We handle instructions from private clients, developers and landowners across the whole development sector, with an active development project portfolio in excess of £50million GDV, comprising sites either currently in planning or construction stages.

County Planning Ltd is led by Managing Director Dan Matthewman L.L.B (Hons), MSc, ACILEx, MRTPI. He is dual qualified as a Chartered Town Planner and an Associate Member of the Chartered Institute of Legal Executives, holding an undergraduate honours degree in Law and a post-graduate honours MSc in Environmental Governance. Dan has more than a decade of industry experience which has included appearing as a witness at public inquiries, injunctions and other court proceedings in relation to planning matters.

His experience in industry includes holding senior positions in both the public and private sector including the Environment Agency, DLA Piper UK LLP, Warrington Borough Council and the Environment Agency. Latterly before establishing County Planning Ltd, he established and managed the Cheshire planning department of Knights PLC, a multi-disciplinary consultancy with more than 140 real estate professionals working across the whole development sector.

Date 17 June 2019
Our ref BRE680/6
LPA ref R18/081; R18/P2/152; R18/008; R18/101; R18/P2/009; LY27; AND R18/113
Contact us [REDACTED]

REPRESENTATION TO EMERGING WARRINGTON LOCAL PLAN (2019)

RE: ALLOCATION OF 132.8HA OF LAND FOR NEW LYMM GARDEN VILLAGE - COMPRISING UP TO 900 DWELLINGS (36% AFFORDABLE), 9352SQ.M USE CLASS D2, 1446SQ.M USE CLASS A3/A4 AND 2,115SQ.M A1 RETAIL; 24HA OF B-CLASS EMPLOYMENT LAND; EXTENSION TO LYMM DAM RECREATION AREA AND FORMATION OF WILDLIFE CORRIDOR ALONG MASSEY BROOK (TOGETHER WITH SAFEGUARDING OF 29HA OF LAND FOR FUTURE DEVELOPMENT).

LOCATION: LAND SOUTH AND WEST OF CHERRY LANE, LYMM.

POLICIES AFFECTED: OBJECTION TO POLICIES GB1 (GREEN BELT); DEV1 (HOUSING DELIVERY); DEV4 (ECONOMY AND EMPLOYMENT) AND SITE ALLOCATIONS OS8 AND MD2.

1. INTRODUCTION

- 1.1 This document is a representation statement relating to the Warrington Borough Council (WBC/the Council) emerging Draft Local Plan (Submission Version). It is submitted on behalf of our client, Brenrun Ltd who are the freehold owner of 44ha of land forming part of a proposed allocation to form a new Lymm Garden Village situated south-west of Lymm.
- 1.2 This representation OBJECTS to relevant elements of the emerging policies GB1; DEV1; DEV4; MD2 AND OS8. Furthermore, it presents an alternative spatial vision for the Borough which would be delivered through a new bespoke Allocation "MD5". The overriding premise of this representation is that the Council should more closely consider alternatives to deliver housing and employment land requirements given the surety of delays with Allocation MD2.
- 1.3 Specifically, this representation highlights a 132.ha parcel of land which has been promoted through the development plan by a small number of landowners. This proposal seeks to unite those landowners in delivering a new Garden Village south of Lymm for provision of up to 900dwellings and new local centre during the plan period. It also includes 24ha of employment land with immediate access onto the M6 motorway and an extension to Lymm Dam recreation area together with formation of a wildlife corridor along Massey Brook.
- 1.4 It concludes that for the plan to be considered sound, amendments to the draft policy wording and a bespoke allocation in the emerging plan should be thoroughly considered.

2. OBJECTIONS TO EMERGING POLICIES

- 2.1 Paragraph 35 to 37 of the NPPF deal with soundness of emerging plans. In particular, it notes that an emerging plan must meet the Objectives Assessed Needs (OAN) of an area, be informed by agreements with other LPAs so that unmet need for neighbouring areas can be accommodated where practicable and is consistent with sustainability principles.
- 2.2 The overarching policy rationale of the emerging plan is to be supported to a large degree, particularly with respect to the general requirements for provision of new housing and employment land. It is accepted that in principle, these allocations would go some way to meeting the housing needs identified within the Borough. However, it must also be based on a justified strategy that appropriately takes into account reasonable alternatives.
- 2.3 The Council is considering allocating a number of green belt sites in the vicinity of Lymm and south east Warrington. These include approximately 430 dwellings adjacent to the village of Lymm itself, some of which have already obtained planning permission on appeal. However, we submit that the previous assessment of Calls for Sites refs. R18/081; R18/P2/152; R18/008; R18/101; R18/P2/009; LY27; and R18/113, which are all within the same market area, was fundamentally flawed and as a result, alternatives have not been adequately considered.
- 2.4 The draft plan further proposes the allocation of a 7,400 dwelling scheme alongside 116 Ha of employment land as part of a new garden suburb (comprising three garden villages) known as Allocation MD2. However, it will take some time for a site of this size to come to fruition due to the nature and extent of the infrastructure improvements required. Given the substantial costs associated with progressing Allocation MD2, this is likely to result in delay to the delivery of the 'Garden Suburb'. In light of this, we submit that a wider diversity of sites is needed to ensure delivery of the necessary housing and employment land.
- 2.5 In summary, we submit that the plan is unsound because:
- a) **Likelihood of slower delivery than forecast means the plan is not effective.** A wider diversity of site allocations is needed to deliver the requirements over the plan period;
 - b) **Green belt harm created means that the plan is inconsistent with national policy.** Allocations MD2 and OS8, as drafted, would create fundamental harm to the green belt and/or fail to use durable and physical boundaries which will be permanent in defining the extent of the green belt. They are thus contrary to NPPF paragraphs 134 to 138;
 - c) **Alternatives have not been fully considered, meaning the plan is not justified.** Reasonable alternatives have not been thoroughly explored for south east Warrington.

LIKELIHOOD OF DELAY - THE PLAN IS NOT EFFECTIVE.

- 2.6 The draft plan presumes housing delivery will happen quickly enough to deliver 5,100 dwellings within the plan period. However, the criticism, also made by others is that such a large allocation could take a very long time to come to fruition, particularly in the context of the wider ambition to ensure a coordinated development programme that funds the desired infrastructure associated with the housing element of the proposals.
- 2.7 Additionally, in the case of the employment land allocation, improvements to J.9 of the M56 and J.20 of the M6 will be key to alleviating anticipated transport capacity impacts. Indeed, the MD2 policy requires that '*new employment development will not be permitted until the funding and the programme for the delivery of the improvements... have been agreed with key stakeholders, including Highways England and the Local Highway Authority.*'
- 2.8 As such, there is serious doubt whether the anticipated delivery timescales are realistic in the context of the proposal; how these will be maintained; and what will happen where such timescales are not met. Additionally, there remains the risk that delivery of the employment land allocation will be stymied by a third-party objection such as Highways England.

Projected Delivery Timescales are unrealistic

- 2.9 The Council's Options and Site Assessment Technical Report suggests that a Stepped Housing Trajectory will be utilised taking into account the particular circumstances applicable within the Borough. In particular it states:

The trajectory confirms that the Plan provides for a sufficient land supply to deliver the overall housing requirement for the borough. However, the need to release Green Belt land and the lead in times for the major infrastructure required to support the Waterfront, Garden Suburb and South West Garden Village means that there will be a relatively lower level of housing delivery in the early years of the Plan Period.

This means that for the first 5 years of the Plan Period housing completions will be at annual average of 847 homes per annum. The annual average housing requirement over the remaining 15 years of the Plan will therefore need to be increased to 978 homes per annum to ensure the minimum of 945 homes per annum is delivered over the Plan period.

This is known as a Stepped Housing Trajectory and is illustrated in Appendix 1 of the draft Local Plan.'

- 2.10 In the evidence for justifying build-out rates for the MD2 Garden Suburb, it is evident the Council has reviewed build-out rates for large sites in the North West. This was in response to concerns being expressed by respondents to the Local Plan Preferred Options, stating that the previous delivery rate proposed was too optimistic. Unfortunately, this problem persists.
- 2.11 A new build-out rate is put forward by the council which suggests at 6.14 of the Options and Site Assessment Technical Report that:
- Based on delivery running concurrently across the three 'villages' and neighbourhood centre within the Garden Suburb, as illustrated in the concept plan provided in the Development Framework. It is based on 40 units per annum per outlet and with no more than 9 outlets operating at any one time across the whole area.*
- 2.12 Given the potential market saturation due to large volumes of housing hitting the market at the same time, it is unlikely that all 9 outlets will be active at once. It is even less likely they will simultaneously build 40 units p/a, which equates to an avg. of 360 dwellings per annum.
- 2.13 Detailed research of the delivery rates nationally, conducted by NLP (Nov 2016¹) considered 70 large sites (2000+ units) and 83 small sites operating over a three-year period. It confirmed that the highest average delivery was in Cranbrook, at 321 dwellings per annum. Across the research base, none of the 153 sites surveyed achieved a build out rate of 360 dwellings at all. NLP confirmed that the average build-out rates was in fact 239 units.
- 2.14 Added to this, it was noted that the Cranbrook delivery was an exception in any case, stating that *"the highest average build-out rate of all the assessed sites is 321 dwellings per annum in Cranbrook. But this relates to just three years of data, and the scheme benefitted from significant government funding to help secure progress and infrastructure. Such factors are present in all schemes, and indeed, the data suggests sites tend to build at a higher rate in initial years, before slowing down in later phases."* It continued *"on average, a site of 2,000 units will not, deliver four times as fast as a site of 500. This reflects the limits to number of sales outlets possible on a site, and overall market absorption rates."* (Pg.17)
- 2.15 Sites of this nature are rightly ambitious in terms of delivery and forward planning. However, the council suggests that Warrington's market can deliver a staggering 50% quicker than the rest of the UK; this is unrealistic and shows the clear need for an alternative method of delivering housing land which is not so reliant on huge strategic sites of 2000+ units.

¹How quickly do Large-scale housing sites deliver? NLP, 2016 at <https://lichfields.uk/media/1728/start-to-finish.pdf>

Delivery is beholden to unknown/un-costed technical highway solutions

- 2.16 The draft Local Plan supporting text to Policy MD2 states at 10.2.19: *'Transport mitigation measures will be identified to offset the impact of traffic generated by the employment development sites on Junctions 9 and 10 of the M56 and Junction 20 of the M6, in agreement with Highways England, with funding streams and trigger points identified for the delivery of the required works to enable development to come forward in the early years.'*
- 2.17 Allocation policy MDA 2.2 - 11 goes on to state that: *The delivery strategy must ensure that a mechanism is put in place to secure proportionate contributions from all developers within the Garden Suburb to fund and deliver the wide ranging infrastructure required to support the Garden Suburb.* And at Para 14.b) it is stated that: *No further residential development will be permitted until: The funding and the programme for the delivery of a strategic link to connect the Garden Suburb to the local and strategic road network have been confirmed.*
- 2.18 In common with many Authorities, the costly and detailed consultancy work required to inform an appropriate level of highways intervention to provide an uplift in capacity needed to support such strategic developments, is not always possible at the plan making stage. This can result in allocations leading to full applications before the detailed highways modelling is undertaken and it is not until this point that significant bottlenecks or under-estimates of infrastructure improvement costs become apparent.
- 2.19 Our examination of the evidence base to Policy MD2 considered the Multi Modal Transport Model Local Plan Reports, Visibility Appraisal and the Garden Suburb Development Framework. The only reference to major transport improvements was a figure of £50 Million for M6 J20 improvements and a further £10 Million for M56 J10 improvements. It appears that these are best estimates and as yet, there is no clear and robust information as to the full costs, timescales or wayleaves/legal agreements required to achieve such infrastructure works. Moreover, the delivery of the allocation is reliant on agreement by Highways England.
- 2.20 Given that the delivery of all housing and all employment land as set out within Policy MD2 is fundamentally constrained until the scale and nature of improvements have been agreed and a timeline for delivery is set, there is a risk that the development is beholden to presently unknown infrastructure costs and implementation timescales.
- 2.21 Furthermore, given the substantial figures paired with the desire on the Council's part that these infrastructure improvements are committed early in the development programme, there is also a significant cost burden placed upon the developer without any significant housing delivery to recoup funds to help provide for the infrastructure required.

GREEN BELT IMPACTS - THE PLAN IS INCONSISTENT WITH THE NPPF

- 2.22 The NPPF recognises the importance of green belts. The Green Belt serves five purposes which are set out in paragraph 134 of the NPPF, these are to:
- a) to check the unrestricted sprawl of large built-up areas;*
 - b) to prevent neighbouring towns merging into one another;*
 - c) to assist in safeguarding the countryside from encroachment;*
 - d) to preserve the setting and special character of historic towns; and*
 - e) to assist in urban regeneration, by encouraging the recycling of derelict and urban land.*
- 2.23 The fundamental aim for Green Belt policy is to prevent urban sprawl by keeping land permanently open. Paragraphs 136-138 set out the approach that should be followed to justify releasing land from the Green Belt. Paragraph 138 confirms that *“Where it has been concluded that it is necessary to release Green Belt land for development, plans should give first consideration to land which has been previously-developed and/or is well-served by public transport. They should also set out ways in which the impact of removing land from the Green Belt can be offset through compensatory improvements to the environmental quality and accessibility of remaining Green Belt land.*
- 2.24 Where it is concluded that land does need to be released from the green belt, plan makers must consider the criterion set out in paragraph 139. Of particular relevance is that:
- o criterion b) notes that development plans should not include land within the greenbelt where it is not necessary to keep it permanently open;
 - o criterion f) states the need to define boundaries clearly using physical features that are readily recognisable and are likely to be permanent.
- 2.25 Following review, we consider several aspects of allocations MD2 (Garden Suburb) and OS8 (Warrington Road) are poorly formed, lacking in clear and well-defined boundaries that will be resilient in the long term. As such, we further submit that the greenbelt designation is unlikely to remain permanent, becoming eroded over time. This is explained in detail below.
- 2.26 We therefore submit that draft policies GB1; DEV1 and DEV4 and the Site Allocations policies OS8 and MD2 are unsound and require review due to this lack of compliance with NPPF 139.
- 2.27 We further submit that the allocations should be amended (MD2)/omitted (OS8), and alternative allocations explored to ensure delivery in more spatially appropriate locations. One such location promoted for such development is a new Lymm Garden Village.

Objection to Allocation MD2 (South east urban extension)

- 2.28 This section objects to two discrete spatial elements of the proposed allocation due to the green belt implications of the proposals and lack of compliance with NPPF para 139.
- 2.29 The northern boundary of this allocation is defined by the A50 Knutsford road. It is surrounded by open fields on all sides, with a relatively flat topography and no defining features. The proposed allocation of 14.2ha of land at Howshoots Farm in particular, is lacking in a robust boundary which is defined only by Massey Brook, a small tributary which would be easily culverted or crossed. As such the allocation does not have a durable boundary that is defined by a physical feature likely to remain permanent. It is thus contrary to NPPF 139. We submit that this need can instead be met more appropriately elsewhere.

Image showing weak northern boundary of Allocation MD2:



Source: ©5-65 Planning application & Aerial photos: ©Google Earth

Merging of settlements

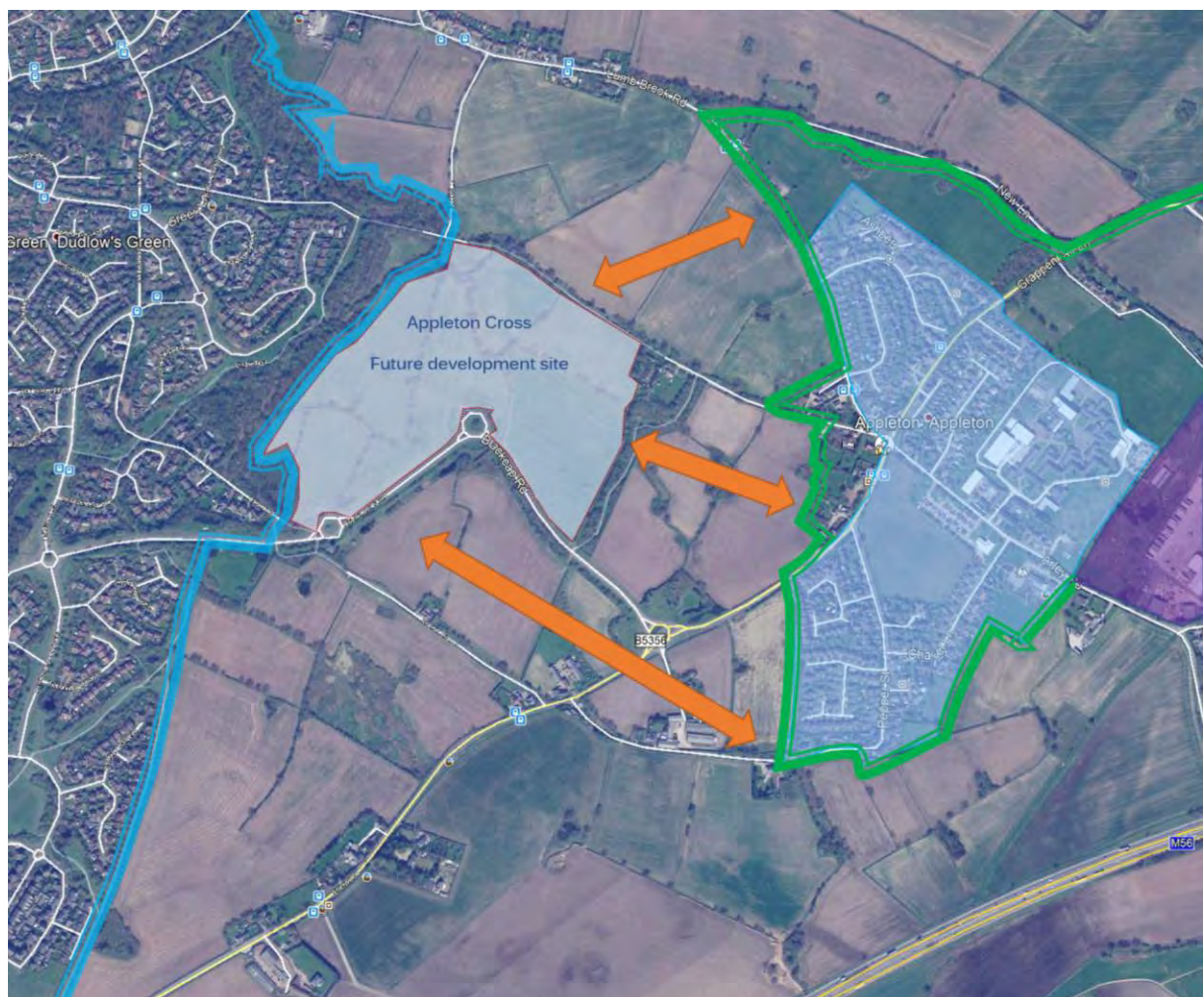
2.30 The NPPF reinforces the purposes of the green belt. In this case, the handling of the allocations around Appleton/Appleton Thorn and Appleton Cross creates conflict with the following green belt purposes set out in paragraph 134:

- b) to prevent neighbouring towns merging into one another;*
- c) to assist in safeguarding the countryside from encroachment;*

2.31 In 1897, Appleton was a small hamlet of a dozen or so houses but since the 1960's it has developed its own character and feel which would be put at risk by this merging, meaning that special consideration should be given to the treatment of this area in the draft policy.

2.32 At present, the settlement is now detached from the main urban area, as illustrated below. However, the proposals as drafted (notwithstanding the intention to leave a degree of open space) will still result in the merging of Appleton with the urban area of Dudlows Green, becoming a homogenous part of the settlement and affecting its village character.

Illustration indicating potential merging of settlements resulting from Allocation MD2:



Objection to Allocation OS8 (Warrington Road)

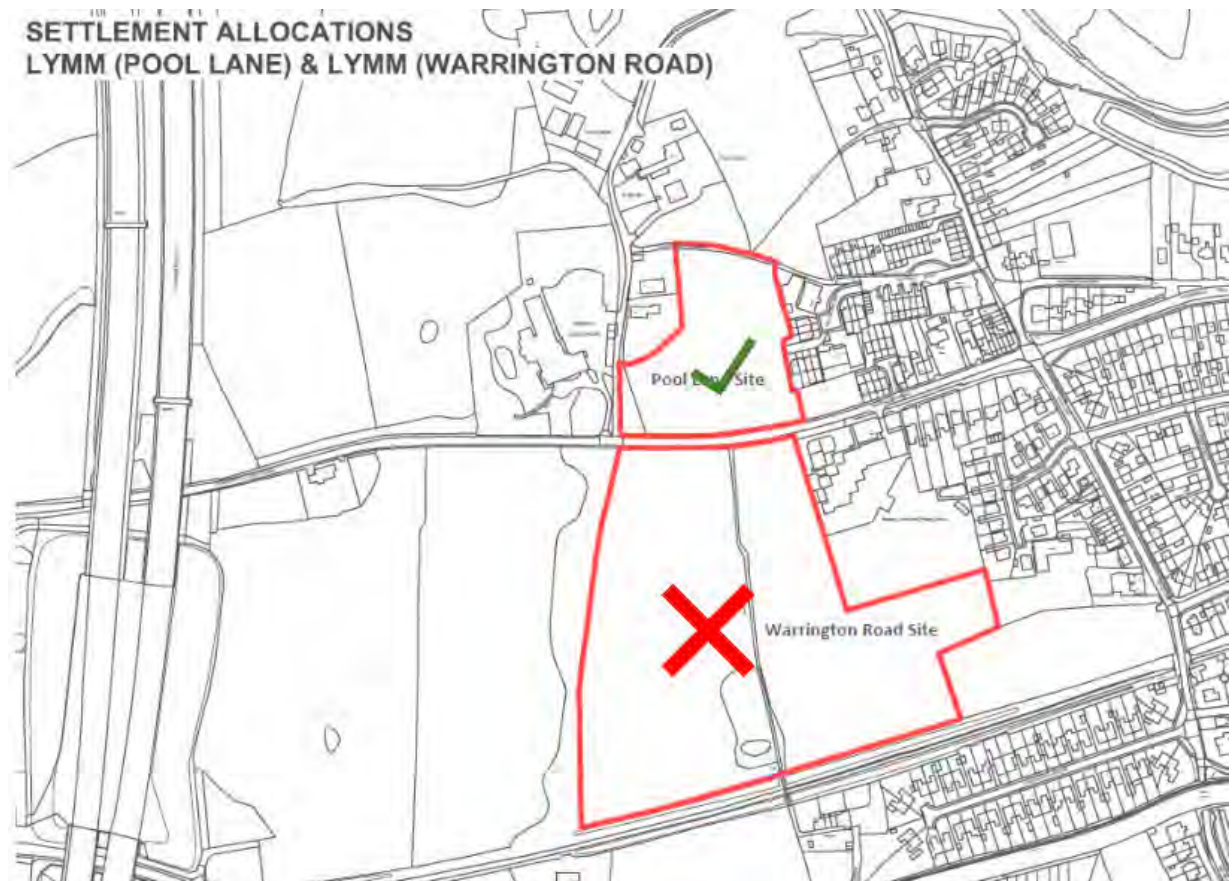
- 2.33 The Pool Lane site benefits from durable boundaries on three sites, those being the existing urban area, Statham Lodge Hotel and Pool Farm to the north, which would all constrain future encroachment. However, by contrast, the Warrington Road site is not drawn around durable and clearly defined boundaries on its western and northern edges. This is recognised at criterion 12 of policy OS8 which requires further planting to define the boundary; this is ultimately an acceptance that it is poorly defined in the first place.
- 2.34 Whilst scope for future expansion of the allocation is limited to the south, there are two road access points to the adjacent field from the A56 and Warrington Road respectively. The request for a planting scheme is insufficient as a simple hedgerow is easily removed and the site is already penetrated by two paths (inc. PROW 00193) leaving the Mersey Path. The truthful boundary is the motorway and the substantial bank of woodland trees at its edge.
- 2.35 Proceeding with this allocation as drafted will create substantial pressure on the western site boundary and in due course, the adjoining field to the west and another one to the north will surely be developed, using the access points as shown in the illustration below.

Illustration showing boundaries and likely future expansion pressure: ©Google Earth



- 2.36 Allocating the Warrington Road parcel would fail to meet the requirements para 139 by including land which performs a functional role in preventing encroachment and urban sprawl and does not have clearly recognisable permanent boundaries. The allocation is not therefore consistent with national policy and falls the test of soundness at NPPF para 34 d).
- 2.37 This need can be met elsewhere within the borough, on land with clearer and better-defined boundaries which are more resilient to encroachment in the longer term. As such, the Warrington Road allocation OS8 should be omitted from the emerging plan in favour of an alternative site with more clearly delineated boundaries “using physical features that are readily recognisable and are likely to be permanent” as required by NPPF para 139.

Illustration of revised site allocations:



N.B - For the avoidance of doubt, there is no objection to Allocation OS6 (Pool Lane).

Summary (green belt conflict)

- 2.38 In summary, it is submitted that Allocations MD2 and OS8 are in conflict with national policy at paragraphs 134 - 139 by virtue of their spatial implications for the green belt. As a result, they are unsound for the purposes of paragraph 35 d) of the NPPF and the policies should be reviewed, amended and/or alternative site allocations pursued in their place. Other affected policies such as GB1; DEV1; DEV4; and DC3 should also be reviewed in tandem.

ALTERNATIVES HAVE NOT BEEN FULLY CONSIDERED – THE PLAN IS NOT JUSTIFIED

- 2.39 There is both an identified housing shortfall (the Council does not have a 5 year supply) and there is a regionally identified undersupply of large format logistics warehousing. In this case the Council proposes to deliver this through a small number of major allocations, with the lions share being provided through proposed Allocation MD2 (Warrington Garden Suburb) which will be released from the green belt. This is 'putting all one's eggs in one basket.'
- 2.40 There are two primary elements to the allocation. The first is land for up to 5,100 houses in the plan period and a neighbourhood centre, school, community facility, country park and health and leisure facilities. The second aspect is the release of 116Ha of land adjacent to the M56/M6 storage/distribution and industrial uses (B8, B1c and B2). The allocation effectively uses the majority of the land between the town and the M6/M56, with an employment estate proposed just off the junction at the corner of the two motorways. There are current applications/appeals ongoing in relation to the employment land parcels.

Need to explore alternatives

- 2.41 Paragraph 35 b) of the NPPF confirms that a draft policy is only sound and justified, if it has taken into account reasonable alternatives. As explained above, the wording of the draft allocation policy MD2 precludes the majority of construction in the absence of substantial highways improvements, for which as far as we are aware, funding has not yet been secured. This factor could significantly constrain the supply of the required employment land.
- 2.42 In light of this, it is plain that the Council must now properly and fully re-consider alternatives which have less constraints to delivery. This is a particular concern because the starting point for the consideration of sites previously promoted through the Call for Sites exercise was in parts, incoherent in its assessment and took an over-simplified approach.
- 2.43 It appears that in the case of the land off Cherry Lane, which was promoted by the individual landowners (but not as a block), the Council did not undertake its duty set out in NPPF paragraph 119 to *"identifying opportunities to facilitate land assembly, supported where necessary by compulsory purchase powers, where this can help to bring more land forward for meeting development needs and/or secure better development outcomes."*
- 2.44 If genuine key alternative sites are not reviewed and reconsidered prior to submission of the plan for examination, we would raise concerns in relation to this matter, which ultimately affect the soundness of the plan. An evaluation of an alternative site is offered for consideration below, demonstrating that it is suitable, available and deliverable.

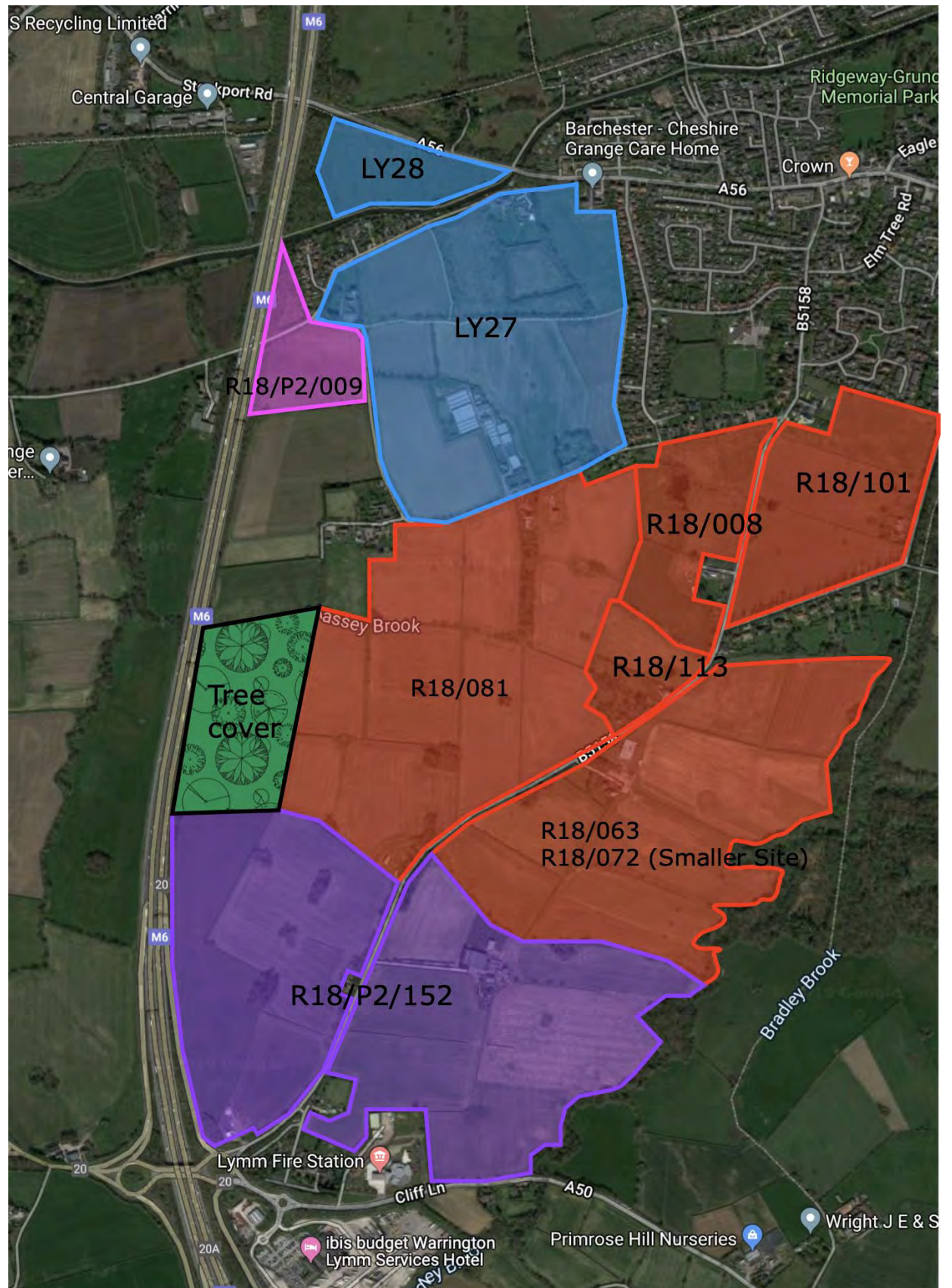
Previous consideration of alternatives was inadequate

- 2.45 There is clearly developer/landowner support for an alternative spatial vision of the south east of the borough, in particular for the land situated east of the M6 around Cherry Hall Farm. Unfortunately, however, previous consideration of it was somewhat piecemeal.
- 2.46 Evidence within the Site Assessment Proformas submitted to the Call for Site shows that the evidence base for the current site allocations was compiled over a protracted period by two different parties (one by the Council, one by external consultants). It was completed over a period of around 18 months in a disaggregated way. As noted above, the Council made no known attempts to facilitate assembly of an alternative cohesive site allocation to compare its performance against the obviously preferred Garden Suburb Option. Indeed, if the Garden Suburb were considered in a piecemeal way, it too would have received a cold response.

See Green Belt parcel refs map overleaf.

- 2.47 The Green Belt Review site assessments and Site Assessment Proformas (collated for the relevant parcels in Appendixes to this report) do not fairly assess the contribution made when the wider site is taken as a whole. Instead the Council's assessment reaches fairly generic conclusions about the parcels of the land when each is considered independently. It suggests for example, that smaller parcels make strong contributions to Green Belt Purposes when this could not be said to be the case if considered as a broader allocation.
- 2.48 We contend that this style of approach is a good example of the limited scope of assessment undertaken of the wider potential for a combined site. If parcel ref. R18/P2/152 were to be included, the development of the combined land would become coherent with permanent ground features. This changes the assessment considerations considerably and further assessment of the site as a whole should be undertaken to fulfil the requirement of adequately examining all reasonable alternatives to the selected approach.
- 2.49 Our client, Brenrun Ltd is the freehold owner of 44ha (1/3) of the proposed allocation but it is noteworthy that all but one of the parcels east of the M6 were actively promoted for development by the respective landowners in the Call for Sites. It is thus realistic that a consortium agreement could be reached to deliver the allocation on a co-operative basis.
- 2.50 Taken together, the parcels concerned make up a substantial site, capable of meeting the housing and employment needs of the area in a sustainable location with good access to the major road network, local services and ready access to Warrington as a whole.
- 2.51 Given the positives, allocation of this area of land warrants reconsideration as an alternative.

Illustrating showing Call site for Sites parcel refs ©Google Earth:



N.B – Bradley Brook forms the borough Boundary

Summary of objections to draft policies

- 2.52 In short, from the evidence observed, cashflow versus infrastructure delivery costs does not appear to have been considered in any detail and equally, the scale / nature of the highways infrastructure improvements does not appear to have been explored sufficiently either.
- 2.53 In summary, our client OBJECTS to the draft policies because
- a) Certain aspects of Allocation MD2 require review and the whole of Allocation OS8 should be omitted from the plan. It should be replaced with a more spatially appropriate alternative that has more durable and well-defined physical boundaries.
 - b) Allocation MD2 is likely to suffer development delay as a result of unknown and un-costed infrastructure improvements. As a consequence, the number of homes built and employment land provided in the first 5 years of the plan will be lower than forecast. The plan is not effective and justified;
 - c) Allocation MD2 aspires to deliver an average of 360 units per annum across nine simultaneous outlets. This is 50% higher than the national average. The draft plan's delivery rate is unrealistic and as a result the number of homes built in the last 15 years of the plan will be lower than forecast. The plan is not effective and justified;
 - d) Given the likelihood of under delivery, a meaningful review of genuine alternative sites is required; this should include assisting with site assembly as explained in NPPF paragraph 119.
- 2.54 As a result of the above factors, we would strongly question the deliverability and effectiveness of the plan to achieve the required quantum of development during the plan period, which in turn undermines its ability to fulfil the delivery of sustainable development. At present, we consider the plan is unsound contrary to NPPF paragraph 35.
- 2.55 A consortium site involving the land around Cherry Hall farm has clear positive potential for the long-term deliverability of housing and employment land. It occupies a spatial position with comparable and similar impacts to those resulting from the Warrington Garden Suburb being proposed by policy MD2. However, it will be delivered more quickly due to lesser infrastructure requirements. Contributions towards infrastructure provision will be secured to ensure that Lymm's infrastructure/services can support the level of growth.
- 2.56 This is presented as an alternative spatial vision for this part of the borough as shown below.

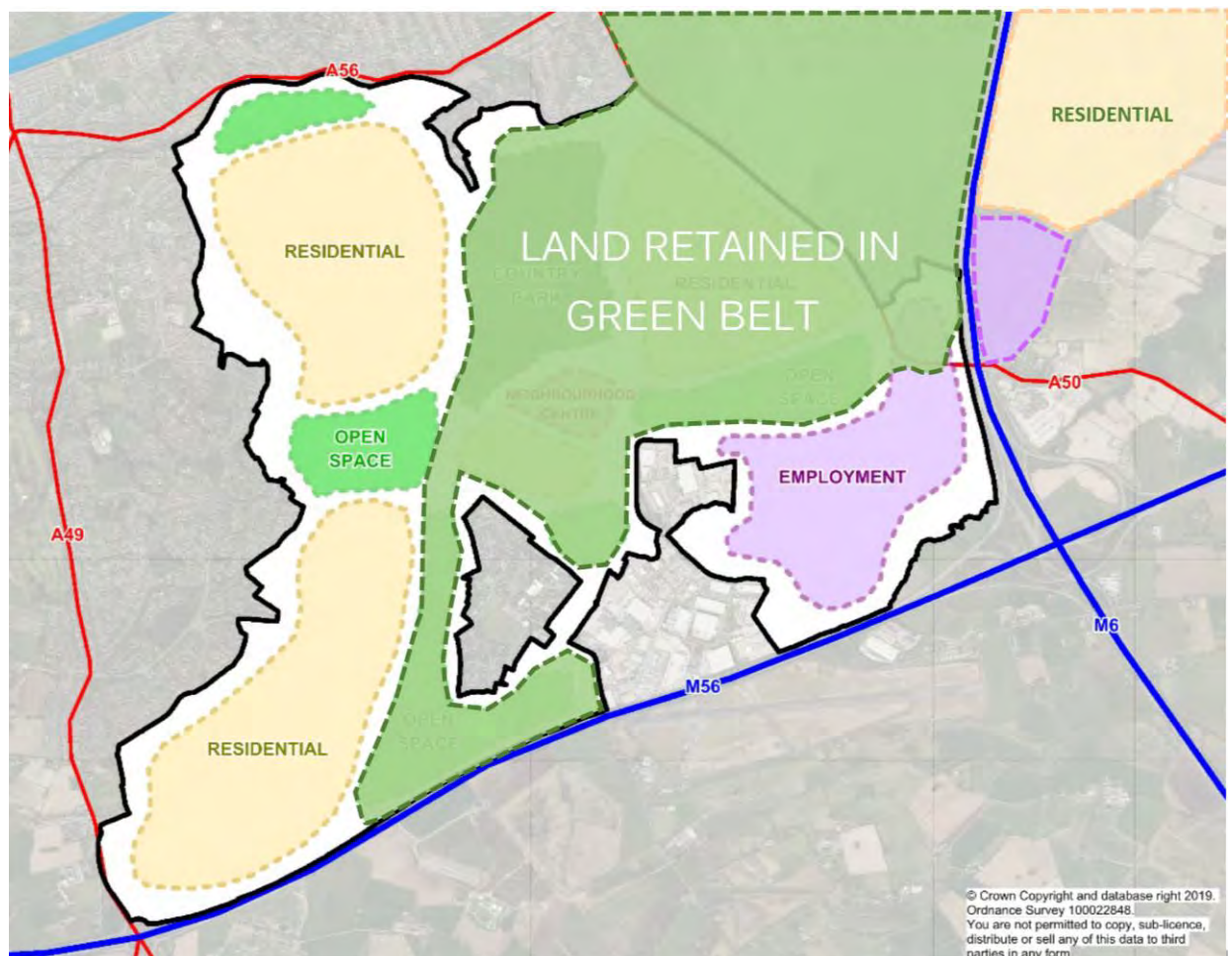
3. 'LYMM GARDEN VILLAGE' - AN ALTERNATIVE SPATIAL VISION

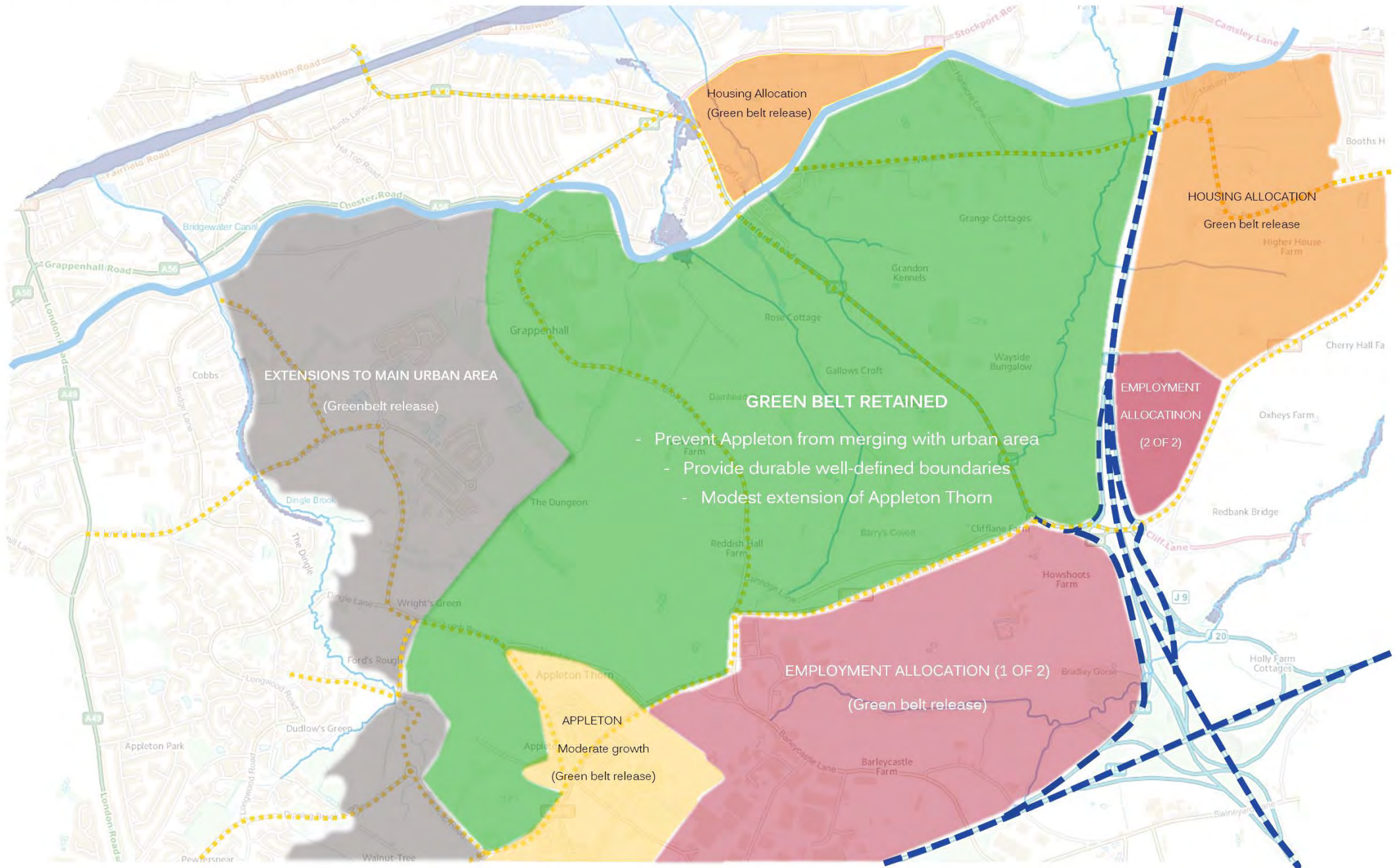
3.1 The NPPF requires that *'the strategic policy making authority should be able to demonstrate that it has examined fully all other reasonable options for meeting its identified need for development'*. The above commentary sets out the need to devise an alternative spatial vision for the borough to ensure delivery of the local plan objectives on time. In particular, consideration should be given to smaller settlement expansions which are less critically reliant on major highways improvements prior to the commencement of development.

3.2 We submit that the creation of the Lymm Garden Village on land at Cherry Lane/Booths Lane represents a realistic and deliverable alternative which should be fully considered prior to submitting the draft plan for adoption. Spatially, it can be justified equally to MD2, but the relatively smaller scale of the site compared to the major garden suburb will allow the site to be more delivered quickly and ensure that development comes forward in a comprehensive manner that preserves and enhances the natural environment.

3.3 The alternative vision for south east Warrington

Lymm Garden Village:



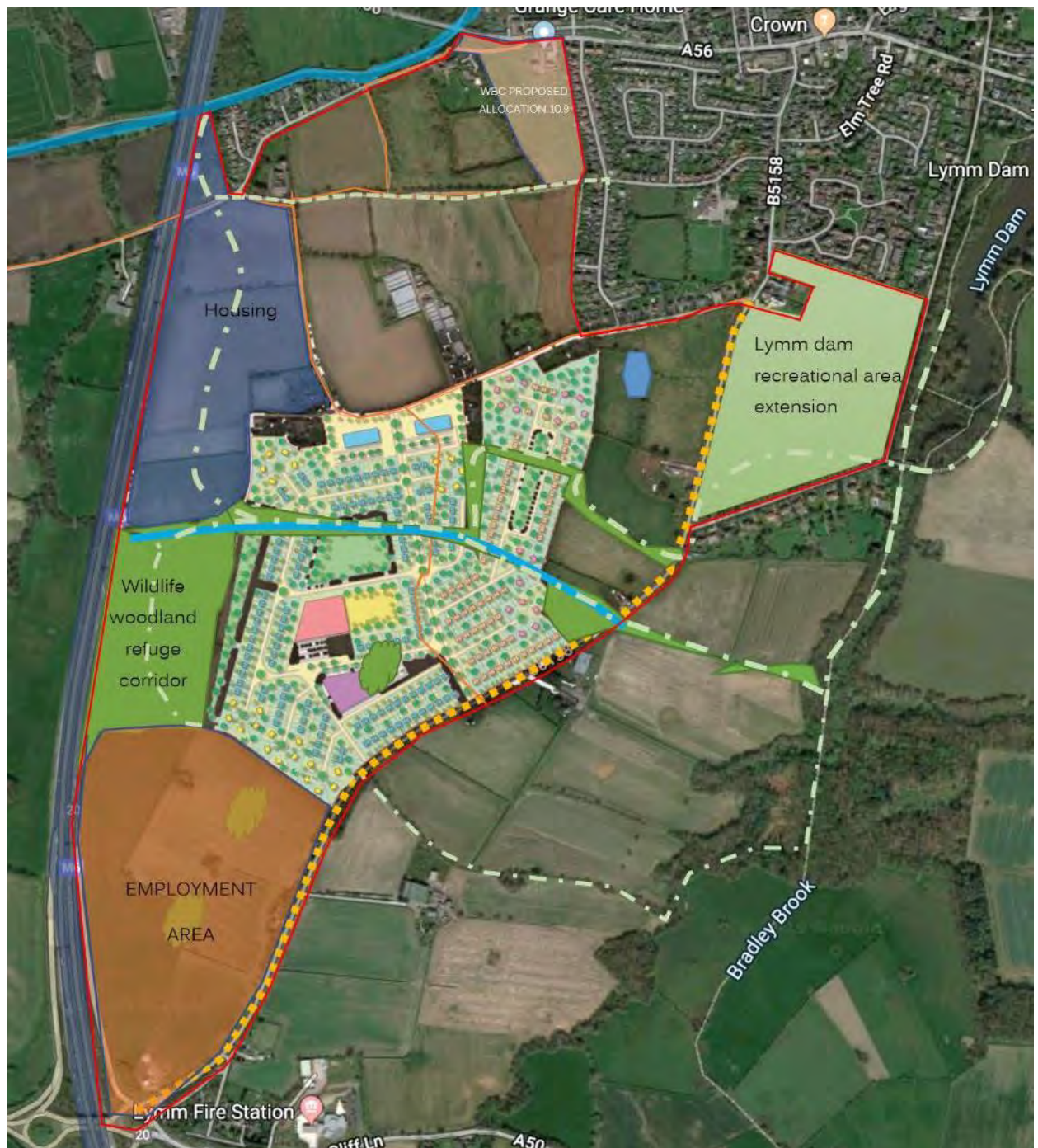


- Prevent Appleton from merging with urban area
- Provide durable well-defined boundaries
- Modest extension of Appleton Thorn

Spatial concept for the Lymm Garden Village

- 3.4 The following section introduces a substitute spatial vision for the borough and raises the concept of the Lymm Garden Village as a meaningful alternative to parts of allocation MD2.
- 3.5 Additionally, to the alterations to policies explained above, a bespoke site allocation "MD5" is sought to deliver it. The allocation covers 132.8ha of land to be delivered in two phases over the plan period (with a safeguarded portion) as explained in detail below.

Proposed development and local area context plan:



Overall allocation site capacity

- 3.6 Master planning work for the proposed allocation has been undertaken for the proposals, concentrating primarily on Phase 1 of the Lymm Garden Village and employment land area.
- A new garden village (900 dwellings, inc. 36% affordable housing);
 - School, nursery; retirement living accommodation, medical care and amenities;
 - East/West recreational green corridor and link to Lymm Dam recreational area;
 - 23.8hectares of employment land with direct access to the M6.
- 3.7 In indicative detail, it comprises:
- 23.8ha of B-Class Employment land** within use classes B1c); B2 and B8. With an emphasis on the emerging market of large format logistics. The proposals would help meet an identified regional need for distribution warehousing for premises between 4,500 and 9,000sq.m GIA, such as that developed elsewhere in the region at Omega North (Warrington). It would additionally give support to the existing BP Lymm Poplar Services which offers a range of ancillary services including refuelling;
- 40ha of housing land (Phase 1 of the Lymm Garden Village).** Land North/North West of Cherry Lane) would provide circa 416 dwellings (36% affordable); Care home - 2,631sqm; School / Nursery - 6,721sqm; Pub / Restaurant - 1,446sqm and Shops – 2,115sqm.
- Up to 24ha of recreational land, wildlife habitat and green infrastructure** and landscape corridor providing woodland and aquatic habitats with an extension link to Lymm Dam recreational area offering integration and enhancement of existing public footpaths, woodland walks, cycle trails and improvement of Massey Brook;
- 16ha of housing land (Phase 2 of the Lymm Garden village).** Land at Booths Lane/Booths Hill Farm would provide an additional 480 dwellings together with additional green infrastructure, public open space and links to canal side cycling/walking paths alongside the Bridgewater Canal which connects to parts of Warrington, Cheshire, Manchester and Liverpool and the Mersey Path beyond.
- 29ha of safeguarded land.** Land north of Cherry Lane/East of Booths Lane, with an indicative capacity of 800 dwellings for future development needs beyond the plan period.
- 3.8 It additionally incorporates Allocation OS5 (Massey Brook Lane) which is a proposed for allocation for 60 dwellings and should include improvements to PROW Footpath No.00193.



Core hub of the Lymm Garden Village

- 3.9 Master planning for the proposed allocation MD5 has been undertaken, concentrating primarily on Phase 1 of the Lymm Garden Village and the M6 employment land area. Our client has confirmed their commitment to ensuring a comprehensive form of development and they consider the delivery to be achievable in-line with a national average delivery trajectory.

Illustration of Lymm Garden Village, Phase 1:



- 3.10 The proposed site is accessed via new access points to/from Cherry Lane, which is a classified (B5158) single carriageway two-way local distributor road connecting Junction 20 of the M6 and Lymm Village. It is subject to a 50mph speed limit.

4. SUITABLE, AVAILABLE AND DELIVERABLE

- 4.1 The proposed Lymm Garden Village site offers the opportunity to provide development of the same type as MD2, but in a parcel separate from the wider Garden Suburb. This is a significant benefit in terms of deliverability because the site could be brought forward swiftly without the same extent of delays or costs for infrastructure works.
- 4.2 Moreover, the lower infrastructure costs and short-phase delivery would give several house builders access to the market more quickly and the higher values in the area would enable the provision of 36% affordable housing across the allocation. This compares to 30% in MD2.
- 4.3 The following section sets out how and why the proposed allocation is suitable, available and deliverable. It considers and analyses the potential constraints together with providing third party consultant evidence/reports demonstrating the absence of constraints or how such constraints can be readily overcome. It considers location; access and highways; topography; landscape; heritage; coal mining risk; flood risk; land quality; noise; and ecology.

Constraints evaluation

Location

- 4.4 The location of the proposed garden village will ensure good access to existing services in Lymm neighbourhood centre and major existing employment areas in Warrington Town Centre, as well as the proposed employment area within the site and in the Garden Suburb.
- 4.5 The site is sustainably located close major transport routes and when considered as a whole, the combined Cherry Lane site is justifiable in terms of Green Belt release as explained by the green belt assessment below.

Highways implications of the development

- 4.6 The site is in close proximity to Junction 20 and 20A of the M6, Junction 9 of the M56 and the A56. These are key transport nodes and serve to enhance the efficient and effective distribution of traffic on the highway network. The site does not benefit from proximity to a rail connection but links via road based public transport would be likely to form a component of any formal Transport Assessment Improvement Measures.
- 4.7 Subject to such measures, it is concluded that transport capacity would not pose a significant impediment to development of the site.

See accompanying transport statement Ref DY190380

Topography

- 4.8 The site lies adjacent and to the southwest of Lymm and to the immediate northeast of Junctions 20 and 20A of the M6 and in close proximity to Junction 9 of the M56. The site is agricultural land with an area of forestry plantation close to the M6 boundary at the west. The site is relatively level throughout, although it falls away slightly to the south/south-east.

Coal mining risk

- 4.9 The site is not known or suspected to be subject to past coal mining legacy and is located outside of the Coal Mining Reporting Area. As such no risk is apparent from past coal mining legacy that could affect site stability or development costs.

Landscape and visual impacts

- 4.10 The site is within the Red Sandstone Escarpment local character area (3b Massey Brook). This area covers a large amount of land with varying features and sensitivities. Generally, it is reasonably well-wooded with a diversity of features in the landscape, including small ponds, ridges, knolls and incised stream valleys. The agricultural landscape including hedgerows appears generally well-maintained and the area presents an attractive rural quality.
- 4.11 Without mitigation a development of this scale would result in a significant change to landscape character. However, this is inherent with any major development site, as is flexibility in terms of layout, design and landscaping provision. Such matters would need to be considered in detail as part of a formal Landscape Visual Impact Assessment but given tree screening and woods are apparent already in the landscape, it is highly likely effects upon the landscape can be adequately controlled by appropriate mitigation planting.

Noise

- 4.12 A noise survey has been conducted for some of the land within our client's ownership. It identifies that the dominant noise source is the M6 motorway and as would be expected for any development in this location, consideration will need to be given to ensuring appropriate mitigation. Despite this, noise is not anticipated to be an impediment to the proposed development as it is expected that the proposals can be made to comply with paragraph 180 of the NPPF, the Noise Policy Statement for England and Local plan policy QE6.

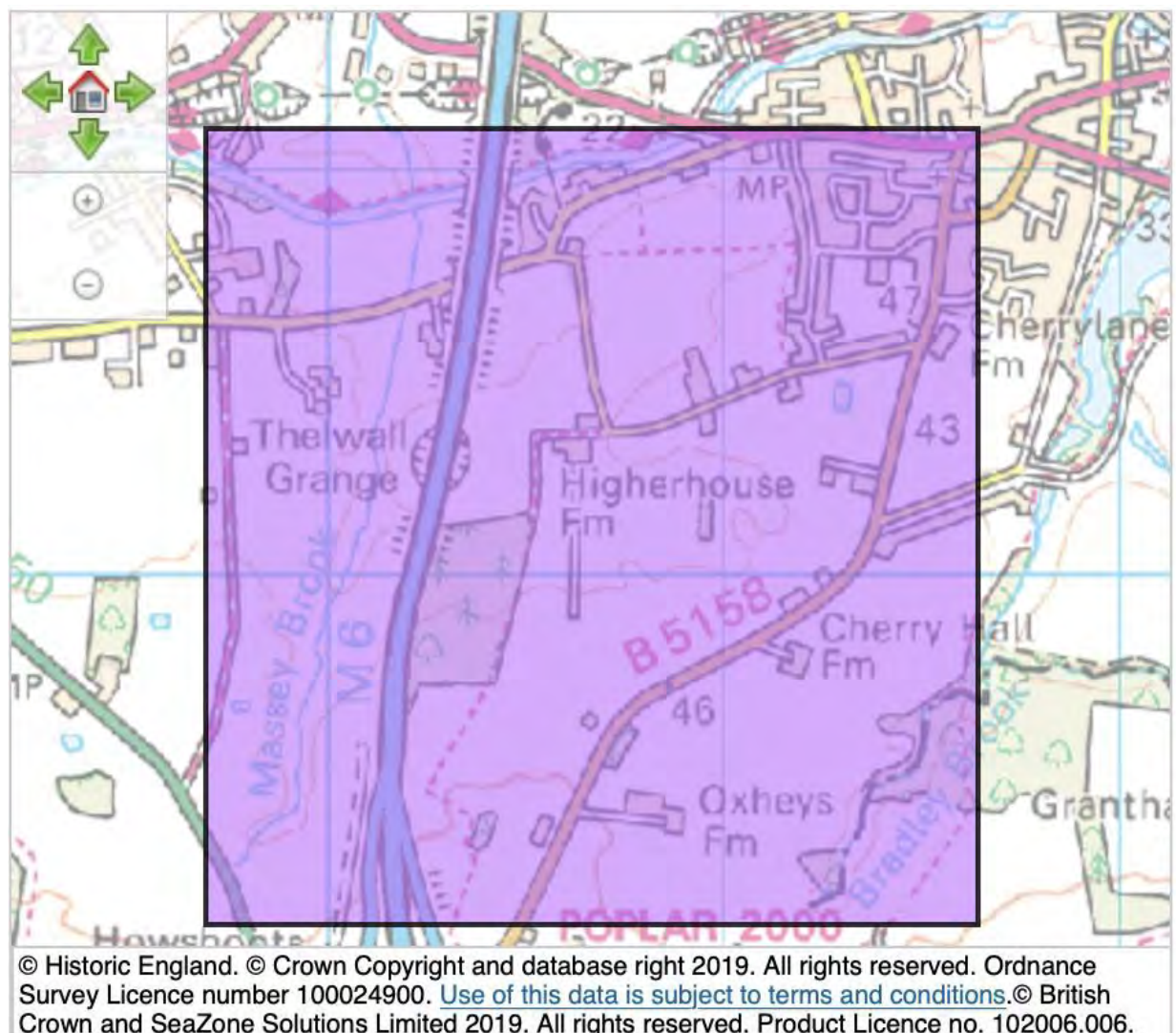
See noise report ref J0018083031WSC03

Contamination

- 4.13 The land is agricultural land that is not known to have been subject to previous development. As such no known sources of past contamination are known or expected.

Heritage

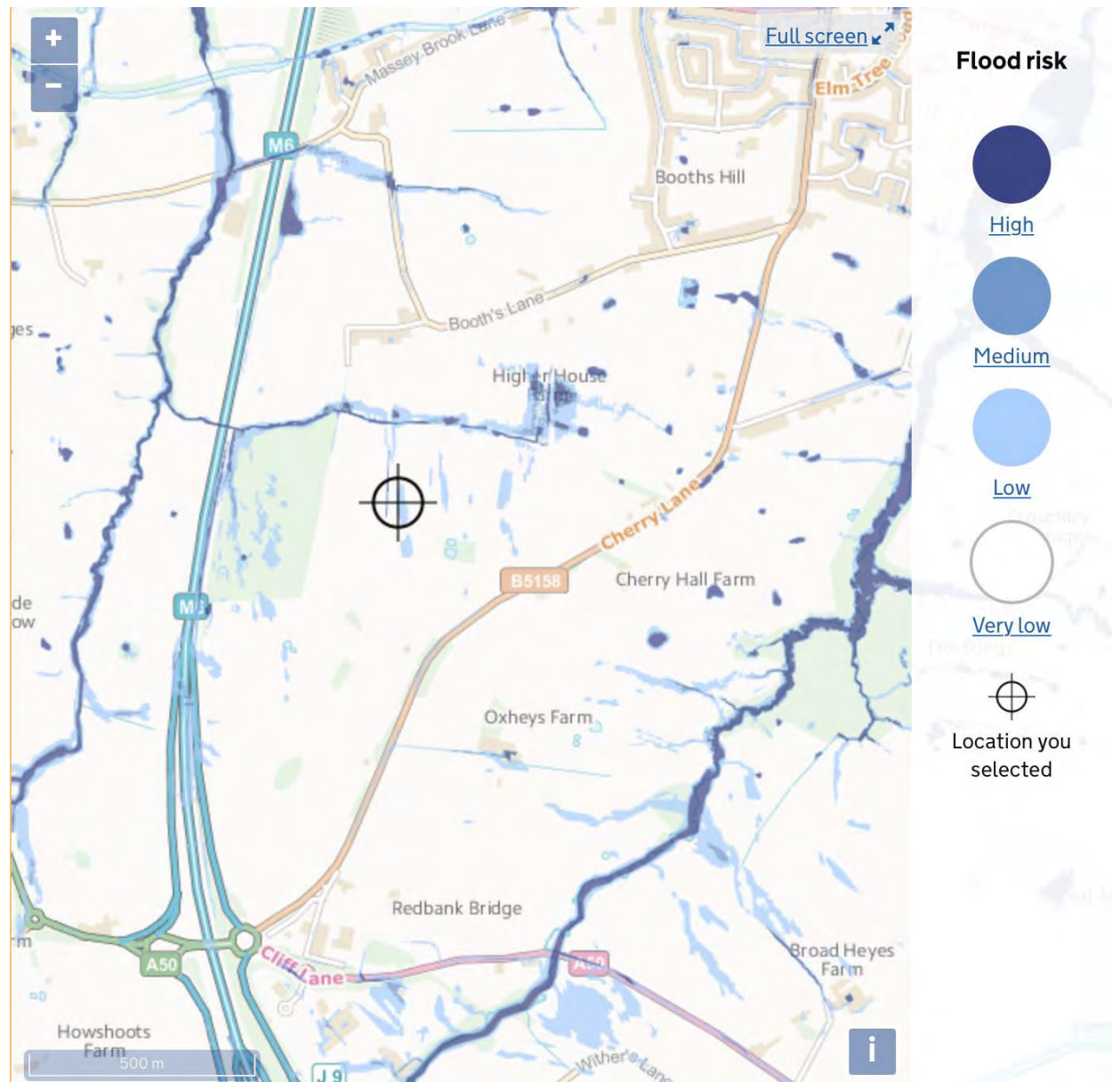
- 4.14 Within an approximate 500m search buffer around the application site, it was found that 2 No. Listed Buildings and 1 No. Archaeological investigation record existed in proximity of the site. In the case of the listed buildings, these are located within the main Lymm settlement to the east of the application site. The buildings would not be seen in close association with the proposed development and the setting of the buildings, could not be reasonably said to be affected by the proposals.
- 4.15 The archeological record found relates to an area at the very northern tip of the site and relates to what is believed to have been a 1970's archeological excavation in relation to a Roman Road. Further investigation would be warranted to establish the nature and extent of any further features, but given the location of the road, appearing to head west towards Warrington centre, it is likely that the nature and extent of the Archeological interest is limited in terms of its coverage across the site. Accordingly, this is not expected to be a substantive limiting consideration in terms of future site development.



Flood Risk

4.16 The site is within Flood Zone 1 in relation to flood risk from rivers and sea, which is the lowest risk. In relation to surface water flooding, the site exists where some localised surface water flooding is apparent around the existing Massey Brook but covers only a small portion of the site and is not considered likely to act as an impediment to development of the site. It is proposed to meander the watercourse and for this to form part of a wider ecological network as well as an attractive village centre.

Extract from Flood Risk for planning Map ©Environment Agency:



4.17 Given the scale and flexibility conveyed by the large site, the site is not considered vulnerable or at risk of flooding from various sources. As such flood risk would not be a significant constraint to future development.

Affordable housing and infrastructure

- 4.18 In light of the higher land values in Lymm, land values being on average higher than the remainder of the region or Warrington town, the proposal is expected to be able to deliver 36% affordable housing and fund appropriate infrastructure where needed. The greenfield and relatively unconstrained nature of the site will enable delivery early on in the Plan period.

Air Quality

- 4.19 It is accepted that nationally there is an aim to reduce nitrogen oxides, particulates and sulphur dioxide emitted by vehicles. Whether such considerations are relevant to a proposal will depend on the nature of proposals; in particular whether it will generate new sources of pollution and if local air quality is already poor.
- 4.20 In this case, the site is not within an Air Quality Management Area and as such, the location is less sensitive to new emissions, but it is adjacent to the M6 Corridor which is a known AQMA. Similarly, to other sites in close proximity that would contribute to an uplift in vehicles using the area, a formal Air Quality Assessment would need to form part of any planning application. It is also envisaged that as part of a package of mitigation measures, both an emphasis on electric vehicles and providing accommodation associated with working in the employment area associated with the proposals, would form a means of reducing air quality impacts.

Ecology

- 4.21 A green corridor of ecological improvements in/around the area of Massey Brook is proposed (see plan overleaf). An interim Phase 1 ecological assessment has been undertaken for some of the land within our client's ownership. A fuller report will be needed to build on the survey work already undertaken, however, the site is not subject to any known ecological constraints that would hinder development.

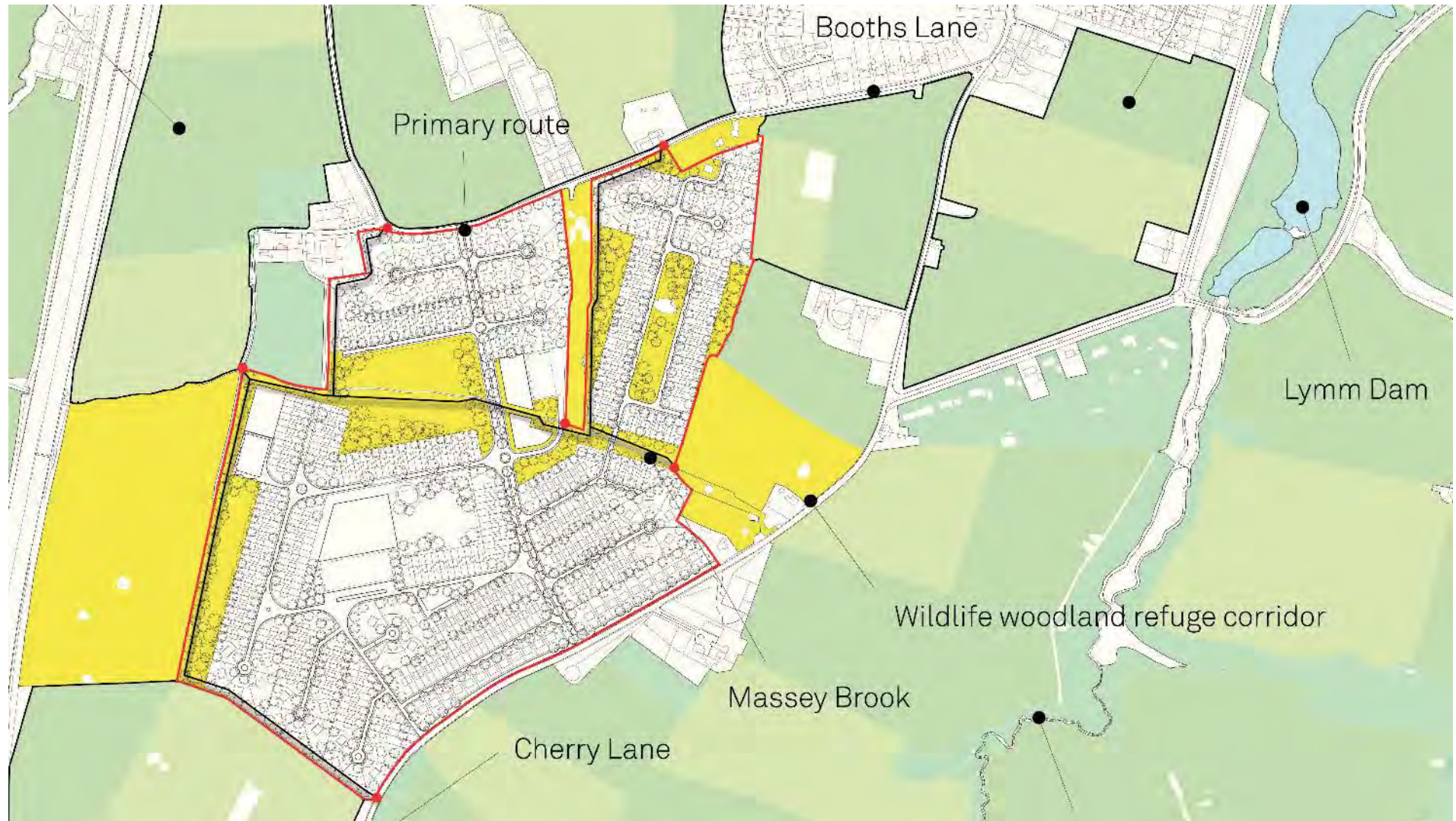
See Phase 1 interim ecology report P.1093.18


See ecology network/green corridor improvement plan

Conclusions on deliverability

- 4.22 Excluding Green Belt considerations which are considered in the following chapter, the site concerned is shown to be suitable in terms of its spatial position close to Lymm, with good access to the transport network and few functional constraints that would hinder development. The site is available in terms of its potential for development given the willingness of the landowners concerned to progress development of the site. The site is achievable for development to make good progress within the next five years and need not await the outcome of protracted discussions in relation to wider infrastructure provision.

Plan showing ©FCH Architects:



 Ecological improvement/integration areas inc. wildlife woodland corridors and nature trails.

 Nature Trails/walking routes within Phase 1

5. GREEN BELT SITE ASSESSMENT

5.1 It is submitted that the proposed Lymm Garden Village, when taken as a cohesive block of land (rather than evaluated simply as individual parcels) would be well-defined on all boundaries and its release from the green belt would not cause fundamental harm. Certainly no more so than the proposed release of green belt land as set out MD2 in any event.

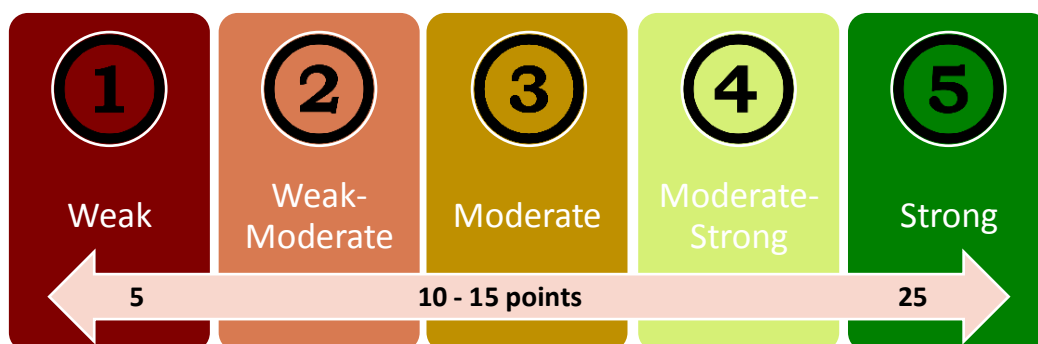
5.2 The green belt serves five purposes which are set out in paragraph 134 of the NPPF. Whilst the current site is currently within the adopted green belt, it is submitted that the whole site makes only a Weak-Moderate contribution when scored against the five greenbelt purposes.

Objective scoring matrix

5.3 When the five green belt purposes are considered on their merits and assessed against a competent scoring matrix (as is commonly used and described below), the contribution a site makes to green belt purposes can be scored to provide an empirical basis upon which to determine whether or not to retain the green belt designation. Where an overall score is *Strong* that is an indicator the green belt designation should be retained. Where an overall score is *Weak*, this is an indicator the green belt designation should be removed. Additionally, where policy objectives can be achieved through other policies, such as those protecting public open space, a green belt designation would not usually be required and it should be removed as part of a green belt review.

5.4 The following scoring matrix is adopted for the purposes of this assessment.

Fig.11 - Methodology for green belt scoring:



N.B - Red (low score) denotes a weak performance against the relevant greenbelt function, whereas green (high score) denotes a strong performance against described function.

5.5 Where a site reasonably performs a role against all of the five green belt purposes, the maximum score available would be '25'. Conversely, the minimum score would usually be '0' in instances where a site makes no contribution at all to one or more of the five defined purposes, a "0" score can be given. The site is scored against this matrix and is shown overleaf.

Green Belt Purpose	Commentary	Strength	Score (out of 5)
<i>To check the unrestricted sprawl of large built-up areas</i>	The Site as a whole has well defined boundaries, by the M6 motorway on the west; the Lymm settlement to the east and north and the B5158 Cherry Lane to the south. Of particular note, is that the western site boundary is very durable and robust against future sprawl of Lymm westwards. The borough boundary lies approx. 400m to the east at Bradley Brook.	Weak-Moderate	2
<i>To prevent neighbouring towns merging into one another</i>	There are no other nearby towns which the land prevents from merging with one another. The position of Warrington centre to the west beyond the M6 motorway effectively precludes any outlying areas from merging together. No other settlements nearby could reasonably be said to be protected by the land in question. Hence the land does not perform any role in meeting this purpose.	None	0
<i>To assist safeguarding the countryside from encroachment</i>	The land performs its strongest role in this category being that save for farmsteads, approximately 90% of the site is currently open agricultural land which is unoccupied by buildings.	Moderate	3
<i>To preserve the setting and special character of historic towns</i>	Whilst Lymm itself is an historic town, the site does not contextualise or preserve its setting. Releasing the land for development would not affect the <i>special character</i> of any nearby towns. The land does not perform any role in meeting this purpose.	None	0
<i>To assist in urban regeneration by encouraging recycling of derelict and other urban land.</i>	The land could theoretically assist with this purpose, by retaining it in the green belt development is notionally first directed to derelict and urban land. However, to accommodate the scale of growth and housing delivery sought (noting the consideration of reasonable alternatives), the site performs a weak-moderate role in meeting this purpose.	Weak-Moderate	2
	OVERALL SCORE	WEAK/MOD	7

- 5.6 In conclusion, the assessment finds that the site scores 7 points out of a possible 25 points and as a consequence, it makes an overall *Weak-Moderate* contribution to the five green belt purposes. In particular, it makes no contribution at all in two of the five areas and makes only a weak to moderate contribution in a further remaining two.
- 5.7 The moderate contribution made to the 'preventing encroachment' purpose must be considered in the context of the wider justification for green belt release. In this respect, it is important to note that a much greater release is proposed by the Council through their allocation known as the Warrington Garden Suburb. This represents a substantially greater green belt release than would be required in the case of the current site and is said to be justified on the basis of the wider long term sustainability credentials conveyed by that site.
- 5.8 In conclusion, removing the site from the green belt would not fundamentally undermine any of the green belt purposes. We submit that given the requirement to review green belt boundaries and the proposed allocation in policy MD2, the principle of releasing green belt land for future development has been established.
- 5.9 The Lymm Garden Village represents a realistic and plausible alternative to help meet the housing and employment needs of the borough.

6. NEW SITE ALLOCATION

6.1 The following section brings all of the above commentary together, seeking alterations to policies GB1; DEV1; DEV4; MD2; OS8 and creation of a new policy allocation given ref. "MD5".

6.2 MD5 (NEW) Site allocation:

NEW Policy MD5 – Lymm Garden Village

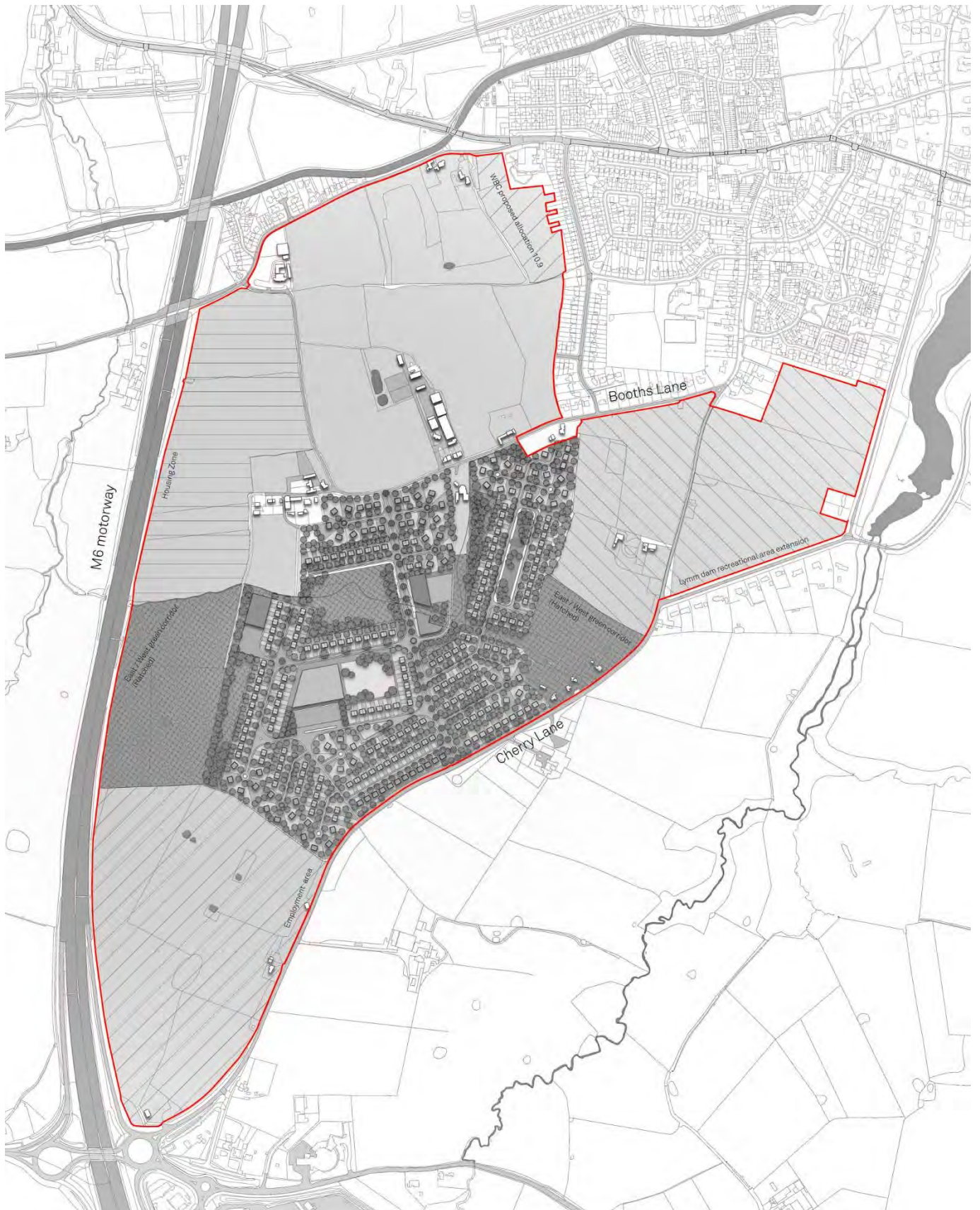
MD 5.1 Key Land Use and Infrastructure Requirements

1. Land comprising approximately 132.8 hectares at Lymm will be removed from the green belt allocated to deliver a new sustainable community of around 900 new homes, 23ha of employment land within use classes B1c); B2 and B8 supported by the following range of infrastructure:
 - a. A range of housing tenures, types and sizes, including a minimum of 35% affordable homes, custom and self-build plots and a residential care home (Use Class C2)
 - b. A one form entry Primary School with additional operational land to allow the expansion to a two-form entry Primary School;
 - c. A mixed use Local Centre providing a range of units within Use Classes A1, A2, A5, B1 and D1;
 - d. Junction improvements and new highway connections linking the development to the Local Road Network, and highway works to the Strategic Road Network, as agreed by the Council and Highways England;
 - e. Providing bus priority features such as bus gates to ensure that the internal site layout allows efficient servicing by bus services with good access to key facilities and direct links to the external network;
 - f. An internal cycling and walking network (with links to the external network) which helps to create accessible neighbourhoods which minimises the need to drive to key facilities such as shops and schools;
 - g. The provision of a Sustainable Drainage System (SuDS), in accordance with the Council's adopted (or subsequent updated guidance) Sustainable Drainage Systems (SuDS) Design and Technical Guidance (December 2017);
 - h. A contribution towards additional secondary school places;
 - i. A contribution to deliver bus services to connect to the development to the Town Centre and other key destinations; and
 - k. Provision of a comprehensive network of open spaces within the development to serve the new community and the wider Lymm area and in accordance with the Council's open space standards;

MD 5.2 Delivery and Phasing

2. The Council will require the preparation of a detailed masterplan for the development of the site, together with a delivery strategy and phasing plan in order to ensure the comprehensive and coordinated development of the site as a whole by the end of the plan period.
3. The masterplan must confirm to the requirements of Policy MD5, be informed by a Green Infrastructure Strategy, a site wide Surface Water and Foul Water Strategy and a Transport Assessment, agreed with the Highway Authority. It should also be subject to consultation with statutory consultees and the local community.
4. The masterplan will provide the basis for subsequent planning applications for individual phases of development.

Proposed Allocation "MD5" ©FCH Architects/County Planning Ltd:

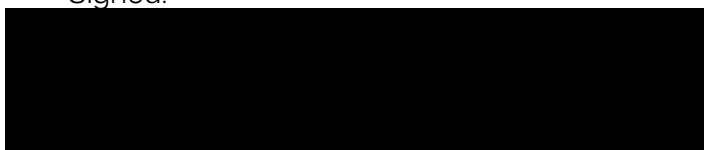


Ordnance Survey Licence No. 100060904

7. CONCLUSIONS

- 7.1 This document is a representation to the Warrington Local Plan review draft Submission Version consultation (June 2019). These representations are submitted on behalf of Brenrun Ltd who are the freehold owners of land east of the M6.
- 7.2 The representation OBJECTS to policies GB1; DEV1; DEV4; MD2 and OS8 on the basis that the plan is unsound because:
- a) **Likelihood of slower delivery than forecast means the plan is not effective.** A wider diversity of site allocations is needed to deliver the requirements over the plan period;
 - b) **Green belt harm created means that the plan is inconsistent with national policy.** Allocations MD2 and OS8, as drafted, would create fundamental harm to the green belt and/or fail to use durable and physical boundaries which will be permanent in defining the extent of the green belt. They are thus contrary to NPPF paragraphs 134 to 138;
 - c) **Alternatives have not been fully considered, meaning the plan is not justified.** Reasonable alternatives have not been thoroughly explored for south east Warrington.
- 7.3 It proposes that to overcome these vulnerabilities, the policies should be amended, and a new Garden Village allocated on land south west of Lymm, together with employment and safeguarded land. It submits that the relatively increased land values and lower infrastructure costs will increase the speed of delivery and enable the provision of 36% affordable housing.
- 7.4 A range of technical reports, evidence and information together with master plans for both the wider site area and Phase 1 of the Lymm Garden Village are provided in support of a request for a bespoke allocation given reference "MD5".
- 7.5 We would ask for the Council's thorough consideration of the proposals and would be pleased to engage with you to progress the plans explained.

Signed:



Dan Matthewman LL.B (Hons) MSc ACILEx MRTPI

Director



W. www.countyplanning.co.uk



PLANS/DOCUMENT SCHEDULE

The list of submitted plans and documents is as follows:

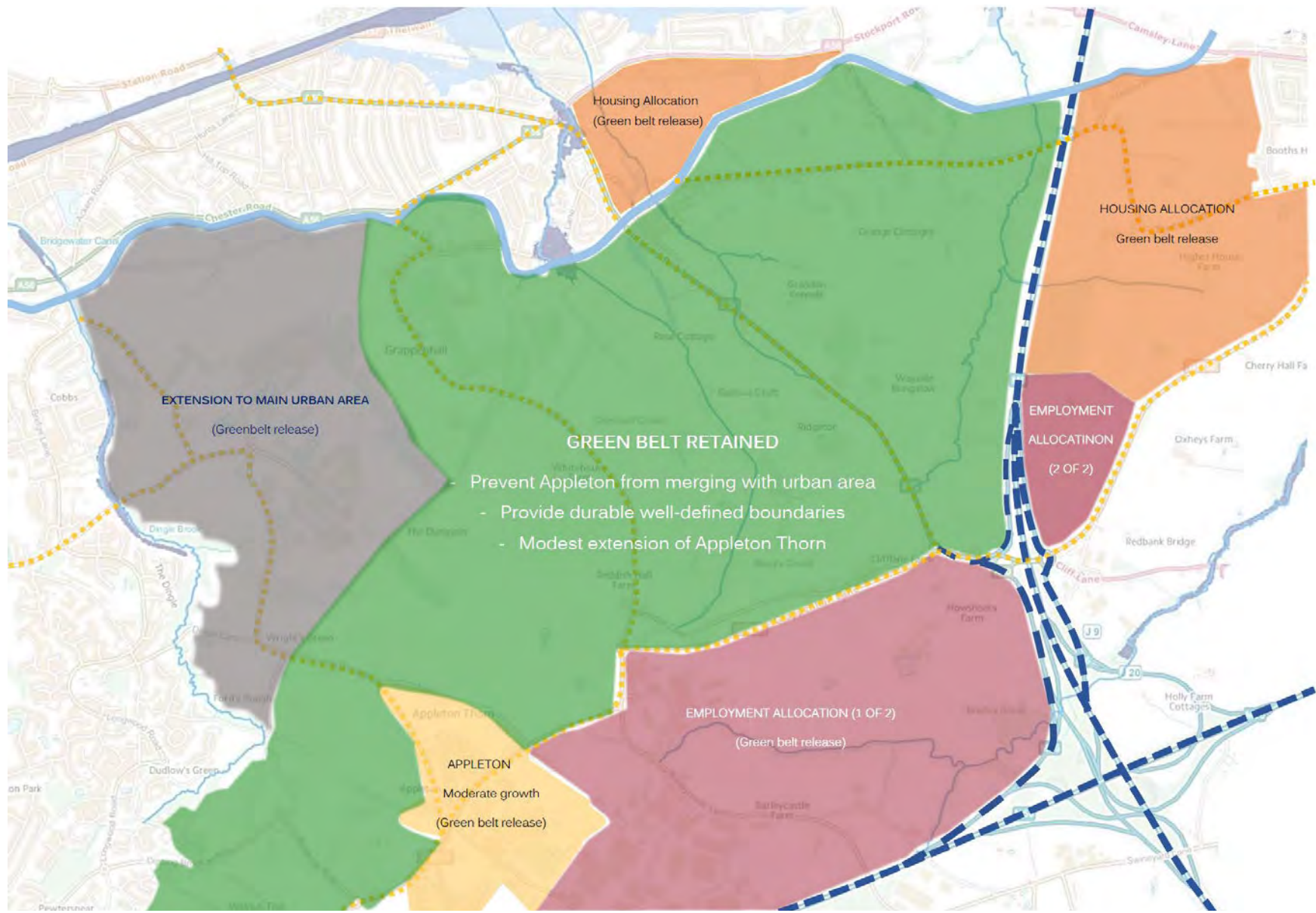
DESCRIPTION	PLAN/DOCUMENT REF.
Garden Village Masterplan	APPENDIX A
Phase 1 Masterplan	APPENDIX B
Alternative Site Assessment Proformas	APPENDIX C
Draft policy wording (Allocation MD5)	APPENDIX D
Transport supporting statement 13.06.19	DY190380TN01
Interim Ecology appraisal	P.1093.18
Interim Noise report	J0018083031WSC03

Potential housing and employment land, Warrington

DY/190380/TN01 - 13 June 2019

1. SCP have been appointed by Brenrun Ltd to oppose the Council's plans to deliver their objectively assessed housing need and employment land supply, in part through the development of a single major site known as the Garden Suburb (formerly known as the South Warrington Urban Extension area (SWUE)) under the emerging Local Plan policy MD2
2. The SWUE proposes development of up to 5,100 homes and a new major employment location of 116ha on land situated west of the M6 and north of the M56, covering areas between Stretton, Grappenhall Cross, Appleton and Stretton Green Distribution Park. It is proposed that there are three garden villages comprising extensions of existing settlements.
3. In opposition to the plans, Brenrun Ltd are proposing an alternative spatial vision of the south east of the Borough, one which relies less heavily on major infrastructure delivery, agreements with Highways England and attraction of funding streams.
4. Whilst some improvement works would be required, as an alternative a potential "quick win", a garden village site is proposed on land south west of Lymm directly off Junction 20 of the M6. The proposed alternative allocation would, allowing the Council to make early progress in delivering the housing needs, whilst buying time to secure the resources and infrastructure approvals needed to deliver the SWUE site.
5. The overall alternative spatial portrait proposes leaving areas of land in the green belt to prevent settlements from merging, whilst allowing for strategic green belt releases closer to the urban area together with employment allocations at either side of the M6 junction 20.
6. This Highway Statement provides a high-level review of the relative strengths and deliverability of the two sites from a highway and transport infrastructure point of view.
7. Both sites are centred on the M6 junction 20, one on the east side and the Council's preferred site on the west. Each site will need to look at the impact on the operation of the M6 motorway, although the approach to J20 is from different directions.
8. This report then recommends that both sites be taken forward, reducing delivery risk and enabling early delivery of a significant part of the Council's housing requirements. On the next page the alternative spatial vision is illustrated.

Alternative spatial vision being promoted:



Cherry Lane Site – Employment, Housing and greenspace

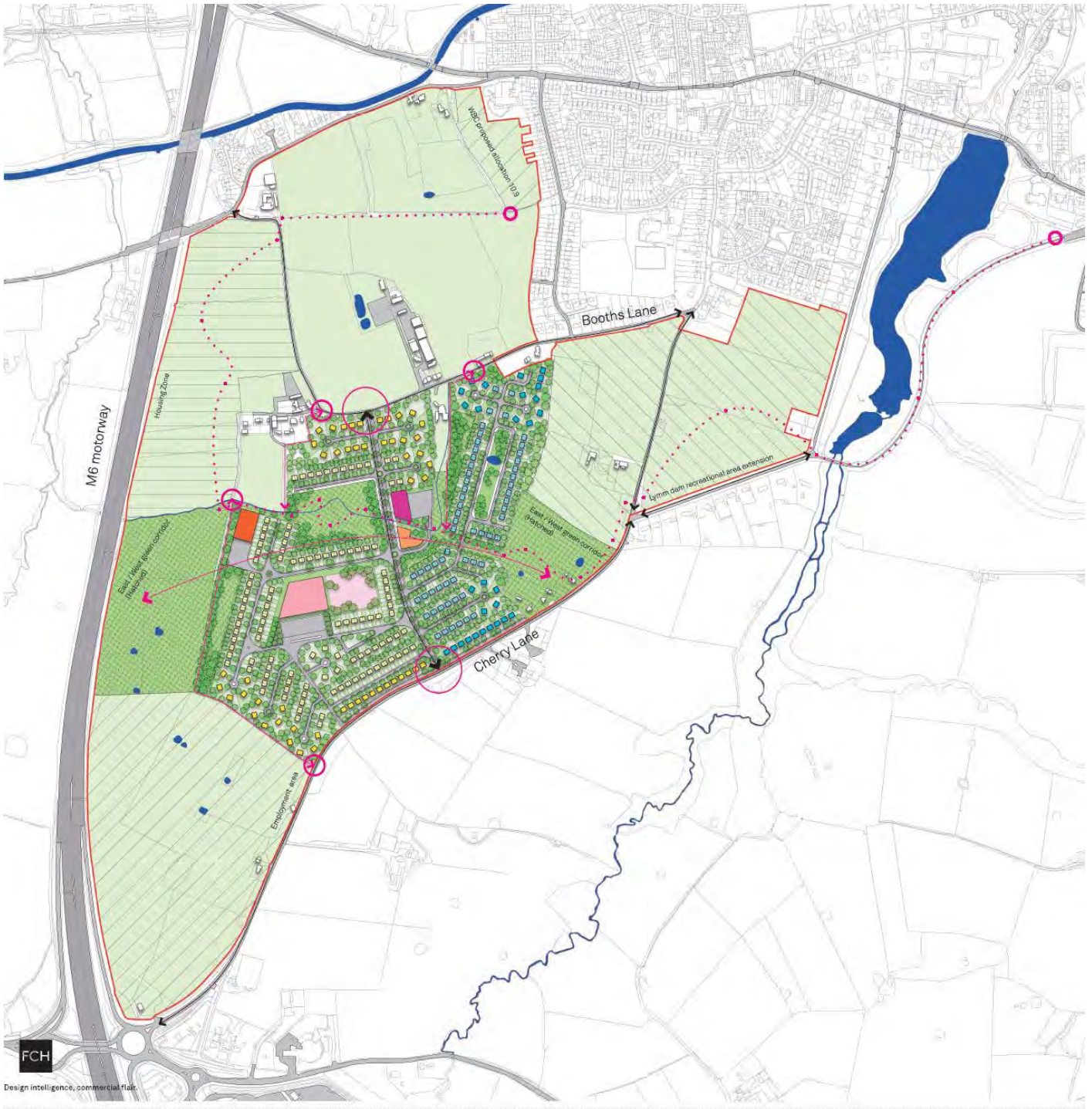
9. As illustrated above, the client is promoting a mixed-use housing and employment site in the eastern side of the M6 south of the A56 and to the west of the B5158, with a significant element of wildlife and enhanced recreational open space through the extension of Lymm Dam recreation area. The site has access to the motorway network at junction 20 of the M6.
10. The proposals comprise circa 132.8ha of land, developed in three phases over the plan period:
 - 23.8ha of B-Class Employment land, B1c); B2 and B8. With an emphasis on the emerging market of large format logistics and some ancillary uses. The proposals would help meet an identified regional need for distribution warehousing for premises between 4,500 and 9,000sq.m GIA, such as that developed elsewhere in the region at Omega North (Warrington). It would additionally give support to the existing BP Lymm Poplar Services;
 - 40ha of housing land. Phase 1 of the garden village (North/North West of Cherry Lane) would include 416 dwellings (36% affordable); Nursing - 2,631sqm; School / Nursery - 6,721sqm; Pub / Restaurant - 1,446sqm and Shops – 2,115sqm.
 - 24ha of wildlife green corridor providing woodland and aquatic habitats with a major extension to Lymm Dam recreational area offering integration and enhancement of existing public footpaths, woodland walks, cycle trails and improvement of Massey Brook;
 - 16ha of housing land. Phase 2 of the garden village (Booths Lane/Booths Hill Farm) would provide an additional 480 dwellings together with additional green infrastructure, public open space and links to canal side cycling/walking paths alongside the Bridgewater Canal which connects to parts of Warrington, Cheshire, Manchester and Liverpool and the Mersey Path beyond that.
 - 29ha of safeguarded land (north of Cherry Lane/East of Booths Lane) with an indicative capacity of 800 dwellings for future development needs beyond the plan period, if required.
11. Plans showing the potential development areas are attached, overleaf. The plans also show the site in relation to the local road and public rights of way networks. These demonstrate that the site is accessible and well connected.
12. The site is accessed via new access points to/from Cherry Lane, which is a classified (B5158) single carriageway two-way local distributor road (bifurcating at its northern end) and in the vicinity of the existing site access points is subject to a 50mph speed limit. The carriageway is approximately 7m in width, there are no footways provided on either side of the road outside of Lymm. The scheme would include provision of pedestrian and cycle networks to access the site and provide enhanced connectivity to Lymm Village.

-
13. Cherry Lane provides access to a number of existing agricultural premises and serves the village of Lymm. Direct access is available north and southbound to the M6 and M56.
 14. The site already has good access onto the A56 and this provides supplementary access both east and west, and potentially north to M6 Junction 21 via Lymm and Warburton (via A57).

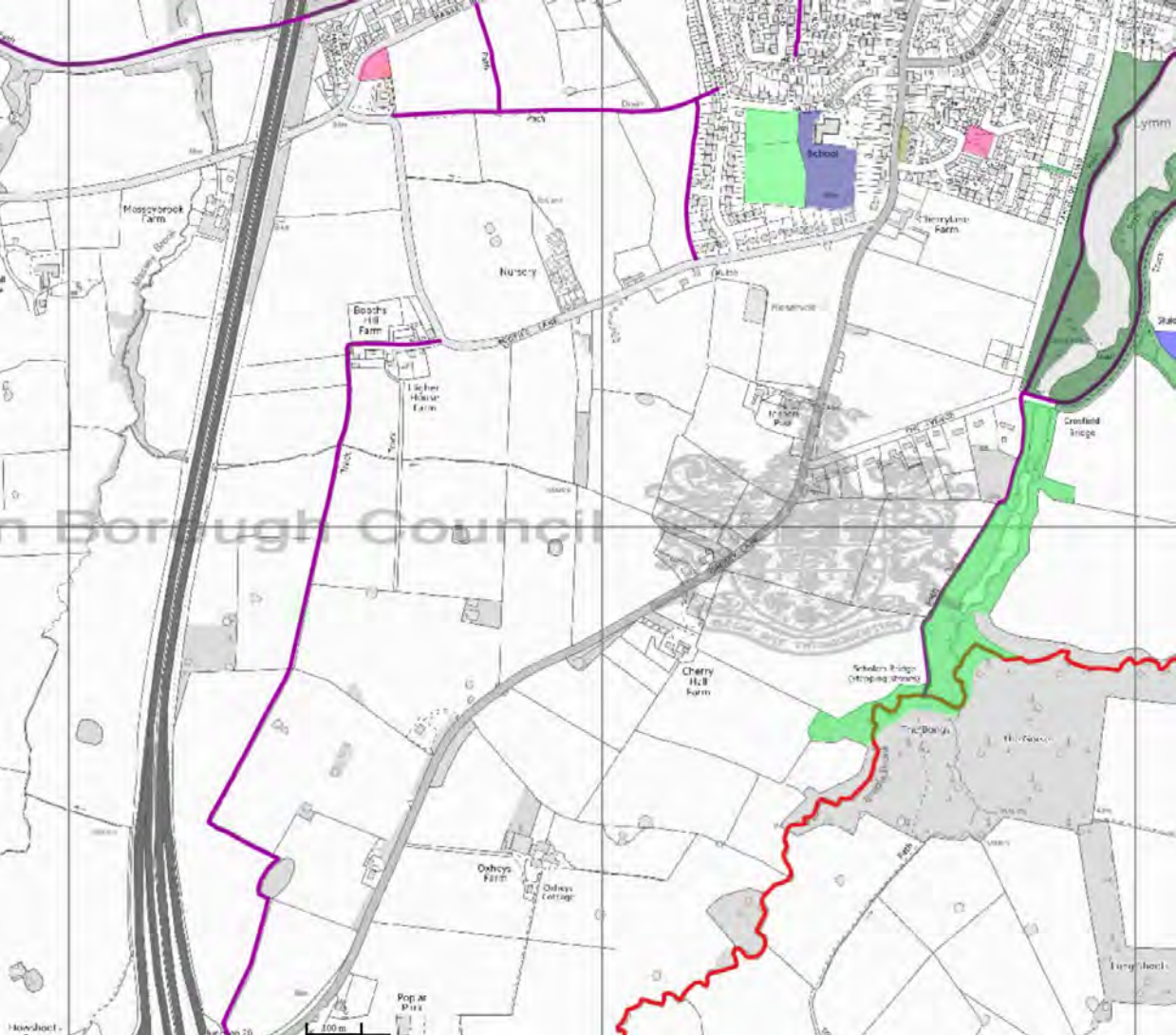
Proposed site masterplan



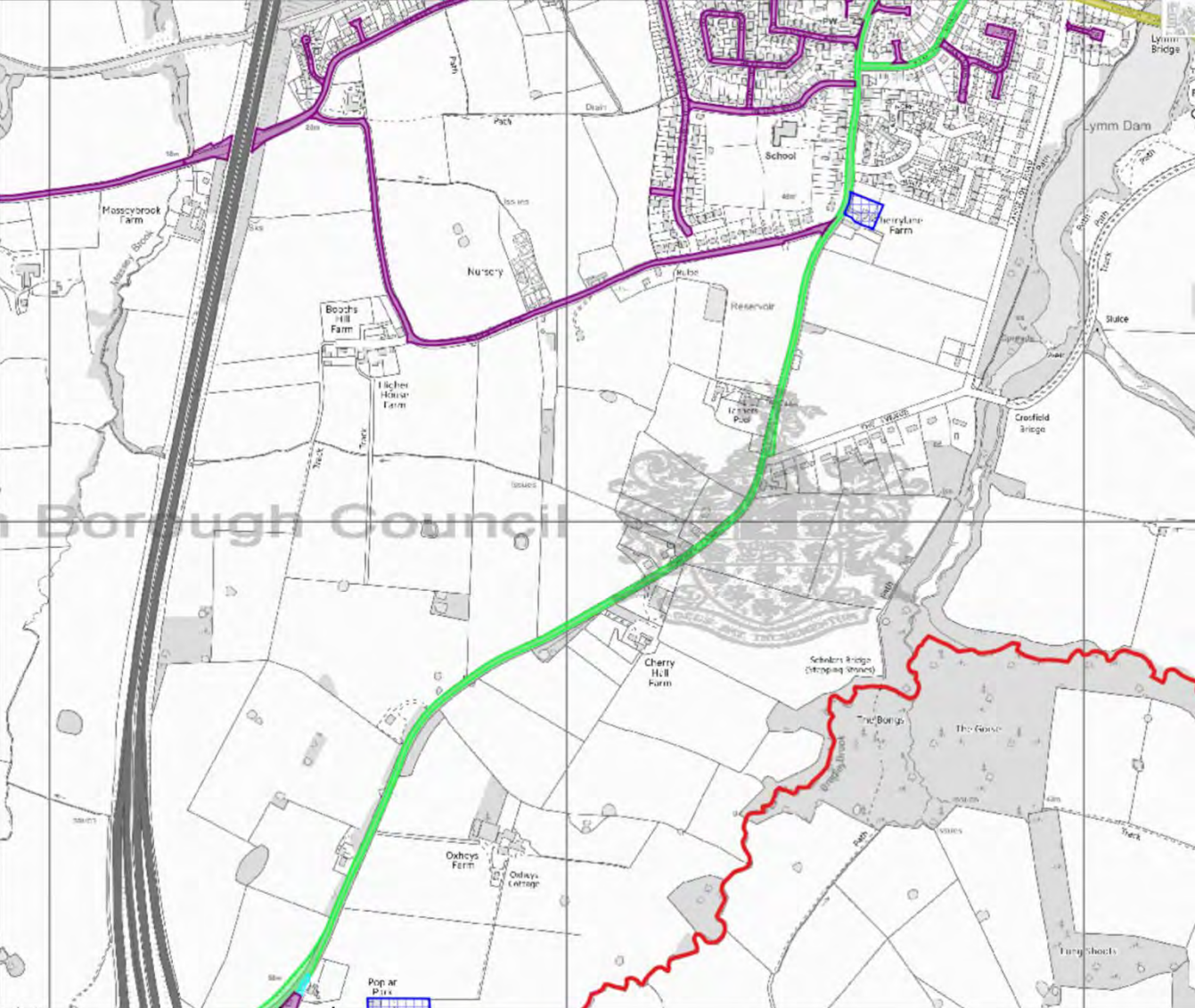
Proposed housing layout and connectivity



Existing public rights of way



Existing adopted road network



South Warrington Urban Extension area

15. The future housing and employment needs for the borough will be examined by a Planning Inspector. Having reviewed sites proposed by the Council and by third parties, the Council have developed a strategy based around the South Warrington Urban Extension area (SWUE). The relevant documents can be found on their website¹.
16. The shortlisting process included an assessment of the site by consultants AECOM. This study is entitled “South Warrington Urban Extension Framework Plan Document (Final June 2017)”.
17. The SWUE area is located in the north-west corner of the of the M6/M56 intersection, but can also be described as located on greenfield land to the south east of Warrington. The site has 1,227.8 Ha of developable land.
18. Whilst the site is well located with regard to proximity to the motorway network with access to the network at Junction 20 on the M6 and Junction 10 on the M56. The site connects to Warrington by a northwest/south east on Knutsford Road (A50) which is already congested at its crossing of the Bridgewater Canal and in Latchford. The area also has very little public transport provision and will require major investment to provide new routes.
19. To bring this site forward significant enabling infrastructure investment is needed. Para 2.4 of AECOM’s report says “it is clear that the road network in this part of Warrington cannot accommodate any further development traffic over and above that coming forward on non-greenbelt sites.” This means that for this area to come forward it will need:
 - Significant investment to open up such a large single site.
 - Substantial investment in a local network of bus services.
 - The local and Strategic Road Network will require substantial improvement to accommodate the new traffic generated by the proposed SWUE.
20. The site is also severed by a significant east/west oil pipeline corridor which will require protection.
21. To the north the Bridge Water Canal and Transpennine Trail (former rail line) restrict access to the A56, with the only current access being via Halfacre Lane, which is a restricted single width road which passes under a 9’6” arched bridge.
22. The Councils approach appears to be based on treating this site as a single whole, in reality the size of the site requires a more segmented approach. This is explored below.

¹ <https://www.warrington.gov.uk/info/201368/local-plan-2017/2347/local-plan-review---supporting-documents>

Discussion

23. Building on the above analysis, the following table compares the two sites

Issue	Cherry Lane Site	South Warrington Urban Extension
Strategic Road access	<ul style="list-style-type: none"> Access to M6 via J20, quieter leg of junction but will need review. Potential review of M56 junction 8 	<ul style="list-style-type: none"> Access to M6 via J20, via the busier leg of the junction will need review. Review of M56 junction 10
Congestion on local road network (see Appendix B)	<ul style="list-style-type: none"> Lower levels of existing congestion along main B5158 and A56. Local peak hour congestion at junction B5158 and A56. Junction will need review Network will need review and mitigation provided in key locations. Smaller development will have a more localised impact. 	<ul style="list-style-type: none"> Significant levels of existing congestion at: <ul style="list-style-type: none"> B5356/London Road A50/A56 A50/A5061 Church Lane/A56 Network will need review and mitigation provided in key locations. Council propose new link road with Canal crossing. Large development which will have an impact across a much wider area.
Road safety (see Appendix C)	<ul style="list-style-type: none"> There have been considerably less road accidents in the study area, however the study area is smaller. The ratio of different accident severities is the same between this and SWUE sites. 	<ul style="list-style-type: none"> There have been considerably more road accidents in the study area, the accidents however the study area is larger. The ratio of different accident severities is the same between the two sites.
Public transport (see Appendix D)	<ul style="list-style-type: none"> No network adjacent the site, but well served on A56, approximately 800m from the centre of the site to the north east> these services could be extended and/or a new bus route(s) provided which will require considerable pump-priming but will help people along Cherry Lane and adjacent areas too. The bus routes will help enhance the existing limited service in Lymm. The site is accessible to Warrington Central and Bank Quay Rail Stations. From the centre of the site it is 7.5km travel distance so is accessible by cycle and car/bus. Padgate station is only 6.5km away but is only realistically accessible by car using the motorway network. 	<ul style="list-style-type: none"> No network in the area, proposed new bus routes which will require considerable pump-priming. However as the area is much larger it cannot be assumed that bus access to and from all areas of the site will be comparable. The accessibility map shows access from all 3 residential parts of the site, but each area has limited access and presently there is no service linking the different site areas. The northern site is within reasonable travel distance to Warrington Central and Bank Quay Rail Stations, being just within 5km walk distance, but the southern parts of the site are in excess of .7.5km travel distance and the majority of the site can only access the bus station on bike or by car/bus. The Council's consultant lists a lot of bus services near this site, however their access is in fact very localised at best, given the scale of the site.
Access by walking/cycling (see Appendix E)	<ul style="list-style-type: none"> Proposed pedestrian and cycle routes will be provided through the site north/south and east west, including use of quieter roads like Weaste Lane and Massey Brook Lane The site is well connected to Lymm and local facilities. 	<ul style="list-style-type: none"> Cycle network is proposed which will link into adjacent residential suburbs and connect across the site areas. It is likely to take a while to build the network as this will be linked to the phasing of development.

<p>Ability to fund/deliver works (see Appendix F)</p>	<ul style="list-style-type: none"> • New connections to Lymm Dan recreation area and enhancement of existing footpath networks/routes • The higher value property coupled with the lower impact on the adjoining network means that the following works are affordable: <ul style="list-style-type: none"> ○ Mitigation improvements on the local road network ○ Mitigation improvements on the strategic road network (M6 J20) ○ Cycle/footpath network ○ Pump-priming bus services 	<ul style="list-style-type: none"> • The north of the site is well connected to local facilities, but less so to the south and east, until the local centre is provided. • The greater scale of impact on the road network including within urban Warrington, coupled with improvements at to motorway junctions and a larger network of bus services, mean that affordability issues exist. The following works are likely to require financial support, causing delivery delay: <ul style="list-style-type: none"> ○ Significant mitigation improvements on the local road network ○ Mitigation improvements on the strategic road network (M56 J10 and M6 J20) ○ Cycle/footpath network ○ Pump-priming bus network
<p>Speed of delivery</p>	<ul style="list-style-type: none"> • Soonest – limited landowners and higher land value meaning that the site coupled with lesser infrastructure works means this site is the most deliverable in the shortest timeframe. 	<ul style="list-style-type: none"> • A limited number of landowners but across an extremely large area with significantly greater impact, including mitigation of measures on the existing road network, coupled with new distributor roads with canal bridges etc. make this a much more expensive proposal to deliver. • The lower land values mean the risk of deliverability without financial support is significantly greater. The time to secure funding and make the Business Cases will significantly delay delivery.

CONCLUSIONS

24. The above assessment makes the case that both sites are deliverable and would be significant contributors to Warrington's housing and employment supply.
25. The analysis says that both sites have differing strengths and weaknesses, but that the SWUE site, being the larger, unsurprisingly requires significantly more investment to enable the site to be developed and mitigate its impacts on the local and strategic road networks.
26. The size of the SWUE site allows the accessibility by sustainable transport modes to be overstated. The site is very large and the 3 distinct garden suburbs are barely walkable. The Council's consultant's assessments states the case for such travel across the site, but does not disaggregate the accessibility by each of the 3 garden suburbs and employment site.
27. The SWUE site also requires a bridge over Bridge Water Canal, a Local Distributer Road and other access roads to open up the site.
28. The typical house prices surrounding Warrington are much lower than those in Lymm. This suggests that the SWUE site is less likely to be able to fund these more significant works.
29. The SWUE site whilst being larger, is very likely to need pump-prime funding to enable the significant up-front capital investment and the public transport network. This may be recoverable over the life of the site, but as the site will be delivered over a number of years the up-front costs are a barrier to the site taking off and being effectively delivered within the first five years.
30. This suggests that the SWUE site is much less able than the proposed Cherry Lane site to fund the works to deliver the site and as such is likely to require financial support, if only to cash-flow the up-front works and site phasing.
31. To secure Government financial support takes considerable time and investment in preparing Outline and Full Business Cases, securing finance and planning etc.
32. In contrast, the proposed Cherry Lane site is much more straightforward to deliver and has property and land values better able to support the lower (but material) infrastructure improvement costs. It is also in limited ownership, and was promoted by the landowners for development as explained in the accompanying development plan representation submitted by County Planning Ltd. It is considered as representing a much lower delivery risk and can be brought forward at an earlier date than SWUE if the allocation is supported.
33. **It is not a case of delivering one or the other site. Instead this Highway Statement makes the case that the Cherry Lane site can be delivered sooner, allowing the funding gap to be resolved for SWUE in the longer term and reducing the need for green belt released of land in sensitive locales. The advantage of the Cherry Lane site is speed of delivery early**

contribution towards the Councils 5 year housing land supply needs and employment land needs and it is in an equally sustainable location (and can be made more sustainable). It also includes significant recreational/amenity benefits.

APPENDIX A – WARRINGTON COUNCIL’S ASSESSMENT OF SITES

Cherry Lane

Local Highways Network No current significant issues during peak hours.

No current planned local highways improvements on Warrington’s Strategic Road Network other than routine maintenance and signal upgrades at junctions.

A sustainable settlement extension could potentially cause a significant increase in traffic levels and delays on the local highways network at peak travel times. This may be mitigated by selective local highways improvements or new routes depending on the specific sites brought forward.

Strategic Road Network Access to motorway network as follows:

- A56 west to A50 to M6 via J20, but potentially north via A57
- A56 east to A556 and M56 via J8

This scenario could cause a significant increase in traffic levels and delays at M6 J20 and M56 J8. This would require further empirical assessment by Highways England to gauge the exact level of the impact on the SRN and the future investment required to mitigate the traffic growth

Public Transport No rail station in Lymm. Nearest rail station is Warrington Bank Quay (20 minute’s drive) and Altrincham Interchange (20 minutes’ drive) Lymm has three main bus services within direct links to Warrington town centre and Altrincham:

- No. 5/5E Service (Half Hourly to Hourly) – Warrington to Altrincham
- No. 35 Service (Hourly) – Warrington to Altrincham (via Stockton Heath)
- No. 47 Service (Tues/Fri Only – Twice daily)) – Warrington to High Leigh

A sustainable settlement extension could help sustain local bus services and improve their potential for growth. The increased population may be of sufficient magnitude to support an additional bus service(s). This would depend on site location, design and availability of kick start funding.

Active Travel - Active Travel is clearly beneficial in terms of reducing the impact on the highway network as well as the obvious environmental, health and amenity benefits. More than twice as many people walk or cycle to work (7.1%) in this area than use the bus or rail, however, 77% of people in this area drive a car or van to work. Lymm has poor cycling and walking connections to Warrington town centre which constrains further expansion of these modes for commuting, although these mode are well uses for leisure and recreation and these assets can be improved upon as part of the proposals. Any transport strategies developed to support planned development proposals must allow for this important mode and provide the appropriate facilities and schemes.

An increase in travel demand towards Warrington, in particular to access retail opportunities not catered for within the garden village, would necessitate the consideration of new direct, attractive and segregated routes to cater for walking and cycling journeys.

The design and layout of any development should ensure that active travel opportunities are not compromised.

South Warrington Urban Extension

Local Highways Network - Peak hour congestion is experienced on the primary routes and this is exacerbated whenever there are incidents on the Strategic Road Network and/or there is a peak hour opening of the three MSC swing bridges.

There are no committed local highways improvements. However, the proposed Warrington Western Link will provide a new strategic link between the A56 and A57 and help to address some of the longer term travel demand issues expected to arise in this area. This scheme has secured development funding from the DfT's Large Local Major Scheme fund to allow the Council to develop an Outline Business Case during 2017.

Some parts of the local highways network is already under strain and new highway links would be required to support this level of growth. Further empirical investigation would be required to confirm the exact nature of the traffic growth impacts.

The proposed Warrington Western Link will provide a new strategic link between the A56 and A57 and will improve the local road network to the north west of the southern area. Whilst the scheme is not committed it has secured development funding from the DfT's Large Local Major Scheme fund to allow the Council to develop the Business Case and seek planning permission.

Strategic Road Network Access to the SRN is via J20 of the M6 using the A50, and J10 of the M56. There are no immediate proposals to improve these junctions or the adjacent link sections of the motorways.

Any significant increase in travel demand in this area could have an impact on the nearby entry points to the strategic highways network, particularly J20 (M6) and J10 (N56). The impact will also need to be considered in the context of the potential major employment site being considered at the junction of the M6/M56. However, further empirical assessment by Highways England will be required to gauge the exact level of the impact on the SRN and the future investment required to mitigate the traffic growth.

Public Transport The area is served by 9 bus services:

- No. 5 – (Hourly) – Warrington to Altrincham via Stockton Heath / Lymm
- No. 6 – (Half Hourly) – Thelwall to Warrington via Grappenhall / Stockton Heath
- No. 6C – (Sporadic) – Warrington to Cobbs Estate
- No. 35 – (Hourly) – Warrington to Altrincham
- No. 7 – (Every 2 hours) - Warrington to Hatton
- No. 8 – (Hourly) - Warrington to Hatton
- No. 9 – (1/2 per day) - Warrington to Appleton Thorn
- No. 45 – (Every 2 hours) - Warrington to Northwich
- No. 46 – (Every 2 hours) - Warrington to Northwich

The nearest rail stations are those in Warrington town centre (Bank Quay and Central).

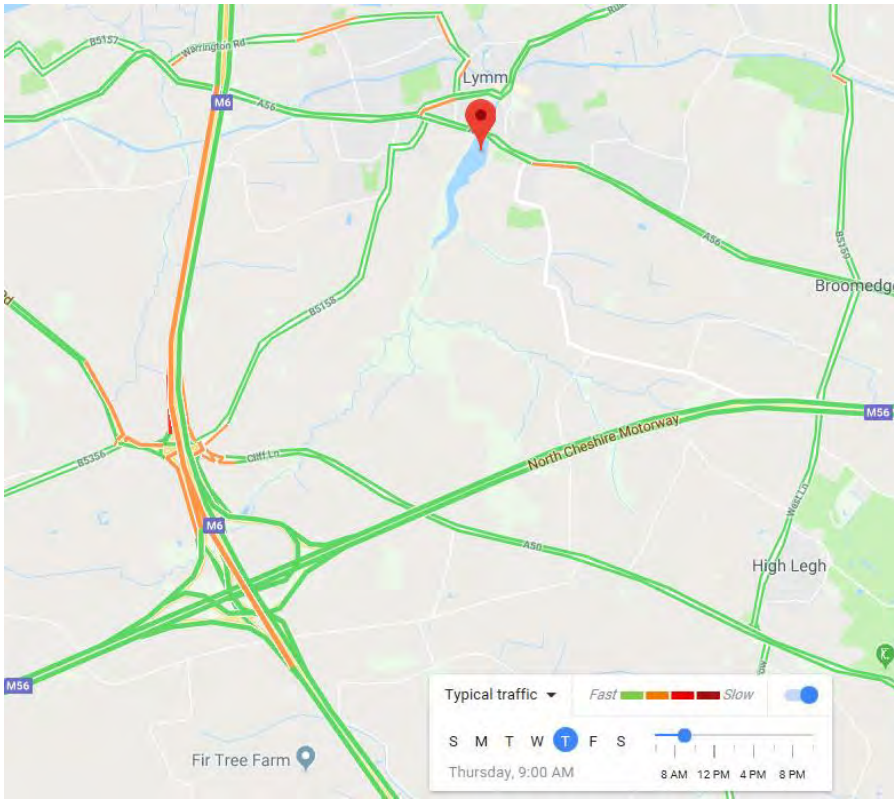
The major development scenario proposed would create an increase in the potential market for the local bus services serving this area. New bus links to the town centre with bus priority would help ensure their viability and attractiveness to future users. A strategy to encourage modal shift from car to bus will need to be in place and could be supported with appropriate bus priority measures and bus passenger facilities.

Active Travel More people walk or cycle to work in this area than travel by bus or rail; however, the largest mode of transport used to travel to work is a car or van, with over 75% of people in this area using this mode of transport. The numbers of people making active travel choices is quite low compared with other parts of Warrington and much of this is due to the general lack of attractive, walking and cycling routes to key destinations. Any transport strategies developed to support planned development proposals must allow for this important Active Travel mode and provide the appropriate facilities and schemes.

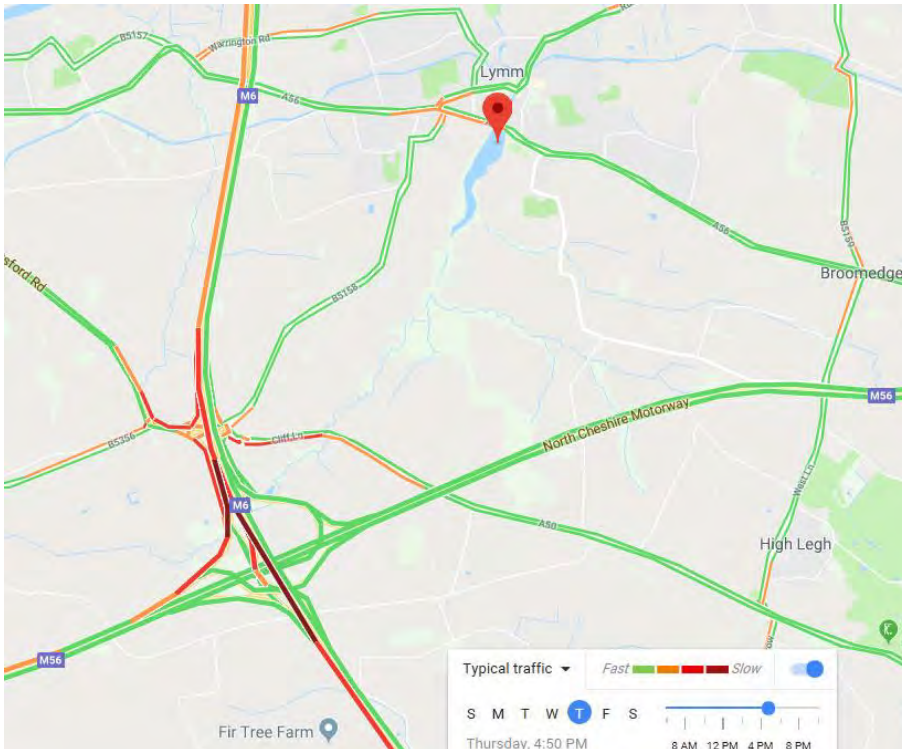
An increase in active travel demand in this area would necessitate the consideration of direct, attractive and segregated active travel routes to cater for walking and cycling journeys. The design and layout of any development should ensure that active travel opportunities are not compromised.

APPENDIX B – EXISTING PEAK HOUR CONGESTION ON THE NETWORK

Cherry Lane

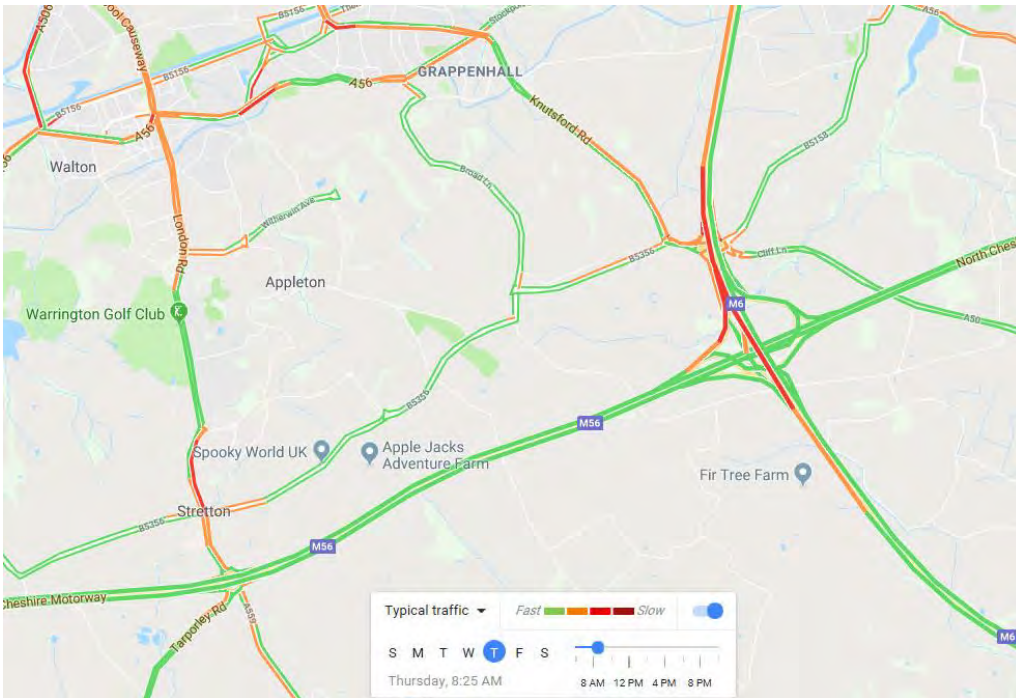


Weekday am peak – source Google Map ©

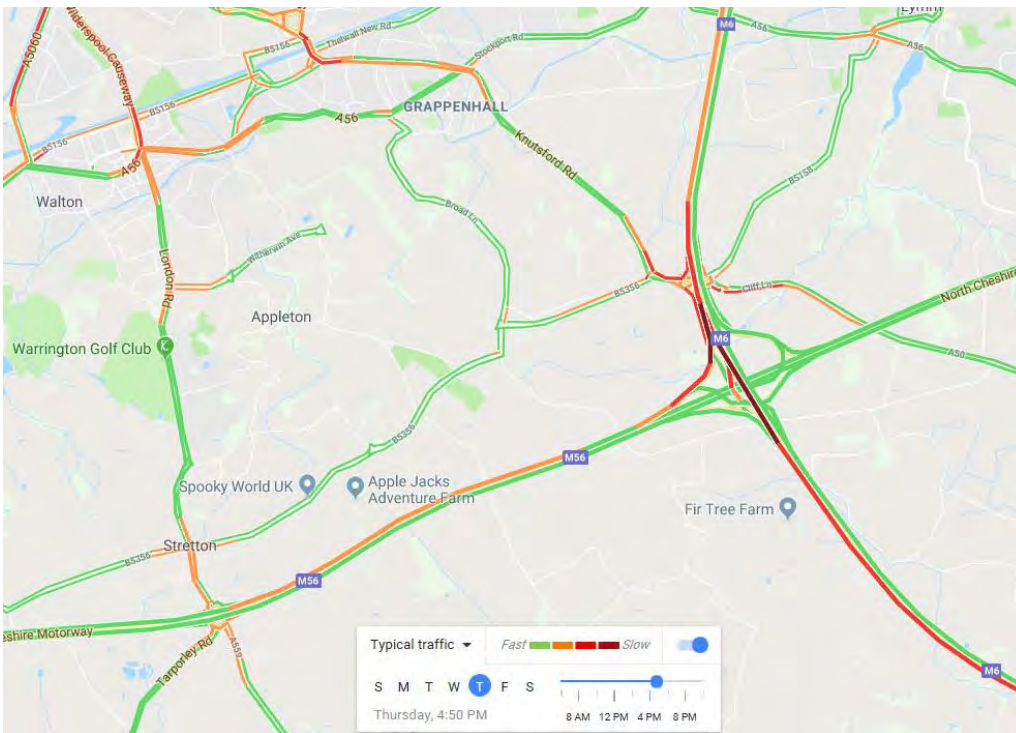


Weekday pm peak – source Google Map ©

South Warrington Urban Extension



Weekday am peak – source Google Map ©



Weekday pm peak – source Google Map ©

APPENDIX C - ACCIDENTS

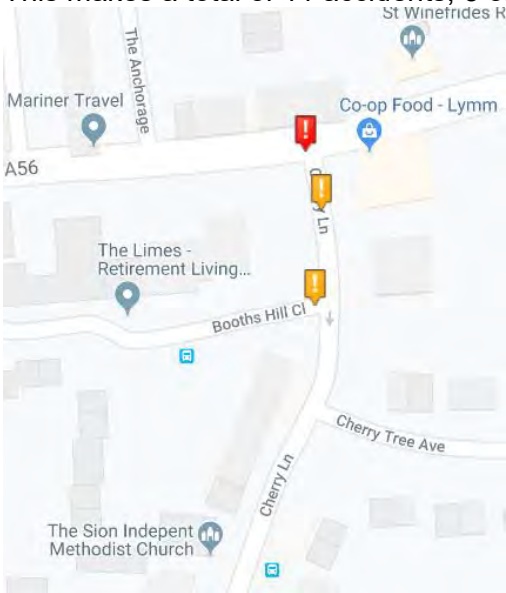
Source: All figures and plans from Crashmap (5 years ending 2018 – latest available)

Cherry Lane

The road network serving the client's site is served by the Cherry Lane (B5158 and the local roads to the west, up to and including the entry to the A56 to the north and the M6 J9 to the south – there have been:

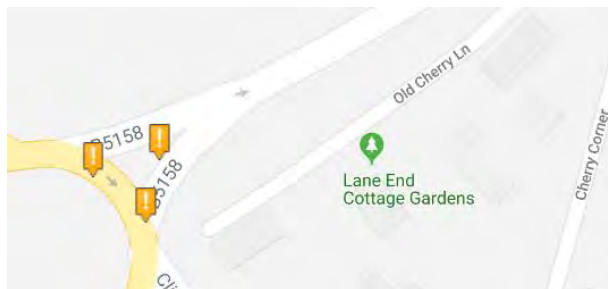
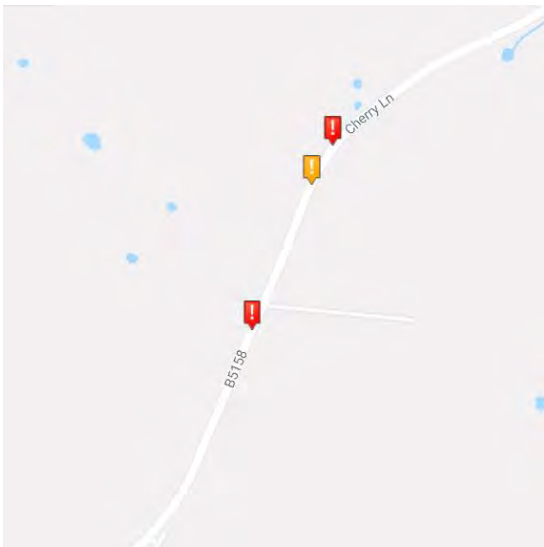
- no accidents on the local roads within the area,
- along the B5158 there have been:
 - 1 serious and 2 slight injury accidents to at its junction with the A56 (Plan 1)
 - 2 slight injury accidents at the junction with Elm Tree Road (Plan 2)
 - 2 serious and 1 slight injury accidents along the southern end of the B5158 (Plan 3)
 - 3 slight injury accidents at its entry leg onto the M6 J56 (Plan 4)

This makes a total of 11 accidents, 3 of which resulted in serious injuries



Plan 1

Plan 2



Plan 3

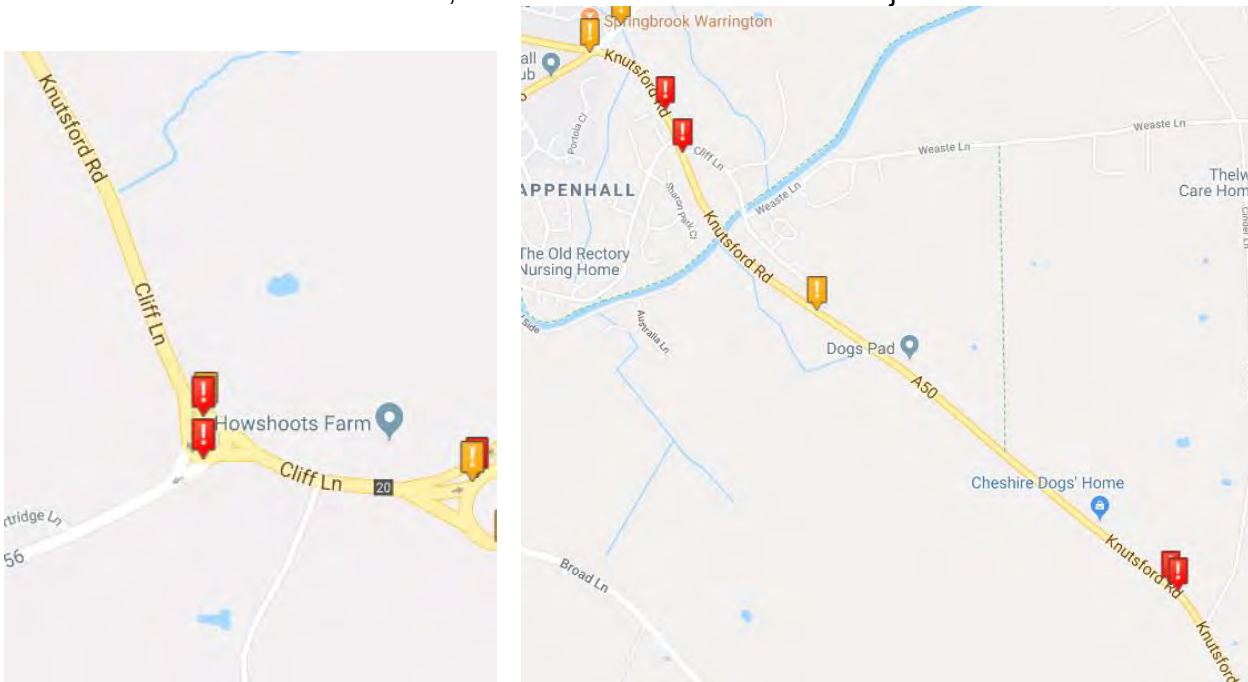
Plan 4

South Warrington Urban Extension

The road network serving the Council promoted SWUE area covers a much larger area. Looking at accidents in the area and the junctions into this area – there have been:

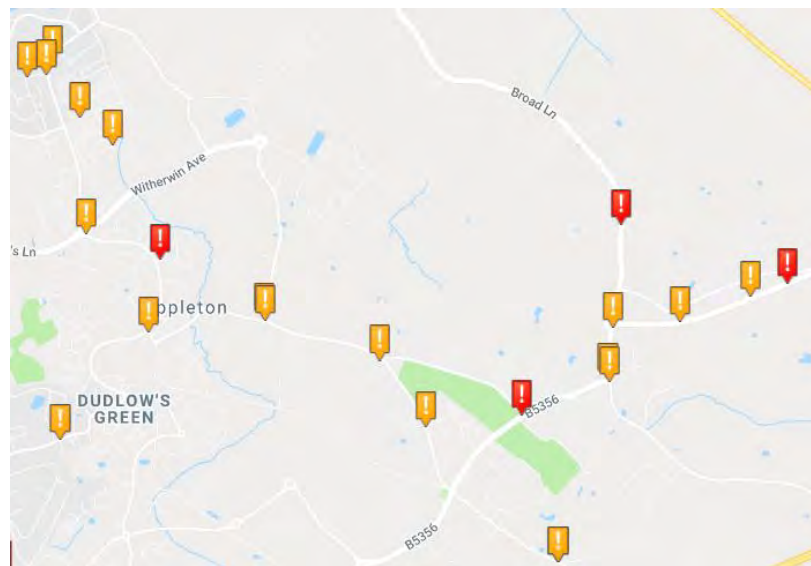
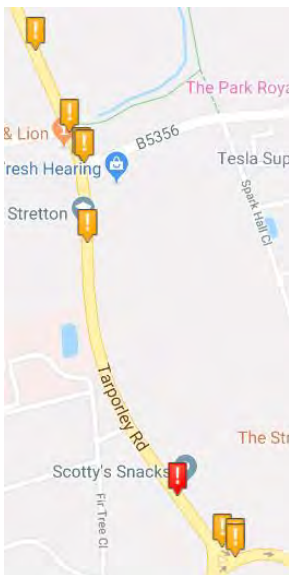
- 3 serious and 2 slight injury accidents at entry leg onto the M6 J56 and the A50/B5356 roundabout (Plan 5)
- 4 serious and 2 slight injury accidents along the A50, from its junction with the A56 south (Plan 6).
- 1 serious and 9 slight injury accidents at entry leg onto the M56 J9 and the London Road/B5356 junction (Plan 7)
- 4 serious and 17 slight injury accidents on the roads within the site (Plan 8)

This makes a total of 41 accidents, 11 of which resulted in serious injuries



Plan 5

Plan 6

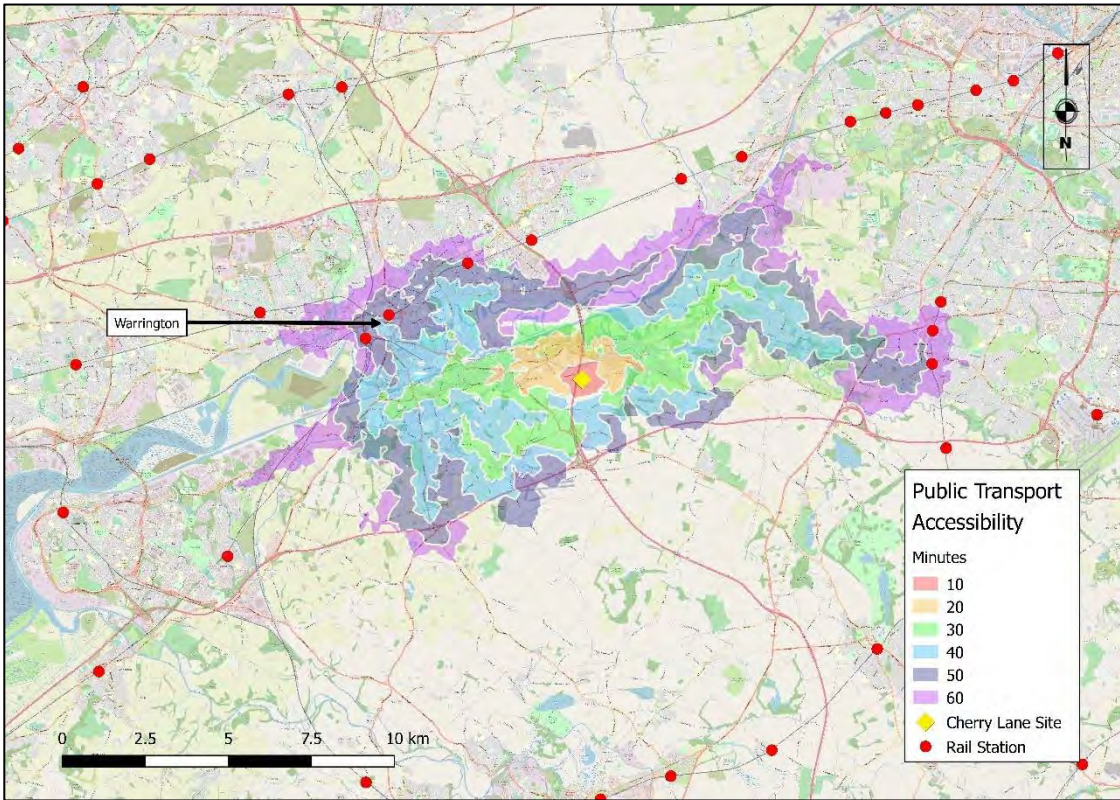


Plan 7

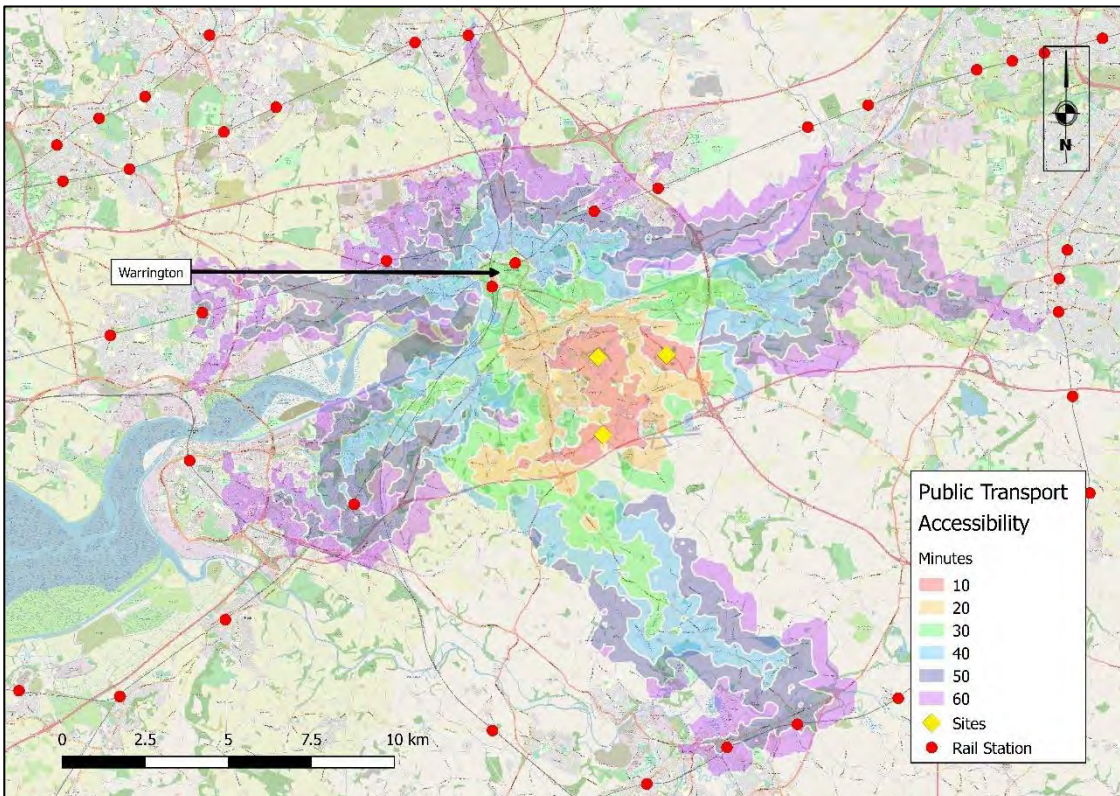
Plan 8

APPENDIX D – PUBLIC TRANSPORT ACCESSIBILITY

Cherry Lane Site



South Warrington Urban Extension Sites



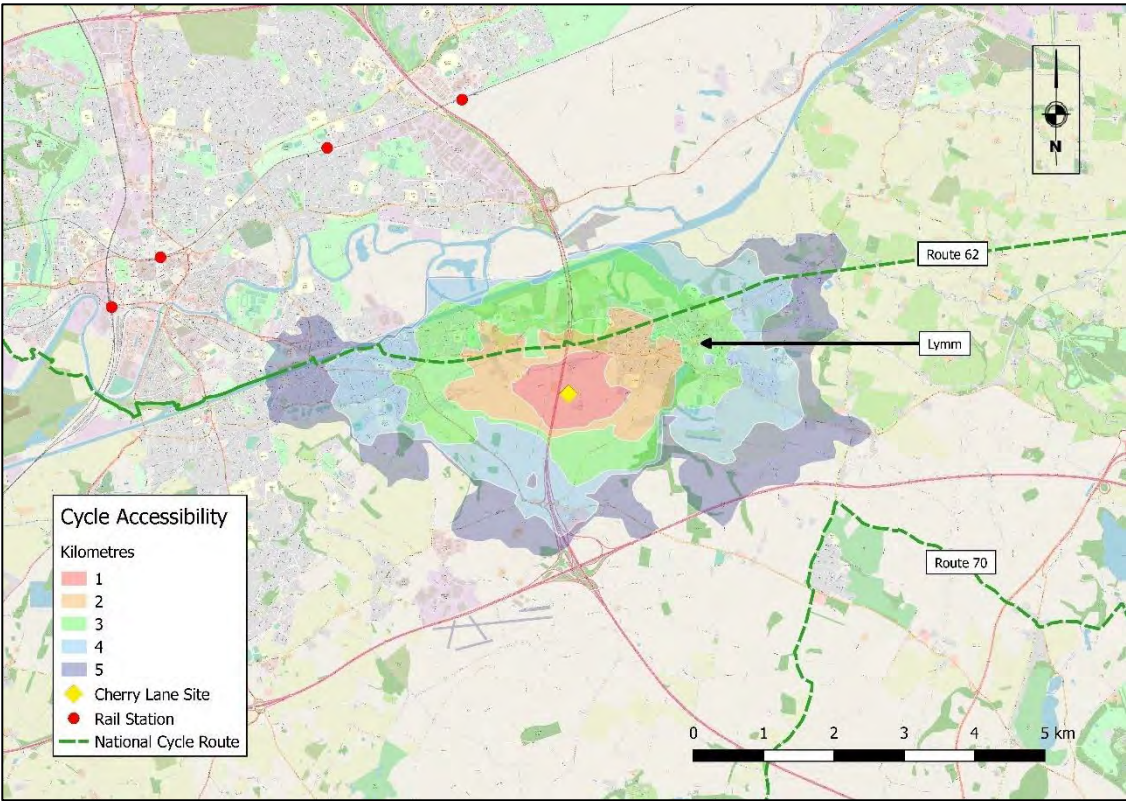
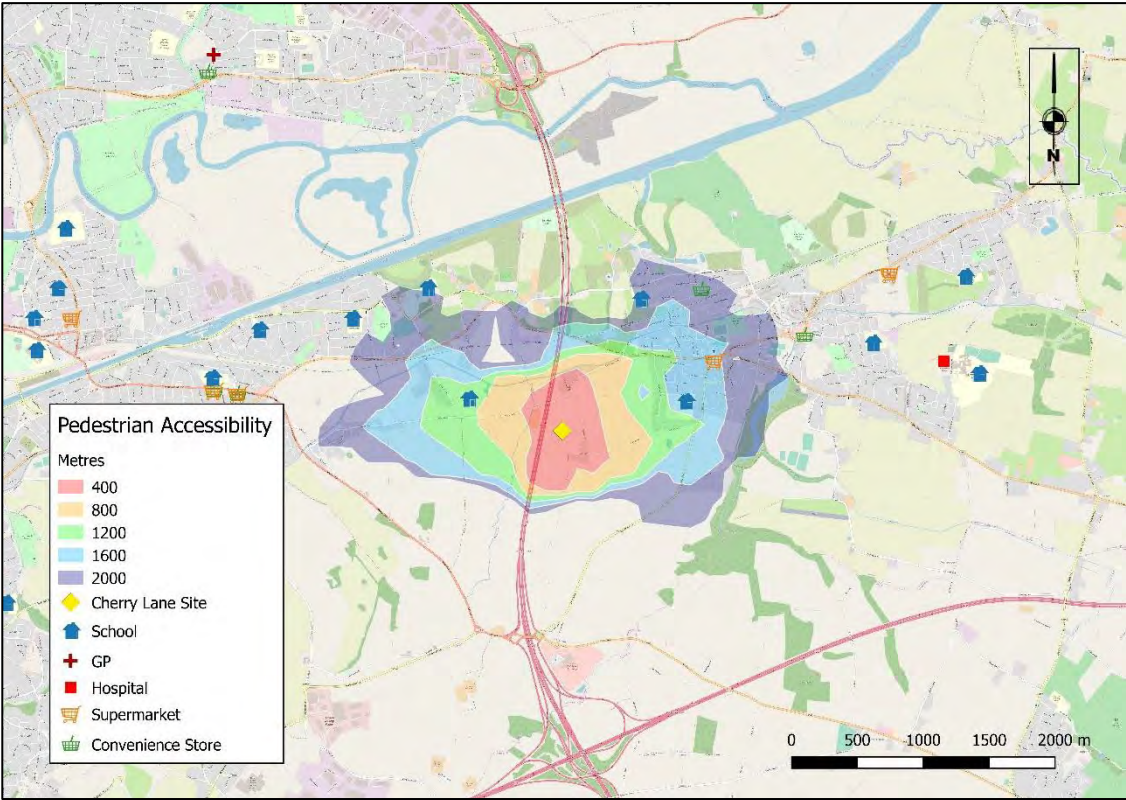
The above plans illustrate that Warrington town centre is accessible by public transport for all sites. Both Warrington Bank Quay Rail Station and Warrington Central Rail Station can be reached within an hour by public transport for all sites which gives increased opportunities for sustainable travel across the country.

In terms of travel time, it is expected that the time taken to reach key destinations and opportunities by public transport from the Cherry Lane Site would not be dissimilar to those of the Eastern and Southern South Warrington Extension Sites.

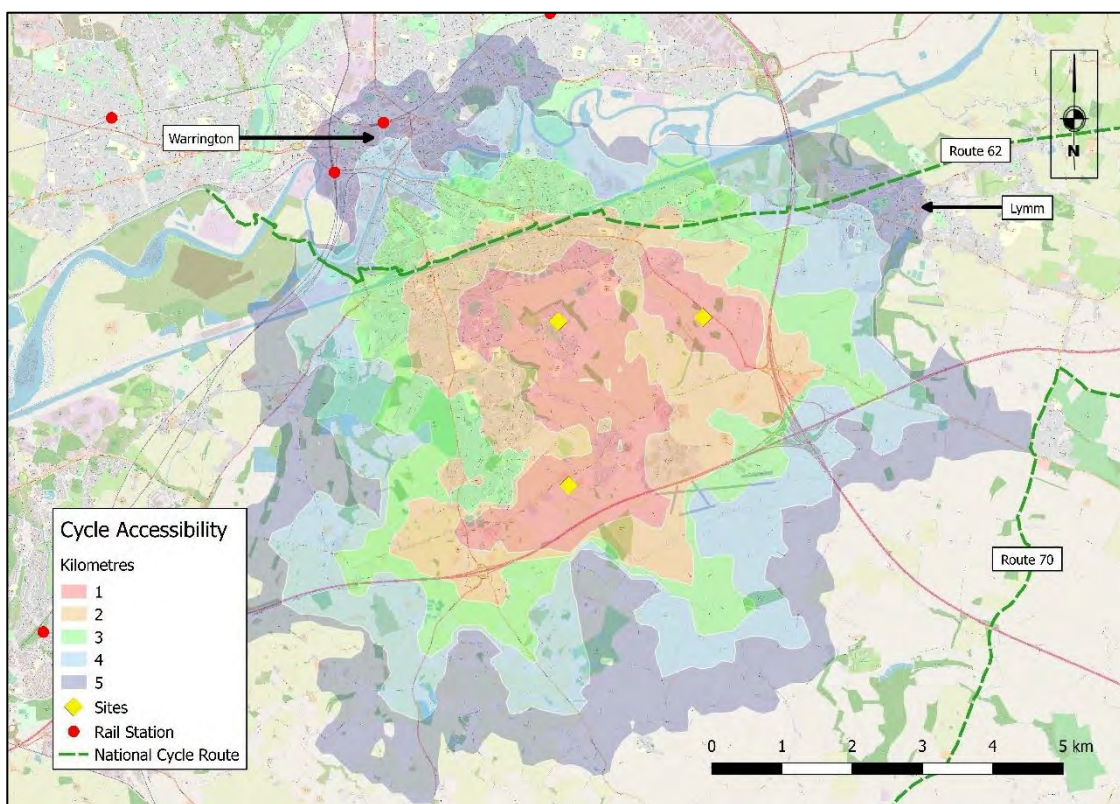
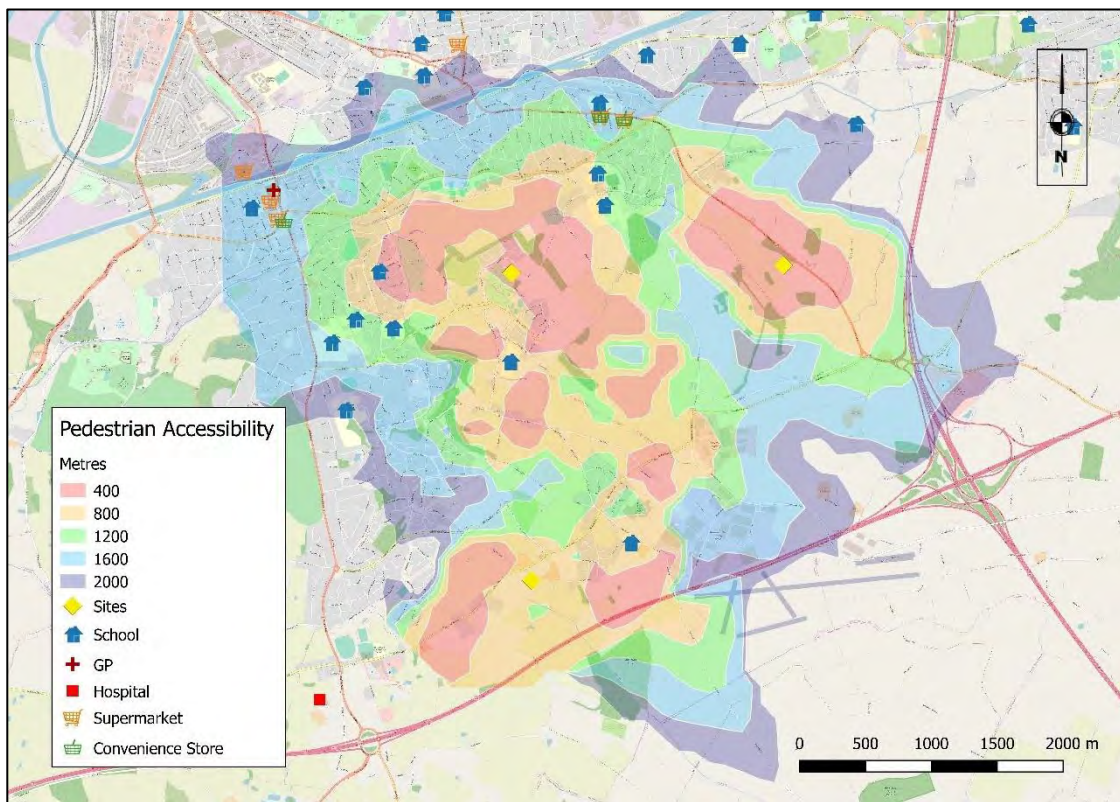
Map and data source: TRACC

APPENDIX E – PEDESTRIAN AND CYCLIST ACCESSIBILITY

Cherry Lane Site



South Warrington Urban Extension Sites



Walking

The plans show Cherry Lane Site benefits from being accessible on foot to the local facilities in Lymm which are within a reasonable walking distance. These include a Co-op Food store, a McColl's convenience store, a post office, a library, a Tennis club and a number of public houses and restaurants.

For the South Warrington Urban Extension Sites, with the exception of the northern site, the local facilities are much more dispersed and from a number of locations within the development area the walking distance to key facilities is considered to be significant. This is until the local centre is provided within the development.

Access to rail stations is not within reasonable walking distance for any of the proposed sites.

Cycling

In terms of accessibility for cyclists, the northern sites within the South Warrington Extension benefit from being able to reach Warrington town centre within a reasonable cycling distance, this includes both rail stations.

Cycle accessibility from the Cherry Lane site is much more comparable to that of the eastern and southern South Warrington Extension sites however Lymm can be comfortably accessed by cycle from the Cherry Lane Site.

The plans show that the northern and eastern sites of the South Warrington Extension and the Cherry Lane Site can access National Cycle Route 62 which is part of the Trans Pennine Trail connecting Fleetwood in Lancashire to Selby in North Yorkshire.

Map and data source: TRACC

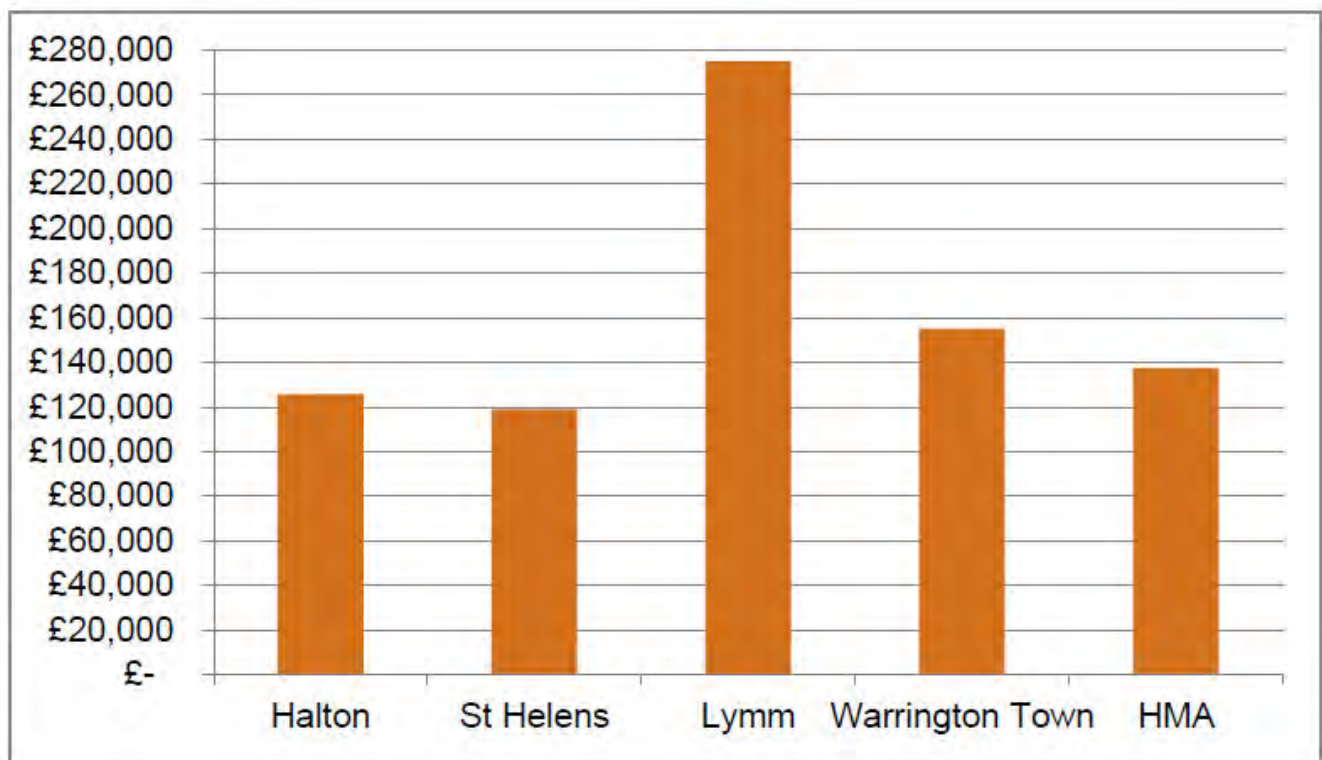
APPENDIX F – DELIVERABILITY

Deliverability is a function of affordability, this in turn is dependent on the value generated by the development and also the quantum of work to be undertaken.

Clearly investment can be phased most commonly this is seen where estate roads are built in phases linked to the housing due to be built.

However the most cost effective way to build infrastructure is to do it all in one go, and plan for the full development at the start. This requires considerable up-front investment, beyond the means of many landowners and developers and necessitating support (typically fund from Homes England – housing infrastructure Fund and Marginal Viability Fund – the latter which Warrington Council has already secured £3,686k funding for Central Park Link).

The Cherry Lane site being smaller requires significantly less infrastructure. It is also better able to fund the required works and, like the SWUE site, has limited land owners. Therefore the Cherry Lane site is likely to be deliverable much sooner than the more complex SWUE site.



Comparison of house prices – Source GLHearn (for Warrington Council) and HMLR 2017

APPENDIX A

TO DEVELOPMENT PLAN REPRESENTATION


WARRINGTON BOROUGH COUNCIL LOCAL PLAN (SUBMISSION VERSION)

LYMM GARDEN VILLAGE MASTERPLAN










(OUR REF. BRE680/6)

PROPOSED MASTERPLAN



Key:
 Walk and link to Lymm Dam

Key

-  Nature trail access points
-  Nature trail
-  New link between Booths Lane and Cherry Lane
-  Nursing home
-  Primary school and nursery
-  Playground
-  Pub / restaurant
-  Shops
-  East / West green corridor link
-  Primary route through

APPENDIX B

TO DEVELOPMENT PLAN REPRESENTATION

WARRINGTON BOROUGH COUNCIL LOCAL PLAN (SUBMISSION VERSION)

LYMM GARDEN VILLAGE MASTERPLAN

(PHASE 1 DETAIL)

(OUR REF. BRE680/6)

PROPOSED MASTERPLAN



Key:
 Nature trail - Red line c. 1.5km - Linking up with Lymm Dam
 Existing brook - Blue line



Key:

- 40% Affordable Housing:
 - Detached
 - Semi detached
- Restaurant/Pub
- Parade of shops inc doctors, vets and convenience store.
- Primary School and Nursery with playground
- Village Greens / Playgrounds
- Nursing Home
- Semi detached dwellings
- Detached

APPENDIX C

TO DEVELOPMENT PLAN REPRESENTATION

WARRINGTON BOROUGH COUNCIL LOCAL PLAN (SUBMISSION VERSION)

WBC SITE ASSESSMENT PROFORMAS

(OUR REF. BRE680/6)

Subject

Employment Proformas – Site Selection

[Click here to enter text.](#)

Site Ref: R18/P2/063

Site Name	(R18/P2/063) Cherry Hall Farm, Cherry Lane				
Site Address	Cherry Hall Farm, Cherry Lane				
Ward	Lymm South				
Existing Use	Agricultural Use				
Gross Site Area (Ha)	37.5				
Net: Developable Site Area (Ha)					
Site Potential (capacity)	Mixed Use/B1 Use				
Green Belt Assessment	General Area Assessment Parcel Reference: 8 General Area Assessment Parcel Result: Strong Green Belt Parcel Reference: R18/063 Green Belt Parcel Result: Strong				
Suitability		Availability		Achievability	
Criteria	Traffic Light Assessment 	Key Questions	Assessment	Key Questions	Assessment
Would site development lead to the loss of employment land?	Employment land proposed. 				
Distance to Principal Road Network by vehicle?	Approx. 1.3km from A50 Knutsford Road merging with M6 (J20) & M56 (J9). 				
Is there a physical point of highway access into the site?	Yes, from Cherry Lane. 	1. Was the site promoted by the owner?	Yes	1. Based on the high level viability review, is the site in a location of high, moderate or low viability?	High viability
How close is the site to key employment sites?	Approx. 2.3km from Barleycastle Trading Estate. 	2. Is there an extant planning consent on the site?	No	2. Is there active developer interest in the site?	No
Is the area supported by community facilities? (Village halls, places of worship, community centres)	N/A	3. Is the site in active use?	Yes	3. Is there known demand for the form of provision approved/proposed?	Yes

Subject

Employment Proformas – Site Selection







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Does the site provide access to formal play space?	N/A	4. Could the site be developed now?	Yes	4. Have similar sites been successfully developed in the preceding years?	Yes
How accessible is the site to the nearest primary school on foot?	N/A	5. Is the site free of ownership and tenancy issues?	Yes	5. Are there known abnormal development costs?	Yes – off-site highways works
How accessible is the site to the nearest Secondary school?	N/A	Summary: Is the site available for development? (conclusion based on all of the above) Site being promoted by the owner with no known ownership issues.		Summary: Is the site achievable for development? (conclusion based on all of the above) The site is in a location of high viability. There is no developer interest/partners identified to drive the site forward. Off-site highways works required. EDNA Site Grade ‘C’	
How well served is the site by a bus service?	Approx. 1.4km from bus stops on Howshoots Roundabout (A50) – Bus no.42 which provides links between Lymm and Warrington Interchange (using existing roads).				
How accessible is the site to the nearest train station?	Approx. 8.3km from Warrington Bank Quay Station (using existing roads).				
What is the overall distance to a GP service or health centre?	N/A				
What are the potential impacts on air quality?	Site is not in an AQMA or 1km from AQMA.				
Could development of the site lead to the remediation of land potentially affected by contamination?	No, site not affected.				
Would allocation of the site result in the loss of High Quality Agricultural Land?	The land is classed as Grade 3 agricultural land.				
Does the site fall within a Groundwater Source Protection Zone, as identified by the Environment Agency?	Site does not fall within a Groundwater Source Protection Zone.				
Is the site (or part of) within an identified flood zone?	Site’s eastern boundary bounds with flood zone 2 and 3.				
Is there potential for safeguarded or identified mineral reserves to be sterilised?	Not within identified areas.				
What is the proximity of the site to designated heritage assets?	Bridge at Lymm Dam, Grade II approx. 0.8km away, Monument - Tannery Industrial Site, Cherry Lane 0.2km away (using existing roads).				
What effects would the development of the site have upon the significance and setting of heritage assets / the historic environment?	May have an effect on the use and appearance of bridge over Brook and Dell at Head of Lymm Dam and may have a visual impact from Lymm Conservation Area.				

Subject

Employment Proformas – Site Selection

[Click here to enter text.](#)

<p>Capacity of the landscape to accommodate development while respecting its character.</p> 	<p>Sites lie within the Red Sandstone Escarpment local character area (3C Lymm). The boundaries of the area are formed by the Massey Brook basin to the west; the Warrington Borough boundary to the south and east and by the Bridgewater Canal to the north. The land again falls generally to the south but is of a more rolling and undulating nature occasionally with back falls to the south. The agriculture is a balance of both pastoral and arable farming. Key characteristics are smaller scale intimate rural landscape, luxuriant hedgerow trees with diverse range of species, rolling landscape, restricted views, strong feeling of high landscape quality. Development of the site would result in a significant change to landscape character.</p>		
<p>Could allocation of the site have a potential impact on a European Site, SPA or SAC?</p> 	<p>Approx. 3.9km from Rixton Claypits SAC</p>		
<p>Could allocation of the site have a potential impact on a SSSI?</p> 	<p>Approx. 2.5km from Woolston Eyes SSSI</p>		
<p>Could allocation of the site have a potential adverse impact on designated Local Wildlife Sites, Local Nature Reserve, RIGs, Potential Wildlife Sites or any other site of wildlife or geodiversity value such as Ancient Woodland (including where BAP species and habitats have been recorded)?</p> 	<p>Approx. 1.4km from nearest BAP wetlands and Grassland Habitat and 0.8km from The Bongs and the Gorse and Lymm Dam beyond (using existing roads).</p>		
<p>What is the potential impact on TPOs?</p> 	<p>None, there are a group of TPO trees north west of the site boundary and Cherry Lane separate the two.</p>		
<p>Would allocation of the site result in the use of previously developed land?</p> 	<p>Site is predominantly greenfield</p>		
<p>Summary: Is the site suitable for development? (conclusion based on all of the above including any comments from site visit)</p> <p>Suitability: Mixed Assessment - Mitigation measures may be required with some unavoidable impacts.</p> <p>Site visit: (desk top analysis) The land is predominantly flat and field boundaries are well defined particularly along the eastern edge with the woodland area which provides a strong boundary. The site also in close proximity to the M56 and M6 motorway.</p> <p>Highways Comments: There is sufficient land ownership to allow an appropriate access to B5158 Cherry Lane to be created but the lack of pedestrian/cycle infrastructure along the route raises concerns as does public transport accessibility. Third party land would be required to cater for any improvements.</p> <p>B5158 Cherry Lane is subject to a 7.5tonne weight restriction and further consideration needs to be given to access for deliveries/servicing.</p> <p>Economic Development Needs Assessment Conclusions:</p>		<p>Overall Site Conclusions based on Suitability, Availability, Achievability</p> <p>The site is graded ‘C’ in the context of the EDNA and therefore could be considered to meet local needs but is not one of the higher performing sites.</p> <p>The site is considered to be dependent on real impact of site constraints and likely to have an impact upon trends. The site would represent the loss of an area of Grade 3 Agricultural Land, includes existing farm (partially derelict). Partly within buffer zone of Stanlow-Carrington Pipeline. There are also highway capacity issues that would need to be addressed.</p> <p>The site appears to be available, and is being promoted by the owner through the Local Plan process.</p> <p>The site may be achievable as it is in an area of high viability but does not have a developer partner in place.</p> <p>The site appears to be available, and is being promoted by the owner through the Local Plan process.</p> <p>The relatively low EDNA Grade limits the positive contribution the site can make to providing employment land to meet Warrington’s future needs in accordance with Objective W1. Development of the site could compromise the Green Belt separating Warrington from Lymm. The site is isolated from any other development proposals and is less likely to contribute to wider infrastructure to support the regeneration of Inner Warrington and the growth of the Borough as a</p>	

Subject

Employment Proformas – Site Selection

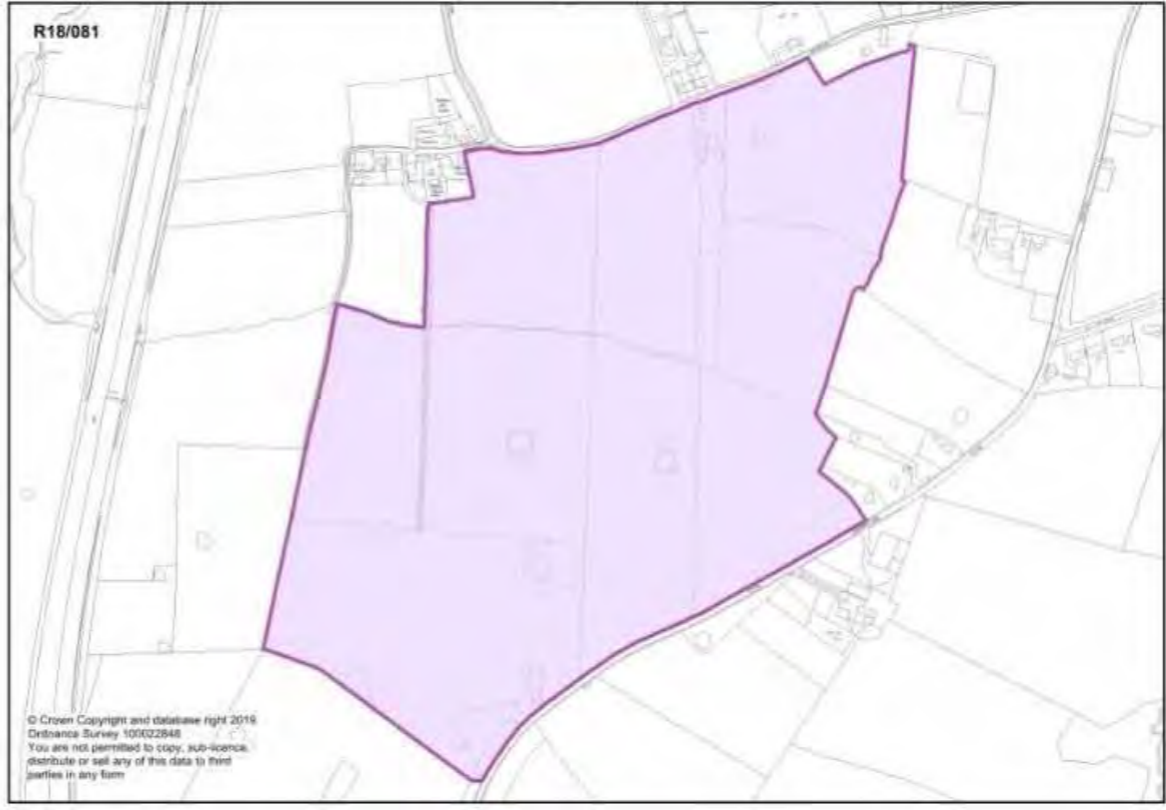




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<p>The Council's 2018 EDNA site assessment concluded the site R18/P2/063 was a Grade C, this means consider for allocation to meet local needs. However firstly, if tied to a mixed-use scheme, confirmation that the wider development package is acceptable and deliverable, is required. Secondly, if take up tied to a single firm, it may be preferable to review applications for growth of that firm on a case by case basis through the planning system.</p> <p>Local Plan Objectives: The relatively low EDNA Grade limits the positive contribution the site can make to providing employment land to meet Warrington's future needs in accordance with Objective W1. Development of the site could compromise the Green Belt separating Warrington from Lymm and therefore run contrary to Objective W2. The site is to the east of the M6 which falls outside of the proposed Garden Suburb allocation and is isolated from any other development proposals. As such it is less likely to contribute to wider infrastructure to support the regeneration of Inner Warrington and the growth of the Borough as a whole in accordance with Objectives W1 and W4.</p> <p>The site could form part of a wider allocation if combined with adjacent sites being promoted for employment use. This would however represent a significant risk to the Green Belt separating Warrington from Lymm, contract to Objective W2. Whilst the scale of development could potentially result in a greater contribution towards infrastructure improvements, the sites separation from the main urban area would limited the contribution this infrastructure would make to support the regeneration of Inner Warrington and the growth of the Borough as a whole in accordance with Objectives W1 and W4.</p>	<p>whole in accordance with Objectives W1 and W4.</p> <p>A wider employment allocation in this location would exacerbate Green Belt concerns is unlikely to contribute to Warrington's overall sustainable growth.</p> <p>SITE CONCLUSION: Taking into account and balancing a range of factors, the site is <i>not selected</i> as a suitable site to meet the Council's economic development needs.</p>
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Subject Employment Proformas – Site Selection

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Site Ref: R18/081, R18/P2/101

Site Name	(R18/081, R18/P2/101) Land at Cherry Lane and Booths Lane		 <p>R18/081</p> <p>© Crown Copyright and database right 2016 Ordnance Survey 100022948 You are not permitted to copy, re-produce, distribute or sell any of this data to third parties in any form</p>			
Site Address	Land at Cherry Lane and Booths Lane					
Ward	Lymm South					
Existing Use	Agricultural					
Gross Site Area (Ha)	41					
Net: Developable Site Area (Ha)	41					
Site Potential (capacity)	B1, B2 and B8 use					
Green Belt Assessment	General Area Assessment Parcel Reference: 8 General Area Assessment Parcel Result: Strong Green Belt Parcel Reference: R18/081 Green Belt Parcel Result: Strong					
Suitability			Availability		Achievability	
Criteria	Traffic Light Assessment  Promotes sustainable growth  Unlikely to have a major impact on trends  Mitigation may be required/unavoidable impacts  Mitigation likely to be required/unavoidable impacts		Key Questions	Assessment	Key Questions	Assessment
Would site development lead to the loss of employment land?	Employment land proposed.					
Distance to Principal Road Network by vehicle?	Approx. 1.3km from A50 Knutsford Road merging with M6 (J20) & M56 (J9).					
Is there a physical point of highway access into the site?	Yes, from Booths Lane.		1. Was the site promoted by the owner?	Yes	1. Based on the high level viability review, is the site in a location of high, moderate or low viability?	High viability
How close is the site to key employment sites?	Approx. 2.3km from Barleycastle Trading Estate.		2. Is there an extant planning consent on the site?	No	2. Is there active developer interest in the site?	Yes

Subject

Employment Proformas – Site Selection








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Is the area supported by community facilities? (Village halls, places of worship, community centres)	N/A	3. Is the site in active use?	Yes	3. Is there known demand for the form of provision approved/proposed?	Yes
Does the site provide access to formal play space?	N/A	4. Could the site be developed now?	Yes	4. Have similar sites been successfully developed in the preceding years?	Yes
How accessible is the site to the nearest primary school on foot?	N/A	5. Is the site free of ownership and tenancy issues?	Yes	5. Are there known abnormal development costs?	Yes – Off-site highways works
How accessible is the site to the nearest Secondary school?	N/A	<p>Summary: Is the site available for development? (conclusion based on all of the above)</p> <p>Site being promoted by the owner with no known ownership issues.</p>		<p>Summary: Is the site achievable for development? (conclusion based on all of the above)</p> <p>The site is in a location of high viability. There is active owner developer interest to drive the site forward. Off-site highways works required.</p> <p>EDNA Site Grade ‘C’</p>	
How well served is the site by a bus service?	Approx. 1.4km from bus stops on Howshoots Roundabout (A50) – Bus no.42 which provides links between Lymm and Warrington Interchange (using existing roads).				
How accessible is the site to the nearest train station?	Approx. 8.3km from Warrington Bank Quay Station (using existing roads).				
What is the overall distance to a GP service or health centre?	N/A				
What are the potential impacts on air quality?	Site is not in an AQMA or 1km from AQMA.				
Could development of the site lead to the remediation of land potentially affected by contamination?	No, site not affected.				
Would allocation of the site result in the loss of High Quality Agricultural Land?	The land is classed as Grade 3 agricultural land.				
Does the site fall within a Groundwater Source Protection Zone, as identified by the Environment Agency?	Site does not fall within a Groundwater Source Protection Zone.				
Is the site (or part of) within an identified flood zone?	Site within flood zone 1.				
Is there potential for safeguarded or identified mineral reserves to be sterilised?	Not within identified areas.				
What is the proximity of the site to designated heritage assets?	Bridge at Lymm Dam, Grade II approx. 0.8km away, 8 Booths Lane Lymm, Grade II listed approx. 0.3km away, Monument - Tannery Industrial Site, Cherry Lane 0.2km away, Monument – Brickfield, Booth’s Lane, Brickfield, Industrial Site, opposite the site (using existing roads).				
What effects would the development of the site have upon	May have an effect on the use and appearance of bridge over Brook and Dell at Head of Lymm Dam, appearance on other heritage assets in close proximity, may have a visual impact from Lymm				

Subject

Employment Proformas – Site Selection

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<p>the significance and setting of heritage assets / the historic environment? </p>	<p>Conservation Area.</p>		
<p>Capacity of the landscape to accommodate development while respecting its character. </p>	<p>The various sites fall within the Red Sandstone Escarpment local character area (3b Massey Brook). This area covers a large amount of land and so has different features and sensitivities. Broadly this area is reasonably well-wooded with a diversity of features in the landscape, including small ponds, ridges, knolls and incised stream valleys. The agricultural landscape including hedgerows appears generally well-maintained and the area presents an attractive rural quality. Development of the site would result in a significant change to landscape character.</p>		
<p>Could allocation of the site have a potential impact on a European Site, SPA or SAC? </p>	<p>Approx. 3.9km from Rixton Claypits SAC</p>		
<p>Could allocation of the site have a potential impact on a SSSI? </p>	<p>Approx. 2.5km from Woolston Eyes SSSI</p>		
<p>Could allocation of the site have a potential adverse impact on designated Local Wildlife Sites, Local Nature Reserve, RIGs, Potential Wildlife Sites or any other site of wildlife or geodiversity value such as Ancient Woodland (including where BAP species and habitats have been recorded)? </p>	<p>Approx. 1.4km from nearest BAP wetlands and Grassland Habitat and 0.8km from The Bongs and the Gorse and Lymm Dam beyond (using existing roads).</p>		
<p>What is the potential impact on TPOs? </p>	<p>None, there are a group of TPO trees beyond the northern site boundary.</p>		
<p>Would allocation of the site result in the use of previously developed land? </p>	<p>Site is predominantly greenfield.</p>		
<p>Summary: Is the site suitable for development? (conclusion based on all of the above including any comments from site visit)</p> <p>Suitability: Mixed Assessment - Mitigation measures may be required with some unavoidable impacts.</p> <p>Site visit (desk top analysis) The land is predominantly flat and field boundaries are well defined. The site also in close proximity to the M56 and M6 motorway.</p> <p>Highways Comments: There is sufficient land ownership to allow an appropriate access to B5158 Cherry Lane to be created but the lack of pedestrian/cycle infrastructure along the route raises concerns as does public transport accessibility. Third party land would be required to cater for any improvements.</p> <p>B5158 Cherry Lane is subject to a 7.5tonne weight restriction and further consideration needs to be given to access for</p>		<p>Overall Site Conclusions based on Suitability, Availability, Achievability</p> <p>The site is graded ‘C’ in the context of the EDNA and therefore could be considered to meet local needs but is not one of the higher performing sites.</p> <p>The site is considered to be dependent on real impact of site constraints and likely to have an impact upon trends. The site would represent the loss of an area of Grade 3 Agricultural Land. There are also highway capacity issues that would need to be addressed.</p> <p>The site appears to be available, and is being promoted by the developer owner through the Local Plan process.</p> <p>The site may be achievable as it is in an area of high viability, site developer owned and considered for high quality business park.</p> <p>The relatively low EDNA Grade limits the positive contribution the site can make to providing employment land to meet Warrington’s future needs in accordance with Objective W1. Development of the site could compromise the Green Belt separating Warrington from Lymm. The site is isolated from any other development proposals and is less likely to</p>	

Subject

Employment Proformas – Site Selection

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<p>deliveries/servicing.</p> <p>There would be strong concerns at any access proposed to Booths Lane; the Booths Lane/B5158 Cherry Lane junction is not suitable for HGV movements and has poor visibility.</p> <p><u>Economic Development Needs Assessment Conclusions:</u> The Council's 2018 EDNA site assessment concluded the site R18/081, R18/P2/101 was a Grade C, this means consider for allocation to meet local needs. However firstly, if tied to a mixed-use scheme, confirmation that the wider development package is acceptable and deliverable, is required. Secondly, if take up tied to a single firm, it may be preferable to review applications for growth of that firm on a case by case basis through the planning system.</p> <p><u>Local Plan Objectives:</u> The relatively low EDNA Grade limits the positive contribution the site can make to providing employment land to meet Warrington's future needs in accordance with Objective W1. Development of the site could compromise the Green Belt separating Warrington from Lymm and therefore run contrary to Objective W2. The site is to the east of the M6 which falls outside of the proposed Garden Suburb allocation and is isolated from any other development proposals. As such it is less likely to contribute to wider infrastructure to support the regeneration of Inner Warrington and the growth of the Borough as a whole in accordance with Objectives W1 and W4.</p> <p>The site could form part of a wider allocation if combined with adjacent sites being promoted for employment use. This would however represent a significant risk to the Green Belt separating Warrington from Lymm, contract to Objective W2. Whilst the scale of development could potentially result in a greater contribution towards infrastructure improvements, the sites separation from the main urban area would limited the contribution this infrastructure would make to support the regeneration of Inner Warrington and the growth of the Borough as a whole in accordance with Objectives W1 and W4.</p>	<p>contribute to wider infrastructure to support the regeneration of Inner Warrington and the growth of the Borough as a whole in accordance with Objectives W1 and W4.</p> <p>A wider employment allocation in this location would exacerbate Green Belt concerns is unlikely to contribute to Warrington's overall sustainable growth.</p> <p>SITE CONCLUSION: Taking into account and balancing a range of factors, the site is <i>not selected</i> as a suitable site to meet the Council's economic development needs.</p>
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Subject

Employment Proformas – Site Selection

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Site Ref: R18/P2/152

Site Name	(R18/P2/152) Land at Cherry Lane					
Site Address	Land at Cherry Lane					
Ward	Lymm South					
Existing Use	Agricultural Use					
Gross Site Area (Ha)	54.92					
Net: Developable Site Area (Ha)	55.85					
Site Potential (capacity)	Employment/Residential (mixed use)					
Green Belt Assessment	General Area Assessment Parcel Reference: 8 General Area Assessment Parcel Result: Strong Green Belt Parcel Reference: R18/P2/152 Green Belt Parcel Result: Strong					
Suitability			Availability		Achievability	
Criteria	Traffic Light Assessment 		Key Questions	Assessment	Key Questions	Assessment
Would site development lead to the loss of employment land? 	Employment land proposed.					
Distance to Principal Road Network by vehicle? 	Approx. 1.3km from A50 Knutsford Road merging with M6 (J20) & M56 (J9).					
Is there a physical point of highway access into the site? 	Yes, from Booths Lane.		1. Was the site promoted by the owner?	Yes	1. Based on the high level viability review, is the site in a location of high, moderate or low viability?	High viability
How close is the site to key employment sites? 	Approx. 2.3km from Barleycastle Trading Estate.		2. Is there an extant planning consent on the site?	No	2. Is there active developer interest in the site?	Yes

Subject

Employment Proformas – Site Selection

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Is the area supported by community facilities? (Village halls, places of worship, community centres)	N/A	3. Is the site in active use?	Yes	3. Is there known demand for the form of provision approved/proposed?	Yes
Does the site provide access to formal play space?	N/A	4. Could the site be developed now?	Yes	4. Have similar sites been successfully developed in the preceding years?	Yes
How accessible is the site to the nearest primary school on foot?	N/A	5. Is the site free of ownership and tenancy issues?	Yes	5. Are there known abnormal development costs?	Yes – off-site highways works
How accessible is the site to the nearest Secondary school?	N/A	<p>Summary: Is the site available for development? (conclusion based on all of the above)</p> <p>Site being promoted by the owner with no known ownership issues.</p>		<p>Summary: Is the site achievable for development? (conclusion based on all of the above)</p> <p>The site is in a location of high viability. There is active owner developer interest to drive the site forward and no known abnormal development costs.</p> <p>Off-site highways works required.</p> <p>EDNA Site Grade ‘C-D’</p>	
How well served is the site by a bus service?	Approx. 1.4km from bus stops on Howshoots Roundabout (A50) – Bus no.42 which provides links between Lymm and Warrington Interchange (using existing roads).				
How accessible is the site to the nearest train station?	Approx. 8.3km from Warrington Bank Quay Station (using existing roads).				
What is the overall distance to a GP service or health centre?	N/A				
What are the potential impacts on air quality?	The site’s west boundary is up to the M6 corridor, therefore site is in an AQMA.				
Could development of the site lead to the remediation of land potentially affected by contamination?	Site is potentially contaminated. As it is a relatively small proportion of the site it is likely that this could be remediated.				
Would allocation of the site result in the loss of High Quality Agricultural Land?	The land is classed as Grade 3 agricultural land.				
Does the site fall within a Groundwater Source Protection Zone, as identified by the Environment Agency?	Site does not fall within a Groundwater Source Protection Zone.				
Is the site (or part of) within an identified flood zone?	Site within flood zone 1.				
Is there potential for safeguarded or identified	Not within identified areas.				

Subject

Employment Proformas – Site Selection


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<p>mineral reserves to be sterilised? ■</p>			
<p>What is the proximity of the site to designated heritage assets? ■</p>	<p>Bridge at Lymm Dam, Grade II approx. 0.8km away, 8 Booths Lane Lymm, Grade II listed approx. 0.3km away, Monument - Tannery Industrial Site, Cherry Lane 0.2km away, Monument – Brickfield, Booth’s Lane, Brickfield, Industrial Site, opposite the site (using existing roads).</p>		
<p>What effects would the development of the site have upon the significance and setting of heritage assets / the historic environment? ■</p>	<p>May have an effect on the use and appearance of bridge over Brook and Dell at Head of Lymm Dam, appearance on other heritage assets in close proximity, may have a visual impact from Lymm Conservation Area.</p>		
<p>Capacity of the landscape to accommodate development while respecting its character. ■</p>	<p>The sites fall within the Red Sandstone Escarpment local character area (3b Massey Brook) and (3c Lymm). This area covers a large amount of land and so has different features and sensitivities. Broadly this area is reasonably well-wooded with a diversity of features in the landscape, including small ponds, ridges, knolls and incised stream valleys. The agricultural landscape including hedgerows appears generally well-maintained and the area presents an attractive rural quality. These sites are however in a part of the landscape character area which is dominated by the M6/M56 interchange and Lymm Services to the south and other built development including Lymm Fire Station. Set in this context, whilst development of the sites would result in a change to landscape character the impact would vary across the site and some development may be acceptable subject to mitigation measures.</p>		
<p>Could allocation of the site have a potential impact on a European Site, SPA or SAC? ■</p>	<p>Approx. 3.9km from Rixton Claypits SAC</p>		
<p>Could allocation of the site have a potential impact on a SSSI? ■</p>	<p>Approx. 2.5km from Woolston Eyes SSSI</p>		
<p>Could allocation of the site have a potential adverse impact on designated Local Wildlife Sites, Local Nature Reserve, RIGs, Potential Wildlife Sites or any other site of wildlife or geodiversity value such as Ancient Woodland (including where BAP species and habitats have been recorded)? ■</p>	<p>Approx. 1.4km from nearest BAP wetlands and Grassland Habitat and 0.8km from The Bongs and the Gorse and Lymm Dam beyond (using existing roads).</p>		
<p>What is the potential impact on TPOs? ■</p>	<p>None</p>		
<p>Would allocation of the site result in the use of previously developed</p>	<p>Site is predominantly greenfield.</p>		

Subject

Employment Proformas – Site Selection

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land? 				
<p>Summary: Is the site suitable for development? (conclusion based on all of the above including any comments from site visit)</p> <p>Suitability: Mixed Assessment - Mitigation measures may be required with some unavoidable impacts.</p> <p><u>Site visit: (desk top analysis)</u></p> <p>The land is predominantly flat and field boundaries are well defined. The site also in close proximity to the M56 and M6 motorway.</p> <p><u>Highways Comments:</u> There is sufficient land ownership to allow an appropriate access to B5158 Cherry Lane or A50 Cliff Lane but the lack of pedestrian/cycle infrastructure along the route raises concerns as does public transport accessibility. It is likely that enough land is within the applicant's control to allow improvements to B5158 Cherry Lane but third party land would be needed to provide further pedestrian/cycle linkage to the wider area.</p> <p><u>Economic Development Needs Assessment Conclusions:</u> The Council's 2018 EDNA site assessment concluded the site R18/P2/152 was a Grade C-D site, this means consider for allocation to meet local needs. However firstly, if tied to a mixed-use scheme, confirmation that the wider development package is acceptable and deliverable, is required. Secondly, if take up tied to a single firm, it may be preferable to review applications for growth of that firm on a case by case basis through the planning system. The site is dependent on real impact of site constraints.</p> <p><u>Local Plan Objectives:</u> The relatively low EDNA Grade limits the positive contribution the site can make to providing employment land to meet Warrington's future needs in accordance with Objective W1. Development of the site could compromise the Green Belt separating Warrington from Lymm and therefore run contrary to Objective W2. The site is to the east of the M6 which falls outside of the proposed Garden Suburb allocation and is isolated from any other development proposals. As such it is less likely to contribute to wider infrastructure to support the regeneration of Inner Warrington and the growth of the Borough as a whole in accordance with Objectives W1 and W4.</p> <p>The site could form part of a wider allocation if combined with adjacent sites being promoted for employment use. This would however represent a significant risk to the Green Belt separating Warrington from Lymm, contract to Objective W2. Whilst the scale of development could potentially result in a greater contribution towards infrastructure improvements, the sites separation from the main urban area would limited the contribution this infrastructure would make to support the regeneration of Inner Warrington and the growth of the Borough as a whole in accordance with Objectives W1 and W4.</p>		<p>Overall Site Conclusions based on Suitability, Availability, Achievability The site is graded 'C-D' in the context of the EDNA and therefore could be considered to meet strategic or local needs but is not one of the higher performing sites.</p> <p>The site is considered to be dependent on real impact of site constraints and likely to have an impact upon trends. There are farms and ponds on site, residential adjacent and a stream that crosses eastern edge of site (incorporating modest area of Flood Zone 2-3). The land is split by Cherry Lane.</p> <p>The site appears to be available and is being promoted by the owner the Local Plan Process. The site may be achievable as it is an area of high viability.</p> <p>The relatively low EDNA Grade limits the positive contribution the site can make to providing employment land to meet Warrington's future needs in accordance with Objective W1. Development of the site could compromise the Green Belt separating Warrington from Lymm. The site is isolated from any other development proposals and is less likely to contribute to wider infrastructure to support the regeneration of Inner Warrington and the growth of the Borough as a whole in accordance with Objectives W1 and W4.</p> <p>A wider employment allocation in this location would exacerbate Green Belt concerns is unlikely to contribute to Warrington's overall sustainable growth.</p> <p>SITE CONCLUSION: Taking into account and balancing a range of factors, the site is <i>not selected</i> as a suitable site to meet the Council's economic development needs.</p>		

Subject Employment Proformas – Site Selection

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Site Ref: R18/P2/009

Site Name	Land to the East and West of M6, Massey Brook Farm,	<p>R18/P2/009</p> <p>© Crown Copyright and database right 2016 Ordnance Survey 100022048 You are not permitted to copy, sub-license, distribute or sell any of this data to third parties in any form</p>			
Site Address	Land at Massey Brook Farm, Weaste Lane, Lymm				
Ward	Site falls in Ward Lymm North and in Ward Thelwall & Lymm South				
Existing Use	Agricultural				
Gross Site Area (Ha)	30.24				
Net: Developable Site Area (Ha)					
Site Potential (capacity)	Mixed use				
Green Belt Assessment	General Area Assessment Parcel Reference: Sites falls in 8 and 9 General Area Assessment Parcel Result: Strong/Moderate Green Belt Parcel Reference: R18/P2/009 Green Belt Parcel Result: Strong				
Suitability		Availability		Achievability	
Criteria	<ul style="list-style-type: none"> Promotes sustainable growth Unlikely to have a major impact on trends Mitigation may be required/unavoidable impacts Mitigation likely to be required/unavoidable impacts 	Key Questions	Assessment	Key Questions	Assessment
Would site development lead to the loss of employment land?	Employment land proposed				
Distance to Principal Road Network by vehicle?	Within 1 Mile of Principal Road Network.				
Is there a physical point of highway access into the site?	Yes, from Weaste Lane.	1. Was the site promoted by the owner?	Yes	1. Based on the high level viability review, is the site in a location of high, moderate or low viability?	High viability

Subject

Employment Proformas – Site Selection

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How close is the site to key employment sites? 	Approx. 2602m from Appleton Thorn Trading Estate	2. Is there an extant planning consent on the site?	Yes, Planning Ref: 2017/30576 2016/27677	2. Is there active developer interest in the site?	Not known
Is the area supported by community facilities? (Village halls, places of worship, community centres)?	N/A	3. Is the site in active use?	Yes	3. Is there known demand for the form of provision approved/proposed?	Yes
		4. Could the site be developed now?	Yes	4. Have similar sites been successfully developed in the preceding years?	Yes
Does the site provide access to formal play space?	N/A	5. Is the site free of ownership and tenancy issues?	Yes	5. Are there known abnormal development costs?	Yes, small part of land is potentially contaminated.
How accessible is the site to the nearest primary school on foot?	N/A	Summary: Is the site available for development? (conclusion based on all of the above) Site being promoted by the owner with no known ownership issues.		Summary: Is the site achievable for development? (conclusion based on all of the above) The site is in a location of high viability. There is no developer interest/partners identified to drive the site forward some potential abnormal development costs. EDNA site Grade 'D'.	
How accessible is the site to the nearest Secondary school?	N/A				
How well served is the site by a bus service? 	Approx.58m from bus stop.				
How accessible is the site to the nearest train station? 	Over 5km from Warrington Bank Quay Station.				
What is the overall distance to a GP service or health centre?	N/A				
What are the potential impacts on air quality? 	Site is within an AQMA				
Could development of the site lead to the remediation of land potentially affected by contamination? 	Potentially				
Would allocation of the site result in the loss of High Quality Agricultural Land? 	Grade 3 agricultural land.				
Does the site fall within a Groundwater Source Protection Zone, as identified by the Environment Agency? 	Site within a Groundwater Source Protection Zone 3.				
Is the site (or part of) within an identified flood zone? 	Site within flood zone 1				
Is there potential for safeguarded or identified mineral reserves to be sterilised? 	Not within identified areas.				
What is the proximity of the site to designated heritage assets?	Approx. 512m away from Halfacre Lane Aqueduct.				

Subject

Employment Proformas – Site Selection

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<p>What effects would the development of the site have upon the significance and setting of heritage assets / the historic environment?</p>	<p>Development could be managed so as to not impact upon the setting of heritage assets.</p>		
<p>Capacity of the landscape to accommodate development while respecting its character.</p>	<p>Class 3 Red Sandstone Escarpment</p>		
<p>Could allocation of the site have a potential impact on a European Site SPA or SAC?</p>	<p>No impacts</p>		
<p>Could allocation of the site have a potential impact on a SSSI?</p>	<p>No Impacts</p>		
<p>Could allocation of the site have a potential adverse impact on designated Local Wildlife Sites, Local Nature Reserve, RIGs, Potential Wildlife Sites or any other site of wildlife or geodiversity value such as Ancient Woodland (including where BAP species and habitats have been recorded)?</p>	<p>Yes, BAP Wetlands and Grassland Habitat and Woodland and Orchard Habitat.</p>		
<p>What is the potential impact on TPOs?</p>	<p>Sporadic TPO coverage to the site boundaries.</p>		
<p>Would allocation of the site result in the use of previously developed land?</p>	<p>Site is greenfield.</p>		
<p>Summary: Is the site suitable for development? (conclusion based on all of the above including any comments from site visit)</p> <p>Suitability: Majority Green - Unlikely to have a major impact upon trends, subject to appropriate mitigation measures.</p> <p>Site visit: (desk top analysis)</p> <p>The site comprises of four parcels of land and are separated east/west by the M6 motorway and north/south by Weaste Lane. The parcels are predominantly flat with some buildings, TPO trees and residential properties to the north of site.</p> <p>Economic Development Needs Assessment Conclusions:</p> <p>The site is graded ‘D’ in the context of the Council’s EDNA (2019) and therefore performs poorly in terms of its contribution to meeting Warrington’s employment land needs.</p> <p>Local Plan Objectives:</p>		<p>Overall Site Conclusions based on Suitability, Availability, Achievability</p> <p>The site is graded ‘D’ in the context of the Council’s EDNA (2019) and therefore performs poorly in terms of its contribution to meeting Warrington’s employment land needs.</p> <p>The site is unlikely to have a major impact on trends.</p> <p>The site is available and is being promoted through the Local Plan process.</p> <p>Development of the site is less likely to be achievable given the EDNA Grade ‘D’ rating.</p> <p>The site performs poorly against the Local Plan Objectives for the Borough.</p> <p>SITE CONCLUSION:</p> <p>Taking into account and balancing a range of factors, the site is <i>not selected</i> as a suitable site to meet the Council’s economic development needs.</p>	

Subject

Employment Proformas – Site Selection

[Click here to enter text.](#)

<p>The low EDNA Grade limits any positive contribution the site can make to providing employment land to meet Warrington's future needs in accordance with Objective W1. The site is unlikely to contribute to wider infrastructure improvements to support the regeneration of Inner Warrington and the growth of the Borough as a whole in accordance with the wider aims of Objective W1 and Objective W4.</p>	
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APPENDIX D

TO DEVELOPMENT PLAN REPRESENTATION

WARRINGTON BOROUGH COUNCIL LOCAL PLAN (SUBMISSION VERSION)

“MD5” DRAFT POLICY WORDING AND PLAN

(OUR REF. BRE680/6)

NEW Policy MD5 – Lymm Garden Village

MD 5.1 Key Land Use and Infrastructure Requirements

1. Land comprising approximately 132.8 hectares at Lymm will be removed from the green belt allocated to deliver a new sustainable community of around 900 new homes, 23ha of employment land within use classes B1c); B2 and B8 supported by the following range of infrastructure:

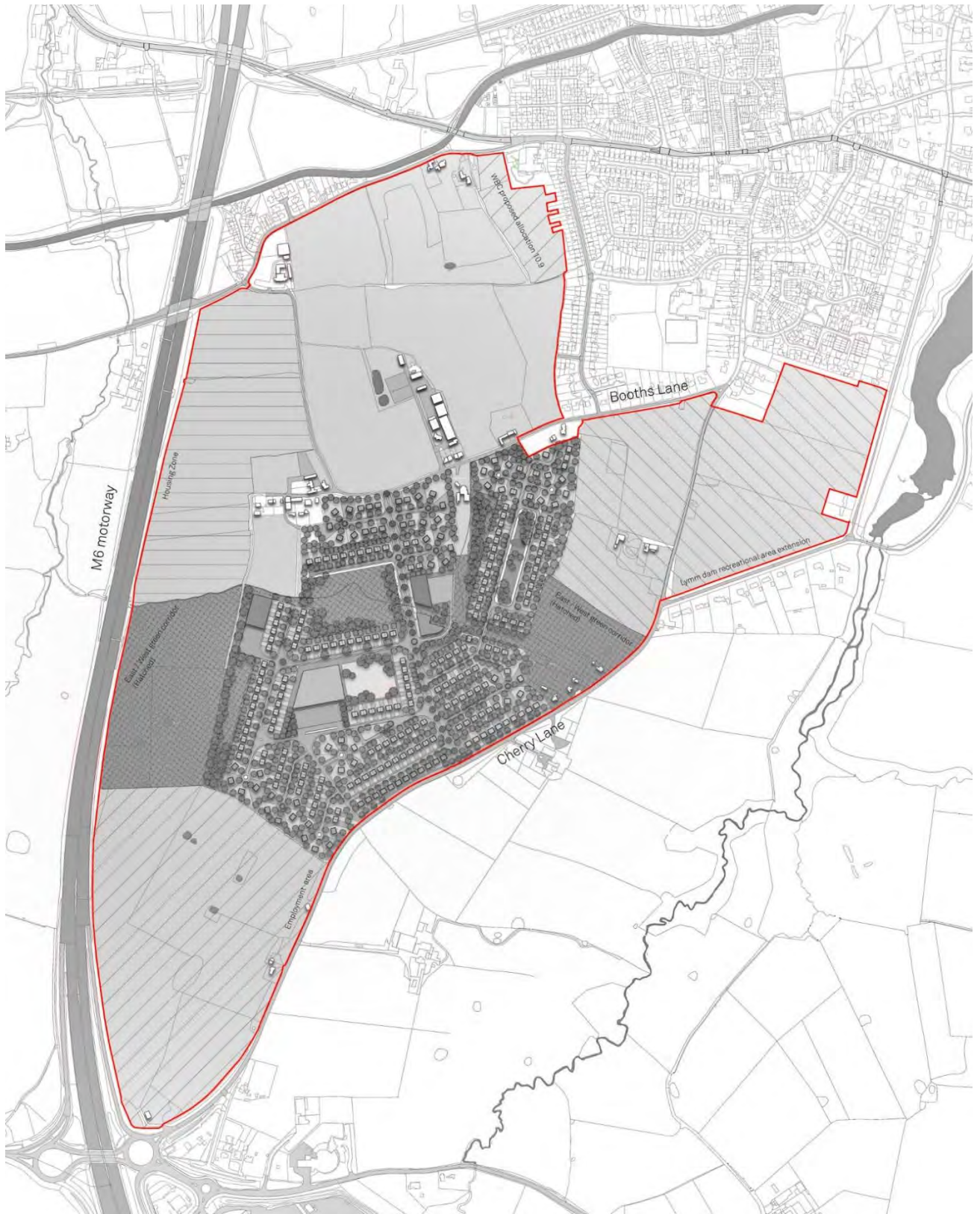
- a. A range of housing tenures, types and sizes, including a minimum of 35% affordable homes, custom and self-build plots and a residential care home (Use Class C2)
- b. A one form entry Primary School with additional operational land to allow the expansion to a two-form entry Primary School;
- c. A mixed use Local Centre providing a range of units within Use Classes A1, A2, A5, B1 and D1;
- d. Junction improvements and new highway connections linking the development to the Local Road Network, and highway works to the Strategic Road Network, as agreed by the Council and Highways England;
- e. Providing bus priority features such as bus gates to ensure that the internal site layout allows efficient servicing by bus services with good access to key facilities and direct links to the external network;
- f. An internal cycling and walking network (with links to the external network) which helps to create accessible neighbourhoods which minimises the need to drive to key facilities such as shops and schools;
- g. The provision of a Sustainable Drainage System (SuDS), in accordance with the Council’s adopted (or subsequent updated guidance) Sustainable Drainage Systems (SuDS) Design and Technical Guidance (December 2017);
- h. A contribution towards additional secondary school places;
- i. A contribution to deliver bus services to connect to the development to the Town Centre and other key destinations; and
- k. Provision of a comprehensive network of open spaces within the development to serve the new community and the wider Lymm area and in accordance with the Council’s open space standards;

MD 5.2 Delivery and Phasing

- 2. The Council will require the preparation of a detailed masterplan for the development of the site, together with a delivery strategy and phasing plan in order to ensure the comprehensive and coordinated development of the site as a whole by the end of the plan period.
- 3. The masterplan must confirm to the requirements of Policy MD5, be informed by a Green Infrastructure Strategy, a site wide Surface Water and Foul Water Strategy and a Transport Assessment, agreed with the Highway Authority. It should also be subject to consultation with statutory consultees and the local community.
- 4. The masterplan will provide the basis for subsequent planning applications for individual phases of development.

Allocation MD5 - Proposed Lymm Garden Village

Extent of proposed Allocation "MD5":



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Ascerta

Landscape, Arboricultural & Ecological Solutions
for the Built Environment

Ecological Appraisal

Booths Lane
Lymm
Warrington
WA13 0PF

Ref: P.1093.18

January 2019
(see revision dates below)

Rev	Date	Details

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P.1093.18

Ecological Appraisal

Of

**Booths Lane
Lymm
Warrington
WA13 0PF**

For

Brenrun Ltd

29 January 2019

Field Work by	Dr Rosalind King MCIEEM
Document Author	Rachael Hamilton MSci (Hons)
Technical Review	Dr Rosalind King MCIEEM
QA Review & Approval	Dani Wood

Contents

EXECUTIVE SUMMARY	- 3 -
1.0 Introduction	- 4 -
2.0 Objectives	- 4 -
3.0 Relevant Legislation	- 5 -
3.1 European Legislation	- 5 -
3.2 UK Legislation.....	- 5 -
3.3 Local Planning Policies	- 7 -
4.0 Survey Methods	- 8 -
4.1 Desk Study	- 8 -
4.2 Field Survey.....	- 8 -
4.3 Bat Survey Methods	- 8 -
4.4 Badger Survey Methods	- 11 -
4.5 Evaluation	- 11 -
4.6 Limitations	- 11 -
5.0 Survey Results	- 12 -
5.1 Desk Study	- 12 -
5.2 Habitat Survey	- 13 -
5.3 Protected and Invasive Species	- 16 -
5.4 Building descriptions	- 19 -
6.0 Assessment & Recommendations	- 20 -
6.1 Designated Sites and Habitats	- 20 -
6.2 Protected Species.....	- 20 -
6.3 Invasive Species Management	- 20 -
6.4 Enhancements.....	- 21 -
7.0 Conclusions.....	- 22 -
8.0 References.....	- 23 -

Appendix 1 Drawing P.1093.18.01 *Phase One Habitat Survey*

Appendix 2 Species Lists and Target notes

Appendix 3 RECORD Data Search Report

EXECUTIVE SUMMARY

An Ecological Appraisal has been carried out on land south of Booths Lane, Lymm, Warrington, WA13 0PF on 18th September 2018 by Rosalind King MCIEEM. The assessment comprised a desk study and biological records search, as well as a site walkover survey in order to map habitat types. The survey was extended to assess the potential for protected species to use the site. The assessment provides baseline data as to current site conditions and where appropriate allows recommendations to be made in respect of further potential work in order to satisfy current wildlife legislation.

The site currently contains a large brick built agricultural building with open doorways on each side which has planning permission to be converted into a residential dwelling, access track, hardstanding parking area and habitats including improved semi-natural grassland, short ephemeral, tall ruderal, bramble scrub and scattered willow scrub. Himalayan balsam was noted along the northern site boundary. These habitats are presented on plan P.1093.18.01 (Appendix 1).

Assessed against the '*Guidelines for Ecological Impact Assessment in the UK and Ireland*' 2nd edition (2016), the habitats range in ecological value from **negligible** to **within the zone of influence** of the site.

The proposed development site provides habitat for nesting birds, barn owl, foraging bats and small mammals. Polecat may use the habitat in the vicinity of the site but will be unaffected by the proposals. Badgers, amphibians and reptiles would also be unaffected by proposals for redevelopment of the site.

The recommendations, if fully implemented, will enable the development proposals to meet the requirements of national and local guidance and legislation including the NPPF and relevant environmental policies within the Warrington Local Plan. This survey report and the conclusions are valid until May 2020 as ecological features are dynamic.

Recommendations

Redevelopment of the site may impact the local ecology. In order to confirm these impacts and provide appropriate mitigation, the following measures are advised:

- 1 **Birds:** Development should avoid vegetation removal or sealing the building during the bird breeding season (1 March to 31 August inclusive). If this is not possible, a survey for breeding birds should be undertaken and any active nests found should be protected within a suitable buffer zone until they are no longer in use;
- 2 **Bats:** No further bat surveys are advised, however bats are likely active in the area and lighting should be sensitive to bats, to include the use of external lighting on timers or bollard style lighting;
- 3 **Hedgehog:** Provision of gaps of 13cm by 13cm under any garden fences to enable hedgehog continued access across the site;
- 4 **Invasive Species:** Control of Himalayan balsam by herbicide spraying, hand pulling and composting on-site to stop it from spreading into the wild during and after development works as detailed in Section 6.3; and
- 5 **Enhancement measures:** Provision of two bird boxes (a swift box and a house sparrow terrace) attached to new building on site, a bat box (e.g. Beaumaris woodstone type) attached to the new building or a bat brick incorporated into the dwelling on the site and suitable landscaping incorporating species that provide a food or shelter resource to wildlife to include hawthorn, honeysuckle and holly as hedgerow species along the

northern boundary and silver birch, crab apple, rowan, oak and bird cherry as tree species and areas of wildflower planting.

1.0 Introduction

Ascerta has been instructed by Brenrun Ltd to carry out an Ecological Appraisal of land south of Booths Lane, Lymm, Warrington, WA13 0PF (hereafter referred to as the site). The site OS grid reference is SJ 670 863 and is marked on drawing P.1093.18.01.

The site benefits from planning permission 2018-33814. However, the client proposes demolition of the existing building and construction of a replacement dwelling in lieu. This report advises on the ecological implications of amendments to the current application.

The site was visited on 18th September 2018 by Rosalind King when an Ecological Appraisal, which includes an assessment of the potential for protected species to be using the site or surroundings, was carried out in accordance with the *Handbook for Phase 1 Habitat Survey: a Technique for Environmental Audit (JNCC, 2010)*. The report was prepared following methods detailed in the CIEEM *'Guidelines for Ecological Impact Assessment in the UK and Ireland'* (2018) and *'Guidelines for Ecological Report Writing'* (2015). This report presents the results of the survey including evaluation of habitats on site and potential for protected species to be using the site.

The report includes recommendations for further actions where applicable in order to satisfy current wildlife legislation and to achieve our client's objectives.

2.0 Objectives

Our client's objectives are to determine the ecological constraints and opportunities in relation to potential redevelopment of the site.

Our objectives are as follows:

- Identify and evaluate any features of ecological value and the potential of the site to support protected species based on the walkover survey and biological records search;
- Identify statutorily or locally designated sites within 2km of the site;
- Review protected species records within 2km of the site;
- Map the habitats within the site using JNCC (2010) methods;
- Provide recommendations for further species-specific surveys and mitigation measures where current legislation requires;
- Provide recommendations that seek to conserve or enhance the ecological value of the site to inform future redevelopment proposals for the site;
- Provide recommendations to assist our clients in achieving their objectives whilst satisfying current wildlife legislation.

3.0 Relevant Legislation

3.1 European Legislation

The following Directives have been adopted by the European Union and provide protection for fauna and flora species of European importance and the habitats which support them:

- Directive 2009/147/EC on the Conservation of Wild Birds (Birds Directive);
- Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive).

3.2 UK Legislation

The Habitats Directive has been transposed into national legislation through the Conservation of Habitats and Species Regulations 2017 (The Habitats Regulations). This provides for the designation and protection of 'European Sites' (SPAs, SACs and Ramsar Sites, including proposed or potential European Sites) and the protection of 'European Protected Species'.

The key UK legislation relating to nature conservation is the Wildlife and Countryside Act 1981 (as amended) (W&C Act). This Act is supplemented, *inter alia*, by provisions in the Countryside and Rights of Way (CROW) Act 2000, and the Natural Environment and Rural Communities Act 2006 (NERC Act). Additional species and habitat specific UK legislation includes the Protection of Badgers Act 1992 and the Hedgerow Regulations 1997.

Species and Habitats of Principal Importance

Species and Habitats of Principal Importance are listed under section 41 of the NERC Act and are a material consideration in decision making. Decision makers require relevant, up to date information from ecological surveys in order to assess the effects of a proposed development on biodiversity as Councils have a statutory obligation under section 40 of the NERC Act to consider biodiversity conservation in the determination of planning applications.

The National Planning Policy Framework (NPPF) 2018 has been published to provide further planning guidance. Wildlife, biodiversity and ecological networks are referred to in Section 15 '*Conserving and enhancing the natural environment*'. The NPPF states that the planning system should contribute to and enhance the natural and local environment by: recognising the wider benefits of ecosystem services, minimising impacts on biodiversity and providing net gains in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures. Further guidance is provided within Government Circular 06/05: *Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within The Planning System*.

Background information about the lists of priority habitats and species (Species and Habitats of Principal Importance) can be found within the UK Biodiversity Action Plan (UK BAP). Although this has been succeeded by The 'UK Post-2010 Biodiversity Framework', many of UK BAP tools are still relevant. BAPs identify habitats and species of nature conservation priority on a UK (UK BAP) and Local (LBAP) scale. Most BAP priority habitats and species have Habitat Action Plans (HAP) and Species Action Plans (SAP) and there are also "grouped action plans" for groups of related species with similar conservation requirements. The LBAP relating to this Site is the Cheshire Biodiversity Action Plan.

Badgers

The legislation protecting badgers in England and Wales is the Protection of Badgers Act 1992.

Under the Protection of Badgers Act 1992 it is an offence *inter alia* to:

- Wilfully kill, injure or take a badger, or to attempt to do so;
- Cruelly ill-treat a badger; or
- Intentionally or recklessly interfere with a badger sett by (a) damaging a sett or any part of one; (b) destroying a sett; (c) obstructing access to or any entrance of a sett; (d) causing a dog to enter a sett; or (e) disturbing a badger when it is occupying a sett.

The Badger Act 1992 defines a badger's sett as "*any structure or place which displays signs indicating current use by a badger*"

Natural England can issue licences to enable works to continue that may affect a protected species. In relation to disturbance of badgers, Natural England (2009) gives guidelines on disturbance which will require a licence. These includes: "*using very heavy machinery (generally tracked vehicles) within 30 metres of any entrance to an active sett; using lighter machinery (generally wheeled vehicles), particularly for any digging operation, within 20 metres; light work such as hand digging or scrub clearance within 10 metres. There are some activities which may cause disturbance at greater distances (such as using explosives or pile driving) and these should be given individual consideration.*"

Bats

In England, all bats and their roosts are protected under the Conservation of Habitats and Species Regulations 2017 and the Wildlife & Countryside Act 1981 (as amended). Several species of bat are also highlighted as Priority Species under the UK Biodiversity Action Plan. and within the Cheshire Biodiversity Action Plan.

Under the current legislation as summarised on pages 8 and 9 of the Bat Surveys for Professional Ecologists Good Practice Guidelines – 3rd Edition (2016) it is a criminal offence to:

"To kill, capture, injure or take a wild bat;

- *To damage or destroy a place used by a bat for breeding or resting. All offences of this nature are identified within the Habitats Regulations. This offence is unique in that it can be committed accidentally. No element of intentional, reckless or deliberate action needs to be evidenced;*
- *To disturb bats anywhere (roosts, flight lines or foraging areas) if levels of disturbance can be shown to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate or to affect significantly local distribution or abundance;*

- *To intentionally or recklessly disturb a bat, whilst it is occupying a place of shelter or protection;*
- *To intentionally or recklessly obstruct access to any place used by a bat for shelter or protection; and*
- *To be in possession or control of a bat alive or dead (or any part of a bat or anything derived from a bat, although bat droppings are generally considered to be acceptable), or to transport a bat, to sell or exchange a bat or to offer to sell or exchange a bat taken from the wild.”*

Breeding Birds

Breeding Birds are protected under the Wildlife and Countryside Act which make it an offence to:

- *intentionally kill, injure or take any wild bird or take, damage or destroy the nest of any wild bird whilst it is in use or being built;*
- *intentionally take or destroy the egg of any wild bird;*
- *have in one's possession or control any wild bird, dead or alive, or any part of a wild bird (including eggs), which has been taken in contravention of the Act or the Protection of Birds Act 1954;*
- *intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.*

Invasive Species

It is an offence under Section 14(2) of the Wildlife and Countryside Act 1981 to ‘*plant or otherwise cause to grow*’ in the wild any plant in Schedule 9 Part II.

3.3 Local Planning Policies

The site lies within Warrington Borough Council administrative area and is covered by the adopted policies of the Warrington Core Strategy Local Plan (adopted July 2014). High Quality Environment Policy QE5 (Biodiversity and Geodiversity) is the policy of relevance here and has been taken into account when preparing this report.

The following table provides a summary of the main species within the UK that could be encountered within or within proximity of this site, together with the relevant legislation that affords them protection.

Table 3.1 Protected Species and the Associated Legislation.

	Species	Legislation
Amphibians	Great crested newt (<i>Triturus cristatus</i>)	Schedule 5, W&C Act 1981 (as amended);
Mammals	Badger (<i>Meles meles</i>)	Protection of Badgers Act 1992.
	All species of bat	Schedule 5, W&C Act 1981 (as amended); Schedule 2, The Habitats Regulations 2017; and Section 41, NERC.

Species		Legislation
Birds	All wild birds	Schedule 5, W&C Act 1981 (as amended) and Section 41, NERC.
Reptiles	Adder (<i>Vipera berus</i>) Common lizard (<i>Zootoca vivipara</i>) Grass snake (<i>Natrix natrix</i>) Slow worm (<i>Anguis fragilis</i>)	Schedule 5, W&C Act 1981 (as amended) and Section 41, NERC.

N.B - It is a criminal offence to intentionally, wilfully kill, injure or take any of the aforementioned protected species or to destroy or disturb its habitat.

4.0 Survey Methods

The Ecological Appraisal involved the collection and review of data from a desk study and field survey along with assessment of the value of the habitats following CIEEM guidelines.

4.1 Desk Study

A review of the designated sites and habitats within 2km of the site has been undertaken using the Multi-Agency Geographic Information for the Countryside (MAGIC) and the Natural England websites.

A review of UK and Local priority species and habitats known to occur in the region of the site has been undertaken; using the Joint Nature Conservation Committee website and local records from RECORD (Appendix 3).

4.2 Field Survey

A walkover survey of the site was conducted on 18th September 2018, when the habitat types and features of ecological interest were identified and mapped in compliance with the Handbook for Phase 1 Habitat Survey: a Technique for Environmental Audit (JNCC, 2010). The survey methods involve the recording and mapping of all habitat types and ecological features present on site, including the identification of the main species present and examination of the potential for any protected species. Habitats were mapped, and target notes made for any interesting features.

When conducting the surveys particular focus was concentrated on the following species and habitat features:

- Mammals (badgers and bats);
- Birds;
- Amphibians and reptiles;
- Invertebrates;
- Hedgerows and boundaries;
- Invasive plant species; and
- Plant communities and trees.

4.3 Bat Survey Methods

The survey methods followed the guidelines set out by the Bat Conservation Trust Bat Surveys for Professional Ecologists Good Practice Guidelines – 3rd Edition (2016). Habitats, Buildings and Trees were assessed for suitability for use by bats and categorised

independently using table 4.1 page 35 within the Bat Conservation Trust Guidelines (Collins, 2016).

Preliminary Ecological Appraisal for Bats

Habitats on site were assessed for their suitability for bats to use them for roosting, commuting and foraging both on the site and surrounding area. Commuting and foraging habitat suitability was categorised **negligible** to **high**. Commuting and foraging habitat valued as **Moderate** or above may need further survey effort if lost to the proposals.

Preliminary Roost Assessment Trees

All trees were inspected for Potential Roost Features (PRFs). Features searched for included: natural or woodpecker holes, cracks/splits in major limbs, loose bark, hollows/cavities, dense epicormic growth, bird and bat boxes. Where such features were found they were investigated for scratches or staining, bat droppings and smoothing of surfaces around entry points. Trees assigned a suitability of **moderate** or above may require further inspection if they are to be lost to the development.

Internal/External Inspection of the Building

A daytime internal and external inspection of the buildings was carried out during the survey by a suitably qualified bat ecologist. The buildings were searched externally looking for signs of bats, including staining on barge boards, soffits and more commonly droppings on flat surfaces i.e. window ledges that would indicate potential roosting sites. Possible bat access points such as loose tiles, cracks and crevices or crawl spaces beneath and/or behind roofing materials such as roofing felt, panelling, soffits and tiles were identified and checked for signs of use by bats, for example droppings, scratch marks and staining.

Internally, all areas of the buildings, including the cellar (where present), were accessed where possible and inspected for signs of use by bats. The lofts (where present) were accessed where possible and fully inspected for potential use by bats. Features noted included light gaps (indicating potential access points), loft dimensions, presence of roofing felt and loft conditions such as ventilation, temperature and cobweb coverage. Signs of use by bats were searched for including droppings, scratching, staining, dead bats (particularly in uncovered water tanks) and actual bats.

The building was categorised as per Table 4.1 (below). Buildings assigned a suitability of **Low** or above may require further inspection if they are to be lost to the development.

Table 4.1: Guidelines for assessing Potential Roost Features (PRFs), commuting and foraging habitat within a proposed development site. Guidelines taken from table 4.1 page 35 of the Bat Conservation Trust Bat Surveys for Professional Ecologists Good Practice Guidelines – 3rd Edition (2016).

Suitability	Roosting Habitats	Commuting and Foraging Habitats
Negligible	<i>Negligible habitat features on site likely to be used by roosting bats.</i>	<i>Negligible habitat features on site likely to be used by commuting or foraging bats.</i>
Low	<i>A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ^a and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation ^b). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential. ^c</i>	<i>Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.</i>
Moderate	<i>A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions^a and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).</i>	<i>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.</i>
High	<i>A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions ^a and surrounding habitat.</i>	<i>Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.</i>

^a For example, in terms of temperature, humidity, height above ground level, light levels of disturbance.

^b Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten et al., 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.

^c This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI,2015).

4.4 Badger Survey Methods

The site was searched for setts and badger field signs including foraging areas, latrines and tracks. Attention was paid to the presence of the following field signs:

- Setts: single holes or a series of holes likely to be interconnected underground;
- Latrines: badgers usually deposit faeces in excavated pits;
- Paths and footprints;
- Scratching posts: at the base of trees;
- Snuffle holes: areas where badgers have searched for insects;
- Day nest: bundles of vegetation where badgers may sleep above ground; and
- Traces of hair.

4.5 Evaluation

Habitats and species on the site were evaluated following the '*Guidelines for Ecological Impact Assessment in the UK and Ireland*' 2nd edition (2016). A geographical frame of reference is assigned to each habitat and species, with International Value being most important, then National, Regional, County, District, Local and lastly, within the immediate Zone of Influence (Zoi) of the proposals only

Value judgements are based on characteristics that can be used to identify ecological resources or features likely to be important in terms of biodiversity. These include site designations such as SSSIs. For undesignated features, the size, conservation status (locally, nationally or internationally), and the quality of the ecological resource are considered. Ecological resource quality can refer to habitats (for instance if they are particularly diverse, or a good example of a specific habitat type), other features (such as wildlife corridors or mosaics of habitats) or species populations or assemblages.

4.6 Limitations

The site was visited in mid-September. Although this not the optimal time of year for phase 1 habitat surveys, sufficient vegetation was present to enable habitat identification. The building and site could be fully accessed so there are not access limitations to this report. Survey timing is not considered a limit to the conclusions of the report based on the habitats found within the site and the scope of the report.

5.0 Survey Results

5.1 Desk Study

One statutory site was identified within the vicinity of the proposals (with approximate distance and direction from the site):

- Woolston Eyes Site of Special Scientific Interest (SSSI) (1.98km north west)

The following non-statutory sites were identified within the vicinity of the proposals:

- The Bongs and The Gorse Local Wildlife Site (Split into two parts, one in Cheshire and one in Warrington References CE318 and WA034), (1.8km south east of the proposals);
- Lymm Dam Complex Local Wildlife Site (1.8km north east of the proposals);
- Lymm Dam Regionally Important Geological Site (1.9km north east of the proposals)

The site lies within a Natural England SSSI Impact Risk Zone however in this instance Natural England do not need to be consulted on redevelopment of the site into a single residential dwelling.

Following a review of records held by the local biological records centre, RECORD, several priority species that have the potential to occur within the vicinity of the proposed development have been identified. These include pipistrelle, polecat, English bluebell and box.

Five European Protected Species Licence (EPSL) application within 2km of the site were identified using Magic Maps.

- 2014-654-EPS-MIT-2 for the destruction of a resting place for great crested newt. Start date 05/12/2016 end date 05/12/2016 (800m to the north west);
- 2014-654-EPS-MIT; and 2014-654-EPS-MIT-1 for the destruction of a resting place for great crested newt. Start date 01/08/2014 end date 30/06/2018 (800m to the north west);
- 2015-18494-EPS-MIT for the destruction of a resting place for brown long-eared, Natterer's and soprano pipistrelle bats. Start date 18/12/2015 end date 01/02/2021 (1,776m to the north west); and
- EPSM2011-3271 for the destruction of a resting place and breeding site for common pipistrelle, soprano pipistrelle and brown long-eared bats. Start date 01/09/2011 end date 31/08/2013 (1,362m to the north west);

A list of key habitats is shown in table 5.1 below and a summary description of key habitats within the survey area is provided in Section 5.2. Notes on the presence or potential presence of protected species are provided in Section 5.3. The Phase 1 Habitat map can be found in Appendix 1. The Target Notes (TN) and lists of species recorded during survey are presented in Appendix 2.

5.2 Habitat Survey




The site comprises a large brick built agricultural building with open doorways which has planning permission for conversion into a residential dwelling. There is a gravel, parking area and habitats including improved semi-natural grassland, short ephemeral, tall ruderal, bramble scrub and scattered willow scrub. Himalayan balsam was noted along the northern site boundary. These habitats are presented on plan P.1093.18.01 (Appendix 1). Table 5.1 details the habitat types recorded on the site.





The site lies on the south western fringe of Lymm, south of Booth's Lane. It is surrounded by arable farmland. The plot to the west of the site, a former garage, has also been developed for a residential dwelling. Opposite the site, to the north across Booth's Lane (outside the application site) there is a species poor hedgerow with scattered trees and a brick-built residential dwelling plus attached barn/store with a slate roof.





The M6 lies 700m to the west of the site, with the Lymm dam lies 830m east of the site. An open reservoir lies 250m east of the site.

Weather conditions during the survey were warm (20°C), dry (2/8 cloud cover) with a F5 (Beaufort Scale) moderate breeze, therefore appropriate for this type of survey.

Table 5.1 Habitat Types on the Proposed Development Site.

Description	Photograph
<p>Buildings:</p> <p>The main building on site is an open brick-built two-storey building. There is a single layer of brickwork and no cavity wall. The roof is supported on brick columns with iron girders. The roof structure comprises open wooden trusses and is finished externally with corrugated tin. The roof is currently not lined so there is no loft void.</p> <p>On the north east of the site, along the access track there is a closed storage container.</p> <p>These buildings offer negligible bat roost potential for bats as they do not offer enough shelter to void dwelling bats, and no not offer crevices for crevice dwelling bats.</p> <p>The main building is to be demolished and the shipping container removed.</p>	 <p>External</p>  <p>Internal</p>  <p>Container</p>
Ecological Value	Within the Zone of Influence

Description	Photograph
<p>Hardstanding: The access to the site is by a hardstanding driveway comprising gravel.</p> <p>The bare areas offer little in the way of value to wildlife. This habitat type is common in the wider environment.</p>	
<p>Ecological Value</p> <p>Short Perennial / Ephemeral: There are stands of short perennial / ephemeral vegetation at the northern and southern access points of the site encroaching the hardstanding gravel drive. Species include grass species, herb Robert, broadleaved plantain, cranesbill <i>sp</i> and black medic.</p> <p>Short ephemeral vegetation offers some forage for birds, invertebrates and small mammals. It is common within the wider environment and could be included within proposals for redevelopment of the site or replaced with wildflower planting.</p>	<p>Negligible</p> 
<p>Ecological Value</p> <p>Scattered Scrub: There is a small area of bramble scrub on the north western, and south eastern corners of the site.</p> <p>Bramble scrub provides nesting habitat for and forage to birds, amphibians, bats and small mammals. This type of habitat is common within the wider environment and similar habitat could be included within proposals for redevelopment of the site.</p>	<p>Within the Zone of Influence</p> 
<p>Ecological Value</p> <p>Semi-Improved Grassland: The main building on site is surrounded by semi-improved grassland. Species include dandelion, red clover, Yorkshire fog, perennial ryegrass, white clover, scentless mayweed, red fescue and cocks-foot.</p> <p>Semi-improved grassland provides forage for birds, amphibians, bats, and small mammals. This type of habitat is common within the wider environment and could be included within proposals for redevelopment of the site</p>	<p>Within the Zone of Influence</p> 
<p>Ecological Value</p>	<p>Within the Zone of Influence</p>

Description	Photograph
<p>Tall Ruderal: Tall ruderal vegetation lines the northern, southern and eastern boundaries of the site. There is also a patch of tall ruderal vegetation in the north western corner of the site. Species include nettle, rosebay willowherb, creeping thistle, prickly sow thistle, black medic, Himalayan balsam, ragwort and oak saplings.</p> <p>The areas of vegetation are of value to birds, small mammal species and amphibians for forage. The vegetation may also provide invertebrates that would support bat foraging. Much of this vegetation could be retained within the scheme. However, it is otherwise a type of common habitat found in the wider environment and habitat with similar value, such as wildflower planting, could be included within proposal for redevelopment of the site.</p>	
<p>Ecological Value</p>	<p>Within the Zone of Influence</p>
<p>Scattered Willow Scrub: There is a patch of scattered willow scrub near to the south western corner of the site comprising goat willow.</p> <p>This offers very limited nesting opportunities for birds, and forage for birds, invertebrates and bats. Willow scrub can be easily recreated through tree planting.</p>	
<p>Ecological Value</p>	<p>Within the Zone of Influence</p>
<p>Brash/Rubble Piles: There is a brash pile to the north west of the driveway and a rubble pile to the south west of the building. These could provide refugia for amphibians and hedgehogs. They are currently being cleared by hand and any species found will be relocated to appropriate habitats within the site. During construction materials will be stored on pallets to avoid creating habitat for species.</p>	
<p>Ecological Value</p>	<p>Within the Zone of Influence</p>
<p>Ploughed Arable Land and Species Poor Hedgerow (offsite): To the east of the building the land comprises a ploughed arable field. Arable farmland provides forage habitat for invertebrates, birds, bats, small mammals and polecat. Along the northern boundary of the site runs a species poor hedgerow. These habitats will be unaffected by developments.</p>	
<p>Ecological Value</p>	<p>Within the Zone of Influence</p>

5.3 Protected and Invasive Species

Species Results	Evaluation and Recommendations
<p>Badger: No records for badger were returned within 2km of the site and no evidence of badger, including snuffle holes or signs of digging, was noted onsite during survey.</p>	<p>It is considered that badgers are not using the site for foraging. As the surrounding fields are ploughed, they would not offer suitable habitat for badgers.</p> <p>At present badger will not be harmed by any redevelopment of the site and need no further consideration within the current proposals.</p>
Ecological Value	Within the Zone of Influence
<p>Bats: Two records of pipistrelle bats were returned from 2016, 684m west of the site. No other records of bats were returned within 1km of the site.</p> <p>There are habitats onsite which could provide forage for bats including semi-natural improved grassland, bramble scrub, tall ruderal and willow scrub.</p> <p>The building and container provide negligible bat roost habitat.</p>	<p>Pipistrelle bats are a Local Biodiversity Action Plan Species for Cheshire.</p> <p><i>Habitat:</i> The habitats on the site are considered to provide low bat commuting and foraging suitability.</p> <p><i>Buildings:</i> The main building could be fully accessed internally and externally and was assessed as providing negligible bat roost potential as it is a new building and lacks roost features for crevice dwelling bats and is too open to provide shelter for void dwelling bats. The container to the north east of the site was also assessed as offering negligible roost potential.</p> <p><i>Trees:</i> Trees onsite are not mature enough to provide potential roost features for bats.</p> <p>To enable bats continued use of retained commuting and foraging habitats on the site it is advised that lighting is kept to a minimum and designed to avoid spill into the foraging habitat i.e. the species poor hedge along the southern border of the site. Lighting design should follow advice set out in <i>Bats and lighting in the UK- bats and the built environment series</i>, 08/18 (Bat Conservation Trust, 2018).</p>
Evaluation	<p>Low bat commuting and foraging habitat, Negligible roosting habitat.</p>

Species Results	Evaluation and Recommendations
<p>Breeding Birds: Records of cormorant, grey heron and great crested grebe were returned from the record search. Habitat for these species does not exist on site as they are all wetland species and likely using the dam to the south east.</p> <p>The site offers some nesting and foraging opportunities for common bird species. Magpie and buzzard were recorded during the survey. Some nesting habitat may be lost during the development.</p> <p>A barn owl pellet was found within the building during the site visit. This suggests that a barn owl may be using the building as a feeding perch. No evidence of barn owl nesting was found.</p>	<p>There is unlikely to be loss of habitat for nesting birds as a result of the proposal, however there may be some limited foraging habitat loss. This can be mitigated for by provision of wildflower planting and planting of native shrubs that provide a food or nectar source to wildlife. The site can be enhanced for birds by the provision of a house sparrow terrace and a swift box, affixed to the new building. Although evidence of barn owl using the site was noted, provision of a barn owl box is not recommended in this case as the site lies within 1km of a motorway, which could result in barn owl mortality.</p> <p>In order to avoid harm to nesting birds, vegetation should not be cleared during the bird breeding season (between 1 March and 31 August). If vegetation clearance needs to be undertaken during this period, a nesting bird survey would need to be conducted by a suitably qualified ecologist, before works begin. If any active nests are observed during the survey, exclusion zones will be set up and works will not occur in these areas until nesting is complete.</p>
Ecological Value	Within the Zone of Influence
<p>Amphibian and Reptiles: A brash/rubble pile was recorded on site which could provide refugia for amphibians and reptiles. There are habitats onsite that are suitable for supporting reptiles and amphibians. However, no records of reptiles were returned from the biological record search.</p> <p>There is no suitable forage or breeding habitat for great crested newt (GCN) on site. No records of amphibian were returned from the local biological record search. However, there have been three EPSL granted for the destruction of a resting place for great crested newts dating from 2014 and 2016. The nearest was granted for a site approximately 750m north west of the site, adjacent to the motorway. There are 34 ponds within 1km of the site, which are connected by arable farmland and hedgerows.</p>	<p>There are no records of reptiles in the vicinity, therefore, it is considered unlikely that reptiles are using the site.</p> <p>Great crested newts are known to be using sites within 1km of the development site. There is suitable breeding and foraging habitat beyond the development site. There are no ponds, woodland or hedgerows onsite that would be suitable breeding or foraging habitat for great crested newts. Although the surrounding habitat is suitable for GCN it is considered to be very unlikely that GCN would be using the site, and that GCN will not be harmed during the development works.</p> <p>Reptiles and great crested newt need no further consideration within the current planning application and the rubble and brash piles are currently being cleared.</p>
Ecological Value	N/A as unlikely present

Species Results	Evaluation and Recommendations
<p>Other Species:</p> <p>Three records of English bluebell were returned from 2015-2017. The closest record was 1.07km west of the site. Bluebells a local biodiversity action plan species for Cheshire.</p> <p>One record of Box was returned from 2013 within the 256m east of the site on Booths Lane. This is a nationally rare tree species.</p> <p>Four records of Frieberg's Screw-moss were returned from 2008. The closest was 718m north west of the site near to the M6 motorway. This moss is nationally rare and a UK BAP Priority Species.</p> <p>One record of polecat was returned 660m north west of the site from 2007. Polecat are a Local Biodiversity Action Plan species and a UK Biodiversity Action Plan species.</p> <p>The site provides habitat for hedgehog.</p>	<p>Although records of English bluebell, box and Frieberg's Screw-moss were returned the records are distanced from the site, and none of these species were recorded onsite during the survey, with habitats on the site unsuitable for English bluebell or the moss. Therefore, it is considered that development would not impact these species.</p> <p>There was no evidence of polecat onsite however the site was not surveyed for polecat in detail. The record of polecat dated from over 10 years ago. Polecats are known to use grassland, farmland, wetland and woodland habitats. These habitats are common in the wider area of the development site and there will only be a small loss of grassland on site. The site does not provide any other habitat for polecat and they are unlikely to be adversely impacted by the proposals.</p> <p>Although no records of hedgehog were returned, there are brash and piles onsite which could provide refuge to hedgehogs. It is good practice to hand remove rubble and check brash for hedgehogs before burning and this is currently being undertaken. If fences are provided around the proposals, a gap of 13cm by 13cm should be left under the fence to enable hedgehog continued access across the site.</p>
<p>Ecological Value</p>	<p>Within the zone of influence for hedgehog only</p>
<p>Invasive Species:</p> <p>There are five records of Himalayan balsam in the vicinity of the site. The closest record lies 752m east of the site along the banks of Lymm dam.</p> <p>One stand of Himalayan balsam was observed along the northern boundary of the site. This is marked on drawing P.1093.18.01 (Appendix 1) as TN1 (Appendix 2).</p> <p>There records of Rhododendron were recorded between 2007 and 2015. The closest record was from 336m south of the site.</p>	<p>Himalayan balsam and rhododendron are listed in Schedule 9 Part II of the Wildlife and Countryside Act 1981. Himalayan balsam was recorded on site and it is advised that this species be controlled by hand pulling prior to the plant setting seed and allowed to decompose, to avoid spread in the wild during works. There was no evidence of rhododendron found during the site visit.</p>
<p>Ecological Value</p>	<p>Within the Zone of Influence</p>

5.4 Building descriptions

Main Building

The main building on-site is a brick-built, two-storey with a corrugated tin roof. The building is generally well sealed with a few small gaps underneath the roof cladding (photograph 1). There is no roof lining, so it is considered that the gaps do not offer suitable habitat for crevice dwelling bats. The building is open to the trusses of the roof and has no cavity wall therefore, would not offer suitable shelter for void dwelling bats (photograph 2). No signs of bats including bat dropping, feeding signs, scratching or staining was noted inside or outside the building. This building was assessed as providing **negligible** roost potential for bats.



Photograph 1: Gaps under external roof cladding



Photograph 2: Building open to trusses with no cavity walls

Storage Container

There is a metal storage container to the north east of the site. This is closed but provides some access for bats (photograph 3). The container is considered to offer negligible bat roost potential as it is unheated and will conduct the extremes of temperature, making it unsuitable for bats.



Photograph 3: Storage container, closed with access around the edges of the doors.

6.0 Assessment & Recommendations

6.1 Designated Sites and Habitats

The only statutory designated site within the vicinity is Woolston Eyes Site of Special Scientific Interest which is located 1.98km north west of the northern site boundary. The site lies within the SSSI Impact Risk Zone for Woolston Eyes, however only one residential dwelling is proposed onsite, and as such Natural England will not need to be consulted on the development. There will likely be no adverse impacts on SSSI as a result of the proposals.

Three non-statutory designated sites lie within the vicinity of the site. The development of the site is for one residential dwelling and is therefore small-scale and unlikely to adversely impact features for which the sites have been designated.

The habitats on site comprise buildings, hardstanding, short ephemeral, scattered scrub, semi-improved grassland, tall ruderal vegetation and scattered willow scrub. These habitats are considered to have an ecological value of **within the zone of influence** of the site or lower. The site contains no designated or priority habitats. Including wildflower planting together with native nectar, fruit or berry bearing shrubs and trees will mitigate for any loss of these habitats.

There is the potential to improve the ecological value of the site with the installation of bat and bird boxes, hedgehog refugia and suitable landscaping incorporating species that provide a food or shelter resource to wildlife.

6.2 Protected Species

The buildings on site have been assessed as having **negligible** bat roost potential. The site is assessed to have **low** bat foraging and commuting habitat (5.3 above). The site also provides habitat to nesting birds, hedgehog and feeding barn owl. No other protected species are considered to be using the site.

Further works to be undertaken in relation to protected species are presented in Section 5.3 above and include installation of lighting sensitive to the needs of bats, avoiding site clearance during the breeding bird season and ensuring access gaps of 13cm by 13cm are included under fences for hedgehogs.

6.3 Invasive Species Management

There is a stand of Himalayan balsam growing on an embankment of soil onsite (TN1 on drawing P.1093.18.01). This is an invasive species listed under Schedule 9 Part II of the Wildlife and Countryside Act 1981 and will need control to avoid spread off site during works.

Himalayan balsam is an annual plant, growing from seed in the spring and dying back in the autumn. The plant can grow to 2m in height and has pink, strong scented flowers that are attractive to bees from May through to August. The plant can seed from June and seed is spread from explosive seed pods, which can fire seeds up to 1.5m from the parent plant.

Himalayan balsam is not a risk to building structural integrity or garden habitats, however, if spread in the wild it can take over grassland and woodland, by growing fast and competitively excluding other species. It is a particular problem along river banks, where it

outcompetes other vegetation, but dies back in the autumn, leaving exposed soil at risk of erosion. For these reasons it is listed as an invasive species.

In order to avoid spread of this species off-site, the area will be sprayed with an appropriate glyphosate or 2,4-D amine-based herbicide during suitable weather conditions from March 2019, prior to works commencing. The vegetation will be left for 2 weeks to enable the herbicide to metabolise and eradicate any existing seedlings.

However, a seedbank may still exist in the embankment soil and the area within 2m of the embankment. This area (as marked on drawing P.1093.18.01) will be kept weed free, through the regular (monthly) application of herbicide between March 2019 and October 2019 or until groundworks commences. If soil need to be moved from this area during works, it will be retained on-site and monitored regularly for Himalayan balsam regrowth. Any regrowth will be treated with an appropriate herbicide during the growing season (i.e. between March and October).

Any vehicles that enter the Himalayan balsam control area will have their wheels washed on site to ensure mud, potentially containing Himalayan balsam seed, is not taken off site. The area where the wheel washing will occur, will be located in the north west of the site, away from off-site habitats. This area will be regularly monitored for Himalayan balsam regrowth. Any growth will be treated with herbicide as above.

The seedbank can persist for a number of years and may enter the area from off-site sources. Therefore, following development, regular garden maintenance will include monitoring for Himalayan balsam. Any Himalayan balsam plants will be hand pulled prior to flowering and composted on the site.

The above methods, if fully implemented, will ensure Himalayan balsam is not spread off-site during and after works.

6.4 Enhancements

In order to meet requirements for biodiversity protection and enhancement outlined within the NPPF, ecological enhancements will need to be included within future redevelopment proposals. These could include:

1. Provision of two bird boxes (a swift box and a house sparrow terrace) attached to new building on site;
2. Provision of a bat box (e.g. Beaumaris woodstone type) attached to the new building or provision of a bat brick incorporated into the dwelling on the site;
3. Provision of a habitat pile or hedgehog nest box; and
4. Suitable landscaping incorporating species that provide a food or shelter resource to wildlife to include hawthorn, honeysuckle and holly as hedgerow species along the northern boundary and silver birch, crab apple, rowan, oak and bird cherry as tree species and areas of wildflower planting.

7.0 Conclusions

Redevelopment of the site is unlikely to adversely impact the local ecology, provided the following measures are included within the proposals:

- 1 **Birds:** Development should avoid vegetation removal or sealing the building during the bird breeding season (1 March to 31 August inclusive). If this is not possible, a survey for breeding birds should be undertaken and any active nests found should be protected within a suitable buffer zone until they are no longer in use;
- 2 **Bats:** No further bat surveys are advised, however bats are likely active in the area and lighting should be sensitive to bats, to include the use of external lighting on timers or bollard style lighting;
- 3 **Hedgehog:** Hand searching of the brush piles for hedgehog and provision of gaps of 13cm by 13cm under any garden fences to enable hedgehog continued access across the site;
- 4 **Invasive Species:** Control of Himalayan balsam by herbicide spraying, hand pulling and composting on-site to stop it from spreading into the wild during and after development works as detailed in Section 6.3; and
- 5 **Enhancement measures:** Provision of two bird boxes (a swift box and a house sparrow terrace) attached to new building on site, a bat box (e.g. Beaumaris woodstone type) attached to the new building or a bat brick incorporated into the dwelling on the site and suitable landscaping incorporating species that provide a food or shelter resource to wildlife to include hawthorn, honeysuckle and holly as hedgerow species along the northern boundary and silver birch, crab apple, rowan, oak and bird cherry as tree species and areas of wildflower planting.

The local environment is dynamic and habitats can change or species move around within a relatively short time period. As such, this survey report and the conclusions are valid until May 2020.

The above recommendations, if fully implemented, will enable the proposals to meet the requirements of national and local guidance and legislation including the NPPF and policy QE 5 of the Warrington Local Plan Core Strategy.

8.0 References

Bat Conservation Trust (2018) *Bats and lighting in the UK- bats and the built environment series 08/18* Bat Conservation Trust, London.

CIEEM (2015) *Guidelines on Ecological Report Writing*. Chartered Institute of Ecology and Environmental Management, Winchester

CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester.

Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.

Department for Communities and Local Government (2018), *National Planning Policy Framework (NPPF)*

Joint Nature Conservation Committee (JNCC) (2010) *Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit*. JNCC Publications, Peterborough;

Joint Nature Conservation Committee (JNCC). *The UK Biodiversity Action Plan (UK BAP)* [online] Available at: www.jncc.defra.gov.uk/page-5155

Maddock, A., (ed) (2011) *UK Biodiversity Action Plan; Priority Habitat Descriptions*, JNCC.

Multi Agency Geographic Information for the Countryside (MAGIC) [online]

Rose, F. (2006). *Collins The Wild Flower Key, how to identify wild flowers trees and shrubs in Britain and Ireland*. Penguin Group: London.

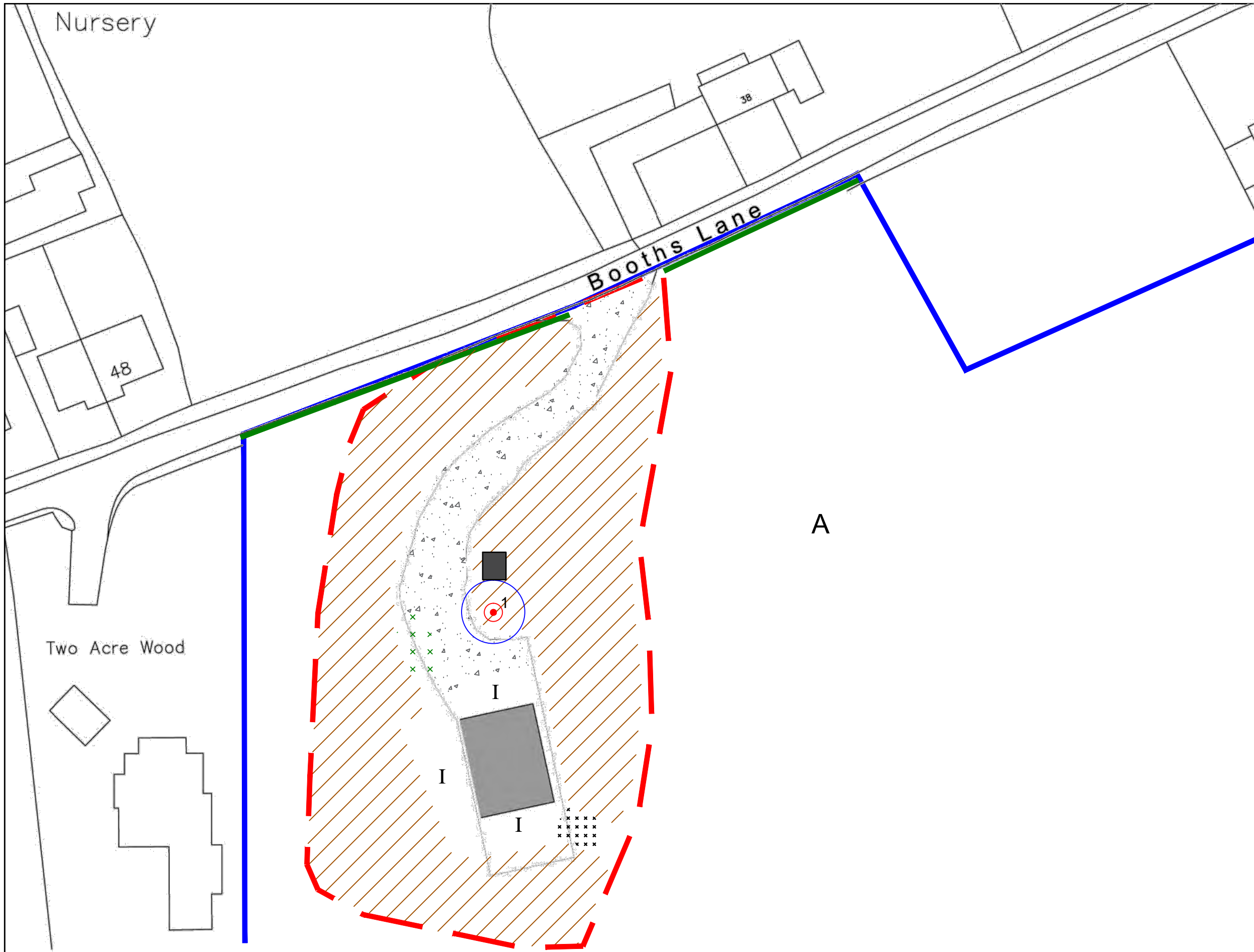
Stace, C., (2010). *New Flora of the British Isles*. 3rd Edition. Cambridge University Press: Cambridge.

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Appendix 1

DO NOT SCALE
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KEY

	Arable
	Improved grassland
	Tall ruderal vegetation
	Scattered scrub
	Building
	Container
	Hard standing
	Species poor intact hedge
	Short perennial / ephemeral
	Survey area
	Ownership boundary
	Himalayan balsam control area
	Target note 1 - Himalayan Balsam

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CLIENT:
Brenrun Ltd

PROJECT:
Booths Lane, Lymm, Warrington

DRAWING TITLE:
Phase One Habitat Survey

SCALE: Not to scale	DRAWN BY: CP	DRAWING No: P.1093.18.01	REV: -
DATE: 18/09/2018	CHKD BY: RK		

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Appendix 2

Species List

PLANTS

English Name	Scientific Name
Ash	<i>Fraxinus excelsior</i>
Bindweed	<i>Convolvulus</i>
Black Medick	<i>Medicago lupulina</i>
Bramble	<i>Rubus fruticosus agg.</i>
Broadleaved dock	<i>Rumex obtusifolius</i>
Broadleaved plantain	<i>Plantago major</i>
Broadleaved willowherb	<i>Epilobium montanum</i>
Cinquefoil	<i>Potentilla</i>
Cock's-foot	<i>Dactylis glomerata</i>
Coltsfoot	<i>Tussilago farfara</i>
Comfrey	<i>Symphytum officinale</i>
Common poppy	<i>Papaver rhoeas</i>
Couch grass	<i>Elymus repens</i>
Cranesbill	<i>Geranium</i>
Creeping bent	<i>Agrostis stolonifera</i>
Creeping thistle	<i>Cirsium arvense</i>
Dandelion	<i>Taraxacum officinale</i>
Goat willow	<i>Salix caprea</i>
Herb Robert	<i>Geranium robertianum</i>
*Himalayan / Indian balsam	<i>Impatiens glandulifera</i>
Horsetail	<i>Equisetum sp.</i>
Mugwort	<i>Artemisia vulgaris</i>
Nettle	<i>Urtica dioica</i>
Oak	<i>Quercus robur</i>
Perennial ryegrass	<i>Lolium perenne</i>
Prickly sow thistle	<i>Sonchus asper</i>
Ragwort	<i>Senecio jacobaea</i>
Red clover	<i>Trifolium pratense</i>
Red fescue	<i>Festuca rubra</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Rosebay willowherb	<i>Chamerion angustifolium</i>
Scentless mayweed	<i>Tripleurospermum inodorum</i>
Spear thistle	<i>Cirsium vulgare</i>
Vetch	<i>Vicia sp.</i>
White clover	<i>Trifolium repens</i>
Yorkshire fog	<i>Holcus lanatus</i>

ANIMALS

English Name	Scientific Name
Buzzard	<i>Buteo buteo</i>
Grasshopper	<i>Orthoptera sp</i>
Magpie	<i>Pica pica</i>

* invasive species

Target Notes

TN1 – Himalayan balsam

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Appendix 3

RECORD

The Biodiversity Information System for Cheshire, Halton, Warrington and Wirral

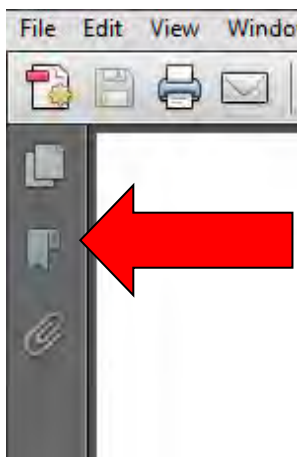
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In addition you can search through the document for any particular text by using the standard Microsoft shortcut (Ctrl + F) and enter the text you are looking for.

Interpretation of the data

- **Species maps:** The species maps show the location of protected, notable and Invasive non-native species grouped by taxon. The numbers in brackets adjacent to the species names relate to the grid ID shown on the maps. Records with a grid reference accuracy of 10m square or above are minimised to a 100m square. Where there are more than 100 grid IDs on a map the grid references will be minimised to 1km. The full grid reference can be found within the full record in this report or in the excel spreadsheet of raw data.
- **Attribute data:** Where available all attribute data is provided with the records. Sex and life stage information as well as the record type all allow greater interpretation of information available. However it is not always possible to provide this information.
- **Species designation Status:** The species designation information provided within this enquiry output is based on the best available information provided through the JNCC: *Conservation designations of UK Taxa* list. Information on the limitations to this list is available here: (<http://jncc.defra.gov.uk/page-3408>)
- **Site/habitat data:** Due to changes in the NBN web services we are currently unable to provide site and observation data from the NBN, this does not affect local sites. Information for statutory sites can be found at <http://www.natureonthemap.naturalengland.org.uk/MagicMap.aspx> and sites and NBN taxa observations at <https://spatial.nbnatlas.org>. (please be aware of the NBN Atlas guidance for using data <https://nbnatlas.org/help/guidance-using-data/>).

318211

Booths Lane

SJ6700086300



Table of Contents

Using this document	1
Interpretation of the data	1
Table of Contents	3
Designated Species Summary	4
Map	5
Species Summary Report	6
Species Grid Id Summary Report	6
FLOWERING PLANT	6
MOSS	6
TERRESTRIAL MAMMAL	6
Grid Id Species Summary Report	7
1 - [SJ664867]	7
2 - [SJ665868]	7
3 - [SJ665869]	7
4 - [SJ666870]	7
5 - [SJ6686]	7
6 - [SJ670872]	7
7 - [SJ673865]	7
8 - [SJ6785]	7
9 - [SJ6786]	8
10 - [SJ678862]	8
11 - [SJ678863]	8
Site Boundary Report	9
Local Sites	9
Local Wildlife Sites	9
THE BONGS AND THE GORSE / CE318	9
Map	9
Lymm Dam Complex / WA020	10
Map	10
The Bongs and The Gorse / WA034	11
Map	11
Regionally Important Geodiversity Sites	12
Lymm Dam / CH050	12
Map	12
Statutory Sites	13
Other Sites of Conservation Interest	13

Designated Species Summary

Taxa	Designation Name	Occurrence in Cheshire tetrads between 2007 2018 (%)	Occurrence in Cheshire tetrads all years (%)
Bluebell (<i>Hyacinthoides non-scripta</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Shedule 8	28%	65%
Box (<i>Buxus sempervirens</i>)	Nationally Rare	2%	3%
Freiberg's Screw-moss (<i>Tortula freibergii</i>)	IUCN Global Red List - Near Threatened, Nationally Rare, NERC S41, UK BAP Priority Species	9%	9%
Indian Balsam (<i>Impatiens glandulifera</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	23%	35%
Pipistrelle (<i>Pipistrellus pipistrellus</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 5, Conservation (Habs and Sp) Regulations 2010 - Schedule 2	27%	52%
Polecat (<i>Mustela putorius</i>)	Local Biodiversity Action Plan Species, NERC S41, Conservation (Habs and Sp) Regulations 2010 - Schedule 4, UK BAP Priority Species	11%	29%
Rhododendron ponticum (<i>Rhododendron ponticum</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	18%	41%

Map



Species Summary Report

Species Grid Id Summary Report

FLOWERING PLANT

Taxon name	Grid ref. id
Box	7 (2013)
Indian Balsam	5 (2007), 8 (2015), 9 (2015), 10 (2008), 11 (2008)
Bluebell	5 (2007), 8 (2015), 9 (2015)
Rhododendron ponticum	5 (2007), 8 (2015), 9 (2015), 11 (2008)

MOSS

Taxon name	Grid ref. id
Freiberg's Screw-moss	3 (2008), 4 (2008), 6 (2008)

TERRESTRIAL MAMMAL

Taxon name	Grid ref. id
Polecat	2 (2007)
Pipistrelle	1 (2016)

1 - [SJ664867]

Taxon group	Taxon name
TERRESTRIAL MAMMAL	Pipistrelle (<i>Pipistrellus pipistrellus</i>) (2016)

2 - [SJ665868]

Taxon group	Taxon name
TERRESTRIAL MAMMAL	Polecat (<i>Mustela putorius</i>) (2007)

3 - [SJ665869]

Taxon group	Taxon name
MOSS	Freiberg's Screw-moss (<i>Tortula freibergii</i>) (2008)

4 - [SJ666870]

Taxon group	Taxon name
MOSS	Freiberg's Screw-moss (<i>Tortula freibergii</i>) (2008)

5 - [SJ6686]

Taxon group	Taxon name
FLOWERING PLANT	Indian Balsam (<i>Impatiens glandulifera</i>) (2007), Bluebell (<i>Hyacinthoides non-scripta</i>) (2007), Rhododendron ponticum (<i>Rhododendron ponticum</i>) (2007)

6 - [SJ670872]

Taxon group	Taxon name
MOSS	Freiberg's Screw-moss (<i>Tortula freibergii</i>) (2008)

7 - [SJ673865]

Taxon group	Taxon name
FLOWERING PLANT	Box (<i>Buxus sempervirens</i>) (2013)

8 - [SJ6785]

Taxon group	Taxon name
FLOWERING PLANT	Indian Balsam (<i>Impatiens glandulifera</i>) (2015), Bluebell (<i>Hyacinthoides non-scripta</i>) (2015), Rhododendron ponticum (<i>Rhododendron ponticum</i>) (2015)

9 - [SJ6786]

Taxon group	Taxon name
FLOWERING PLANT	Indian Balsam (<i>Impatiens glandulifera</i>) (2015), Bluebell (<i>Hyacinthoides non-scripta</i>) (2015), Rhododendron ponticum (<i>Rhododendron ponticum</i>) (2015)

10 - [SJ678862]

Taxon group	Taxon name
FLOWERING PLANT	Indian Balsam (<i>Impatiens glandulifera</i>) (2008)

11 - [SJ678863]

Taxon group	Taxon name
FLOWERING PLANT	Indian Balsam (<i>Impatiens glandulifera</i>) (2008), Rhododendron ponticum (<i>Rhododendron ponticum</i>) (2008)

Local Wildlife Sites

THE BONGS AND THE GORSE / CE318

Map



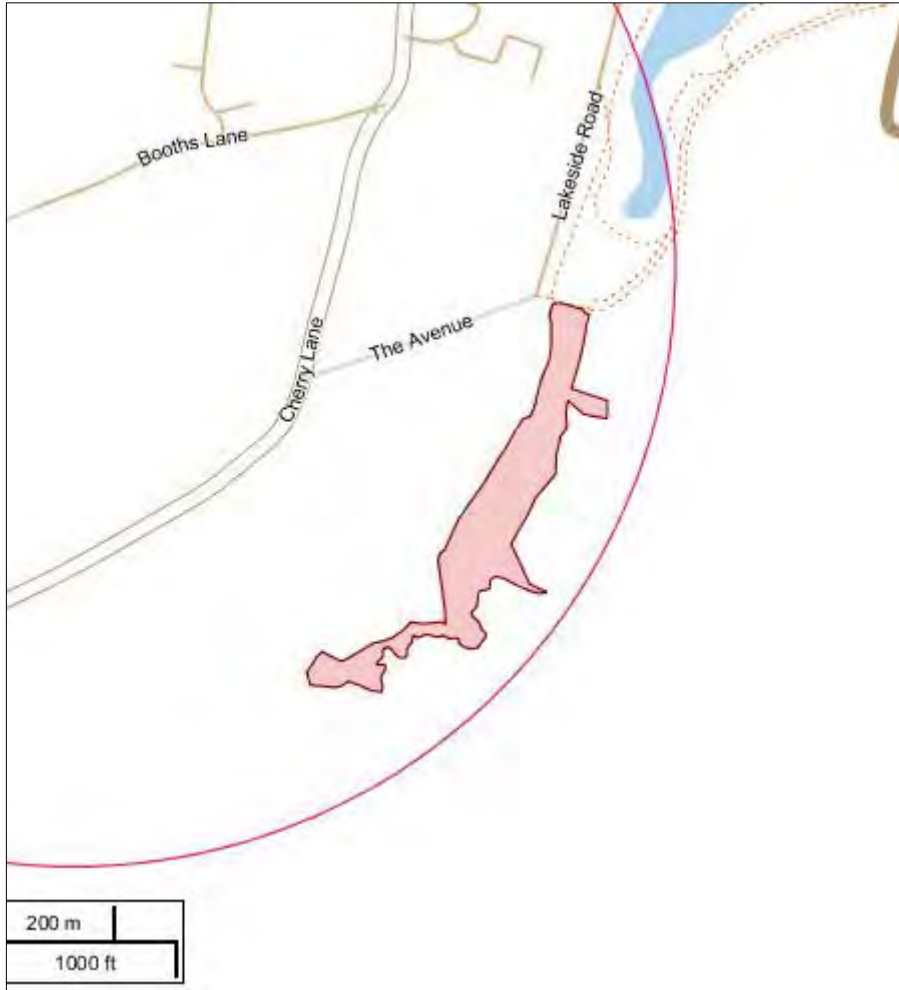
Site name	THE BONGS AND THE GORSE
Site code	CE318
Authority	Cheshire East Local Wildlife Sites Partnership
Site centroid	SJ6796885611

Map



Site name	Lymm Dam Complex
Site code	WA020
Authority	Warrington Local Wildlife Sites Partnership
Site centroid	SJ6814986497

Map



Site name	The Bongs and The Gorse
Site code	WA034
Authority	Warrington Local Wildlife Sites Partnership
Site centroid	SJ6761985760

Regionally Important Geodiversity Sites

For further information or citations for these Regionally Important Geological Sites please contact Steve Woolfall (steve.woolfall@cheshirewestandchester.gov.uk) or Cynthia Burek (c.burek@chester.ac.uk) from the Cheshire RIGS group.

Lymm Dam / CH050

Map



Site name	Lymm Dam
Site code	CH050
Authority	Cheshire Regionally Important Geological Sites (RIGS) Committee
Site centroid	SJ6811786998

Statutory Sites

Due to changes to the NBN we are currently unable to provide Statutory Site location maps. You can access these by visiting the NBN Atlas <https://spatial.nbnatlas.org> or MagicMap <http://www.natureonthemap.naturalengland.org.uk/MagicMap.aspx> (please be aware of the NBN Atlas guidance for using data <https://nbnatlas.org/help/guidance-using-data>).

Other Sites of Conservation Interest

There are no Other Sites of Conservation Interest within this search area.



ACOUSTIC
CONSULTANTS

**PROPOSED CONVERSION OF EXISTING BARN TO ONE DWELLING –
BOOTHS LANE, WARRINGTON, WA13 0PF**

NOISE IMPACT ASSESSMENT

architectural

environmental

occupational

industrial

noise control at source

project management

planning

legal services

expert witness

Report Prepared For:-

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1.0	SUMMARY	3
2.0	SITE DESCRIPTION	4
3.0	ASSESSMENT CRITERIA	4
3.1	National Planning Policy Framework	4
3.2	BS8233:2014	5
3.2.1	Residential Development indoor noise levels.....	5
3.3	WHO Guidelines for Community Noise	5
3.4	Warrington Borough Council Planning Conditions	6
4.0	SURVEY DETAILS	6
4.1	Measurement Procedure	6
4.1.1	Survey times.....	6
4.1.2	Weather.....	6
4.1.3	Measurement Equipment.....	6
4.1.4	Measurement Locations.....	6
4.2	Description of Noise Sources	9
4.3	Measured Noise Results	9
5.0	SITE NOISE PROPAGATION	9
6.0	NOISE ASSESSMENT	9
7.0	NOISE BREAK-IN CALCULATIONS AND MITIGATION	9
7.1	Building Envelope Elements	9
7.1.1	Walls.....	9
7.1.2	Glazing and Ventilation.....	10
7.1.3	Roof.....	10
7.2	Design Assumptions	10
7.2.1	Bedrooms.....	10
7.2.2	Living room.....	10
7.3	Façade Treatments	11
7.4	Ventilation	12
7.5	Windows	12
8.0	CONCLUSION	13

Appendices

Figure 1 – Survey measurement positions

Noise survey measurement data

Glossary of Terms

Notes for Quality Control on Site

Document Control

Issue	1	2	3	4
Remark	First issue	Second issue Correction of typographical errors	Client comments	
Date	4 April 2018	6 April 2018	19 April 2018	
Report prepared by	Wesley Charlton BSc (Hons) Tech IOA	Wesley Charlton BSc (Hons) Tech IOA	Wesley Charlton BSc (Hons) Tech IOA	
Position	Senior Acoustic Technician	Senior Acoustic Technician	Senior Acoustic Technician	
Report checked by	Max De Salis PhD, BEng (Hons), CEng, MIOA	Max De Salis PhD, BEng (Hons), CEng, MIOA	Max De Salis PhD, BEng (Hons), CEng, MIOA	
Position	Director	Director	Director	
Second Checker	Chris Lalley BSc (Hons), MSc MIOA	Chris Lalley BSc (Hons), MSc MIOA	Chris Lalley BSc (Hons), MSc MIOA	
Position	Senior Consultant	Senior Consultant	Senior Consultant	

1.0 SUMMARY

At the request of Knights 1759, Philip Dunbavin Acoustics has conducted an assessment of the ambient noise climate at the proposed site for residential development at Booths Lane, Warrington, WA13 0PF.

Measured noise levels are within the range considered suitable for residential development provided that suitable mitigation is applied to the building envelope to ensure that internal noise levels within habitable areas are suitable for resting and sleeping. The noise climate at the site is dominated by road traffic noise and noise mitigation advice for the proposed residences is given in Section 7.0.

The proposal meets the relevant criteria stipulated in the conditions. The conditions are satisfied and should be discharged insofar as the details provided are acceptable.

2.0 SITE DESCRIPTION

The proposed development site is situated south of Booths Lane, Warrington. The M6 Motorway is the dominant noise source being situated approximately 0.7 km due west, along with very occasional traffic noise along Booths Lane.

3.0 ASSESSMENT CRITERIA

3.1 National Planning Policy Framework

National planning policy is guided by the National Planning Policy Framework (the Framework). With regard to Noise, the Framework states the following at paragraph 123;

Planning policies and decisions should aim to:

- *avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;*
- *mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;*
- *recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and*
- *identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.*

The terms 'significant adverse impact' and 'other adverse impacts' are not defined but are similar to the terms in the explanatory notes of the 'Noise Policy Statement for England (NPSE)' which states;

There are two established concepts from toxicology that are currently being applied to noise impacts, for example, by the World Health Organisation. They are:

NOEL – No Observed Effect Level

This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.

LOAEL – Lowest Observed Adverse Effect Level

This is the level above which adverse effects on health and quality of life can be detected.

Extending these concepts for the purpose of this NPSE leads to the concept of a significant observed adverse effect level.

SOAEL – Significant Observed Adverse Effect Level

This is the level above which significant adverse effects on health and quality of life occur.

The notes also offer an explanation of the term 'other adverse impacts' as follows;

... refers to the situation where the impact lies somewhere between LOAEL and SOAEL. It requires that all reasonable steps should be taken to mitigate and

minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development (paragraph 1.8). This does not mean that such adverse effects cannot occur.

It should be noted that no specific noise limits for LOAEL and SOAEL are given, however, guidance from other acoustic standards may be employed to determine suitable levels within the overall principal of the Framework.

Please note that the above guidance supersedes PPG 24 which has now been withdrawn.

3.2 BS8233:2014

BS8233 discusses acceptable noise levels for new residences. The guidance within BS8233 has been revised and updated in 2014 to take into account the most recent research and expert opinion on suitable noise levels for new developments.

3.2.1 Residential Development indoor noise levels

With regard to residential development BS8233 gives the following criteria;

Table 1 – BS8233:2014 indoor ambient noise levels for dwellings

Activity	Location	Design range $L_{Aeq,T}$	
		Daytime (07:00 - 23:00)	Night-time (23:00 – 07:00)
Resting	Living rooms	35	-
Dining	Dining room / area	40	-
Sleeping (daytime resting)	Bedroom	35	30

The above criteria apply to steady external noise sources, such as road traffic. Where specific noise events are likely to occur during the night time BS8233:2014 gives the following guidance;

Regular individual noise events (for example, scheduled aircraft or passing trains) can cause sleep disturbance. A guideline value may be set in terms of SEL or $L_{Amax,F}$, depending on the character and number of events per night. Sporadic noise events could require separate values.

There are no such instances of the above expected in this location.

3.3 WHO Guidelines for Community Noise

In 1999, the WHO (World Health Organisation) published Guidelines for Community Noise, stating the following internal noise levels are applicable within dwellings.

Table 2 - WHO Guidelines for Community Noise criteria

Specific Environment	Critical Health Effect(s)	L_{Aeq} dB	Time Base (hours)*
Dwelling, indoors	Speech intelligibility & moderate annoyance, daytime & evening	35	16
Inside bedrooms	Sleep disturbance, night time	30	8

* Typically taken to be daytime/evening - 07:00 – 23:00 hours and night time 23:00 – 07:00 hours.

In addition to the above continuous equivalent noise levels, WHO guidelines indicates that exceedances of 45 dB L_{Amax} for single sound events should be limited to more than 10 – 15 times per night, when measured with a 'fast' time weighting.

3.4 Warrington Borough Council Planning Conditions

Planning permission has been granted for the development under application reference number 2017/31731, subject to the following conditions:

Noise Condition: Up-rated Acoustic Glazing

Prior to the first occupation of the dwelling, The bedroom windows shall be up-rated acoustically achieving in excess of 30 Rw dB(A). All trickle vents in bedrooms shall meet at least the above level of acoustic attenuation.

Noise Condition: Positive Input Ventilation System

The applicant shall install a positive input ventilation system prior to first occupation. Details of the proposed system shall be approved in writing by the LPA. Once approved, all agreed positive input ventilation system shall be installed and commissioned prior to first occupation of the site and shall be maintained and retained thereafter.

4.0 SURVEY DETAILS

An ambient noise survey was carried out at two locations in the vicinity of the proposed development site (see Figure 1).

4.1 Measurement Procedure

4.1.1 Survey times

Noise survey times were selected to cover the full 24-hour diurnal cycle in terms of noise generation from the major noise sources around the site. As such continuous ambient noise survey measurements were made between 14.50 on Tuesday 27th March 2018 and 13.10 on Wednesday 28th March 2018. Measurements were taken by Mr Wesley Charlton BSc(Hons) Tech IOA of PDA Ltd. Measurements were taken in contiguous 5-minute periods (see appendices) over the full 24-hour period.

4.1.2 Weather

The weather was dry with wind direction being westerly, with wind speeds predominantly between 0 and 5ms⁻¹. It is noted that westerly is the predominant wind direction and is also a worst case with respect to noise from the dominant noise source, i.e. the M6.

4.1.3 Measurement Equipment

The noise survey was conducted using NTI XL2 and NTi XL2 TA Sound Level meters overlooking Booths Lane and the distant M6 Motorway.

The NTI XL2 and NTI XL2 TA sound level meters are Class 1 sound level meters in accordance with IEC 61672-1:2002 capable of operating as integrating sound level meters with frequency analysis and statistical functions.

The NTI XL2 and NTI XL2 TA sound level meters were set to measure 'A' weighted broadband sound pressure levels and statistical parameters at Position 1 and 2.

4.1.4 Measurement Locations

Measurements were taken at the following locations:

- Position 1 was 4 meters from the existing façade to the west side of the barn. This position was approximately 55 meters back from Booths Lane. This position was measured using the NTI XL2 sound level meter installed in a weather-proof case fitted with a microphone on a boom 1.5 m above ground-level with an all-weather windshield. Noise levels were measured continuously at this location for the whole survey period.

- Position 2 was also 4 meters from the façade of the existing barn. This position was on the East side of the barn and approximately 60 meters from Booths Lane.

The measurement locations are appropriate as they are representative of noise incident on the major facades of the building as received from the dominant noise sources at site, these being the M6 and Booths Lane.

The locations of the measurement positions are shown in Figure 1 below, and the proposed floor plan is shown in Figure 2:

Figure 1 – Noise survey measurement positions

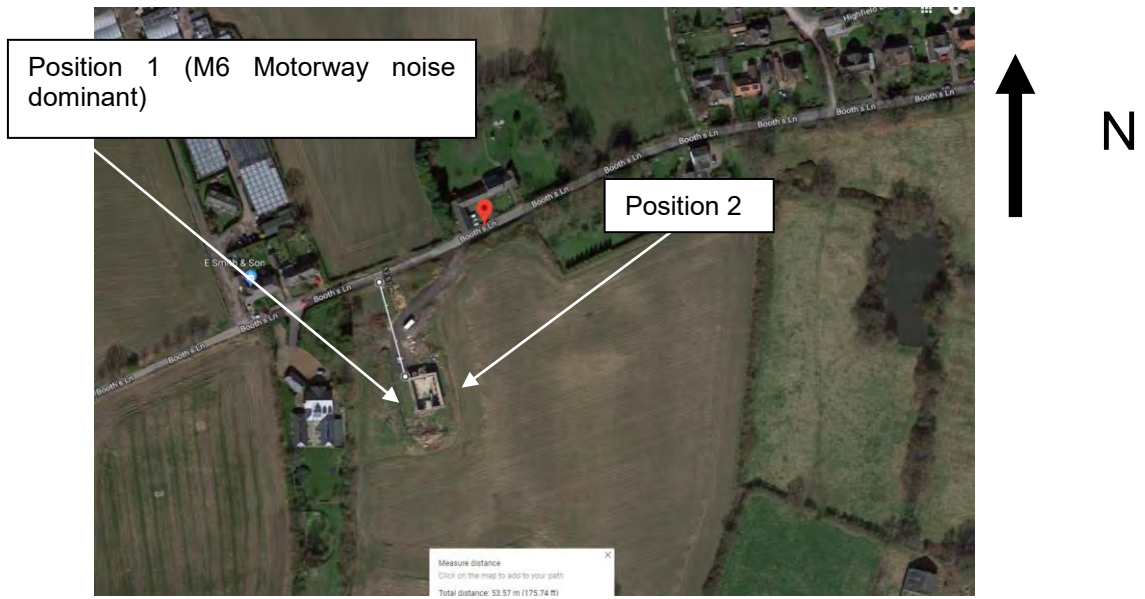


Figure 2 – Floor Plan



4.2 Description of Noise Sources

Position 1

Noise levels were dominated by the M6 Motorway which is approximately 700 metres away to the west of the proposed site. Occasional traffic noise from Booths Lane also contributed to the ambient noise climate.

Position 2

Noise levels at this position were from the M6 Motorway and Booths Lane. Very minimal noise could be heard from Cherry Tree Lane (subjectively). Bird song could be heard at the site and contributed to the noise climate.

4.3 Measured Noise Results

The noise measurements taken in contiguous 5-minute periods (see appendices) were logarithmically averaged to give L_{Aeq} noise levels over the relevant daytime (0700-2300 hours) and night-time (2300-0700 hours). The noise survey results are summarised in Table 3 below:

Table 3 – Summary of PDA noise measurements

Measurement position	Daytime noise level L_{Aeq}	Night-time noise level L_{Aeq}	Night-time L_{Amax} ¹
Position 1 M6 side - West of existing building on proposed site	60	57	65
Position 2 Booths Lane side - East of existing building on proposed site	54	49	76

Full measurement results are included in the appendix to this report.

5.0 SITE NOISE PROPAGATION

The dominant noise source at the site is from the M6 Motorway and Booths Lane.

6.0 NOISE ASSESSMENT

Residential rooms will require adequate mitigation to the glazing and ventilation to ensure that suitable internal noise levels are achieved.

7.0 NOISE BREAK-IN CALCULATIONS AND MITIGATION

7.1 Building Envelope Elements

The following construction elements have been used to model the external building envelope of the proposed residential development;

7.1.1 Walls

Existing brick walls and piers retained with the introduction of new window openings. New inner leaf to external walls to be 100mm x 50mm timber stud 100mm Kingspan timber frame insulation between studs with plasterboard fitted to inside face of studs, all with skim finish.

7.1.2 Glazing and Ventilation

As the glazing and ventilation paths are generally the acoustically weak area, the noise level incident on the façade will determine the type of glazing specified – see Section 7.3 to 7.5 below.

7.1.3 Roof

Existing profiled metal roof and purlins and trussed rafters are to be retained. Plasterboard with skim ceiling fixed to underside of trussed rafters with 100mm mineral wool insulation between the bottom chords and two layers of 150mm mineral wool insulation over the bottom chords.

7.2 Design Assumptions

Assessment and specification of the acoustic performance of the building envelope and suitable glazing and attenuated ventilation, has been undertaken based on achieving the internal ambient acoustic conditions, specified in Section 4.2 above.

Information on the sound insulation properties for specific element details have been sourced from PDA's in-house library of construction element sound insulation properties.

For the purposes of the calculations we have assessed the following room types in line with the Development drawings;

7.2.1 Bedrooms

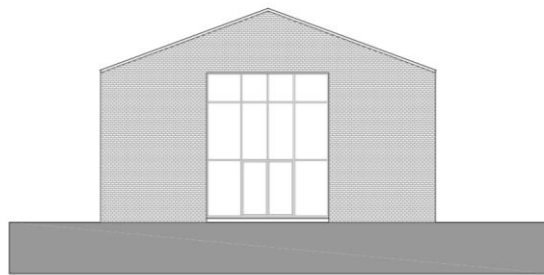
30% window area ratio (maximum), 3.5m room depth (minimum), reverberation time 0.5s.

7.2.2 Living room

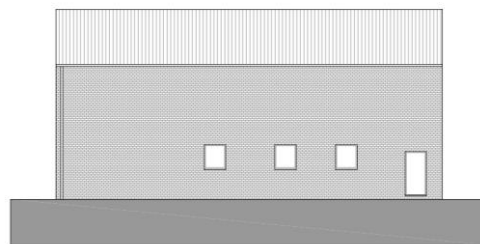
40% window area ratio, 5m room depth, reverberation time 1s.

It is noted that the above allows for maximum glazing to room volume ratios for all room types proposed for the development including the large area of glazing proposed for the living room on the north façade on to Booths Lane (see Figure 3 below):

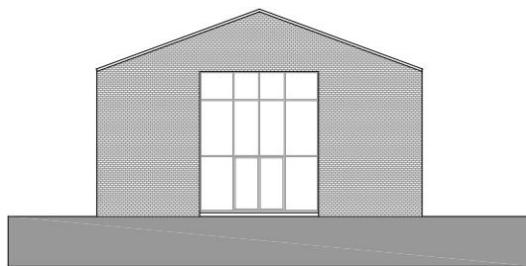
Figure 3 - North façade on to Booths Lane (showing large area of glazing to Living Room)



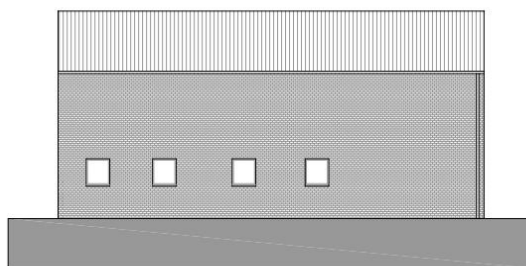
north elevation



east elevation



south elevation



west elevation

7.3 Façade Treatments

Based on our calculations the required treatments to façades in terms of glazing and ventilation to give predicted internal noise levels complying with Sections 3.2.1 and 3.3 above are detailed in Table 4 below.

Table 4 – Glazing specification

Façade	Glazing [mm] ²	Ventilation ^{1,3}
--------	---------------------------	----------------------------

Living rooms and Bedrooms on all Facades	6/12/6	N/A
--	--------	-----

Notes

- 1 Assuming closed windows and no requirement for inlet vent due to centralized mechanical ventilation.
- 2 Air gaps (cavities) specified between panes are the minimum required and may be substituted by units with a larger air-gap without any loss in performance.
- 3 It is understood that the apartments will be ventilated by a Decentralised Mechanical Extract Ventilation system comprising continually running fans which create a positive pressure and draw fresh air into the building through natural gaps in the fabric of the building and does not require proprietary trickle ventilation.

7.4 Ventilation

It is understood that the dwelling will be ventilated by a Decentralised Mechanical Extract Ventilation system comprising continually running fans which create a positive pressure and draw fresh air into the building through natural gaps in the fabric of the building and does not require proprietary trickle ventilation.

The above system has an inherently high sound insulation due to the noise transfer path through the profiled metal roof, absorbent roof void (with mineral wool), flexible inlet ducting, inlet filter and final inlet to the residence being of limited area e.g. 100mm diameter, with covering cowl. This noise transfer path will give a level of difference well in excess of 40 dB and will bring associated break-in noise levels to considerably below the required levels of Section 3.2.1 above. In addition, the inlets from the roof into the house generally open into circulation spaces such as landings thus giving circa 10dB or more additional level difference to habitable rooms,

Clearly from the above the ventilation path is insignificant in terms of noise transfer and will have no material effect on internal noise levels.

However, it should be borne in mind that with any fan-assisted ventilation systems it should be ensured that the fan itself does not exceed the noise criteria as specified in Section 3.2.1.

7.5 Windows

Notes on Glazing Installation

It is noted that all sound insulation values quoted in the tables must be achieved by the overall **combination of frame and glazing**, and not just by the glazing alone.

Minimum performance requirements for the combination of typical glazing and framing recommended in the tables or equivalent is as follows:

Table 5 - Required Minimum Sound insulation of Combined Glazing and Framing

Typical Product	Minimum Sound Reduction Index R (dB) at Octave Band Centre Frequency (Hz)								Overall R _w
	63	125	250	500	1k	2k	4k	8k	
6mm pane - thermal cavity - 6mm pane	14	20	19	29	33	39	45	45	31

Glazing framing systems must be fully sealed with any small gaps (<10mm nominal) around the perimeter to be stuffed with dense mineral wool to full frame depth and sealed both sides with acoustic non-setting mastic, in addition to the usual weatherproofing seal to the exterior. No gaps should be left unsealed, and in no instance should lightweight expanding foams be used as a sealant.

The proposed glazing meets the minimum specification of the planning condition detailed in Section 3.4.

8.0 CONCLUSION

At the request of Knights 1759, Philip Dunbavin Acoustics has conducted an assessment of the ambient noise climate at the proposed site for residential development at Booths Lane, Warrington, WA13 0PF.

Measured noise levels are within the range considered suitable for residential development provided that suitable mitigation is applied to the building envelope to ensure that internal noise levels within habitable areas are suitable for resting and sleeping. The noise climate at the site is dominated by road traffic noise and noise mitigation advice for the proposed residences is given in Section 7.0.

The proposal meets the relevant criteria stipulated in the conditions. The conditions are satisfied and should be discharged insofar as the details provided are acceptable.

Appendix

Noise Survey measurement data

Position 1 closest to M6 Motorway

<i>Date</i>	<i>Time</i>	<i>L_{Aeq}</i>	<i>L_{Amax}</i>	<i>L_{A90}</i>
27.3.2018	14:50:06	62	73	60
27.3.2018	14:55:06	62	65	60
27.3.2018	15:00:06	61	64	60
27.3.2018	15:05:06	61	64	60
27.3.2018	15:10:06	61	64	60
27.3.2018	15:15:06	62	65	61
27.3.2018	15:20:06	62	64	61
27.3.2018	15:25:06	62	65	61
27.3.2018	15:30:06	62	65	61
27.3.2018	15:35:06	62	65	61
27.3.2018	15:40:06	62	64	60
27.3.2018	15:45:06	62	66	60
27.3.2018	15:50:06	63	73	61
27.3.2018	15:55:06	62	64	61
27.3.2018	16:00:06	62	65	61
27.3.2018	16:05:06	63	65	61
27.3.2018	16:10:06	62	65	61
27.3.2018	16:15:06	62	65	61
27.3.2018	16:20:06	61	64	60
27.3.2018	16:25:06	61	63	60
27.3.2018	16:30:06	61	64	60
27.3.2018	16:35:06	61	64	60
27.3.2018	16:40:06	60	63	59
27.3.2018	16:45:06	60	63	59
27.3.2018	16:50:06	60	63	59
27.3.2018	16:55:06	60	63	59
27.3.2018	17:00:06	60	64	59
27.3.2018	17:05:06	60	63	59
27.3.2018	17:10:06	61	64	60
27.3.2018	17:15:06	60	63	59
27.3.2018	17:20:06	60	62	59
27.3.2018	17:25:06	61	63	59
27.3.2018	17:30:06	60	63	59
27.3.2018	17:35:06	61	64	60
27.3.2018	17:40:06	61	64	59
27.3.2018	17:45:06	60	63	59
27.3.2018	17:50:06	60	63	58
27.3.2018	17:55:06	60	63	59
27.3.2018	18:00:06	61	64	60
27.3.2018	18:05:06	60	63	59
27.3.2018	18:10:06	60	63	58
27.3.2018	18:15:06	60	63	58
27.3.2018	18:20:06	61	64	60
27.3.2018	18:25:06	60	63	59
27.3.2018	18:30:06	61	63	59
27.3.2018	18:35:06	62	66	61
27.3.2018	18:40:06	62	64	60
27.3.2018	18:45:06	62	65	60
27.3.2018	18:50:06	61	63	60
27.3.2018	18:55:06	61	63	59
27.3.2018	19:00:06	61	64	59
27.3.2018	19:05:06	61	64	60
27.3.2018	19:10:06	61	64	60
27.3.2018	19:15:06	61	65	60
27.3.2018	19:20:06	61	64	60
27.3.2018	19:25:06	60	64	59
27.3.2018	19:30:06	60	64	59
27.3.2018	19:35:06	60	63	59

27.3.2018	19:40:06	60	63	59
27.3.2018	19:45:06	61	63	59
27.3.2018	19:50:06	60	63	58
27.3.2018	19:55:06	60	64	58
27.3.2018	20:00:06	60	63	58
27.3.2018	20:05:06	60	64	59
27.3.2018	20:10:06	59	62	58
27.3.2018	20:15:06	59	63	58
27.3.2018	20:20:06	59	62	57
27.3.2018	20:25:06	59	63	58
27.3.2018	20:30:06	59	62	58
27.3.2018	20:35:06	60	64	58
27.3.2018	20:40:06	60	62	59
27.3.2018	20:45:06	60	64	58
27.3.2018	20:50:06	59	62	57
27.3.2018	20:55:06	59	63	57
27.3.2018	21:00:06	59	62	57
27.3.2018	21:05:06	59	62	57
27.3.2018	21:10:06	59	63	58
27.3.2018	21:15:06	59	63	58
27.3.2018	21:20:06	58	61	57
27.3.2018	21:25:06	58	63	56
27.3.2018	21:30:06	58	62	57
27.3.2018	21:35:06	58	62	57
27.3.2018	21:40:06	58	63	56
27.3.2018	21:45:06	58	63	56
27.3.2018	21:50:06	58	63	56
27.3.2018	21:55:06	57	60	56
27.3.2018	22:00:06	58	63	57
27.3.2018	22:05:06	58	63	56
27.3.2018	22:10:06	58	63	57
27.3.2018	22:15:06	59	62	57
27.3.2018	22:20:06	58	63	57
27.3.2018	22:25:06	58	61	56
27.3.2018	22:30:06	58	61	57
27.3.2018	22:35:06	58	62	57
27.3.2018	22:40:06	57	60	55
27.3.2018	22:45:06	58	62	55
27.3.2018	22:50:06	57	62	55
27.3.2018	22:55:06	58	62	56
27.3.2018	23:00:06	58	61	56
27.3.2018	23:05:06	57	60	55
27.3.2018	23:10:06	57	63	54
27.3.2018	23:15:06	57	62	55
27.3.2018	23:20:06	57	62	55
27.3.2018	23:25:06	56	63	55
27.3.2018	23:30:06	57	64	54
27.3.2018	23:35:06	56	64	54
27.3.2018	23:40:06	56	61	55
27.3.2018	23:45:06	56	62	54
27.3.2018	23:50:06	56	63	53
27.3.2018	23:55:06	55	59	51
28.3.2018	00:00:06	58	61	56
28.3.2018	00:05:06	56	60	54
28.3.2018	00:10:06	56	62	54
28.3.2018	00:15:06	56	61	54
28.3.2018	00:20:06	54	59	52
28.3.2018	00:25:06	56	62	53
28.3.2018	00:30:06	55	60	52
28.3.2018	00:35:06	56	61	53
28.3.2018	00:40:06	54	59	52
28.3.2018	00:45:06	55	60	51
28.3.2018	00:50:06	55	62	52

28.3.2018	00:55:06	55	62	53
28.3.2018	01:00:06	55	61	52
28.3.2018	01:05:06	55	61	52
28.3.2018	01:10:06	56	62	54
28.3.2018	01:15:06	55	60	53
28.3.2018	01:20:06	55	60	53
28.3.2018	01:25:06	55	59	52
28.3.2018	01:30:06	56	61	54
28.3.2018	01:35:06	55	60	52
28.3.2018	01:40:06	54	61	52
28.3.2018	01:45:06	55	60	52
28.3.2018	01:50:06	55	62	52
28.3.2018	01:55:06	56	61	54
28.3.2018	02:00:06	56	62	53
28.3.2018	02:05:06	56	60	54
28.3.2018	02:10:06	56	61	54
28.3.2018	02:15:06	56	62	54
28.3.2018	02:20:06	55	59	54
28.3.2018	02:25:06	56	60	54
28.3.2018	02:30:06	55	61	54
28.3.2018	02:35:06	55	59	53
28.3.2018	02:40:06	55	59	52
28.3.2018	02:45:06	56	60	54
28.3.2018	02:50:06	55	60	54
28.3.2018	02:55:06	55	62	53
28.3.2018	03:00:06	55	61	53
28.3.2018	03:05:06	55	63	51
28.3.2018	03:10:06	55	59	53
28.3.2018	03:15:06	56	60	54
28.3.2018	03:20:06	55	61	52
28.3.2018	03:25:06	56	61	53
28.3.2018	03:30:06	55	60	53
28.3.2018	03:35:06	54	59	52
28.3.2018	03:40:06	56	62	53
28.3.2018	03:45:06	56	60	54
28.3.2018	03:50:06	56	61	53
28.3.2018	03:55:06	56	60	54
28.3.2018	04:00:06	56	61	54
28.3.2018	04:05:06	56	61	54
28.3.2018	04:10:06	56	61	55
28.3.2018	04:15:06	56	61	54
28.3.2018	04:20:06	57	61	55
28.3.2018	04:25:06	57	62	55
28.3.2018	04:30:06	57	63	55
28.3.2018	04:35:06	57	61	55
28.3.2018	04:40:06	58	62	56
28.3.2018	04:45:06	58	62	57
28.3.2018	04:50:06	59	63	56
28.3.2018	04:55:06	58	61	56
28.3.2018	05:00:06	57	61	56
28.3.2018	05:05:06	58	61	56
28.3.2018	05:10:06	58	61	57
28.3.2018	05:15:06	59	63	57
28.3.2018	05:20:06	59	63	57
28.3.2018	05:25:06	59	64	57
28.3.2018	05:30:06	60	64	58
28.3.2018	05:35:06	59	64	57
28.3.2018	05:40:06	60	63	58
28.3.2018	05:45:06	60	63	59
28.3.2018	05:50:06	60	64	59
28.3.2018	05:55:06	60	64	59
28.3.2018	06:00:06	61	64	59
28.3.2018	06:05:06	61	65	60

28.3.2018	06:10:06	62	65	60
28.3.2018	06:15:06	62	65	60
28.3.2018	06:20:06	62	65	60
28.3.2018	06:25:06	61	65	60
28.3.2018	06:30:06	60	64	59
28.3.2018	06:35:06	61	64	59
28.3.2018	06:40:06	61	64	59
28.3.2018	06:45:06	61	64	59
28.3.2018	06:50:06	61	65	59
28.3.2018	06:55:06	61	65	59
28.3.2018	07:00:06	61	64	59
28.3.2018	07:05:06	62	70	61
28.3.2018	07:10:06	62	65	61
28.3.2018	07:15:06	61	64	60
28.3.2018	07:20:06	61	64	60
28.3.2018	07:25:06	62	65	61
28.3.2018	07:30:06	62	66	61
28.3.2018	07:35:06	64	67	62
28.3.2018	07:40:06	63	65	62
28.3.2018	07:45:06	60	63	58
28.3.2018	07:50:06	60	63	59
28.3.2018	07:55:06	59	63	57
28.3.2018	08:00:06	57	59	56
28.3.2018	08:05:06	58	61	57
28.3.2018	08:10:06	60	65	58
28.3.2018	08:15:06	61	66	60
28.3.2018	08:20:06	61	66	60
28.3.2018	08:25:06	61	65	60
28.3.2018	08:30:06	63	66	61
28.3.2018	08:35:06	63	66	62
28.3.2018	08:40:06	62	65	61
28.3.2018	08:45:06	61	64	60
28.3.2018	08:50:06	60	63	59
28.3.2018	08:55:06	59	62	57
28.3.2018	09:00:06	59	63	58
28.3.2018	09:05:06	60	64	58
28.3.2018	09:10:06	60	64	59
28.3.2018	09:15:06	60	63	58
28.3.2018	09:20:06	59	65	58
28.3.2018	09:25:06	60	63	58
28.3.2018	09:30:06	60	64	59
28.3.2018	09:35:06	60	63	58
28.3.2018	09:40:06	60	63	58
28.3.2018	09:45:06	60	66	58
28.3.2018	09:50:06	60	65	59
28.3.2018	09:55:06	61	63	60
28.3.2018	10:00:06	62	67	61
28.3.2018	10:05:06	62	67	61
28.3.2018	10:10:06	62	65	61
28.3.2018	10:15:06	61	64	60
28.3.2018	10:20:06	61	64	59
28.3.2018	10:25:06	60	63	59
28.3.2018	10:30:06	60	65	58
28.3.2018	10:35:06	60	70	58
28.3.2018	10:40:06	59	63	58
28.3.2018	10:45:06	60	64	59
28.3.2018	10:50:06	60	63	59
28.3.2018	10:55:06	59	62	58
28.3.2018	11:00:06	60	63	58
28.3.2018	11:05:06	60	63	58
28.3.2018	11:10:06	61	65	60
28.3.2018	11:15:06	61	64	60
28.3.2018	11:20:06	61	64	59

28.3.2018	11:25:06	60	63	59
28.3.2018	11:30:06	60	63	59
28.3.2018	11:35:06	60	63	58
28.3.2018	11:40:06	60	62	59
28.3.2018	11:45:06	60	64	59
28.3.2018	11:50:06	60	64	59
28.3.2018	11:55:06	59	67	57
28.3.2018	12:00:06	58	65	56
28.3.2018	12:05:06	59	63	58
28.3.2018	12:10:06	59	62	57
28.3.2018	12:15:06	59	63	58
28.3.2018	12:20:06	60	64	59
28.3.2018	12:25:06	59	62	57
28.3.2018	12:30:06	60	63	58
28.3.2018	12:35:06	60	65	59
28.3.2018	12:40:06	60	64	58
28.3.2018	12:45:06	61	64	59
28.3.2018	12:50:06	59	62	58
28.3.2018	12:55:06	60	63	58
28.3.2018	13:00:06	58	61	57
28.3.2018	13:05:06	58	76	57

Position 2 Booths Lane Data

<i>Date</i>	<i>Time</i>	<i>L_{Aeq}</i>	<i>L_{Amax}</i>	<i>L_{A90}</i>
27.3.2018	14:55	57	75	54
27.3.2018	15:00	55	60	53
27.3.2018	15:05	55	59	54
27.3.2018	15:10:04	55	61	54
27.3.2018	15:15:04	56	60	54
27.3.2018	15:20:04	56	59	54
27.3.2018	15:25:04	56	59	54
27.3.2018	15:30:04	56	60	55
27.3.2018	15:35:04	56	59	54
27.3.2018	15:40:04	55	61	54
27.3.2018	15:45:04	56	60	54
27.3.2018	15:50:04	58	76	54
27.3.2018	15:55:04	56	60	55
27.3.2018	16:00:04	56	60	54
27.3.2018	16:05:04	56	60	55
27.3.2018	16:10:04	56	59	54
27.3.2018	16:15:04	56	61	55
27.3.2018	16:20:04	55	60	54
27.3.2018	16:25:04	55	60	54
27.3.2018	16:30:04	55	60	54
27.3.2018	16:35:04	56	59	54
27.3.2018	16:40:04	55	59	53
27.3.2018	16:45:04	55	59	54
27.3.2018	16:50:04	56	63	54
27.3.2018	16:55:04	56	61	54
27.3.2018	17:00:04	56	59	54
27.3.2018	17:05:04	55	59	54
27.3.2018	17:10:04	56	59	54
27.3.2018	17:15:04	56	59	54
27.3.2018	17:20:04	56	59	54
27.3.2018	17:25:04	55	60	54
27.3.2018	17:30:04	55	59	53
27.3.2018	17:35:04	55	59	53
27.3.2018	17:40:04	55	59	53
27.3.2018	17:45:04	55	59	54
27.3.2018	17:50:04	54	60	52
27.3.2018	17:55:04	55	59	53

27.3.2018	18:00:04	55	60	53
27.3.2018	18:05:04	54	58	52
27.3.2018	18:10:04	53	58	52
27.3.2018	18:15:04	55	59	53
27.3.2018	18:20:04	56	60	54
27.3.2018	18:25:04	55	62	53
27.3.2018	18:30:04	55	60	54
27.3.2018	18:35:04	56	59	54
27.3.2018	18:40:04	56	61	54
27.3.2018	18:45:04	56	61	54
27.3.2018	18:50:04	55	59	53
27.3.2018	18:55:04	55	59	53
27.3.2018	19:00:04	55	59	53
27.3.2018	19:05:04	55	59	53
27.3.2018	19:10:04	55	60	54
27.3.2018	19:15:04	55	61	54
27.3.2018	19:20:04	55	59	53
27.3.2018	19:25:04	54	58	53
27.3.2018	19:30:04	54	61	52
27.3.2018	19:35:04	54	60	52
27.3.2018	19:40:04	54	59	52
27.3.2018	19:45:04	54	60	53
27.3.2018	19:50:04	53	58	51
27.3.2018	19:55:04	53	60	52
27.3.2018	20:00:04	53	56	51
27.3.2018	20:05:04	53	59	51
27.3.2018	20:10:04	52	57	51
27.3.2018	20:15:04	52	56	51
27.3.2018	20:20:04	51	55	50
27.3.2018	20:25:04	52	57	51
27.3.2018	20:30:04	53	56	51
27.3.2018	20:35:04	53	58	51
27.3.2018	20:40:04	52	59	51
27.3.2018	20:45:04	53	57	50
27.3.2018	20:50:04	52	56	50
27.3.2018	20:55:04	52	59	50
27.3.2018	21:00:04	53	56	51
27.3.2018	21:05:04	53	57	50
27.3.2018	21:10:04	53	57	51
27.3.2018	21:15:04	52	59	51
27.3.2018	21:20:04	52	58	50
27.3.2018	21:25:04	52	57	49
27.3.2018	21:30:04	51	57	49
27.3.2018	21:35:04	52	58	50
27.3.2018	21:40:04	51	56	49
27.3.2018	21:45:04	51	57	49
27.3.2018	21:50:04	50	54	49
27.3.2018	21:55:04	51	55	49
27.3.2018	22:00:04	51	55	49
27.3.2018	22:05:04	50	58	49
27.3.2018	22:10:04	51	55	49
27.3.2018	22:15:04	52	58	50
27.3.2018	22:20:04	52	59	50
27.3.2018	22:25:04	51	61	49
27.3.2018	22:30:04	51	61	49
27.3.2018	22:35:04	51	56	49
27.3.2018	22:40:04	51	58	48
27.3.2018	22:45:04	49	58	47
27.3.2018	22:50:04	49	56	47
27.3.2018	22:55:04	49	53	47
27.3.2018	23:00:04	48	52	46
27.3.2018	23:05:04	46	50	45
27.3.2018	23:10:04	47	51	45

27.3.2018	23:15:04	48	62	46
27.3.2018	23:20:04	47	56	46
27.3.2018	23:25:04	47	52	45
27.3.2018	23:30:04	47	53	46
27.3.2018	23:35:04	48	55	46
27.3.2018	23:40:04	48	53	47
27.3.2018	23:45:04	48	55	46
27.3.2018	23:50:04	48	54	46
27.3.2018	23:55:04	48	55	45
28.3.2018	00:00:04	51	56	49
28.3.2018	00:05:04	49	55	47
28.3.2018	00:10:04	49	56	47
28.3.2018	00:15:04	49	55	46
28.3.2018	00:20:04	48	55	45
28.3.2018	00:25:04	47	53	46
28.3.2018	00:30:04	47	55	45
28.3.2018	00:35:04	47	54	45
28.3.2018	00:40:04	46	54	44
28.3.2018	00:45:04	48	54	45
28.3.2018	00:50:04	47	57	45
28.3.2018	00:55:04	45	50	43
28.3.2018	01:00:04	44	48	43
28.3.2018	01:05:04	45	48	44
28.3.2018	01:10:04	46	51	44
28.3.2018	01:15:04	45	50	43
28.3.2018	01:20:04	47	52	45
28.3.2018	01:25:04	47	55	45
28.3.2018	01:30:04	48	54	45
28.3.2018	01:35:04	47	54	45
28.3.2018	01:40:04	47	55	44
28.3.2018	01:45:04	48	53	45
28.3.2018	01:50:04	47	52	45
28.3.2018	01:55:04	47	53	45
28.3.2018	02:00:04	48	54	45
28.3.2018	02:05:04	47	52	45
28.3.2018	02:10:04	48	53	46
28.3.2018	02:15:04	48	53	45
28.3.2018	02:20:04	47	56	45
28.3.2018	02:25:04	47	52	45
28.3.2018	02:30:04	48	53	46
28.3.2018	02:35:04	48	54	46
28.3.2018	02:40:04	47	53	45
28.3.2018	02:45:04	48	53	45
28.3.2018	02:50:04	48	54	45
28.3.2018	02:55:04	47	55	45
28.3.2018	03:00:04	48	54	45
28.3.2018	03:05:04	48	56	45
28.3.2018	03:10:04	48	56	45
28.3.2018	03:15:04	49	56	47
28.3.2018	03:20:04	49	63	46
28.3.2018	03:25:04	49	55	47
28.3.2018	03:30:04	48	54	45
28.3.2018	03:35:04	47	53	45
28.3.2018	03:40:04	50	59	47
28.3.2018	03:45:04	51	60	48
28.3.2018	03:50:04	49	57	47
28.3.2018	03:55:04	49	55	47
28.3.2018	04:00:04	50	60	47
28.3.2018	04:05:04	50	59	47
28.3.2018	04:10:04	50	60	48
28.3.2018	04:15:04	50	56	47
28.3.2018	04:20:04	49	55	47
28.3.2018	04:25:04	49	56	47

28.3.2018	04:30:04	48	53	46
28.3.2018	04:35:04	48	53	46
28.3.2018	04:40:04	50	54	48
28.3.2018	04:45:04	50	55	48
28.3.2018	04:50:04	52	57	49
28.3.2018	04:55:04	52	56	50
28.3.2018	05:00:04	51	56	49
28.3.2018	05:05:04	51	57	48
28.3.2018	05:10:04	50	56	49
28.3.2018	05:15:04	51	56	50
28.3.2018	05:20:04	51	55	49
28.3.2018	05:25:04	51	57	50
28.3.2018	05:30:04	51	55	50
28.3.2018	05:35:04	51	58	50
28.3.2018	05:40:04	52	56	51
28.3.2018	05:45:04	52	56	51
28.3.2018	05:50:04	53	58	51
28.3.2018	05:55:04	53	58	51
28.3.2018	06:00:04	53	58	51
28.3.2018	06:05:04	54	57	52
28.3.2018	06:10:04	55	76	51
28.3.2018	06:15:04	52	56	51
28.3.2018	06:20:04	52	57	50
28.3.2018	06:25:04	52	58	50
28.3.2018	06:30:04	51	57	50
28.3.2018	06:35:04	51	55	50
28.3.2018	06:40:04	50	53	49
28.3.2018	06:45:04	50	59	49
28.3.2018	06:50:04	52	60	49
28.3.2018	06:55:04	50	56	49
28.3.2018	07:00:04	51	57	49
28.3.2018	07:05:04	51	56	50
28.3.2018	07:10:04	51	55	50
28.3.2018	07:15:04	56	69	51
28.3.2018	07:20:04	52	59	51
28.3.2018	07:25:04	53	55	52
28.3.2018	07:30:04	53	56	52
28.3.2018	07:35:04	54	70	53
28.3.2018	07:40:04	53	59	52
28.3.2018	07:45:04	54	58	52
28.3.2018	07:50:04	55	60	53
28.3.2018	07:55:04	55	67	53
28.3.2018	08:00:04	55	69	52
28.3.2018	08:05:04	57	66	54
28.3.2018	08:10:04	52	57	50
28.3.2018	08:15:04	52	64	51
28.3.2018	08:20:04	52	56	50
28.3.2018	08:25:04	53	57	51
28.3.2018	08:30:04	53	61	52
28.3.2018	08:35:04	52	59	52
28.3.2018	08:40:04	52	55	51
28.3.2018	08:45:04	51	56	50
28.3.2018	08:50:04	51	55	50
28.3.2018	08:55:04	50	56	49
28.3.2018	09:00:04	50	54	49
28.3.2018	09:05:04	50	56	49
28.3.2018	09:10:04	50	54	49
28.3.2018	09:15:04	49	54	48
28.3.2018	09:20:04	50	55	49
28.3.2018	09:25:04	52	57	50
28.3.2018	09:30:04	52	60	50
28.3.2018	09:35:04	53	59	50
28.3.2018	09:40:04	53	59	51

28.3.2018	09:45:04	53	58	51
28.3.2018	09:50:04	57	66	53
28.3.2018	09:55:04	55	63	52
28.3.2018	10:00:04	52	61	50
28.3.2018	10:05:04	52	60	51
28.3.2018	10:10:04	52	63	51
28.3.2018	10:15:04	52	55	51
28.3.2018	10:20:04	52	60	50
28.3.2018	10:25:04	52	61	50
28.3.2018	10:30:04	51	60	49
28.3.2018	10:35:04	52	70	49
28.3.2018	10:40:04	52	56	50
28.3.2018	10:45:04	52	61	50
28.3.2018	10:50:04	50	55	49
28.3.2018	10:55:04	55	69	52
28.3.2018	11:00:04	55	58	53
28.3.2018	11:05:04	55	58	53
28.3.2018	11:10:04	54	61	53
28.3.2018	11:15:04	53	59	51
28.3.2018	11:20:04	53	57	51
28.3.2018	11:25:04	54	61	52
28.3.2018	11:30:04	54	63	52
28.3.2018	11:35:04	54	60	53
28.3.2018	11:40:04	55	61	54
28.3.2018	11:45:04	57	64	55
28.3.2018	11:50:04	57	68	55
28.3.2018	11:55:04	58	64	56
28.3.2018	12:00:04	56	68	54
28.3.2018	12:05:04	54	58	52
28.3.2018	12:10:04	53	57	51
28.3.2018	12:15:04	51	56	49
28.3.2018	12:20:04	51	60	49
28.3.2018	12:25:04	50	56	48
28.3.2018	12:30:04	51	55	49
28.3.2018	12:35:04	54	58	52
28.3.2018	12:40:04	53	63	50
28.3.2018	12:45:04	54	61	52
28.3.2018	12:50:04	54	58	51
28.3.2018	12:55:04	53	57	52
28.3.2018	13:00:04	53	64	51

Definition of Acoustic Terms – (Architectural)

The decibel

This is the basic unit of noise, denoted dB.

A Weighting

This is a weighting process which simulates the human ear's different sensitivity at different frequencies. A weighting can be shown two typical ways, 50 dB(A) L_{eq} or 50 dB L_{Aeq} . Both mean the same thing. (See below for a definition of L_{eq}). The dB(A) level can be regarded as the overall level perceived by human beings.

L_{eq} and $L_{eq(s)}$

This is the equivalent continuous noise level which contains the same acoustic energy as the actual time-varying sound. In other words it is a kind of average noise level. It is denoted dB L_{eq} or, for A-weighted figures dB(A) L_{eq} or dB L_{Aeq} . It can also be expressed in terms of frequency analysis (see later). $L_{eq(s)}$ is the sample L_{eq} level.

L_n

This is the level exceeded for n% of the time. It is denoted dB L_n or, for A-weighted figures dB(A) L_n or dB L_{An} . It can be expressed in terms of frequency analysis (see later). L_{90} is the level exceeded for 90% of the time and is a measure of the lowest level typically reached. L_{10} is the level exceeded for 10% of the time and is the highest level typically reached. L_{50} is the level exceeded for 50% of the time and, mathematically, it is the median.

L_{max}

This is the maximum level reached during a measurement period. The "time constant", or the ability of the equipment to respond to impulses is usually expressed along with it, e.g. "Fast", "Slow", etc. It is denoted dB L_{max} or, for A-weighted figures dB(A) L_{max} , dB L_{Amax} , etc. It can also be expressed in terms of frequency analysis.

NR and NC Values

These are single-figure noise level values which take account of a noise's frequency content.

Reverberation Time

This is the most common way of expressing a room's basic acoustic character. It is the time taken for a steady noise to decay by 60 dB after its source has been abruptly cut off. It is denoted RT_{60} for most situations. RT_{20} and RT_{30} are also used but would normally be separately defined in the report body.

Frequency Analysis

Whereas dB(A) gives a very useful overall figure, it has its limitations in that it cannot be used to model or predict the effect of noise control and mitigation as this nearly always has radically different performance at different frequencies.

Frequency analysis expresses an overall noise level at each frequency or band of frequencies in the audible range. Octave band analysis divides the audible range into 10 bands from 31.5 Hz to 16 kHz and the noise level in each band can be expressed in any form e.g. L_{eq} , L_{90} , L_{max} etc. One third octave band analysis uses 30 bands.

Narrow band analysis takes the process to resolutions of less than 1 Hz. This is useful for identifying the existence of tones (whines, hums, etc.) and in pin-pointing the sources.

Ctd./...

Sound reduction index (R): This is a measure in decibels (dB) of the sound insulation of a particular construction. It is a laboratory measured parameter independent of area, and of receiving room conditions. The sound reduction index is the value produced from laboratory tests on a construction. When tested in a laboratory, results of R are obtained over a range frequencies in 1/3rd and/or full octave bands. These may then be weighted in accordance with BS EN ISO 717: 1997: Part 1 to give the overall **Weighted Sound Reduction Index R_w** . Where sound reduction with respect to road traffic noise is required the frequency weighting may be adapted using the C_{tr} spectrum adaptation term. In this case the single figure value is given in terms of $R_w + C_{tr}$.

Standardised level difference (D_{nT}): this is the level difference adjusted to assume a standard reverberation time of 0.5 seconds in the receiving room so that partitions can be compared independent of the furnishing and surface finishes of the rooms. The measure is generally used in residential testing as 0.5 seconds is taken as the approximate reverberation time of a furnished living room or bedroom.

The D_{nT} is usually quoted for 1/3rd octave bands between 100 Hz and 3150 Hz.

Weighted standardised level difference ($D_{nT,w}$): the $D_{nT,w}$ is a single figure expression used to describe the sound insulation of a partition. The weighting system used to obtain the single figure $D_{nT,w}$ from the 1/3rd octave D_{nT} values is given in BS EN ISO 717: Part 1. The $D_{nT,w}$ is used for expressing sound insulation measured "in the field", and is part of the term used in Approved Document E 2003, guidance to the Building Regulations for the assessment of performance of separating elements between residences.

Spectrum adaptation terms (C, C_{tr}): These terms are single figure values which are added to a single figure R_w or D_w term to adapt the frequency weighting for different source noise spectra. Adding the C_{tr} term to a weighted parameter approximates to the human perceived sound insulation of an element when subjected to road traffic noise. The C_{tr} term may be used to determine a single figure approximation of sound insulation against road traffic noise. The C_{tr} term is part of the term used in Approved Document E: 2003 of the Building Regulations for the assessment of performance of separating elements between residences.

Flanking: Flanking is the term used to describe how sound gets from one room to another by routes other than via the wall or floor directly separating them. Such flanking paths around a party wall would be the internal leaf of the external wall or the roof void, plus any air gaps at junctions. The sound insulation of flanking paths is very important. If the insulation is poor it can result in a poor built performance in terms of sound insulation, even if the party walls or floors themselves are adequate. When a measurement of sound insulation is made in a building as opposed to an acoustic laboratory, it will include flanking sound transmission. Standards for sound insulation in residential properties now require testing of $D_{nT,w} + C_{tr}$ values which include sound transmission via flanking paths.

Acoustic Requirements for Quality Control

1. **Blockwork**

All blockwork to be mortared to an almost fair faced standard both horizontally and vertically. Only perfect blocks may be used with no pitting or cracks. The blockwork must seal effectively to the underside of the soffit.

Where blockwork walls form a cavity wall, care should be taken to avoid rubble and snots from bridging the cavity. This is especially important where one or more of the leaves is floating.

2. **Plasterboard**

All plasterboard joints are to be butted tight. The rule of thumb is that the joint should be tight enough over its entire length to prevent a normal business card from being inserted. Multiple layers should be fitted with staggered joints.

Base details and deflection heads are to be as per the British Gypsum White Book with copious amounts of mastic to be used when fitting to the floor and ceiling respectively.

3. **Mineral Fibre**

Mineral fibre slabs are to be butted tightly together and to boundary structures, to form a homogeneous layer.

4. **Windows**

All window frames are to be a good tight fit into the building structure with any gaps to be filled both internally and externally with a non-setting mastic in addition to the usual weather proofing seal to the exterior. Any gaps between the frame and building that are greater than 5 mm are to be packed with a dense mineral fibre prior to mastic sealing.

5. **Electrical Sockets**

Electrical sockets must not be fitted back to back and removed areas of blockwork and plasterboard should be kept to an absolute minimum.

6. **Water Pipes**

All water pipes (and any other pipework) are to be resiliently mounted to avoid "water hammer". This is particularly important for plasterboard walls.

7. **Penetrations**

Details for specific services penetrations may be supplied upon request.

8. **Approved Samples and Inspections**

Samples of each individual acoustic element should be provided for inspection at the beginning of its installation. Once approved, the Clerk of Works must ensure that the same level of quality continues throughout construction.