

Warrington South West Urban Extension (SWUE)

Representations to Warrington Proposed
Submission Version Local Plan

On behalf of Peel Holdings (Management) Ltd, Story
Homes Ltd and Ashall Property Ltd

June 2019

Turley

Contents

1.	Introduction	1
2.	Overarching Comments	4
3.	Deliverability	8
4.	Detailed Policy Wording (Policy MD3)	3
5.	Viability	14

Appendix 1: Alternative Wording for Policy MD3: South West Urban Extension

Appendix 2: Representation in respect of Warrington Borough Council Local Plan Viability Assessment

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1. Introduction

- 1.1 This report has been prepared by Turley on behalf of the South West Urban Extension Consortium (“the SWUE Consortium”).

SWUE Consortium

- 1.2 The SWUE Consortium comprises Peel Holdings (Management) Ltd (“Peel”), Story Homes Ltd and Ashall Property Ltd.
- 1.3 The Consortium members each have land interests relating to the South West Urban Extension (SWUE), which is proposed for ‘release’ from the Green Belt and allocation for housing in the Proposed Submission Version of the Warrington Local Plan (PSLP).
- 1.4 The Consortium members have extensive experience of promoting land for development and delivering high-quality, sustainable residential communities. The Consortium is committed to continuing to work together, and with the Council, to ensure that the SWUE is developed in a comprehensive and coordinated manner at the earliest opportunity.

Peel

- 1.5 Peel is a major investor, infrastructure provider, landowner and developer; it is one of the leading infrastructure, real estate, transport and investment enterprises in the UK. Peel also has major interests and assets across the UK. Peel’s diverse network of businesses range from ports to airports; land to leisure; media to hotels; wind farms to shopping centres; nature parks to canals; residential sites to agricultural uses.
- 1.6 Peel Holdings (Management) Ltd is part of Peel Land and Property, which is in turn part of the Peel Group. It has extensive real estate assets which consist of 1.2 million sq m (13 million sq ft) of investment property and over 15,000 hectares (37,000 acres) of strategic land and water throughout the UK, with particular concentrations in the North West of England, Yorkshire and the Medway. The breadth of Peel Land and Property’s assets covers transformational developments including MediaCityUK and Liverpool Waters. Peel Land and Property’s landholdings accommodate offices, retail and business parks, shopping centres, leisure and sports venues, residential developments and agricultural land.

Story Homes

- 1.7 Story Homes is a privately owned housebuilder founded in 1987. It has a long and successful reputation of building quality and high specification homes across the North West. The family-owned business has grown in size and status over the years but remains grounded, built on its original ethos of ‘doing the right thing’ and creating a brand synonymous with quality.
- 1.8 For over 30 years Story Homes has been the name most often associated with aspirational houses for sale throughout Cumbria, the North East and Lancashire, and it is rapidly expanding across the whole of the North of England. A passion for quality and excellence has seen Story Homes become a multi award-winning UK property developer, with modern and attractive homes instantly inspiring buyers.

- 1.9 Story Homes' success is underpinned by a determination to understand the needs of communities where they build and a goal to deliver design quality and high quality building specifications that enhance locations.

Ashall Property

- 1.10 Ashall Property is a private property investment and development investment company which focuses on creating investment value through property development and asset management.
- 1.11 Established as a property developer in the 1930s, Ashall Property has been successfully developing residential and commercial property ever since, with a rolling commercial development programme encompassing a wide range of speculative, pre-let and forward-funded projects in the UK.
- 1.12 In recent years, Ashall Property has developed projects with an investment value in excess of £500 million, comprising around one million square feet of office and commercial space. Most notably, in partnership with Highbridge Properties Plc, this includes the development of Cobalt Park, the UK's largest office park.
- 1.13 The experience gained over more than 80 years allows Ashall Property to pursue development schemes based on intelligence of local markets and an in-depth understanding of the requirements of both end-users and funding partners.

Summary of Representations

- 1.14 This report accompanies representations made individually by each of the consortium members to the PSLP, and presents the Consortium's collective response to Policy MD3 of the PSLP. It should be read alongside the accompanying Development Prospectus for SWUE and the associated Technical Appendix.
- 1.15 In summary, these representations:
- Strongly support the 'release' of the South West Urban Extension from the Green Belt and its allocation for housing and related development over the plan period of the PSLP. In particular, the parties agree that the SWUE site is suitable, available and deliverable. Development of the SWUE aligns with the Vision, Objectives and Spatial Strategy of the emerging Local Plan and the 'exceptional circumstances' to release the site from the Green Belt have been demonstrated.
 - Summarise the Development Prospectus and substantial technical assessment work that has been undertaken on behalf of the SWUE Consortium to date. That technical work supplements the evidence base prepared by the Council and demonstrates that, subject to obtaining planning permission, there are no insurmountable obstacles to immediate development on the SWUE site. The supporting technical work is submitted alongside these representations.
 - Provide comments on the detailed wording of draft Policy MD3 in order to ensure that the policy meets the tests of soundness set out in national policy and the site is deliverable within the timescales anticipated by the PSLP.

- 1.16 The SWUE Consortium fully supports the proposed allocation which promotes sustainable patterns of development in accordance with the National Planning Policy Framework (“the Framework”). Detailed comments on the wording of Policy MD3 are made in this context and to ensure that the policy meets the tests of soundness set out in the Framework.

2. Overarching Comments

- 2.1 The Consortium fully supports the allocation of the South West Urban Extension (SWUE) in the PSLP. The SWUE presents an opportunity to deliver a significant scale of new housing and associated infrastructure which will benefit both existing and new residents.
- 2.2 The development of the SWUE aligns with the overarching vision, objectives and spatial strategy of the PSLP. It also aligns with national policy which recognises that the supply of large numbers of new homes can often be best achieved through planning for larger scale development, including significant extensions to existing towns, provided they are well located and designed, and supported by the necessary infrastructure and facilities¹.
- 2.3 The Consortium will continue to support the Council in bringing the site forward through the Local Plan and subsequent delivery.

Alignment with Vision and Spatial Strategy

- 2.4 The PSLP seeks to focus the majority of new development required over the plan period within, and around the edges of, the urban area of Warrington. This approach is supported by the Consortium, in the context that Warrington is the largest settlement in the Borough and is the principal focus of services and facilities and public transport connections. It is, therefore, a sustainable location for new development.
- 2.5 Focusing a significant proportion of new development within Warrington also reflects the important role that the town plays and the potential which derives from its strategic position at the heart of the Northern Powerhouse, mid-way between Manchester and Liverpool and at the intersection of four major economic growth and development corridors of national importance:
- The M62 Corridor
 - The M56 / A55 Corridor
 - The Manchester Ship Canal Corridor, and
 - The M6 / HS2 Corridor.
- 2.6 The Council has also identified the potential for new development adjacent to the existing urban area to contribute to removing existing highway network and social infrastructure capacity constraints. The need to remove these constraints has informed the spatial strategy proposed by the Council, and is fully supported by the SWUE Consortium.
- 2.7 The SWUE is strategically located and provides a scale of development which will build on existing infrastructure assets and future planned infrastructure (such as the

¹ Paragraph 72, National Planning Policy Framework (MHCLG, February 2019)

Western Link road) which are key to Warrington’s future growth. Delivery of the Western Link presents an opportunity to improve existing accessibility to Warrington Town Centre, and will also support the levels of housing and economic growth envisaged within the PSLP.

- 2.8 The Consortium recognises that significant infrastructure investment is needed to realise the full potential of the SWUE, and fully supports the delivery of the Western Link road connecting the A56 and the A57.

Alignment with Emerging Local Plan Objectives

- 2.9 As confirmed within the Council’s own evidence base, the SWUE, in conjunction with the proposed Garden Suburb to the south east of Warrington, performs strongly across the objectives of the emerging Local Plan. In particular:

- It is capable of meeting development needs and delivering infrastructure needed to support the development itself and contribute to the wider sustainable development of Warrington as a whole².
- Green Belt release can be facilitated without compromising the strategic importance of Warrington’s Green Belt as a whole, with revised boundaries likely to be robust and durable beyond the plan period³.
- It is of a sufficient scale to provide a range of services to support a new residential community including a local centre, primary school, health facility and a network of open spaces⁴.
- Its location and the future delivery of the Western Link will ensure good access to Stockton Heath District Centre, Warrington Town Centre and the major proposed development at Warrington Waterfront⁵; enhancing the accessibility of Warrington Town Centre for existing as well as new residents⁶.
- The development will provide benefits of increasing the residential population within the main urban area with good access to the major employment development at Omega and existing connections to the town centre⁷, thus

² Paragraph 3.13, Development Options and Site Assessment Technical Report (Warrington Borough Council, March 2019)

³ Paragraph 3.13, Development Options and Site Assessment Technical Report (Warrington Borough Council, March 2019)

⁴ Appendix 3 – Local Plan Objective W1, Development Options and Site Assessment Technical Report (Warrington Borough Council, March 2019)

⁵ Appendix 3 – Local Plan Objective W1, Development Options and Site Assessment Technical Report (Warrington Borough Council, March 2019)

⁶ Appendix 3 – Local Plan Objective W3, Development Options and Site Assessment Technical Report (Warrington Borough Council, March 2019)

⁷ Appendix 3 – Local Plan Objective W1, Development Options and Site Assessment Technical Report (Warrington Borough Council, March 2019)

reducing the need to travel and promoting the use of public transport, contributing to air quality and climate change reduction objectives⁸.

- 2.10 These conclusions are fully supported by the Consortium.

Exceptional Circumstances for Green Belt Release

- 2.11 The Consortium agrees that the Council has demonstrated that there are ‘exceptional circumstances’ to warrant the review of the Green Belt boundaries in the Borough, and that these have been fully evidenced and justified in accordance with national policy⁹. This includes a demonstration of the exceptional circumstances for the release of the SWUE site; the purpose of which is to provide a new sustainable community supported by local infrastructure and services, facilitated by the Western Link.
- 2.12 The existing Green Belt boundaries in the Borough are based upon the designation established in the Cheshire Structure Plan, which was adopted in 1979¹⁰, and were largely rolled forward in the Warrington Unitary Development Plan (UDP) which was adopted in 2006.
- 2.13 Given that the existing Green Belt boundaries are drawn tightly around the existing urban area of Warrington and the Outlying Settlements, there are very limited opportunities for new development beyond the existing urban area.
- 2.14 The Council has assessed the capacity of the existing urban area (comprising the main urban area of Warrington and the Outlying Settlements that are inset from the Green Belt) to accommodate new development over the plan period. This has involved a Strategic Housing Land Availability Assessment (SHLAA) and Economic Development Needs Assessment (EDNA) as well as a consideration of the regeneration plans for the Town Centre, Warrington Waterfront and parts of the wider Inner Warrington area¹¹.
- 2.15 The Council’s evidence base identifies an urban capacity to accommodate a total of 13,729 dwellings to 2037¹². When considered against the draft housing requirement over the same period (18,900 dwellings), this indicates that there is a shortfall of land to accommodate 5,171 dwellings over the plan period.
- 2.16 The Council has concluded that there are insufficient sites available within the existing urban area to meet the full housing needs of the borough, and neighbouring

⁸ Appendix 3 – Local Plan Objective W6, Development Options and Site Assessment Technical Report (Warrington Borough Council, March 2019)

⁹ Paragraph 136, National Planning Policy Framework (MHCLG, February 2019)

¹⁰ Paragraphs 14-15, Green Belt Assessment – Final Report (ARUP, October 2016)

¹¹ Paragraph 1.3, Warrington Borough Council Local Plan – Urban Capacity Assessment 2019 (Warrington Borough Council)

¹² Table 1, Warrington Borough Council Local Plan – Urban Capacity Assessment 2019 (Warrington Borough Council)

authorities have confirmed that they are unable to accommodate some of Warrington's identified housing needs within their administrative boundaries¹³.

- 2.17 The Council has successfully demonstrated that there are no 'strong reasons' for restricting the overall scale, type or distribution of development. In particular, the Council's evidence indicates that planning for a lower level of growth could have negative effects on housing and economic growth, which would also translate into lower overall benefits in terms of regeneration, health and wellbeing and the potential for infrastructure improvements to address existing problems which will arise in the 'no development' world¹⁴.
- 2.18 The Council has also demonstrated that the identified housing needs can be accommodated without causing adverse impacts that would 'significantly and demonstrably' outweigh the benefits of meeting identified needs. Whilst some negative effects are identified, the majority would not be significant and could be mitigated¹⁵. The Council's approach, therefore, aligns with the 'presumption in favour of sustainable development' enshrined within national policy¹⁶.

¹³ Record B – Housing Need, Proposed Submission Version Local Plan – Duty to Cooperate Statement (Warrington Borough Council, March 2019)

¹⁴ Paragraph 4.3.14, Warrington Local Plan Review Pre-Submission – Sustainability Appraisal: SA Report (AECOM, March 2019)

¹⁵ Paragraph 4.3.15, Warrington Local Plan Review Pre-Submission – Sustainability Appraisal: SA Report (AECOM, March 2019)

¹⁶ Paragraph 11(b), National Planning Policy Framework (MHCLG, February 2019)

3. Deliverability

- 3.1 The Consortium members are currently progressing commercial discussions in relation to collaboration in the delivery of contributions and engagement of key consultants. This collaboration will include equalisation agreement on key matters involving the land and financial contributions required to facilitate delivery of the SWUE site as a whole (e.g. in relation to the potential primary school and local centre).
- 3.2 As detailed within the accompanying Development Prospectus and associated Technical Appendix, a substantial amount of technical assessment work has been undertaken to date and has informed the preparation of a concept masterplan for the site. The Consortium members will continue to progress and refine this work as the Local Plan progresses and, subsequently, as planning applications for the site are prepared.
- 3.3 The technical assessment work undertaken to date demonstrates that, subject to obtaining planning permission, there are no insurmountable obstacles to immediate development on the SWUE site. This technical work supplements the evidence base work undertaken by the Council and is submitted alongside these representations.
- 3.4 The key findings of the technical work undertaken on behalf of the Consortium are summarised at **Table 3.1**. Further detail is provided within the Technical Appendix to the Development Prospectus for the SWUE.

Table 3.1: Summary of SWUE Technical Assessments

Landscape, Townscape & Visual Sensitivity	<p>A Landscape, Townscape and Visual Sensitivity Assessment and Development Appraisal has been undertaken by Randall Thorp. The report considers the existing character and visibility of the site, reviews the landscape, adjacent townscape and visual baseline in order to provide evidence to support the allocation of the site and inform the concept masterplan for residential development.</p> <p>The appraisal demonstrates the site’s ability to accommodate development in principle without undue impacts on the surrounding landscape, and concludes that there is no reason why a well-designed development that preserves the existing landscape features such as watercourse and trees within a green infrastructure network and responds sensitively to the setting of the Walton Village Conservation Area and heritage assets, would have any significant effects on the landscape and townscape character of the surroundings.</p> <p>With appropriate good design and well thought out landscape mitigation measures, development within the site has the potential to avoid significant effects on the visual amenity of the surrounding receptors.</p> <p>There are no landscape, townscape or visual sensitivities which would prevent the SWUE site being developed as a sustainable urban extension for around 1,800 dwellings and associated infrastructure.</p>
Ecology	<p>A Preliminary Ecological Appraisal of the site has been undertaken by TEP, informed by the results of a desktop assessment and site surveys.</p> <p>The appraisal concludes that the provision of large areas of open greenspace in the northern part of the SWUE site will be of benefit. New crossings through existing hedgerows, treelines and across watercourses will be designed so as to impose minimal impacts on protected species and habitats. Any losses will be mitigated within the open greenspace to be provided within the site.</p> <p>Further detailed surveys will be required at planning application stage, including in relation to bats, amphibians, otter and water voles, badgers and nesting birds. A Reasonable Avoidance Method Statement (RAMS) for brown hare, hedgehog and potentially common toad will be provided to detail how harm to these species will be avoided during construction works. Management plans to prevent the spread of invasive species (Himalayan balsam, Japanese knotweed, Japanese rose and rhododendron) during development can be secured via condition at planning application stage.</p> <p>The appraisal presents a number of measures which could be included to ensure that there is a measurable gain in biodiversity on the site. Such measures could potentially include the installation of bird and bat boxes around the site, the provision of areas of wildflower / grassland planting as part of the landscaping proposals, the inclusion of berry-bearing and nectar rich species of ornamental / landscape planting to provide a foraging resource for a range of wildlife species, including invertebrates, birds and bats.</p>

	<p>The appraisal concludes that there are no overriding ecological constraints which preclude sustainable development of the site.</p>
Noise	<p>Miller Goodall has undertaken a desktop noise screening assessment, a preliminary walkover survey and preliminary noise measurements to review potential issues and solutions associated with noise at the SWUE site.</p> <p>The assessment concludes that noise would not be a barrier to residential development on the site. Whilst the assessment identifies some areas of the site where noise will need to be considered at the detailed design stage (e.g. adjacent to existing roads and the railway line and industrial and commercial operations around the periphery of the site), a suitable and commensurate level of protection against noise can be provided following a detailed noise assessment(s). Such mitigation could include the orientation of plots within the layout, enhanced glazing / alternative ventilation to affected properties and / or acoustic barriers.</p> <p>There will be no significant impacts for noise as a result of the development and, with good acoustic design, the impacts can be minimised.</p>
Flood Risk & Drainage	<p>A Flood Risk & Drainage Appraisal has been undertaken by Shepherd Gilmour Infrastructure (SGI) to provide an in-depth assessment of the potential flood risk on-site and identify an initial foul and surface water drainage strategy for the SWUE, which has informed the concept masterplan for the site.</p> <p>The majority of the SWUE site is located within Flood Zone 1 (low probability of flooding), with some small areas close to the unnamed watercourse which crosses the site indicated as Flood Zones 2 and 3 (medium and high probability). Where possible, built development will be located within Flood Zone 1.</p> <p>SGI has presented an indicative site-wide drainage strategy which demonstrates one option for how the site could be drained; there are likely to be a number of suitable drainage strategy options available.</p> <p>The indicative drainage strategy presented by SGI indicates that the proposed development will prioritise infiltration as a means to dispose of surface water runoff. If ground conditions prohibit infiltration, plots / parcels will be allowed to discharge clean / untreated runoff into the main network(s) in the highway. The main surface water infrastructure will discharge clean / treated runoff into the Manchester Ship Canal or onsite watercourse at an approved greenfield runoff rate. Discharge locations and attenuation structure(s) can be approved at detailed design stage. The proposed foul flows from the development will discharge to existing United Utilities combined water sewer(s) via the main foul water infrastructure within the highway. Connection point(s) to the combined water sewer are to be agreed with United Utilities at detailed design stage.</p>
Arboriculture	<p>A preliminary arboricultural survey and desktop assessment of the SWUE site has been undertaken by TEP, to identify potential constraints and opportunities for future development and report on the preliminary assessment effects of the concept masterplan for</p>

the site.

Trees cover a relatively small proportion of the total site area and are predominantly concentrated towards the western half of the site. The majority are located along watercourses, on field boundaries and within hedgerows parallel to public highways.

In terms of quality and particularly habitat and amenity benefits, the tree population is good but could be improved. The extant population provides good screening and contributes to visual amenity and the creation of a rural aesthetic. However, canopy cover is relatively low and connectivity would benefit from reinforcement in some areas.

Existing tree cover on the site is relatively limited and mostly confined to a few key areas following water courses, the canals and railway, and public highways. Due to these areas being less suitable for development due to proximity to sensitive receptors or sources of noise, the concept masterplan generally respects existing tree cover. It is therefore likely that residential development in broad accordance with the concept masterplan could be delivered without necessitating significant tree removal.

Given the landscaping and green infrastructure shown on the concept masterplan, it is also likely that development of the site would result in an increase in tree canopy cover. This point is reinforced by the relatively low extant tree cover within agricultural fields.

A detailed tree survey undertaken according to BS5837:2012 will be undertaken to inform the detailed design stage.

Heritage

A Heritage Appraisal has been undertaken and identifies heritage assets with potential to be affected by the development of the SWUE site and identifies whether there are heritage constraints to development and how these constraints could be resolved or mitigated.

The appraisal recommends a number of measures which will help to reduce the impact of the development on the significance (by way of setting) of the identified heritage assets. These measures have been incorporated into the concept masterplan that has been prepared by Randall Thorp. The Heritage Appraisal concludes that, if these measures are implemented, the development of the SWUE will sustain the significance of the identified designated heritage assets, in accordance with NPPF Paragraphs 192 and 193.

The requirement of Section 66(1) of the Planning (Listed Buildings and Conservation Areas) Act can be satisfied in determining future planning applications, subject to a considered design approach.

The development of the SWUE site will result in the partial loss of the rural setting of a number of locally listed buildings (non-designated heritage assets).

In accordance with NPPF Paragraph 197, in weighing future applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

Highways

iTransport has prepared a transport appraisal which considers the transport and highways related aspects of the development proposals at SWUE.

The appraisal demonstrates that the proposed development will support and promote sustainable development and sustainable travel patterns with residents able to meet day-to-day needs locally. As such, it is a suitable location for development.

Access to the site is proposed off Chester Road and Runcorn Road and feasibility level designs of the principal accesses have been produced and the capacity of these considered. The access arrangements will operate satisfactorily. Access to the site is deliverable and achievable.

The proposed Western Link will provide significant additional capacity in the central Warrington Road network and will assist in facilitating the full SWUE development proposals.

Traffic assessments of a first phase of development delivered in advance of the Western Link, demonstrate that the generated traffic flows will form only a small proportion of existing traffic flows, well within daily variations in traffic, and will not result in severe traffic impacts.

The residual cumulative traffic impacts of development on the site will not be severe and therefore, in accordance with the NPPF, development should not be prevented on transport grounds.

Health &
Safety

Solvay Interlox Ltd and the Former Norbert Dentressangle site are located to the north of the Manchester Ship Canal. Both facilities are identified by the Health & Safety Executive (HSE) as an upper tier COMAH (Control of Major Accident Hazards Regulations 2006) site. The Inner, Middle and Outer HSE Consultation Zones extend into the SWUE site.

The concept masterplan has been prepared to accord with the HSE safety zoning. Consequently, the proposed housing will be located in the middle and outer consultation zones, which will comply with the HSE guidelines.

Discussions with the HSE to agree this position are ongoing.

There is no health and safety reason to prevent the site being allocated for residential development.

Housing Trajectory

- 3.5 The Council's housing trajectory (presented at Appendix 1 to the PSLP) indicates that the first dwellings on the SWUE site will be delivered in 2023/24 at an annual build rate of 116/117 dwellings per annum (dpa) from 2023/24 onwards. Based on the proposed start date and build out rate, the Council's trajectory indicates that a total of 1,631 dwellings will be delivered on the site by the end of the plan period in 2036/37.
- 3.6 The Consortium has a number of comments to make on the Council's trajectory, including in relation to the start date and build out rates.

Start Date

- 3.7 In terms of start date, the Council has assumed that a delivery strategy for the Western Link must be confirmed before any development can come forward on the site, in line with the current wording of Policy MD3 (see Section 4 below).
- 3.8 However, technical highways work undertaken on behalf of the SWUE Consortium indicates that a first phase of housing can be delivered on the site before the Western Link is operational without having a 'severe' impact on the existing highway network and any mitigating highway works required can be undertaken within the adopted highway without the requirement for any third party land. The number of units which could be delivered prior to the Western Link would need to be assessed as part of any future planning application for development on the site.
- 3.9 There are no ownership constraints to the development of any part of the site, and all main parties are committed to working in partnership to progress a site-wide masterplan for the comprehensive development of the site.
- 3.10 Based on the Council's current Local Development Scheme¹⁷, the Council's expectation is that the Local Plan will be adopted in late 2020. In other words, the development of the SWUE would be fully policy compliant midway through the 2020/21 monitoring period.
- 3.11 Based on these timescales, it is expected that the masterplan will be endorsed and the first full planning applications for development submitted in 2020/21. Allowing time for determination of those applications, the discharge of conditions and mobilisation of contractors, it is expected that the first dwellings on the site will be delivered in 2021/22.

Build Out Rate

- 3.12 The Council's housing trajectory expects that maximum delivery rates will be achieved from the first year of delivery. This is likely to be optimistic as contractors will need to be mobilised and initial site infrastructure (access points, internal roads, drainage etc.) put in place. Instead, it is recommended that a three month mobilisation period post-planning is allowed for.

¹⁷ Local Planning Framework Local Development Scheme (Warrington Borough Council, March 2019)

- 3.13 The Council's trajectory is based on an assumption that the site will be delivered by two housebuilders / outlets. This represents a cautious approach as the site is expected to be built out by four housebuilders, each delivering 30 dpa within their respective phase plus 10 affordable units (i.e. total of 40 dpa per housebuilder / outlet).
- 3.14 This indicates that, once maximum delivery rates are achieved, the site will be capable of delivering 160 dpa. At this stage, it is envisaged that there are likely to be three outlets on the site from the outset, increasing to four sales outlets from 2026/27.

Site Capacity

- 3.15 The Council's trajectory assumes that the SWUE allocation can deliver around 1,600 dwellings, which reflects the current wording of Policy MD3. However, the masterplanning undertaken by the Consortium to date indicates that the SWUE could accommodate around 1,800 dwellings (see Section 4 below).

4. Detailed Policy Wording (Policy MD3)

- 4.1 As detailed in preceding sections, the SWUE Consortium fully supports the identification of the South West Urban Extension as a “*sustainable urban extension to the main urban area of Warrington*” providing “*a new community in a high quality residential setting*”¹⁸.
- 4.2 However, the Consortium is concerned that elements of the detailed policy wording, as currently drafted, may not satisfy the soundness tests set out in the Framework. In order to ensure that Policy MD3 meets the tests of soundness, the Consortium has highlighted areas where additional evidence could be provided by the Council and minor amendments to the policy wording made.
- 4.3 The Consortium recommends that these comments are addressed, in order to ensure that the policy is found ‘sound’ and provides an appropriate framework for realising the delivery of the site as soon as possible following the adoption of the Local Plan.
- 4.4 This section summarises these comments in turn, reflecting the headings used within the policy itself.

MD3.1 Key Land Use and Infrastructure Requirements

Site Area

- 4.5 Part 1 of draft Policy MD3 refers to the total site area of the SWUE allocation as 112ha. Officers have indicated in recent discussions that this is a typing error, and that the site measures 121 ha.
- 4.6 A concept masterplan for the SWUE has been prepared on behalf of the Consortium, and is presented on pages 18-19 of the enclosed Development Prospectus. The concept masterplan confirms that the site area of the SWUE is 119.6 ha.
- 4.7 The site area within the policy wording should, therefore, be updated to reflect the correct area, and the site boundaries shown on the Proposals Map and Figure 10.3 of the PSLP should be reviewed to ensure that they align with those shown on the concept masterplan for the site.

Dwelling Capacity

- 4.8 Part 2 of the policy states that the allocation will deliver a new residential community of ‘around 1,600 homes’.
- 4.9 The concept masterplan presented within the Development Prospectus for the SWUE has been informed by a thorough appraisal of the site’s constraints and opportunities, as well as the findings of the technical appraisal work undertaken to date. It demonstrates that the SWUE is capable of accommodating around 1,800 dwellings over c. 53 hectares of residential development parcels, alongside c. 53 hectares of green infrastructure (including Public Open Space) and land for a potential primary school (c. 1.4 ha) and local centre (0.5 ha).

¹⁸ Paragraph 10.3.1, PSLP

- 4.10 The precise number of dwellings to be developed across the site will be ascertained at planning application(s) stage, once further detailed assessment work has been undertaken and informed by a site-wide masterplan. However, it is clear at this stage that there is potential to deliver a higher number of dwellings than currently anticipated within the PSLP. Indeed, the concept masterplan shows potential to accommodate c. 1,800 dwellings based on delivering an average density of 35 dwellings per hectare across the site.
- 4.11 In this context, the Consortium is concerned that the current wording of Policy MD3 is **not positively prepared** as it may unnecessarily restrict the delivery of development on the site and lead to the inefficient use of land, contrary to Paragraph 122 of the Framework.
- 4.12 In order to address this concern, the policy wording should be amended to confirm that the SWUE site will deliver around 1,800 dwellings.
- 4.13 It is also recommended that additional text is added to the explanatory text to Policy MD3 (after Paragraph 10.3.14) to confirm that there is nothing to prevent additional dwellings being delivered on the site, subject to detailed assessments at planning application stage.
- 4.14 References to the dwelling capacity of the SWUE site throughout the PSLP will also need updating to reflect this amendment, including at Policy DEV2 and Paragraphs 3.3.8 and 10.3.1.

Required Infrastructure

- 4.15 Paragraph 2 of draft Policy MD3 details a range of infrastructure which is required to be delivered to 'support' the new residential community on the SWUE. The Consortium agrees with the Council that it is necessary to ensure that the delivery of housing on the site is undertaken alongside appropriate infrastructure to ensure that the new community is sustainable in the long-term.
- 4.16 The concept masterplan which has been prepared, and is presented within the accompanying Development Prospectus, shows potential locations for residential development parcels as well as key elements of supporting infrastructure.
- 4.17 The Consortium is committed to continuing to work with the Council to ensure that the infrastructure that is necessary to support the development of the SWUE is secured and delivered at the appropriate phase of development.
- 4.18 Detailed comments on the requirements listed at Parts 2a to 2l of Policy MD3 are provided under subheadings MD3.2 and MD3.3 below.

MD3.2 Delivery and Phasing

Masterplan Approach

- 4.19 Parts 3 – 6 of draft Policy MD3 require the preparation of a masterplan for the urban extension which meets the requirements of the policy, is subject to consultation with statutory consultees and the local community and forms the basis for subsequent planning applications for individual phases of the development.

- 4.20 The Consortium members are committed to continuing to work together, and with the Council, to ensure that the SWUE is developed in a comprehensive and coordinated manner.
- 4.21 Proposals for individual parcels within the site will be informed by a more detailed masterplanning process for the SWUE as a whole, which reflects the requirements of draft Policy MD3, including consideration of green infrastructure, foul and surface water drainage and highways / access.

Western Link

- 4.22 Part 7 of draft Policy MD3 seeks to prevent any development of the site being permitted until funding has been secured and a programme of delivery has been confirmed for the Western Link.
- 4.23 The Consortium remains supportive of the Council's aspirations for the delivery of the Western Link, which will provide significant benefits for both new and existing residents in terms of additional highway capacity and enhancing the accessibility of Warrington Town Centre.
- 4.24 The Consortium agrees that the delivery of the Western Link will provide significantly enhanced highway capacity in Warrington Town Centre, relieving existing congestion, providing access to development sites at Warrington Waterfront and 'freeing-up' capacity to accommodate traffic flows generated by developments in the Local Plan. Its delivery will facilitate the full development potential of SWUE.
- 4.25 However, the Council's proposed approach to restricting any development on SWUE from being permitted until funding for the Western Link has been secured and a programme of delivery has been confirmed has the potential to unnecessarily delay the delivery of much-needed housing on the site. It is also contrary to the tests of soundness as **it is not positively prepared and not justified**.
- 4.26 In particular, the current policy wording would prevent planning applications for individual parcels within the SWUE from being determined and the site mobilised until the funding has been secured and delivery programme for the Western Link confirmed. Based on recent discussions with the Council, it is expected that this will take place in summer 2022.
- 4.27 In order to ensure that housing delivery can come forward as soon as possible, the Consortium would seek to undertake the masterplanning process immediately following adoption of the Warrington Local Plan. Thereafter, planning applications for individual parcels within the site will be prepared and submitted.
- 4.28 The Council has not provided any evidence to justify delaying determining any planning applications until the funding and delivery programme for the Western Link has been confirmed. Such an approach would unnecessarily stall the delivery of residential development which is capable of coming forward in the early years of the plan. As a result, the Consortium is concerned that Part 7 of the policy is not sound as it **is not positively prepared and is not justified**.

- 4.29 In order to address this, it is recommended that Part 7 of draft Policy MD3 is amended to confirm that *“No development shall be occupied until funding has been secured and a programme of delivery has been confirmed for the Western Link”*.
- 4.30 Such an approach would enable the Consortium to progress the masterplanning work and for planning applications for parcels within the site to be prepared, submitted and determined by WBC and the site mobilised so that initial development can commence before the funding and delivery programme for the Western Link has been confirmed.

MD3.3 Detailed Site-Specific Requirements

New Homes

- 4.31 The Consortium is committed to ensuring that an appropriate range of housing tenures, types and sizes are provided on the site in order to help meet identified needs in the local area.

Affordable Housing

- 4.32 Draft Policy MD3 cross-refers to the requirements of draft Policy DEV2 in relation to housing mix and the provision of affordable housing. In doing so, the PSLP requires 30% affordable housing to be delivered on the SWUE.
- 4.33 The ability of the SWUE to support this level of affordable housing provision (amongst other contributions) has been tested through an independent Viability Appraisal that has been undertaken by Turley, on behalf of the Consortium (provided at **Appendix 2**). That appraisal confirms that the development of SWUE is capable of supporting 30% affordable housing. However, the Consortium does have some concerns about the Council’s viability evidence and has raised a number of areas where further clarity is required to enable a full appraisal to be undertaken. This is explained further in Section 5 of these representations.
- 4.34 As such, the Consortium reserves the right to comment further on the viability of the overall development and its ability to support 30% affordable housing (amongst other policy requirements) as the Local Plan progresses towards Examination.

Residential Care Home

- 4.35 Part 12 of draft Policy MD3 requires a residential care home (Use Class C2) providing a minimum of 80 bedrooms to be provided on the site, within or in proximity to the local centre. The requirement for a residential care home is also referenced at Part 2a of the policy, as part of the supporting infrastructure which is required to support the housing development on the site.
- 4.36 The Consortium recognises that a residential care home is not incompatible with residential (Use Class C3) uses and could be delivered as part of the overall range of development on the site, depending on the level of commercial interest. However, the Council has not provided sufficient justification to demonstrate that a residential care home is required as part of the range of infrastructure to be delivered on the SWUE site.
- 4.37 In particular, whilst the Council’s evidence base identifies a general need to provide additional accommodation for residents aged over 65 across the Borough, it does not

demonstrate that such provision is required in South West Warrington specifically, and in fact refers to a lack of existing provision outside of the Warrington Urban Area, including in Culcheth and Lymm¹⁹. Notwithstanding, the Council's evidence base makes clear that these figures should be treated as indicative and that it "*does not seek to set policies for how older persons with care needs should be accommodated*"²⁰.

- 4.38 The Council has also not provided any evidence to justify the minimum size of residential care home to be delivered on the SWUE site. Furthermore, no provision appears to have been made in the Council's Viability Appraisal²¹ for C2 development on the site.
- 4.39 For these reasons, the Consortium is concerned that Part 12 of Policy MD3 would not meet the tests of soundness because **it is not justified** as there is no clear justification for the provision of C2 accommodation on the site and no provision appears to have been made in the Viability Appraisal for C2 development on the site. The policy wording is also inflexible and may **not be effective** in meeting the needs for residential care across the Borough.
- 4.40 In this context, it is recommended that the detailed wording of Policy MD3 be amended to clarify that the *potential* provision of a residential care home (Use Class C2) on the site will be considered appropriate as part of the range of uses which could be delivered on the site; rather than as infrastructure which is required to be delivered.

Self-Build / Custom-Build Plots

- 4.41 Part 13 of the draft policy requires specific provision to be made for self-build/custom build plots, subject to local demand as demonstrated by the Council's self-build register.
- 4.42 The requirement of custom-build/self-build plots has been the subject of significant debate at two recent Local Plan Examinations (Oadby and Wigston and Harborough) and, whilst there may be demand for them, the reality of having the means and finance to deliver them is not clear.
- 4.43 In any case, the PSLP already includes a general policy provision for self-build/custom build plots within draft Policy DEV2. As such, the duplication of this provision within the site-specific policy for the SWUE is unnecessary.
- 4.44 It is, therefore, recommended that Part 13 of the policy (i.e. the requirement for the provision of self-build / custom-build plots) is deleted.

Minimum Densities

- 4.45 Part 14 of Policy MD3 refers to an average minimum density of 30 dph.
- 4.46 In order to maximise the efficient use of land, and ensure that this part of the policy is **consistent with national policy**, it is recommended that additional clarification is added to confirm the potential and acceptability of increasing minimum densities

¹⁹ Paragraph 7.41, Local Housing Needs Assessment (GL Hearn, March 2019)

²⁰ Paragraph 8.57, Local Housing Needs Assessment (GL Hearn, March 2019)

²¹ Warrington Local Plan Viability Assessment (BNP Paribas, March 2019)

within appropriate areas of the site, e.g. within and adjacent to the local centre and / or adjacent to the existing urban area.

Community Facilities

- 4.47 Part 15 of the draft policy requires that the development of the SWUE site provides land and financial contributions towards the delivery of a new two-form entry primary school to meet the need for school places that will be generated from the urban extension. Part 17 goes on to confirm that the primary school should be located *“within or immediately adjacent to the local centre”*, and Part 18 requires the new local centre to be *“located in a central and accessible position within the site”*.
- 4.48 The concept masterplan that has been prepared on behalf of the Consortium shows a potential location for a new primary school and local centre. However, the exact location of these facilities can only be established following a more thorough appraisal of technical constraints and commercial discussions with potential occupiers.
- 4.49 As such, the Consortium requests that additional flexibility is added to Policy MD3 to enable the location of the community facilities to be provided on site to be established at a later stage (i.e. as part of the site-wide masterplan exercise).
- 4.50 Part 16 of draft Policy MD3 requires development to make a financial contribution towards the provision of additional secondary school places through the expansion of existing or planned new secondary schools. However, no robust evidence of existing capacity in the local area appears to have been provided to justify this contribution.
- 4.51 As a result, the Consortium is concerned that Part 16 of Policy MD3 would not meet the tests of soundness because **it is not justified** as no robust evidence of a shortfall in existing secondary school capacity in the local area appears to have been provided to justify this contribution.
- 4.52 The Consortium is also concerned that Part 18 of the draft policy is **not effective** as it does not provide sufficient flexibility to facilitate commercial decisions on the location and delivery of the local centre.

Open Space and Recreation

Open Space

- 4.53 Parts 22a and b of the draft policy requires the delivery of a minimum of 10.3 ha of open space, comprising 2.02 ha of informal play space, 7.36 ha of natural / semi-natural green space, 0.47 ha of allotments (comprising 10 plots) and 0.92 ha of equipped play. It is noted that the sum of these components total 10.77 ha, rather than 10.3 ha as referred to in the draft policy.
- 4.54 The Consortium is concerned that Parts 22a and b of the draft policy do not meet the tests of soundness because no robust evidence of existing open space provision and need appears to have been provided to justify this contribution; i.e. **it is not justified**.
- 4.55 The extent of the open space sought should be justified by robust evidence which takes account of evidence of current local provision and the total number of dwellings to be provided on the site; to be determined at planning application stage.

Playing Pitches

- 4.56 Part 22c requires provision of playing pitches (either on-site or a contribution towards off-site provision). The Consortium is concerned that Part 22c of Policy MD3 would not meet the tests of soundness because **it is not justified**; no robust evidence of existing playing pitch provision and need in the local area appears to have been provided to justify this contribution.
- 4.57 The policy should confirm that the extent of playing pitch contribution sought will need to be justified by robust evidence which takes account of evidence of current local provision and the total number of dwellings to be provided on the site; to be determined at planning application stage.

Built Leisure Facilities

- 4.58 Part 26 of draft Policy MD3 requires a contribution to expanding and enhancing existing or planned built leisure facilities that will serve the residents of the urban extension (principally sports centre/swimming pool provision). In order to ensure that such a requirement is CIL compliant, in particular that it is necessary to make the development acceptable in planning terms, the need for these facilities needs to be demonstrated through the appropriate evidence including an assessment of existing provision. However, no evidence of this need is provided in the policy and the accompanying explanatory text provides no reference to any relevant evidence base documents to support this requirement. Whilst identified as a contribution in the Infrastructure Delivery Schedule in the Infrastructure Delivery Plan (IDP)²², no evidence is provided in the IDP to support this requirement.
- 4.59 In this context, the Consortium is concerned that Part 26 of Policy MD3 would not meet the tests of soundness because **it is not justified**: no robust evidence of existing leisure facility need and provision and need appears to have been provided to justify this contribution, including in the IDP.
- 4.60 The policy should confirm that any requirement for a contribution to built leisure facilities will be justified by the appropriate evidence of need which takes account of evidence of current local provision and the total number of dwellings to be provided on the site; to be determined at planning application stage.

Green Belt and Strategic Gap

- 4.61 Part 30 of the draft policy confirms that the western boundary of the site, comprising the Bridgewater Canal, Holly Hedge Lane and Bellhouse Lane, defines the Green Belt boundary.
- 4.62 Part of the land that has previously been promoted by Story Homes has been excluded from the allocation, and sits adjacent to the south west corner of the allocation boundary as currently proposed.
- 4.63 Story considers that Policy MD3 should facilitate uses which are not 'inappropriate' in the Green Belt (as defined in national policy) in this area, which would serve the wider development and maximise development potential of the allocation. This could, for example, include areas of open space and drainage attenuation, subject to these

²² Infrastructure Delivery Plan (Warrington Borough Council, 2019)

features preserving the openness of the Green Belt and aligning with the purposes of including land within the Green Belt.

- 4.64 This approach will protect the strategic gap and maintain the separate identity of Moore Village to the west, whilst maximising the efficient use of land within the allocation.
- 4.65 The current approach is **not consistent with national policy** as it could result in the inefficient use of land.

Transport and Accessibility

- 4.66 Part 34 states that the development will be expected to make a *“proportionate contribution towards the delivery of the Western Link road”*.
- 4.67 As expressed above, the Consortium recognises that the delivery of the Western Link forms a critical element of realising the Local Plan’s Vision and Objectives in terms of easing existing congestion in central Warrington and ‘freeing-up’ capacity for the new development identified in the PSLP, including the full development potential of the SWUE. The importance of the Western Link to realising the growth aspirations of the Local Plan is, therefore, supported.
- 4.68 In this context, the Consortium agrees that it is appropriate for the development of the SWUE to make contributions towards the delivery of the Western Link. However, the Consortium is concerned that the current wording of draft Policy MD3 does not provide sufficient clarity as to the extent of financial contribution expected, or how this will be apportioned to new development at SWUE and, indeed, other emerging allocations which also rely on delivery of the Western Link.
- 4.69 The Council’s IDP is not transparent on the funding of the Western Link and how contributions will be split between the Local Plan allocations in the vicinity. It also does not appear to clarify whether any other sites will need to contribute given that wider Warrington will benefit from the Western Link when it is in place. Evidence which provides confirmation of the funding mechanism and funding timescales for delivering the Western Link should also be provided.
- 4.70 In this context, the Consortium is concerned that Part 34 of Policy MD3 would not meet the tests of soundness because:
- (a) **It is not justified:** The policy is not currently transparent as it does not confirm the amount of contribution which will be sought through clear and robust evidence.
 - (b) **It is not consistent with national policy:** The contribution needs to be clarified to demonstrate that the development of the SWUE site is viable in accordance with the Paragraph 57 of the Framework.
- 4.71 In order to ensure that Policy MD3 is transparent and complies with the Framework, the amount of contribution sought towards the Western Link road should be clarified.

In line with PPGV²³, the parties reserve the right to provide a site specific assessment of viability at a later date if Western Link Road contributions are excluded from the PSLP viability evidence base.

- 4.72 The Council should also provide separate technical evidence in advance of the Examination which sets out the proposed timing for the delivery of the Western Link and its funding, and how any contributions sought for the Western Link will split between the allocations identified in the Local Plan.

Utilities and Environmental Protection

- 4.73 Part 41 requires the SWUE to be designed to mitigate the impacts of climate change; be as energy efficient and water efficient as possible and seek to meet a proportion of its energy needs from renewable or low carbon sources in accordance with Policy ENV7.

- 4.74 Part 6 of draft Policy EN7 states:

“In the strategic housing and employment allocations as defined in Policies MD1 to MD4 and OS1 to OS9 and identified on the Key Diagram/Polices Map the Council will seek to reduce carbon emissions and maximise opportunities for the use of decentralised energy systems that would use or generate renewable or other forms of low carbon energy. In these locations all development will be required to establish, or connect to an existing, decentralised energy network unless this is shown not to be feasible or viable, in which case development will be required to;

- a. make provision to enable future connectivity in terms of site layout, heating design and site-wide infrastructure design; and*
- b. to ensure that at least 10% of their energy needs can be met from renewable and/or other low carbon energy source(s).”*

- 4.75 The Consortium is concerned that Part 41 of Policy MD3 would fail the tests of soundness because **it is not justified**: it is not clear from the Local Plan Viability Assessment whether the costs of providing such infrastructure have been factored into the viability appraisals undertaken.

Historic Environment

- 4.76 The current wording of Part 45 of draft Policy MD3 imposes a ‘mandatory requirement’ to preserve and enhance heritage assets, irrespective of any balancing exercise taking account of public benefits which duly affords ‘considerable’ weight to preserving or enhancing designated heritage assets (in accordance with Section 66 and Section 72 of the Planning (Listed Buildings and Conservation Areas) Act 1990). In addition, the draft policy seeks to impose a higher test for assessing non-designated heritage assets than is justified. In both instances, the current policy wording is **not consistent with national policy** and is, therefore, unsound.

- 4.77 Part 48 states that the surroundings and setting of the Walton Village Conservation Area should be enhanced through ensuring that the design of development on the

²³ PPGV: Paragraph: 007 Reference ID: 10-007-20190509 (MHCLG, 2019)

Chester Road frontage is sympathetic to the Conservation Area, of high quality and limited in height to two storeys. The Consortium is concerned that the current wording of Part 48 of Policy MD3 is **not consistent with national policy** and the statutory duties. Alternative wording is presented at **Appendix 1**.

Summary of Comments on Policy MD3

- 4.78 The SWUE Consortium fully supports the identification of the South West Urban Extension as an allocation in the PSLP. However, the Consortium recommends that a number of amendments to the policy wording are made to ensure that the policy meets the tests of soundness and to enable the site to be delivered at the earliest opportunity.
- 4.79 The rationale for these amendments is provided above, and the recommended amendments to Policy MD3 can be summarised as follows:
- (a) Site area to reflect the boundaries shown on the Consortium's concept masterplan (i.e. 119.6 ha).
 - (b) Increase the site capacity to 'around 1,800 homes' in order to reflect the capacity of the site shown on the conceptual masterplan and ensure the efficient use of land. Additional text to be added to the supporting text to confirm that there is no reason to prevent a higher number of dwellings coming forward at planning application stage, subject to detailed technical assessments.
 - (c) Enable an element of development to be permitted (but not occupied) in advance of funding being secured and a delivery programme confirmed for the Western Link.
 - (d) The *potential* provision of a residential care home (Use Class C2) on the site to be referred to as part of the range of uses which could be delivered on the site, rather than as infrastructure which is required to be delivered.
 - (e) Delete Part 13, which refers to a requirement for the provision of self-build / custom-build plots as part of the overall housing mix to be provided on the site, and replicates the general policy provision in Policy DEV2.
 - (f) Add reference to the potential for increased minimum densities in appropriate areas of the site (e.g. within / adjacent to the local centre and existing urban area).
 - (g) Provide additional flexibility over the location of the new local centre to be provided within the site, to enable the final position to be determined through the detailed masterplanning stage and following commercial discussions with potential retailers / occupiers.
 - (h) Remove the requirement for contributions towards the provision of additional secondary school places, open space, playing pitches and built leisure facilities unless robust evidence can be provided to demonstrate an existing shortfall in the local area and that such contributions would meet the CIL Regulations and

be proportionate to the additional demand generated through the development of the site (to be tested at planning application stage).

- (i) Include additional land to the south west of the allocation boundary as currently proposed, for Green Belt compliant uses, such as public open space and amenity green space.
- (j) Clarify the required contribution towards the delivery of the Western Link, and confirm that any contribution will be commensurate with the traffic demands of the development, reflective of viability considerations and other funding sources, including other developments.
- (k) Clarify that development on the SWUE should seek to meet a proportion of its energy needs from renewable or low carbon sources, subject to feasibility and viability considerations.
- (l) Amend the detailed wording of the 'Historic Environment' section to ensure compliance with national policy, case law and relevant legislation.

4.80 Suggested alternative wording for Policy MD3, which reflects the above comments, is presented as 'Track Changes' at **Appendix 1**.

5. Viability

- 5.1 As expressed within this representation, the Consortium is fully supportive of the allocation of the SWUE. However, the Consortium does have concerns with errors, inconsistencies and inappropriate assumptions adopted in the Council's Local Plan Viability Assessment²⁴ (LPVA).
- 5.2 In this context, the Consortium requests that the Council takes advice in order to supplement its evidence base, ensuring that the evidence is in accordance with the NPPF, national Planning Practice Guidance for Viability (PPGV) and the recently published RICS Financial Viability in Planning: Conduct and Reporting Guidance²⁵.
- 5.3 Further detail is provided within the Consortium's representations to the LPVA, which have been prepared by Turley Development Advisory, and are provided at **Appendix 2** to this report. In summary, the detailed representations demonstrate that:
- (a) **The delivery of the SWUE allocation is viable and deliverable on the basis of the evidence and assumptions seen to date.** It is recommended that further work is undertaken to justify the Council's position and transparent evidence is provided to show the decisions that have been taken.
 - (b) Certain fundamental appraisal assumptions adopted within the Council's LPVA are un-evidenced, or inadequately evidenced. The impact of this is that the results of the LPVA overstate the financial viability of the development; generating excessive levels of affordable housing that have not been mirrored within the PSLP policy drafting.
 - (c) Elements of PSLP Policy MD3 have not been effectively assessed in accordance with the NPPF and PPGV. It is imperative that the detailed matters raised are addressed by the Council and further advice is obtained in order to supplement the Council's evidence base.
 - (d) Whilst the Consortium holds concerns in respect of the approach to large scale scheme modelling adopted in the LPVA, Turley has re-appraised the 'SW Extension parcel 1', as set out in the LPVA, with appraisal assumptions amended in line with the commentary and amendments proposed within the representation.
 - (e) Following correction of the errors, and amendments to a number of assumptions, the revised appraisal indicates that SWUE parcel 1 is viable following the application of affordable housing and other housing policies, in line with the PSLP. Following the methodology adopted in the LPVA, it can be determined that the remaining parcels of the SWUE site would produce almost identical results.

²⁴ Warrington Local Plan Viability Assessment (BNP Paribas, March 2019)

²⁵ RICS Professional Standards and Guidance, England – Financial Viability in Planning: Conduct and Reporting (1st edition) (RICS, May 2019)

- (f) However, it must be noted that the LPVA takes no account of contributions that are anticipated to be required to fund the Western Link Road. The Council has yet to determine an appropriate approach to the assessment of a Western Link Road 'levy' but any such contribution will negatively impact upon the viability of the SWUE scheme and, in line with PPGV²⁶, the parties reserve the right to provide a site specific assessment of viability at a later date if Western Link Road contributions are excluded from the PSLP viability evidence base, or are assessed to be set on an inappropriate basis.
- (g) The Turley re-appraisal indicates that **the SWUE site is viable and capable of delivering 30% affordable housing**. The parties will now seek to engage with the Council regarding a fair level of contribution to the Western Link Road and the parties request that the Council takes further advice in order to revise and supplement its evidence base, ensuring that that policy costs applied are realistic, deliverable, and evidenced in accordance with the NPPF and PPGV.

²⁶

PPGV: Paragraph: 007 Reference ID: 10-007-20190509 (MHCLG, 2019)

**Appendix 1: Alternative Wording for Policy
MD3: South West Urban Extension**

Suggested Alternative Wording – Policy MD3: South West Urban Extension

MD3.1 Key Land Use and Infrastructure Requirements

1. Land comprising approximately ~~112-119.6~~ ha to the south west of Warrington will be removed from the Green Belt and allocated as a sustainable urban extension.
2. The allocation will deliver a new residential community of around ~~1,600~~1,800 homes, supported by the following range of infrastructure:
 - a. A range of housing tenures, types and sizes, including affordable homes, ~~custom and self-build plots~~ and the potential for a residential care home (Use Class C2) ~~providing a minimum of 80 bedrooms~~.
 - b. A two form entry primary school.
 - c. A mixed use local centre providing:
 - a health facility and
 - a range of units within Use Classes A1, A2, A5 and D1 up to a total of 500 sq.m.
 - d. A new local park and areas of strategic open space comprising of a minimum of 32 ha.
 - e. Provision of a range of smaller areas of open space within the residential development to serve the new community in accordance with the Council's open space standards.
 - f. Provision of playing pitches (either on-site or a contribution towards off-site provision).
 - g. A comprehensive package of transport improvements.
 - h. A contribution towards additional secondary school places.
 - i. A contribution towards built leisure facilities.
 - j. A contribution towards strategic transport infrastructure (The Western Link).
 - k. Landscape buffers and ecological mitigation and enhancement.
 - l. Flood mitigation and drainage including ~~exemplary~~ sustainable drainage systems (SuDS) with only foul flows connecting to the existing public sewer.

MDA3.2 Delivery and phasing

3. The Council will require the preparation of a masterplan for the urban extension together with a delivery strategy and phasing plan in order to ensure comprehensive and coordinated development.
4. The masterplan must confirm to the requirements of this policy and be subject to consultation with statutory consultees and the local community.

5. The masterplan must be informed by a Green Infrastructure Strategy, a site wide Foul and Surface Water Strategy, a site wide Clean Water Strategy and a Transport Assessment.
6. The masterplan will provide the basis for subsequent planning applications for individual phases of development.
7. No development ~~will be permitted~~[shall be occupied](#) until funding has been secured and a programme of delivery has been confirmed for the Western Link.
8. Full details of the programme and funding for delivery of the primary school, health centre, Local Park and other necessary infrastructure will need to be agreed by the Council before the first phase of the development is permitted to come forward.

MD3.3 Detailed Site-specific Requirements

New Homes

9. A range of housing tenures, types and sizes, as identified in Policy DEV2, should be provided in order to ensure development contributes to meeting the Borough's general and specialist housing needs.
10. In accordance with Policy DEV2 a minimum of 30% of homes should be affordable.
11. The urban extension should provide homes to meet different needs including families and older people, [including potential for an element of residential care \(Use Class C2\), including extra care, subject to operator demand.](#)
- ~~12. Specific provision should be made for a residential care facility providing a minimum of 80 bed spaces. This should be located within or in proximity to the local centre.~~
- ~~13. Specific provision should be made for self-build/custom-build plots, subject to local demand as demonstrated by the Council's self-build register.~~
- ~~14.~~12. To reflect the site's urban fringe location adjacent to the open countryside the development will be constructed to an average minimum density of 30dph. [Areas of higher density development may be considered appropriate adjacent to the existing urban area and / or central areas of the site.](#)

Community Facilities

- ~~15.~~13. The development will be required to provide land (1.6ha minimum) and financial contributions for the delivery of a new two form entry primary school to meet the need for school places that will be generated from the urban extension.
- ~~16.~~14. Development will be expected to make a financial contribution towards the provision of additional secondary school places through the expansion of existing or planned new secondary schools [off-site](#).
- ~~17.~~15. The primary school should be located [within or immediately adjacent to the local centre centrally within the site to ensure that it is accessible from all dwellings.](#)
- ~~18.~~16. The new local centre should provide a focal point for the new community and should be located in a central and accessible position within the site.

~~19.17.~~ The specification and delivery of the health facility within the local centre ~~will need to~~ should be agreed with the NHS as part of the delivery strategy.

~~20.18.~~ Other small scale units up to 500 sq.m in total within Use Class A1, A2, A5 and D1 will be supported in the Local Centre in order to provide for day to day needs. Any proposal for additional retail floorspace will require a retail needs assessment and be subject to the sequential assessment set out in Policy DEV5.

Open Space and Recreation

~~21.19.~~ A Green Infrastructure Strategy should be prepared as part of the masterplan for the urban extension in order to ensure the provision of an accessible, comprehensive and high quality network of multi-functional green spaces.

~~22.20.~~ In accordance with the Council's open space standards the overall provision of open space for the new residential development should include as a minimum:

- a. Public open space – Delivery of a minimum of 10.30ha of open space, comprising 2.02ha of informal play space; 7.36a of natural/semi-natural green space and 0.47ha of allotments (comprising 10 plots).
- b. Equipped play – Delivery of provision equating to 0.92ha (aligned to LEAP and NEAP's) together with details of the management and maintenance arrangements.
- c. Provision of playing pitches (either on-site or a contribution towards off-site provision).

~~23.21.~~ The urban extension should include a new Local Park at the north east of the site together with strategic open space comprising of a minimum of 32ha. The north east of the site is required to remain largely undeveloped as it falls within Health and Safety Executive (HSE) COMAH zones associated with industrial operations on the opposite side of the Manchester Ship Canal though open/recreational space is permitted by the HSE in this location.

~~24.22.~~ The Park and Strategic Open Space will be able to provide a proportion of the open space and recreational needs of the development as well as providing a wider resource for south Warrington and protecting and enhancing biodiversity.

~~25.23.~~ Smaller areas of open space should be provided across all of the residential areas throughout the urban extension.

~~26.24.~~ The development will be required to make apportionate contributions to wards expanding and enhancing existing or planned built leisure facilities that will serve residents of the urban extension (principally sports centre/swimming pool provision).

Natural Environment

~~27.25.~~ The Green Infrastructure Strategy should demonstrate how development within the urban extension will protect and enhance existing wildlife corridors and provide new corridors to link the site into Warrington's wider ecological network.

~~28.26.~~ Particular consideration should be given to protecting and enhancing habitat for migrating birds, given the site's proximity to the Mersey Estuary Special Protection Area.

~~29-27~~. The layout of the urban extension should take account of existing landscape features, including watercourses, woodlands and significant hedgerows and ensure the site contributes to the wider objectives of the Northern Forest.

Green Belt and Strategic Gap

~~30-28~~. The western boundary of the site, comprising the Bridgewater Canal, Holly Hedge Lane and Bellhouse Lane defines the Green Belt boundary.

~~31-29~~. The Green Belt between the urban extension and Moore village will ~~also~~ be protected as a Strategic Gap to maintain the separate ~~identify identity of~~ Moore village. Uses which are not 'inappropriate' within the Green Belt (as defined in national policy) will be acceptable on land adjacent to the allocation, where these preserve the openness of the Green Belt and the purposes of including land within it.

~~32-30~~. Development at the western extent of the site will be required to respect the Green Belt boundary and contribute to maintaining the Strategic Gap between the urban extension and Moore village.

Transport and accessibility

~~33-31~~. A comprehensive package of transport improvements will be required to support the urban extension. Required improvements will include:

- a. Ensuring appropriate access arrangements for the site as a whole and for individual phases of development.
- b. Improved cycling and walking routes well related to the green infrastructure network; connecting to the enhanced country park on the Waterfront; the Walton Hall Estate; Stockton Heath; and Warrington Town Centre.
- c. Providing public transport enhancements to connect the new community with Stockton Heath; Warrington Town Centre; the Waterfront Development; ~~The~~ the new Garden Suburb; and other major employment areas, including Daresbury.
- d. Other necessary network improvements as identified by an appropriate Transport Assessment at planning application stage.

~~34-32~~. The development will be expected to make a proportionate contribution towards the delivery of the Western Link Road: commensurate with the traffic demands of the development, reflective of viability considerations and in view of other funding sources, including other developments.

~~35-33~~. The layout of the urban extension should maximise the potential for walkable neighbourhoods, with a legible hierarchy of routes, providing new footpaths and cycleways that link to existing networks beyond the site.

~~36-34~~. Good accessibility to public transport services should be provided by ensuring that the bus routes and bus stops within the site are accessible by pedestrians and cyclists via effective footpaths and cycle routes.

~~37-35~~. The development should contribute to the Council's wider aspiration of enhancing the Bridgewater Canal as a recreational, tourism, heritage and environmental resource and for the Canal's tow path to provide a cycle and pedestrian link across the Borough.

Utilities and Environmental Protection

~~38-36~~. A site-wide foul and surface water strategy is required across the urban extension as a whole, incorporating appropriate Sustainable Urban Drainage Systems (SUDS) and flood alleviation measures. It will be important for this to be integrated with the site's Green Infrastructure Strategy in order to maximise ecological and recreational benefits. Development proposals will be expected to incorporate infiltration SuDS and SuDS with multi-functional benefits in preference to traditional underground storage systems.

~~39-37~~. Improvements to the water supply and sewerage network will be required, ensuring that surface water drainage is not combined with foul discharge. A site wide clean water strategy will also be required.

~~40-38~~. Development within the urban extension must not impact on the operation of (or impede required access to) the existing gas pipeline, power line and sewage works that are on or adjacent to the site.

~~41-39~~. The urban extension should be designed to mitigate the impacts of climate change; be as energy efficient and water efficient as possible and seek to meet a proportion of its energy needs from renewable or low carbon sources in accordance with Policy ENV7, [subject to deliverability and viability considerations](#).

~~42-40~~. The design of the urban extension must incorporate appropriate measures to mitigate noise and air quality impacts from the A56 Chester Road, Western Link Road and the railway line.

~~43-41~~. Development proposals may be required to assess the impact on the groundwater environment and incorporate appropriate mitigating measures.

~~44-42~~. Within the COMAH Zones of the industrial uses to the north of the Manchester Ship Canal, development will be restricted in accordance with the Health & Safety Executive's requirements.

Historic Environment

~~45-43~~. Development will be required to preserve ~~and or~~ enhance [the significance of designated heritage assets within and in proximity of the site. Any harm to, or loss of, the significance of a designated heritage asset should require clear and convincing justification](#).

~~46-44~~. In accordance with the South Western Urban Extension's Heritage Impact Assessment, specific mitigation is required for the following listed buildings in proximity to the site:

- a. Walnut Tree Farmhouse – requirement for a screening buffer and for restriction of height of new buildings in proximity to the asset and its curtilage.
- b. Bridges and aqueduct over Bridgewater Canal – requirement for retention and enhancement of landscape buffers; for development to be situated a distance away from the assets; development to be designed to be sympathetic to their rural surroundings.

47.45. The locally listed buildings within the site should be retained and an appropriate landscape buffer should be provided around the assets and their curtilages. The design of new development in proximity to these assets should be sympathetic to their rural setting.

46. The ~~surroundings and setting~~ character and appearance or significance of the Walton Village Conservation Area should be preserved or enhanced through ensuring that the design of development on the Chester Road frontage is sympathetic to the Conservation Area, of high quality and limited in height to two storeys.

**Appendix 2: Representation in respect of
Warrington Borough Council Local
Plan Viability Assessment**

Representation in respect of Warrington Borough Council Local Plan Viability Assessment

Peel Holdings (Management) Ltd, Story Homes
and Ashall Property

June 2019

Contents

1.	Introduction	1
2.	Representation	3

Appendix 1:	Turley Residential Market Review	
Appendix 2:	Rider Levett Bucknall Cost Report	
Appendix 3:	Turley Appraisal Comparison	
Appendix 4:	Turley Parcel 1 Appraisal: WBC Infrastructure Costs	
Appendix 5:	474/P/PL01 Barratt Homes Planning Layout	
Appendix 6:	Turley Parcel 1 Appraisal: RLB Infrastructure Costs	

Date

June 2019

1. Introduction

Purpose

- 1.1 This representation is submitted on behalf of Peel Holdings (Management) Ltd, Story Homes and Ashall Property ('the parties').
- 1.2 The parties each have land interests relating to the Warrington Borough Council ('the Council') South West Urban Extension ('SWUE') strategic site. All the parties wholly support the allocation of the SWUE but have concerns with errors, inconsistencies and inappropriate assumptions adopted in the Local Plan Viability Assessment March 2019 ('LPVA'). The parties agree with the Council's conclusion that the SWUE site is viable but have provided comments and requests for alterations to methodology to ensure that the Council's viability assessment of the SWUE allocation site is presented on a robust basis.
- 1.3 The representation has been prepared by Turley, who have substantial experience of preparing viability appraisals in support of a wide range of development proposals throughout the UK. The representation also reflects the parties' knowledge of market conditions through ongoing residential development operations, engagement and negotiations with land owners and developers within Warrington, across the region, and nationally.
- 1.4 Turley previously provided a representation on behalf of Peel in respect of the Warrington Local Plan Viability Assessment Appraisal Inputs ('LPVA-AI') document as dated 1 June 2018 and published by the Council for consultation in July 2018.
- 1.5 This document sets out the parties' representation on the LPVA, which forms part of the evidence base of the Warrington Borough Council Proposed Submission Version Local Plan ('PSLP'), which was published for consultation on 15 April until 5pm on Monday 17 June 2019.
- 1.6 The LPVA was prepared by BNP Paribas Real Estate ('BNP') in order to "*test the ability of developments in the borough to absorb policy requirements in the emerging Local Plan, including the provision of affordable housing*" as proposed within the PSLP.
- 1.7 This representation forms Appendix 2 to the representations prepared on behalf of Peel Holdings (Management) Ltd, Story Homes and Ashall Property in respect of the South West Urban Extension, and should be read alongside and in conjunction with the wider representations.
- 1.8 The parties regard the scheme as viable and deliverable. PSLP Policy DEV2 requires schemes to provide 30% affordable housing and the Turley appraisal at **Appendix 6** indicates that following the adoption of independently assessed on and off site infrastructure costs, the SWUE scheme is viable at 30% affordable housing, subject to future adjustment following the future inclusion of Western Link Road costs.
- 1.9 The LPVA assesses the SWUE site as viable even when providing 40% affordable housing. However following the correction of errors and reassessment of assumptions,

the Turley appraisal at **Appendix 6** indicates that affordable housing at 30% can be accommodated within a viable scheme.

2. Representation

- 2.1 This representation sets out the parties' detailed observations to the LPVA, which is the primary document to test that the policy requirements proposed are not a burden on achieving the development that is required to address the identified needs of the Borough and will therefore deliver the plan vision, objectives and spatial strategy.
- 2.2 The LPVA contains errors and omissions including: incorrect gross site area; omission of S106 and accessibility standards costs from appraisals; incorrect/unjustified interest costs; and no allowance for the cost of provided garages. The parties request that the Council takes advice in order to supplement its evidence base, ensuring that the evidence is in accordance with the National Planning Policy Framework ('NPPF')¹, national Planning Practice Guidance for Viability ('PPGV')², and the recently published RICS Financial viability in planning: conduct and reporting guidance³.
- 2.3 Requests for modifications to the LPVA are requested under a series of subject specific headings.

Viability in Plan-making

- 2.4 The Government published amendments to the NPPF in February 2019 and updated PPGV in July 2018, with the most recent PPGV amendments published in May 2019. Both the NPPF and PPGV include an up-to-date position on the Government's intended role for viability assessment, the methodology, and procedures expected of all stakeholders in the preparation of such evidence.
- 2.5 Paragraph 010 of PPGV concisely defines the Government's objective for the role to be played by viability within the planning system:
- "In plan making and decision making viability helps to strike a balance between the aspirations of developers and landowners, in terms of returns against risk, and the aims of the planning system to secure maximum benefits in the public interest through the granting of planning permission."*
- 2.6 PPGV is clear that the role for viability assessment is primarily at the plan making stage. PPGV Paragraph 002 confirms that the process must be inclusive and undertaken over several stages:
- "Drafting of plan policies should be iterative and informed by engagement with developers, landowners, and infrastructure and affordable housing providers."*
- 2.7 PPGV Paragraph 2 also states that policies introduced to the plan should be realistic and deliverable. Specifically:

"Policy requirements, particularly for affordable housing, should be set at a level that takes account of affordable housing and infrastructure needs and allows for the

¹ MHCLG (2019) National Planning Policy Framework ('NPPF') (as amended in February 2019)

² MHCLG (2019) Planning Practice Guidance for Viability ('PPGV') (as amended in May 2019)

³ RICS professional standards and guidance, England Financial viability in planning: conduct and reporting 1st edition, May 2019

planned types of sites and development to be deliverable, without the need for further viability assessment at the decision making stage .”

- 2.8 PPGV Paragraph 020 confirms that the inputs and findings of any viability assessment should be set out in a way that aids clear interpretation and interrogation by decision makers.
- 2.9 Certain fundamental appraisal assumptions adopted within the LPVA are un-evidenced, or inadequately evidenced. The impact of this is that the results of the LPVA overstate the financial viability of the development site typologies assessed (and hence overstate the ability of development to meet the draft policies within the PSLP), generating excessive levels of affordable housing that have not been mirrored within PSLP policy drafting.
- 2.10 As a result, the LPVA fails to comply with the requirements of the NPPF (and the corresponding PPGV paragraphs). The LPVA has not had correct regard to NPPF paragraph 31 which states:
- 2.11 “...all policies should be underpinned by relevant and up to date evidence. This should be adequate and appropriate, focused tightly on supporting and justifying the policies concerned, and take into account relevant market signals.”
- 2.12 It has also not had correct regard to paragraph 34 of the NPPF which states that:
- 2.13 “Such policies [relating to development contributions] should not undermine the deliverability of the plan.”
- 2.14 In summary, elements of PSLP Policy MD3 - South West Urban Extension have not been effectively assessed in accordance with the NPPF and the Government’s PPGV.
- 2.15 It is imperative that the detailed matters raised within this representation, in respect of the LPVA, are addressed by the Council and further advice is obtained in order to supplement the evidence base.
- 2.16 Whilst the parties hold concerns in respect of the approach to large scale scheme modelling adopted within the LPVA, Turley has re-appraised the “SW Extension parcel 1”, as set out in the LPVA, with appraisal assumptions amended in line with the commentary and amendments proposed within this representation.
- 2.17 Following correction of the assumptions, and amendments to a number of other assumptions, the revised appraisal indicates that SWUE parcel 1 is viable following the application of affordable housing and other housing policies, in line with the PSLP. Following the methodology adopted in the LPVA, it can be determined that the remaining parcels of the SWUE site would produce almost identical results. In line with the Turley appraisal at **Appendix 6**, the SWUE site is determined to be viable and capable of fulfilling the Council’s housing policies (to the extent that was tested in the LPVA).
- 2.18 However, it must be noted that the LPVA takes no account of contributions that are anticipated to be required to fund the Western Link Road (‘WLR’). The Council has yet

to determine an appropriate approach to the assessment of a WLR 'levy' but any such contribution will negatively impact upon the viability of the SWUE scheme and, in line with PPGV⁴. The parties wish to work with the Council to establish an appropriate approach to the fair and viable assessment of WLR contributions. The parties reserve the right to provide a site specific assessment of viability at a later date if Western Link Road contributions are excluded from the PSLP viability evidence base, or are assessed to be set on an inappropriate basis.

- 2.19 The parties' representations on technical matters upon which the LPVA relies are set out under the following subheadings, with reference made to the headings and paragraph numbering within the LPVA for ease of cross-reference.
- 2.20 The parties request that the Council obtains further advice to address the matters raised within this representation in order to supplement its evidence base.
- 2.21 Headings and matters requiring clarification or alteration are stated in **bold**.

Previous consultation responses

- 2.22 There is very limited reference within the LPVA to the Warrington Local Plan Viability Assessment Appraisal Inputs ('LPVA-AI') document as dated 1 June 2018 and published by the Council for consultation in July 2018. BNP stated in the LPVA-AI that "*This note contains our draft inputs for the assessments and invites site promoters for their comments*". Except for a reference to consultation responses in respect of benchmark land values (leading to an increase from £210,000 to £250,000 per gross ha), no further reference is made and, without thorough cross referencing, it is not possible to determine whether BNP has continued to follow the assumptions as set out within the LPVA-AI, or whether any amendments have been made in line with comments received from site promoters or interested parties.
- 2.23 From Turley's review, amendments appear very limited. Turley provided a comprehensive representation document within the consultation period. Consultation responses should be provided along with the Council's feedback within the LPVA, on a transparent basis in line with PPGV⁵.
- 2.24 **To ensure that it is transparent to all parties how comments have been taken forward or discounted it is recommended that the Council prepares a clear schedule of consultation responses and feedback, detailing how comments have been addressed. This request relates to both the LPVA-AI and LPVA.**

Site area

- 2.25 Of fundamental concern, the LPVA assesses the required level of benchmark land value on the basis of a SWUE gross site area of only 76.5 gross ha. In contrast, the actual SWUE gross site area is 119.6 ha. The Warrington Proposed Submission Version Local Plan states a gross site area of 112 ha.

⁴ MHCLG (2019) PPGV: Paragraph: 007 Reference ID: 10-007-20190509

⁵ MHCLG (2019) PPGV: Paragraph: 010 Reference ID: 10-010-20180724

- 2.26 The parties regard it as essential to adopt the full gross site area for the calculation of the benchmark land value. Whilst some areas will not be developed due to site constraints, or use as open space, a cohesive total site area is required and land owners will require payment for all land within the development boundary.
- 2.27 The site includes a Control of Major Accident Hazards (COMAH) zone in respect of uses located on the northern side of the Manchester Ship Canal. According to Health and Safety Executive ('HSE') requirements, this land is not appropriate for residential development, but development for industrial and commercial purposes would be accepted by the HSE. The Illustrative Masterplan shows the COMAH zone land (totalling 18.89 ha (46.68 acres)) providing public open space. The provision of additional green space within the COMAH zone helps limit incursion elsewhere in the green belt, and the COMAH zone is regarded as forming a valid and important part of the total site area.
- 2.28 The LPVA assesses benchmark land values on a gross site area basis and, therefore, with reference to the Illustrative Masterplan, the LPVA under-assesses the SWUE site area by 43.1 ha.
- 2.29 The LPVA states that all strategic site benchmark land values are assessed at £250,000 per ha, whereas site testing is actually assessed at £247,000. The differential between stated and adopted values must be resolved.
- 2.30 If adopting £247,000 per gross ha, this shows that, by reducing the total gross site area, the LPVA over-estimates the SWUE viability by £10,645,700 ($43.1 \times £247,000 = £10,645,700$).
- 2.31 The parties regard the assessed level of benchmark land value as insufficient and, as discussed later within this document, £371,000 per gross ha is regarded as the absolute minimum value expected to incentivise release of land for development.
- 2.32 The LPVA adopts a benchmark land value of £2,699,357 for each parcel but this should be increased to both reflect the total gross site area and an increased £/gross hectare benchmark land value.
- 2.33 The LPVA adopts a total development capacity of 1,600 units, developed within seven parcels of land. Six parcels deliver 250 units and the final provides 100 units. All parcels are assessed at 10.93 ha, providing a total gross site area of 76.51 ha. The net parcel site area is stated within LPVA Appendix 1 at 8.33 ha, providing a total net developable area of 58.31 ha. The adoption of an identical site area for the 100 unit parcel is incorrect, generating reduced viability, and site areas should be re-assessed on a pro-rata basis, in line with residential and commercial delivery modelling.
- 2.34 On the basis of a corrected total gross site area of 119.6 ha, the 250 unit parcels can be calculated on a pro-rata basis to generate a gross site area of 18.69 ha, and the 100 unit parcel is assessed at 7.48 ha.
- 2.35 Based on the total gross site area of 119.6 ha, the total net developable area of 58.31 ha equates to a net:gross ratio of circa 49%, which is regarded as reasonable and appropriate for a scheme of significant scale.

- 2.36 **The parties request that a corrected site area is adopted and the differential between the stated and adopted BLV requires amendment.**

S106 and accessibility standards costs

- 2.37 The LPVA appraisal methodology states that costs relating to S106 and accessibility standards are included. However, upon review of the appraisals within LPVA Appendix 5 it can be calculated that the total development cost calculation is generated from the addition of only: build costs including contingency; fee; and sales and marketing. S106 and accessibility standards costs are excluded from the total costs.
- 2.38 In line with PPGV⁶, the Council needs to transparently set out the S106 and accessibility standards costs. It is considered at present that the LPVA viability assessment showing 40% affordable housing as viable is exaggerated within each of the scheme parcel appraisals. Therefore, the levels of affordable housing that are proposed to be viable within the LPVA are incorrect and the conclusions misleading.
- 2.39 **Correction of the omission of costs and a breakdown of S106 costs are requested.**

Benchmark land value

- 2.40 The LPVA states that benchmark land values ('BLV') equating to £371,000 per gross hectare (c.£150,000 per gross acre) are adopted, except for sites of a "*strategic nature*"⁷, which are stated to be assessed at £250,000 per gross hectare. The parties disagree with this approach.
- 2.41 LPVA Tables 5.1.4 and 5.1.5 show the results of testing all sites at the higher and lower benchmark land values and it is not possible to easily determine which BLV has been adopted for each site in reaching conclusions.
- 2.42 The LPVA appraisals test viability against a benchmark of £247,000 per gross hectare rather than the stated £250,000 per gross hectare (c. £101,000 per gross acre).
- 2.43 Within the LPVA, the BLV is assessed with reference to: a historic DCLG document from 2011; viability assessments that BNP has seen; consultation responses to the LPVA-AI in 2018; and consultation with the Valuation Office Agency.
- 2.44 Other than the historic DCLG document, no transparent evidence is provided within the LPVA to support the proposed BLVs.
- 2.45 It must be noted that the whilst the DCLG document does reference land values of £100-150,000 per gross acre, it concludes as follows: "*Consequently, we would recommend that minimum land value requirements of at least £200,000 per gross, and £400,000 per net, acre are assumed for release of 'greenfield' land*". LPVA paragraph 4.2.17 references the former figures, but not the latter.

⁶ MHCLG (2019) PPGV: Paragraph: 010 Reference ID: 10-010-20180724

⁷ LPVA paragraph 4.2.17

- 2.46 PPGV⁸ states that “Market evidence can also be used as a cross-check of benchmark land value but should not be used in place of benchmark land value. There may be a divergence between benchmark land values and market evidence; and plan makers should be aware that this could be due to different assumptions and methodologies used by individual developers, site promoters and landowners.

This evidence should be based on developments which are fully compliant with emerging or up to date plan policies, including affordable housing requirements at the relevant levels set out in the plan. Where this evidence is not available plan makers and applicants should identify and evidence any adjustments to reflect the cost of policy compliance. This is so that historic benchmark land values of non-policy compliant developments are not used to inflate values over time.”

- 2.47 Crucially, PPGV confirms that the BLVs set must reflect the “...reasonable expectations of local landowners”⁹.
- 2.48 The LPVA has not followed the methodology set out in PPGV in preparing the BLV, as the Valuation Office Agency evidence and consultation responses have not been made available on a transparent basis.
- 2.49 The parties regard the strategic site value of £247,000 per gross hectare as insufficient and without the required evidential support or justification. Instead, the parties consider that the upper range figure of £371,000 per gross ha represents the absolute minimum value expected to incentivise release of land for development.
- 2.50 **In line with PPGV, the parties request that WBC reviews land sale and planning application/permission evidence in order to form appropriate benchmark land values for green field and brownfield land, re-weighted for policy compliance.**
- 2.51 **The parties request that WBC further engage with landowners, promoters and developers to rectify the concerns raised by effectively establishing and seeking to agree appropriately evidenced BLVs, which will be sufficient to incentivise local market delivery, prior to the Examination of the PSLP. PPGV is clear on the importance of this process in ensuring the evidence base is robust. It states:**

“In order to establish benchmark land value, plan makers, landowners, developers, infrastructure and affordable housing providers should engage and provide evidence to inform this iterative and collaborative process.”¹⁰

Interest costs

- 2.52 Interest on build and interest on land included within the LPVA appraisals appear high. For example SW Extension parcel 1 includes total interest costs of £5,616,273, whereas the Turley appraisal of the same parcel generates an interest total of £764,131. It is unclear why this difference has emerged.

⁸ MHCLG (2019) PPGV: Paragraph: 014 Reference ID: 10-014-20190509

⁹ MHCLG (2019) PPGV: Paragraph: 016 Reference ID: 10-016-20190509

¹⁰ MHCLG (2019) PPGV: Paragraph: 013 Reference ID: 10-013-20190509

2.53 **Explanation of the LPVA methodology should be provided for transparency.**

Sales values

- 2.54 The assessment of private sales values within the LPVA is based on new build comparable research, but there is a lack of clarity as to how the comparables have generated the values adopted within the viability testing.
- 2.55 No reference is made to the prevailing sales values generated within areas of the borough to ensure that values are applied in line with market expectations. Such evidence could be provided via Land Registry mapping and such evidence is regarded as important when directly comparable information is very limited.
- 2.56 No mapping of the comparable data is provided to establish the context for value assessment and to provide transparent evidence as required by PPGV¹¹.
- 2.57 Turley has completed a market review that is bespoke to the SWUE, as attached at **Appendix 1**, and we determine an average market sale value equating to c.£250-260 psf (£2,691-2,799 psm) as appropriate for the SWUE site.
- 2.58 Within appraisals attached at **Appendices 4 and 6**, an average market value equating to £260 psf (£2,799 psm) has been adopted.
- 2.59 **The parties request that in the interest of transparency that reasoning and evidence is provided within the LPVA to support the values that have been adopted.**

Affordable housing values

- 2.60 LPVA paragraph 4.2.3 sets out abbreviated calculations/justification for values adopted for affordable rent and shared ownership tenures. No cross reference of the results is made to opinions obtained from registered providers of affordable housing.
- 2.61 Based on an average sales value equating to £2,799 psm (£260 psf), the affordable housing values adopted within the LPVA equate to 51.7% of market value ('MV') for affordable rent and 70% for shared ownership.
- 2.62 The parties have held direct discussions with Registered Providers ('RP') in the north west of England. At the present time, the parties understand that offers will generally be received at values equating to 30-50% of MV for affordable rented, and 60-70% for intermediate (shared ownership) dependent upon location.
- 2.63 Affordable housing values are assessed at levels in excess, or at the limits of expectations without evidence, or appropriate reasoning.
- 2.64 **Clarification of all affordable housing assessment inputs is requested, for example details of the market values adopted for the assessment of shared ownership units and the source of the "Indicative Rent" levels adopted in the affordable rent assessment. In line with NPPF Paragraph 35, the values should be based on**

¹¹ MHCLG (2019) PPGV: Paragraph: 010 Reference ID: 10-010-20180724

proportionate evidence, and comparison to opinions from Registered Providers should also be provided.

Base construction costs

- 2.65 Reference is made to RICS BCIS lower quartile construction cost data, and cost information received by the Council, but the source of the adopted costs is not clearly defined.
- 2.66 Planning Practice Guidance - Viability ('PPGV') states that RICS BCIS is an appropriate data source for local plan viability testing..
- 2.67 For the purposes of consistency, at this stage, Turley has regarded the base build costs adopted by the LPVA as reasonable and does so on a without prejudice basis until clarification of the source of costs is provided.
- 2.68 The parties request that the source of construction costs is clearly defined and evidenced in order to improve transparency in line with PPGV.

Garages

- 2.69 No reference is made to the cost of constructing garages within the LPVA.
- 2.70 Costs of garage construction fall outside base and external works costs and their exclusion must be corrected, with garages included within scheme typologies in line with market expectations, and evidenced by reference to the level of provision within permitted schemes.
- 2.71 The omission of garages will significantly inflate scheme viability as the sales values adopted will be based on the higher values generated by units with garages. More fundamentally, scheme construction costs are under estimated.
- 2.72 **Correction of this omission is requested. It is expected, as a minimum that all detached houses will be allocated a detached or attached single garage.**

Infrastructure costs

- 2.73 On site infrastructure/utilities costs and off site infrastructure/highways costs within the LPVA total £26,586 per unit for the SWUE site. LPVA paragraph 4.2.6 makes reference to BNP's "*experience from major sites elsewhere*" and states that the "*Council has provided additional infrastructure costs for the four strategic*".
- 2.74 No evidence is provided to support the adopted costs, which are higher than the costs assessed by Ryder Levitt & Bucknall ('RLB') at £18,878 per unit (excluding WLR), as issued to the Council in correspondence from Turley dated 4 March 2019. A copy of the RLB Cost Report is attached at **Appendix 2**.
- 2.75 Within the Turley appraisal at **Appendix 4** it is assumed that on site infrastructure costs will increase on a pro-rata basis at £7,986 per unit, in line with the increased number of assessed residential units. Total strategic infrastructure costs are assumed to remain

unchanged, with the total LPVA cost of £4,766,000 (£19,064 per unit x 250 units) equating to £16,322 per unit on the basis of a 292 unit scheme.

- 2.76 **On the basis of the currently available information, the infrastructure and utilities costs appear disproportionate in respect of the SWUE site. Clarification of the sources of costs, and supporting evidence is requested. Consideration should be given to the RLB Cost Report attached at Appendix 2.**

Western Link Road ('WLR') contributions

- 2.77 No reference is made within the LPVA to the potential need for contributions relating to the WLR. We understand from the Council that no WLR allowance has been included within the Council's viability assessments.
- 2.78 PSLP Policy MD3 requires the SWUE site to provide "*a contribution towards a strategic transport infrastructure (the Western Link).*" It is, therefore, essential that appropriate costs relating to the WLR are taken into account as the development of the SWUE cannot come forward until funding and a programme for delivery of the WLR are confirmed, in line with PSLP paragraph 10.3.7.
- 2.79 The viability of the SWUE site cannot be fully assessed until WLR costs are included in the assessment. Therefore, it will be necessary to anticipate that a scheme specific viability assessment will be submitted at application stage, in line with PPGV¹², unless WLR costs are introduced into the PSLP viability evidence.
- 2.80 **A clear statement is required from the Council in respect of the proposed approach to the assessment of WLR contributions to ensure that PSLP viability testing is provided with reference to proportionate evidence in line with NPPF paragraph 35.**

Unjustified Professional fees

- 2.81 Professional fees are considered to be insufficient at 6% of total construction costs. The parties consider that a 7% allowance is regarded as appropriate.
- 2.82 **The parties request that professional fees are incorporated within the LPVA appraisals at rates which reflect development reality, with a 7% allowance regarded as the minimum appropriate provision for Local Plan viability assessment purposes in respect of large scale strategic sites.**

Development Period/Sales rates

- 2.83 The LPVA states a sales rate of between 10 and 16 units per month (excluding affordable units), which is excessive, but the Viability Appraisal appears to adopt a sales rate of circa 7.3 sales per month for the SWUE, which is regarded as appropriate on the basis of a multi sales outlet development. The appraisals at LPVA Appendix 5 states that the build period and sales period are identical, which is regarded as inappropriate. The residential sales period must be preceded by a construction period

¹² MHCLG (2019) PPGV: Paragraph: 007 Reference ID: 10-007-20190509

of a minimum of six months, albeit this would not reflect the initial period of infrastructure development that would be required for the SWUE site.

- 2.84 Whilst reference is made to build and sales periods within LPVA Appendix 1: Site allocation appraisal inputs, the information provided does not provide clarity in respect of the adopted appraisal cashflow.
- 2.85 **Clarification is required via provision of cashflows to accompany viability appraisals. Residential sales cannot commence at the same time as the construction period and revisions are required.**

Section 106 costs

- 2.86 The LPVA provides no detail in respect of the breakdown of costs included within the S106 allowance.
- 2.87 **In line with PPGV¹³, the Council's evidence needs to demonstrate, in a transparent way, how all of the Policy requirements within the draft plan have been factored into the Assessment on an item by item basis, including relevant infrastructure requirements.**

Appraisal cashflows

- 2.88 The LPVA provides appraisal summaries, which include insufficient detail for full due diligent review. For example, total construction costs are provided but with no breakdown of individual costs. No cash flows are provided, meaning that the construction period, sales period and timings for all costs cannot be appropriately assessed.
- 2.89 **The LPVA must be provided on a transparent basis, in line with PPGV¹⁴, as further discussed below. The parties request that full scheme appraisals and cashflows are provided within the LPVA.**

Developers Profit

- 2.90 In the LPVA-AI, BNP proposed a developer's profit of 17.5% and Peel's previous submitted representation stated that a profit of 20% of GDV should be adopted. The LPVA adopts a reduced market sales profit of 17% of GDV. Current PPGV indicates a range of 15-20% but it is widely accepted that national housing developers require a minimum profit level of 20% for speculative development, and those involved in strategic site development often require greater returns to reflect the high level of up-front cost commitment, which generates higher levels of risk.
- 2.91 **It is requested that the profit level should be adjusted to 20% to match market expectations.**

¹³ MHCLG (2019) PPGV: Paragraph: 010 Reference ID: 10-010-20180724

¹⁴ MHCLG (2019) PPGV: Paragraph: 010 Reference ID: 10-010-20180724

Indexation rates

- 2.92 The LPVA includes sensitivity testing based on annual sales value increases of 5% and build cost increases of 2%. The sales value inflation rate is regarded as excessive inflation rates are not evidenced or justified.
- 2.93 **Transparent evidence and reasoning is requested to support the proposed index rates.**

Scheme typology

- 2.94 No unit mixes, unit sizes, or discussion of development density are provided in the LPVA. There is, therefore, no transparency in respect of the adopted assumptions. A black box approach is not compliant with NPPF or PPGV, and provision of detailed information and supporting evidence is regarded as essential.
- 2.95 Paragraph 57 of the NPPF confirms that transparency in the preparation of all viability assessments is essential. It states:
- “All viability assessments, including any undertaken at the plan-making stage, should reflect the recommended approach in national planning guidance, including standardised inputs, and should be made publicly available.”*
- 2.96 PPGV elaborates on the NPPF by confirming the importance of transparency for improving data availability and accountability:
- “Any viability assessment should follow the government’s recommended approach to assessing viability as set out in this National Planning Guidance and be proportionate, simple, transparent and publicly available. Improving transparency of data associated with viability assessment will, over time, improve the data available for future assessment as well as provide more accountability regarding how viability informs decision making.”¹⁵*
- 2.97 **Clearly defined scheme typologies are essential to enable due diligent review and clarification of unit the mixes, unit sizes, and development density is requested for each typology.**

Development area density

- 2.98 Whilst it is not clearly stated, from information provided in the LPVA, development densities and average unit sizes can be calculated at 30 dwellings per net ha (12.14 dwellings per net acre) and 1,254 sq ft per unit.
- 2.99 The development density matches the minimum set out PSLP Policy MD3.3 and generates a scheme density of 15,231 sq ft per net acre. LPVA Appendix 1 states site coverage of 76%, with SWUE parcels providing 10.93 gross has and 8.33 net ha. The adopted level of net:gross site ratio does not reflect the reality of strategic site delivery where sites will often return a net:gross ratio of circa 45-60%, and the adopted gross site area is incorrect.

¹⁵ MHCLG (2019) PPGV: Paragraph: 010 Reference ID: 10-010-20180724

- 2.100 **It is essential that an accurate total gross area is adopted along with a significantly reduced net:gross ratio, to reflect anticipated SWUE delivery, with development density increased to circa 35 dwellings per net ha and average unit sizes reduced to match market expectations.**

NDSS scheme density/typology

- 2.101 The LPVA states that *“All the appraisals incorporate sufficient gross internal floorspace to meet the space standards set out in ‘Technical housing standards – nationally described space standard’ (MHCLG, 2015)”*.
- 2.102 The PSLP contains no requirement for residential development to meet nationally described space standards (‘NDSS’). As a result of the adopted assumption, the average unit size is significantly larger than market expectations, and development density is lower than real world delivery.
- 2.103 The development of units that are larger than general market delivery will impact upon levels of purchaser demand and pricing, with demand decreasing due to higher unit pricing in comparison to non-NDSS units of the same bed number.
- 2.104 Purchasers do not pay the same £psf rate for larger units when compared with smaller units of the same bed number.
- 2.105 **Clarification is required in respect of reason for use of NDSS unit sizing, with reductions in £ psm pricing required to reflect NDSS unit sizing. The NDSS scheme is not supported by appropriate evidence and it is requested that appraisals are re-modelled on the basis of current scheme delivery in Warrington as assessed from on-going and recent planning permissions.**

Scheme modelling

- 2.106 The large scale strategic appraisals are provided on the basis that the sites are split into development parcels, each providing 250 units, with the final parcel providing a 100 units to make up the total scheme delivery number.
- 2.107 The methodology assumes that infrastructure costs are evenly split across the whole development period, but this does not reflect the reality of delivery where infrastructure costs will be front loaded. The adopted approach is regarded as simplistic.
- 2.108 **Revised cashflow modelling is requested, with front loading of infrastructure at 50% prior to 1st sale, and the remaining 50% prior to half the sales regarded as a more appropriate assumption.**

Care Home

- 2.109 PSLP Policy MD3 requires the SWUE site to provide a *“residential care home (Use Class C2) providing a minimum of 80 bedrooms”*.
- 2.110 The LPVA makes no reference to the care home requirement and it is regarded as essential that the viability of all proposed PSLP policies are fully assessed.

- 2.111 **The parties will seek to remove the absolute requirement for a care home during the PSLP consultation process, but re-assessment of SWUE scheme viability is requested to accurately reflect proposed PSLP policies.**

Custom and self-build plots

- 2.112 PSLP Policy MD3 requires the SWUE site to provide a range of housing tenures, types and sizes, including “*custom and self-build plots*”.
- 2.113 The LPVA makes no reference to custom and self-build plots and it is regarded as essential that the viability of all proposed PSLP policies are fully assessed.
- 2.114 **Re-assessment of SWUE scheme viability is requested to accurately reflect proposed PSLP policies.**

Site area

- 2.115 Six of the seven assumed SWUE development parcels are shown to be viable with a 40% affordable housing provision with a benchmark land value of £247,000 per gross ha, with the final parcel of 100 units viable with a 20% affordable housing provision.
- 2.116 The reduced affordable housing provision in the 100 unit parcel is due to the use of a gross site area that matches the area adopted for 250 units, and the excessive site area generates reduced viability.
- 2.117 **This lack of attention to detail is of concern and all scheme parcel site areas should be reassessed, with the site area adjusted on a pro-rata basis, in line with residential unit numbers. On the basis of the actual gross site area of 119.6 ha, and the LPVA modelled delivery of 1,600 units, a pro-rata allocation of site area will generate a site area of 18.69 ha for parcels 1-6 and 7.48 ha for parcel 7.**

Turley re-appraisal

- 2.118 Taking into account the comments made above, Turley has re-run the SWUE parcel 1 appraisal of 250 units, with assumptions amended in line with the approach and inputs advocated by Turley and the interested parties, including a parcel gross site area of 18.69 ha.
- 2.119 A summary of the amended assumptions is set out within the table attached at **Appendix 3**. This provides comparison with the LPVA assumptions. The LPVA Appendix 5 appraisal layout has been retained for simplicity.
- 2.120 The updated SWUE parcel 1 appraisal is attached at **Appendix 4** and has been prepared by Turley on behalf of the interested parties. The appraisal and supporting cashflow have been produced using Argus Developer; a widely respected proprietary appraisal software package.
- 2.121 The scheme has been assessed at a market facing density of 35 dph, with an average unit size of 1,025 sq ft (95.22 sq m) per unit. Affordable units are assumed to comprise 2-bed and 3-bed units only, at an average unit size of 800 sq ft (74.32 sq m). Our understanding is that national house builders will target site coverage at circa 14,500

sq ft per net acre in medium to higher value areas. Therefore, the assumed development has been assessed with site coverage at 14,541 sq ft per net acre (3,338 sq m per ha). This is in line with market expectations, as evidenced by the ongoing developments by Barratt Homes at Stretton, Warrington. The Barratt Homes site plan from planning application reference no. 2018/32672 is attached at **Appendix 5**, and the accommodation schedule shows site coverage at 14,688 sq ft per net acre.

- 2.122 The LPVA (30% affordable housing) appraisal generates a residual land value of £5,693,562 and, when compared with the benchmark land value (BLV) of £2,699,357 proposed within the LPVA, the parcel is determined to be viable by BNP. However, as referenced earlier, the appraisal does not account for costs relating to S106 and accessibility standards (totalling £2,445,225), it does not include costs relating to garage construction, but does include seemingly excessive interest costs totalling £5,616,273.
- 2.123 In comparison, the Turley appraisal generates a residual land value of £5,507,333, equating to £119,250 per gross acre (£294,667 per gross ha). When assessed against the BLV advocated by Turley (of £150,000 per gross acre; £371,000 per gross ha), the parcel appraisal is shown to be unviable when delivering 30% affordable housing¹⁶.
- 2.124 During the site assessment process, the interested parties instructed Ryder Levett Bucknall ('RLB') to provide a cost assessment in respect of on site and off site infrastructure requirements (excluding WLR costs). A copy of the RLB Cost Report is attached at **Appendix 2**. A copy of the Cost Report was provided to the Council on 4 March 2019, but has not been referenced in the LPVA.
- 2.125 The Cost Report relates to the whole SWUE site and generates total costs equating to £18,868 per unit (based on 1,850 units). This is lower than the LPVA costs equating to £27,050 per unit.
- 2.126 Turley has completed a second Argus Developer appraisal, as attached at **Appendix 6**, with assumptions unchanged from **Appendix 4** except for the adoption of infrastructure costs in line with the RLB Cost Report. The appraisal generates a residual land value of £7,008,699, equating to £151,759 per gross acre (£374,997 per gross ha), which is in line with the benchmark land value, indicating that the scheme is viable with 30% affordable housing when assessed against a benchmark land value equating to £150,000 per net acre (£371,000 per hectare).
- 2.127 However, this is before making any cost allowance for contribution towards the provision of the WLR, which is regarded as a critical piece of infrastructure for delivery of the SWUE.
- 2.128 The Council has confirmed that the LPVA does not include any allowance for WLR contributions.

¹⁶ Note: the Argus Developer appraisal produces a slightly different residual land value due to the calculation of purchaser's costs.

- 2.129 Appropriate modelling of the impact of costs relating to the WLR is regarded as essential to ensure that the Local Plan is assessed with reference to an appropriate evidence base in line with NPPF paragraph 35.
- 2.130 PPGV states that “*As far as possible, costs [including site-specific infrastructure costs] should be identified at the plan making stage*”. The parties reserve the right to provide a site specific assessment of viability at a later date if Western Link Road contributions are excluded from the PSLP viability evidence base, or are assessed to be set on an inappropriate basis.

Summary

- 2.131 Through the omission or understatement of critical costs, the LPVA generates excessive levels of viability, with SWUE parcels 1-6 generating a viability buffer with the provision of 40% affordable housing, which is regarded as inappropriate and unjustified.
- 2.132 The Turley reappraisal indicates that the SWUE site is viable and capable of delivering 30% affordable housing. The parties will now seek to engage with the Council regarding a fair level of contribution to the Western Link Road and the parties request that the Council takes further advice in order to revise and supplement its evidence base, ensuring that that policy costs applied are realistic, deliverable, and evidenced in accordance with the NPPF and PPGV.

Appendix 1: Turley Residential Market Review

Warrington South West Urban Extension Residential Market Report

Prepared on behalf of:

Peel Holdings (Management) Ltd, Story Homes
and Ashall Property

May 2019

Contents

1.	Introduction	3
2.	Residential Re-sale Market	5
3.	Residential New Build Market	10
4.	Conclusions	19

Client

Peel Holdings (Land and Property) Limited

Date

May 2019

1. Introduction

Purpose

- 1.1 This report has been prepared by Turley Development Viability on behalf of Peel Holdings (Management) Ltd, Story Homes and Ashall Property ('the parties'). The report provides an independent residential market assessment relating to the promotion of the South West Urban Extension land to the north of the A56 at Higher Walton (the 'subject site').
- 1.2 The report will be utilised as a guide for the assessment of market pricing for comparison with that proposed in Warrington Council's Local Plan viability evidence.

Site Location

- 1.3 The subject site comprises 109.77 hectares of land and is situated to the south-west edge of the town of Warrington, directly west of the village of Walton.
- 1.4 To the west of the subject site are raised railway lines (West coast line and Chester-Manchester line) which form physical and visual boundaries to the land. To the south is Bridgewater Canal, which provides high quality amenity and recreation spaces. Chester Road (A56) defines the eastern boundary of the site, connecting it to Warrington (north), the M56 (south) and the M6 (east). The Manchester Ship Canal lies to the north of the site, and it defines the northern boundary of the site.
- 1.5 To the north, across the Manchester Ship Canal, are several major industrial structures which require hazardous substances consideration. The site directly north, considered a top tier 'Control of Major Accidents and Hazards' (COMAH), is located at the end of Baronet Road and is owned by Solvay Interlox Ltd and the site produces hydrogen peroxide. Development upon the subject site is restricted in close proximity to these nearby uses.

Site Description

- 1.6 The subject site forms the Warrington South West Urban Extension (SWUE), part of the council's 'Preferred Development Option'. The area is defined by its surrounding transport infrastructure and a developable area that has the capacity to deliver a large scale sustainable mixed-use development of circa 1,800 homes and community facilities and open space. The site offers a natural urban extension to the south-west of the town of Warrington.
- 1.7 The subject site is predominately greenfield with the majority of land currently in agricultural use. There are six existing on-site structures which are locally listed, two of which are residential properties [to the south of Mill Lane].

Methodology

- 1.8 The report has been informed by a review of published market intelligence and local evidence, a review of housing market and transactional data, and also draws upon a

market engagement exercise with developers currently marketing comparable new residential schemes in the local area.

- 1.9 The data utilised within this report was originally gathered in December 2018 and has been updated in May 2019.
- 1.10 This report is not plot specific, does not constitute a valuation, and cannot be regarded, or relied upon as a valuation as it falls outside of the RICS Valuation – Professional Standards (Red Book). It is to be used as price guidance only.
- 1.11 Some of the data incorporated in this report has been supplied by third party sources, the accuracy of which cannot be assured. Turley shall not be liable for any special, indirect or consequential damages arising from the use of this report, including loss of profit.

2. Residential Re-sale Market

Commentary

- 2.1 There is a significant, positive opportunity for Warrington to contribute towards housing land supply requirements via the SWUE and to deliver a sustainable community with approximately 1,800 new homes.
- 2.2 Acknowledging the potential for a large scale residential mixed-use development, we have undertaken a review of the local residential markets, to the south of the Manchester Ship Canal, to determine levels for recent transactional values.

Average Prices

- 2.3 According to the latest data from the UK House Price Index, for February 2019, the average property price in England was £242,963 (0.4% annual change) and the average property price for Warrington was £195,887 (3.9% annual change)¹. According to Zoopla, the current average property price paid in Warrington, as at May 2019, was £206,808, based upon a recorded sales volume of 2,819.
- 2.4 For the area of Walton, the nearest locality in proximity of the subject site, the average price paid was £381,976 (based upon 17 transactions), according to Zoopla. Current average values for property have risen 1.73% over the past 12 months.

Walton Area

- 2.5 An independent review of re-sale properties within streets to the western fringe of Walton (closest to the subject site) was undertaken in December 2018 and updated in May 2019, and utilised sold price data from Land Registry. This data has been cross referenced with Energy Performance Certificate (EPC) data to obtain unit size data, where possible.
- 2.6 This spatial area of Walton is considered most likely to be appropriate for benchmarking pricing within the south-west of Warrington given its proximity to the subject site and a likelihood that this existing stock will directly compete with new homes for sale.
- 2.7 This assessment included a range of properties that have sold in the roads closest to the subject site. Comparables vary by type and age, with the oldest properties generally built in the 1930s. The average prices achieved over the period from December 2017 to May 2019 are summarised as follows:

- 3-bed terraced: £273,750 or £229/ft²
- 3-bed semi-detached: £333,478 or £250/ft²
- 4-bed semi-detached: £434,375 or £246/ft²

¹ <https://www.gov.uk/government/publications/uk-house-price-index-england-february-2019/uk-house-price-index-england-february-2019>

- 4-bed detached: £650,867 or £311/ft²

2.8 A summary of the recorded re-sale properties matching the above criteria is displayed within **Table 2.1:** below.

Table 2.1: Walton Re-sale Properties: December 2017 – March 2019

Date From	Date To	Address	Accommodation Type	No. Sales	Average Size (ft ²)	Total Size (ft ²)	Total Revenue	Average Sold Price	£ /ft ²
08/06/2018	09/07/2018	Brackley Street	3-bed terraced	2	1,211	2,422	£583,000	£291,500	£241
28/02/2018	22/11/2018	Ellesmere Road	3-bed terraced	4	1,187	4,747	£1,059,500	£264,875	£223
3-bed Terraced Summary:				6	1,195	7,169	£1,642,500	£273,750	£229
12/03/2018	12/03/2018	Algernon Street	3-bed semi	1	1,002	1,002	£254,000	£254,000	£253
06/06/2018	06/06/2018	Brackley Street	3-bed semi	1	1,496	1,496	£385,000	£385,000	£257
27/04/2018	27/04/2018	Osborne Road	3-bed semi	1	1,079	1,079	£280,000	£280,000	£260
04/05/2018	15/02/2019	Stetchworth Road	3-bed semi	2	1,254	2,508	£620,000	£310,000	£247
06/02/2019	06/02/2019	Walton Heath Road	3-bed semi	1	936	936	£315,000	£315,000	£336
31/08/2018	31/08/2018	Westbourne Road	3-bed semi	1	1,012	1,012	£400,000	£400,000	£395
18/12/2017	25/01/2019	Worsley Road	3-bed semi	3	1,299	3,897	£1,080,781	£360,260	£277
3-bed Semi-detached Summary:				10	1,193	11,930	£3,334,781	£333,478	£280
22/11/2018	22/11/2018	Grantham Avenue	4-bed semi	1	1,938	1,938	£492,500	£492,500	254
06/04/2018	01/08/2018	West Avenue	4-bed semi	2	1,539	3,078	£740,000	£370,000	£240
14/06/2018	14/06/2018	Whitefield Road	4-bed semi	1	2,056	2,056	£505,000	£505,000	£246
4-bed Semi-detached Summary:				4	1,768	7,072	£1,737,500	£434,375	£246
06/02/2019	06/02/2019	Hillcliffe Road	4-bed detached	1	2,368	2,368	£750,000	£750,000	£317
23/01/2018	12/10/2018	Walton Road	4-bed detached	2	1,951	3,902	£1,202,600	£601,300	£308
4-bed Detached Summary:				3	2,090	6,270	£1,952,600	£650,867	£311
Summary:				24	1,400	33,603	£9,167,381	£381,974	£273

Source: Land Registry

Appleton Area

- 2.9 The civil parish of Appleton, another suburb of Warrington, which is located on the south-eastern boundary of Walton, is considered to attract a price premium, with the average price paid over the past 12 months at £393,614, according to Zoopla.

- 2.10 Within one mile of the subject site, and separated by only the Walton Hall golf course, is a relatively new development known as The Hamptons, in Appleton. With this development being within close proximity to the subject site, transactional research was undertaken to determine sold prices within approximately the last 12 months, for what is regarded as a more aspirational price point within the area.

- 2.11 A summary of the recorded re-sale properties is displayed within **Table 2.1:** below.

Table 2.2: 'The Hamptons' Re-sale Properties: March 2018 – January 2019

Date From:	Date To:	Address	Accommodation Type	No. Sales	Average Size (ft ²)	Total Size (ft ²)	Total Revenue	Average Sold Price	£ /ft ²
21/12/2018	21/12/2018	Field Lane	3-bed detached	1	1,787	1,787	£640,000	£640,000	£358
3-bed Detached Summary:				1	1,787	1,787	£640,000	£640,000	£358
14/03/2018	06/04/2018	Field Lane	4-bed detached	2	1,991	3,983	£1,335,000	£667,500	£335
4-bed Detached Summary:				2	1,991	3,983	£1,335,000	£667,500	£335
27/04/2018	27/04/2018	Bellcast Close	5-bed detached	1	2,928	2,928	£780,000	£780,000	£266
07/01/2019	07/01/2019	Field Lane	5-bed detached	1	2,874	2,874	£900,000	£900,000	£313
28/09/2018	22/10/2018	High Warren Close	5-bed detached	2	3,019	6,039	£1,595,000	£797,500	£264
5-bed Detached Summary:				4	2,960	11,840	£3,275,000	£818,750	£277
Scheme Summary:				7	2,516	17,610	£5,250,000	£750,000	£298

Source: Land Registry

3. Residential New Build Market

Local Residential New Build Market

- 3.1 In order to benchmark local market performance for new build developments, and inform pricing at the subject site, a review of comparable new build housing sites was undertaken during December 2018 and updated in May 2019.
- 3.2 Analysis has focused on sites located to the west and south-west of the subject site, within a 3 mile radius of the area boundary.
- 3.3 The following report sets out details of the nearest developments including an assessment of available homes (where available) and achieved sales, based on evidence from Land Registry data, engagement with the developers directly, and a review of online marketing, planning application and EPC data.
- 3.4 A total of six sites form the basis of this assessment.

Hatters Close, Daresbury

- 3.5 The 'Land at Daresbury Village', marketed as Hatters Close, Daresbury, is a small, private development of five dwellings, comprising of 4-bed semi-detached and detached units.
- 3.6 The site is within 2 miles of the subject site, to the south-west. The site area is 0.32 hectares (ha) and was previously greenfield, bounded by Daresbury Primary School to the south and buildings, including a tea rooms, to the north. The site abuts the Chester Road to the east.
- 3.7 A planning permission (Ref: 16/00428/FUL) was granted in July 2017 and the development is currently being marketed by Meller Braggins and Bridgfords estate agents.

Availability & Asking Prices

- 3.8 As at December 2018 there were three 4 bed semi-detached properties being marketed at asking prices of £475,000 (£362/ft²)

- 4-bed semi-detached: £475,000 or £362/ft²

Achieved Sales

- 3.9 No achieved sales have been recorded by Land Registry at the time of publication.

Comparison to Subject Site

- 3.10 The scheme is in relatively close proximity to the subject site, however, Daresbury settlement is relatively small, as is the Hatters Close development. Hatters Close comprises only two house types, which each provide four bedrooms, and considering the exclusive nature of the scheme and the premium values achieved in Daresbury, this scheme is regarded as providing little useful data for comparison. All properties are currently being marketed at a premium rate, with a private developer looking to push values.

Hatters Park, Laurus Homes

- 3.11 Hatters Park is a development of 18 dwellings located on Manor Farm Road, Runcorn, and comprises a mix of 3 and 4-bed, terraced, semi-detached and detached properties.
- 3.12 The 0.53 hectare site is located approximately 2.25 miles to the west of the subject site and three miles east of Runcorn Town Centre. The area immediately to the north and east of the site is woodland, known as Lodge Plantation (a Woodland Trust woods). The land to the west of the site has been redeveloped into 14 mews houses. Immediately to the south of the site is a small business park.
- 3.13 The planning permission (ref: 14/00665/FUL) was granted in April 2015 and the site is currently under construction and being marketed by Laurus Homes.

Availability and Asking Prices

- 3.14 As at December 2018 there were eight properties being marketed at the following asking prices:
- 3-bed terraced: £198,500-£203,000 or £238-£243/ft²
 - 3-bed detached: £210,000-£220,995 or £232-£244/ft²
 - 4-bed detached: £296,500 or £225/ft²
- 3.15 The full information on marketed homes is displayed within Table 3.1: below.
- 3.16 A 5% indicative discount has also been applied in analysis to illustrate anticipated incentives provided via negotiation upon sale. This is in line with market expectations.

Table 3.1: Hatters Park, Laurus Homes: Availability and Pricing Analysis (December 2018)

House Type	Accommodation Type	No. of Units	Average Size (ft ²)	Average Asking Price	£ / ft ²	Asking Price at 5% Discount	£ /ft ² at 5% Discount
The Elphin	Terraced	3	834	£201,500	£242	£191,425	£229
Terraced Summary:		3	834	£201,500	£242	£191,425	£229
The Lidell	Detached	4	859	£212,749	£248	£202,111	£235
The Richmond	Detached	1	1,253	£296,500	£237	£281,675	£225
Detached Summary:		5	938	£229,499	£245	£218,024	£232
Scheme Summary:		8	899	£218,999	£244	£208,049	£231

Source: Laurus Homes

Achieved Sales

- 3.17 No achieved sales have been recorded by Land Registry at the time of publication.

Comparison to Subject Site

- 3.18 This Laurus Homes development is small in comparison to the proposed development at the subject site, and achieves an average density of 34 dwellings per hectare (dph). It contains a mix of house types with asking prices at a more appropriate level (/ft²) for comparison purposes.
- 3.19 Considering the size and density of this development; the surrounding characteristics; and its location in the suburbs (of Runcorn as opposed to Warrington), it is considered that this scheme will represent a medium-high degree of pricing comparability with the proposed development of the subject site, though pitched marginally lower than what we expect of housing on the subject site.

The Meadows, Morris Homes

- 3.20 Morris Homes is currently marketing and constructing the Wharford Lane phase of The Meadows; a development of 219 dwellings located on a greenfield site to the east of Runcorn, between the housing estate of Windmill Hill (on the west) and the village of Keckwick. The site is located circa 2.5 miles from the subject site. The development comprises a mix of 2, 3 and 4-bed, terraced, semi-detached and detached properties, and includes some apartments.
- 3.21 The site measures an area of 9.04 ha and comprises a portion of the Sandymoor neighbourhood (Sandymoor North Phase 1). It is bound to the north by the Daresbury Expressway (A558) which provides access west to Runcorn and east to the A56 (Warrington and M6). The West Coast Main Line (WCML) and the Manchester-Chester railways lines lie immediately to the east whilst the Bridgewater Canal runs along the southern and western edges of the site.
- 3.22 The planning application (ref: 14/000161/FUL) was granted in July 2014 and the site remains under construction and is being marketed by Morris Homes.

Availability and Asking Price

- 3.23 As at December 2018 there were eight properties being marketed with asking prices summarised as follows:
- 4-bed detached: £306,750-£406,750 or £226-£237/ft²
- 3.24 The full information on marketed homes is detailed in Table 3.2:.
- 3.25 A 5% indicative discount has also been applied in analysis to illustrate anticipated incentives provided via negotiation upon sale. This is in line with market expectations.

Table 3.2: The Meadows, Morris Homes, Availability & Pricing Analysis (December 2018)

Plot No.	House Type	Accomm. Type	Size (ft ²)	Asking Price	£ /ft ²	Asking Price at 5% Discount	£ / ft ² at 5% Discount
161	Staunton	Detached	1,318	£307,750	£233	£292,363	£222
128	Staunton	Detached	1,318	£306,750	£233	£291,413	£221
140	Moreton 2	Detached	1,326	£309,750	£234	£294,263	£222
139	Winster	Detached	1,796	£406,750	£226	£386,413	£215
170	Wharfdale Plus	Detached	1,423	£321,750	£226	£305,663	£215
164	Wharfdale Plus	Detached	1,423	£321,750	£226	£305,663	£215
165	Willington	Detached	1,462	£346,750	£237	£329,413	£225
159	Bramhall Plus	Detached	1,353	£317,750	£235	£301,863	£223
Scheme Summary:			1,427	£329,875	£231	£313,381	£220

Source: Morris Homes

Achieved Sales

- 3.26 Evidence of achieved sales was obtained via Land Registry, which contains records of 23 sales of terraced, semi-detached and detached units between December 2017 and September 2018. The total achieved values range from £192,750 - £325,750.
- 3.27 Terraced units achieved an average of £192/ft²; semi-detached units achieved an average of £222/ft²; and detached units achieved an average of £229/ft². The current overall achieved sales average equates to £217/ft². This is summarised in Table 3.3: overleaf.

Table 3.3: The Meadows, Morris Homes: Achieved Sales (No. of Beds have been estimated)

Date From:	Date To:	Address	Accommodation Type	No. Beds	No. Sales	Average Size (ft ²)	Total Size (ft ²)	Total Revenue	Average Sold Price	£ /ft ²
15/12/2017	09/02/2018	Actons Wood Lane	Terraced	3	7	1,106	7,739	£1,489,250	£212,750	£192
3-bed Terraced Summary:				3	7	1,106	7,739	£1,489,250	£212,750	£192
16/02/2018	03/08/2018	Actons Wood Lane	Semi-detached	3	3	901	2,702	£602,250	£200,750	£223
23/02/2018	23/02/2018	Magna Park	Semi-detached	3	1	958	958	£210,750	£210,750	£220
3-bed Semi-detached Summary:				3	4	915	3,660	£813,000	£203,250	£222
03/08/2018	03/08/2018	Actons Wood Lane		3	1	1,001	1,001	£228,750	£228,750	£229
3-bed Detached Summary:				3	1	1,001	1,001	£228,750	£228,750	£229
09/02/2018	03/08/2018	Actons Wood Lane	Detached	4	5	1,150	5,748	£1,348,350	£269,670	£235
01/12/2017	28/09/2018	Magna Park	Detached	4	6	1,374	8,245	£1,850,900	£308,483	£224
4-bed Detached Summary:				4	11	1,272	13,993	£3,199,250	£290,841	£229
Scheme Summary:					23	1,148	26,393	£5,730,250	£249,141	£217

Source: Land Registry

Comparison to Subject Site

- 3.28 The Meadows is part of an allocated housing site within the Council's adopted Core Strategy (2013), and is just one phase of development of the Sandymoor Neighbourhood Masterplan (potentially up to 2,000 dwellings).
- 3.29 The development is being marketed based on its semi-rural, Cheshire setting, including its proximity and accessibility to the countryside and woodlands. Furthermore, and corresponding to the subject site, this development site has the benefit of being well connected, via the M56/ A56 and A558 road networks, which directly link to Runcorn, Warrington, Chester and Manchester, as well as the M6 corridor. The nearest train station is approximately 1.0 mile to the south with services to Chester and Manchester Piccadilly.
- 3.30 Based upon the above and noting that this development is located further away from Walton/closer to Runcorn, it is expected that The Meadows will achieve lower values, circa 10-15% in price under the subject site.

Sandymoor Neighbourhood

- 3.31 Several phases of the Sandymoor Neighbourhood Masterplan towards the south and west have already completed on-site, the most recent being the Sandymoor South Phase 1 by David Wilson Homes. Planning permission (ref: 14/00575/FUL) was granted in March 2015 and their 7.90 ha site delivered 106 dwellings, comprising a mix of 3, 4 and 5-bed, terraced, semi-detached and detached properties.

Achieved Sales

- 3.32 Evidence of achieved sales was obtained via Land Registry, which contains records of 48 sales of terraced, semi-detached and detached units between December 2017 and November 2018. The total achieved sales values range from £149,995 - £419,995.
- 3.33 Terraced units achieved an average of £198/ft²; semi-detached units achieved an average of £213/ft²; and detached units achieved an average of £216/ft². The overall achieved sales average equates to £214/ft². This is summarised in Table 3.4: overleaf.

Table 3.4: Sandymoor Neighbourhood: Achieved Sales (No. of Beds have been estimated)

Date From:	Date To:	Address	Accommodation Type	No. Beds	No. Sales	Average Size (ft ²)	Total Size (ft ²)	Total Revenue	Average Sold Price	£ /ft ²
01/12/2017	23/03/2018	Wisbech Close	Terraced	3	9	836	7,524	£1,489,480	£165,498	£198
3-bed Terraced Summary:				3	9	836	7,524	£1,489,480	£165,498	£198
01/12/2017	02/02/2018	Wisbech Close	Semi-detached	3	5	833	4,166	£879,205	£175,841	£211
16/02/2018	16/02/2018	Bitteswell Court	Semi-detached	3	1	958	958	£211,750	£211,750	£221
3-bed Semi-detached Summary:				3	6	854	5,124	£1,090,955	£181,826	£213
08/12/2017	08/12/2017	Wisbech Close	Detached	3	1	850	850	£226,995	£226,995	£267
3-bed Detached Summary:				3	1	850	850	£226,995	£226,995	£267
15/06/2018	02/11/2018	Bitteswell Court	Detached	4	4	1,300	5,199	£1,193,200	£298,300	£230
26/01/2018	23/02/2018	Morston Road	Detached	4	4	1,711	6,846	£1,452,990	£363,248	£212
01/12/2017	29/06/2018	Walsingham Drive	Detached	4	23	1,596	36,705	£7,931,746	£344,859	£216
4-bed Detached Summary:				4	31	1,573	48,750	£10,577,936	£341,224	£217
20/08/2018	20/08/2018	Walsingham Drive	Detached	5	1	2,390	2,390	£419,995	£419,995	£176
5-bed Detached Summary:				5	1	2,390	2,390	£419,995	£419,995	£176
Scheme Summary:					48	1,347	64,637	£13,805,361	£287,612	£214

Source: Land Registry

Comparison to Subject Site

- 3.34 Similarly to The Meadows, data captured from this area forms part of an allocated housing site within the Council's adopted Core Strategy (2013) and the Sandymoor Neighbourhood Masterplan (potentially up to 2,000 dwellings).
- 3.35 This development site has the benefit of being well connected, via the M56/ A56 and A558 road networks, which directly link to Runcorn, Warrington, Chester and Manchester, as well as the M6 corridor. The nearest train station is approximately 1.0 mile to the south with services to Chester and Manchester Piccadilly.
- 3.36 Based upon the above and noting that this development is located further away from Walton/ closer to Runcorn, it is expected that the subject site will achieve higher sales values than recorded here, in the region of 10-15%% higher.

Saviours Place and Kings Quarter, Barratt Homes

- 3.37 Saviours Place and Kings Quarter are neighbouring developments totalling 180 dwellings and located on Stretton Road, Stretton. The developments comprise a mix of 2, 3 4 and 5-bed, terraced, semi-detached and detached properties.
- 3.38 The 7.47 hectare site is located approximately 2.0 miles to the south-east of the subject site and directly south of Appleton village. The area immediately to the south of the site is a primary school and Stretton Road, which leads to the village centre. The northern boundary of the site is characterised by existing new-build housing development.
- 3.39 The planning permission (ref: 18/32672) was granted in October 2018 and the site is currently being marketed by Barratt Homes as two developments.

Availability and Asking Prices

- 3.40 As at May 2019 there were nine properties being marketed across the two sites at the following asking prices:

Saviours Place

- 3-bed terraced (2.5 storey): £242,395 or £219/ft²
- 4-bed detached: £336,995 or £296/ft²

Kings Quarter

- 3-bed terraced (2.5 storey): £234,395-£238,395 or £212-£215/ft²
- 4-bed terraced: £309,995 or £266/ft²
- 4-bed detached: £335,950 or £294/ft²

- 3.41 The full information on marketed homes is displayed within Tables 3.7 and 3.8 below.
- 3.42 A 5% indicative discount has also been applied in analysis to illustrate anticipated incentives provided via negotiation upon sale. This is in line with market expectations.

Table 3.5: Saviours Place, Barratt Homes: Availability and Pricing Analysis (May 2019)

House Type	Accommodation Type	No. of Units	Average Size (ft ²)	Average Asking Price	£ / ft ²	Asking Price at 5% Discount	£ /ft ² at 5% Discount
Norbury	Terraced (2.5 storey)	2	1,107	£242,395	£219	£230,275	£208
Kennford	Detached	1	1,139	£336,995	£296	£320,145	£281
Scheme Summary:		3	1,118	£273,928	£245	£260,232	£233

Table 3.6: Kings Quarter, Barratt Homes: Availability and Pricing Analysis (May 2019)

House Type	Accommodation Type	No. of Units	Average Size (ft ²)	Average Asking Price	£ / ft ²	Asking Price at 5% Discount	£ /ft ² at 5% Discount
Norbury	Terraced (2.5 storey)	3	1,107	£235,728	£213	£223,942	£202
Hawley	Terraced	2	1,166	£309,995	£266	£294,495	£253
Terraced Summary:		5	1,131	£265,435	£235	£252,163	£223
Tewkesbury	Detached	1	1,141	£335,950	£294	£319,153	£280
Detached Summary:		1	1,141	£335,950	£294	£319,153	£280
Scheme Summary:		6	1,132	£277,188	£245	£263,328	£233

Source: Barratt Homes

Achieved Sales

3.43 No achieved sales have been recorded by Land Registry at the time of publication.

4. Conclusions

- 4.1 This report has been prepared by Turley Development Viability on behalf of the parties in order to provide an independent assessment of the residential market relevant to the promotion of land to the north of the A56 at Higher Walton, Warrington.
- 4.2 The report will be utilised as a guide for the assessment of market pricing for comparison with that proposed in Warrington Council's Local Plan viability evidence.
- 4.3 The report has been informed by a review of published market intelligence and local transactional evidence, as well as a wider market consultation exercise with developers currently marketing comparable schemes in the local area.
- 4.4 Although pricing recommendations contained herein are based upon local market data, there is potential for this development site [owing to its scale] to adopt its own price levels.
- 4.5 It is anticipated that actual achievable values will range from £220-280/ft² depending on unit type, with 2.5/3 storey terraced or semi-detached units generating the lowest values and smaller detached units achieving the highest values.
- 4.6 Based on the market evidence contained within this report, an average open market sales value equating to £250-260/ft² is determined as appropriate for adoption across the range of unit types anticipated to be delivered upon the subject site. This value falls below some of the values identified as achieved in Walton, but we regard the SWUE site as somewhat separate from the Walton/Stockton Heath environs and values will reduce, and the wider new build comparables are regarded as highly pertinent.
- 4.7 The upper end of the anticipated average value range (£260/ft²) has been adopted within the high level viability appraisals of the scheme that are included in the representation provided on behalf of our clients in respect of the Council's Local Plan Viability Assessment.

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Appendix 2: Rider Levett Bucknall Cost Report

REPORT

1 MARCH 2019

COST REPORT NUMBER ONE, REV C

SW WARRINGTON URBAN EXTENSION

PEEL INVESTMENT (NORTH), STORY HOMES & ASHALL HOMES

Prepared By

Paul Beeston
Partner

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T: +

TABLE OF CONTENTS

1 EXECUTIVE SUMMARY

2 PROJECT INFORMATION

3 BASIS OF REPORT

4 AREAS

5 COST SUMMARY

AUTHORISATION

This report has been prepared by:

Signature.....
Liam Bickley

and authorised for issue by:

Signature.....
Paul Beeston FRICS

1. EXECUTIVE SUMMARY

1.1 Status of Costs

This report is based on the emerging masterplan for the South West Urban Extension of Warrington. It includes strategic infrastructure. The primary purpose of the report is draw together information that has been prepared to date for the scheme. The design of the project is generally reflective of preliminary work prior to an Outline Planning Application, and as such carries a relatively high level of risk.

1.2 Cost Summary

By cost heading	Cost £	£ / SF	£ / Unit	£ / Acre
Section 106 Contributions	0	0.00	0	0
Strategic Off Site Works	9,719,616	0.00	5,254	79,931
Strategic On Site Works	25,186,073	0.00	13,614	207,122
TOTAL	34,905,689	0.00	18,868	287,052

2 PROJECT INFORMATION

2.1 Project Team

Client	Peel Investment (North), Story Homes & Ashall Homes
Masterplanner	Randall Thorpe
Quantity Surveyor	Rider Levett Bucknall
Utilities Assessment	TDS
Planning Consultant	Turley
Viability	Turley

2.2 Background

This report has been prepared based on early design information being prepared to progress the masterplanning of the site prior to the site being adopted in the Local Plan.

2.3 Description of the Works

Strategic Land site including infrastructure.

3 BASIS OF REPORT

3.1 Purpose and Status of Report

This report has been prepared to provide a preliminary cost estimate for the project.

3.2 Basis of Procurement

The costs assume that competitive tenders are obtained for the works.

3.3 Programme

All costs are reported on a current day basis (1Q19) with no provision for inflation.

3.4 Information Used

3.4.1 Generally

Drawings as listed in the cost plan

Randall Thorp Drawing 630DE-13I

Itransport Drawing ITM 132243 - GA - 003 (For information only, does not show exact junction deta

Itransport Drawing ITM 132243 - GA - 002

Croft Drawing 2404 - F01

3.5 Specifications

Specifications are to be to be an adoptable standard for infrastructure.

3.6 Exclusions

3.6.1 *Generic Exclusions*

- Local taxes (eg. VAT)
- Land acquisition cost / Land compensation costs
- Land rental for temporary accommodation
- Restrictive Land Covenants / Ransoms / Rights of Light / Land compensation / Oversailing
- Finance
- Legal Fees
- Agency Fees
- Statutory Approval Fees (Planning etc)
- Inflation / Increase costs
- Flood defence works
- Acoustic Fences
- Archaeological watching briefs
- Marketing signage
- Off services reinforcement
- Section 106 costs
- CIL
- Landscaping maintenance / commuted sums
- Land acquisition, including for off site highway schemes
- Diverting Gas Main or grounding cables, unless noted otherwise
- On plot works, including estate roads, dwellings and abnormal foundations

3.7 Projected Increase in Costs

Base costs are reported on a current day basis.

3.8 Assumptions

Much of the report has been based on assumption at this stage. It is assumed there are a total of: 1,850 units.

SW WARRINGTON URBAN EXTENSION

COST REPORT NUMBER ONE, REV C - 1 MARCH 2019

3.9 Reconciliation with WBC Costs (£ millions)

* Like for like with WBC scope for construction elements only

REF	DESCRIPTION	WBC ESTIMATE							DEVELOPER (RLB ESTIMATE)+J36	DIFFERENCE
		[a]	[b]	[c]	[d]	[e]	[f]	[g] = Sum [a] to [f]		
		Design	Construction	Inflation	WBC	Land	Risk	Total	Construction *	Construction *
	Highways									
H1	Internal spine road	0.654	7.411	0.000	0.000	0.563	0.296	8.924	4.445	-2.966
H2	Runcorn Road	0.151	1.994	0.000	0.349	0.693	0.069	3.256	1.429	-0.565
H3	Mill Lane	0.121	1.516	0.000	0.280	0.234	0.055	2.206	inc in H1	-1.516
	Sub-total	0.926	10.921	0.000	0.629	1.490	0.420	14.386	5.874	-5.046
	Junctions									
J1	Chester Road site access	0.303	2.580	0.000	0.701	0.166	0.088	3.839	1.100	-1.480
J2	Chester Road/Runcorn Road junction	0.359	2.310	0.000	0.829	0.143	0.075	3.715	1.200	-1.110
J3	Runcorn Road site access 1	0.193	1.819	0.000	0.446	0.119	0.063	2.640	1.000	-0.819
J4	Runcorn Road site access 2	0.193	1.819	0.000	0.446	0.119	0.063	2.640	0.850	-0.969
J5	Runcorn Road site access 3	0.193	1.819	0.000	0.446	0.119	0.063	2.640	0.850	-0.969
	Sub-total	1.242	10.349	0.000	2.868	0.665	0.350	15.473	5.000	-5.349
	Bus services									
B1	Bus gate on Internal Spine Road	0.019	0.229	0.000	0.045	0.009	0.009	0.311	0.220	-0.009
B2	New bus services	0.000	0.000	0.000	0.000	0.000	0.000	0.000	EXCL	
	Sub-total	0.019	0.229	0.000	0.045	0.009	0.009	0.311	0.220	-0.009
	Strategic Cycle routes									
SC1	Internal greenway connections	0.072	0.788	0.000	0.167	0.062	0.033	1.123	1.239	0.451
SC2	Greenway route	0.150	1.628	0.000	0.346	0.129	0.068	2.320	in SC1	
SC3	Upgrade of Bridgwater canal towpath to south of site	0.102	1.112	0.000	0.236	0.088	0.046	1.585	0.263	-0.849
	Sub-total	0.324	3.528	0.000	0.749	0.279	0.147	5.028	1.501	-0.399
	Community									
PS	Primary school	0.000	0.000	0.000	0.000	0.000	0.000	0.000	EXCL	
DC	District centre/community hub	0.000	0.000	0.000	0.000	0.000	0.000	0.000	EXCL	
OS	Open space	0.000	0.000	0.000	0.000	0.000	0.000	0.000	EXCL	
	Sub-total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	TOTAL	2.511	25.026	0.000	4.291	2.444	0.925	35.198	12.595	-10.803
	% on Cost	10.0%		0.0%	17.1%	8.3%	2.9%			
	Per Unit Cost	1,358	13,528	0	2,320	1,321	500	19,026	6,808	-6,520
	Per Gross Acre Cost	9,259	92,264	0	15,820	9,010	3,411	129,764	46,434	-39,828
	Red items in WBC schedule "Optional Scope" & excluded		6.608					9.496	2.183	-4.426
	WBC cost as presented		18.418					25.702	10.413	-8.006

SW WARRINGTON URBAN EXTENSION

COST REPORT NUMBER ONE, REV C - 1 MARCH 2019

4 AREAS

PLOT	PLOT AREA		UNITS	DENSITY		AV UNIT	GIA	
	(acres)	(Ha)	Nr	DPA	DPH	SF/Unit	(SF)	(m2)
DEVELOPMENT CELLS								
RESIDENTIAL								
Outer zone	32.9	13.30	466	14.2	35.0		0	0
Middle zone	3.3	1.33	47	14.2	35.0		0	0
Balance of main site	65.5	26.51	928	14.2	35.0		0	0
South of Chester Rd	15.2	6.17	217	14.2	35.2			
Sub total	116.9	47.3	1,657	14.2	35.0	0	0	0
OTHER								
Education	3.5	1.40	0	0.0	0.0		0	0
Local centre	1.2	0.50	193	156.2	386.0		0	0
Sub total	4.7	1.90	193	41.1	101.6		0	0
TOTAL	121.60	49.21	1,850	15.2	37.6	0	0	0
GREEN INFRASTRUCTURE								
FORMAL OPEN SPACES								
Amenity open	4.6	1.88						
Allotments	4.4	1.77						
Play areas	0.2	0.10						
INFORMAL OPEN SPACES								
Existing woodland	22.0	8.90						
Proposed woodland	18.3	7.40						
Existing public right of way	0.2	0.10						
Proposed pedestrian routes	3.0	1.20						
Proposed cycle routes	1.0	0.40						
Natural & semi natural greenscape	66.0	26.69						
TOTAL	119.7	48.44						
OTHER AREAS								
Primary vehicular distribution	16.4	6.65						
Existing properties	13.5	5.47						
TOTAL	29.9	12.12						
GRAND TOTAL	271.25	109.77						

SW WARRINGTON URBAN EXTENSION

COST REPORT NUMBER ONE, REV C - 1 MARCH 2019

5. COST SUMMARY

Total Cost

REF	DESCRIPTION	TOTAL COST £	COST / SF 0 SF	COST / Unit 1,850 units	COST / Acre 122 acres
A	SECTION 106 OBLIGATIONS				
	1 SECTION 106 PAYMENTS	0		0	0
	2 CIL	0		0	0
	Sub-total S106	0		0	0
B	STRATEGIC OFF SITE WORKS				
	1 ACCESS JUNCTIONS	5,675,670		3,068	46,675
	2 OFF SITE JUNCTIONS	4,043,946		2,186	33,256
	Total	9,719,616		5,254	79,931
C	STRATEGIC ON SITE WORKS				
	1 PRIMARY DISTRIBUTION ROADS	5,663,275		3,061	46,573
	2 STRATEGIC LANDSCAPING	4,864,224		2,629	40,002
	3 SERVICES	13,327,180		7,204	109,598
	4 ENVIRONMENTAL WORKS	1,174,520		635	9,659
	5 TEMPORARY WORKS	156,875		85	1,290
	Total	25,186,073		13,614	207,122
	Sub-total infrastructure	34,905,689		18,868	287,052
	TOTAL	34,905,689		18,868	287,052

SW WARRINGTON URBAN EXTENSION

COST REPORT NUMBER ONE, REV C - 1 MARCH 2019

A Section 106 Obligations

£0

REF	DESCRIPTION	QTY UNIT	RATE	TOTAL
1	SECTION 106 PAYMENTS			
1.01	Education			EXCLUDED
1.02	Travel Plan Monitoring			EXCLUDED
1.03	Recreation			EXCLUDED
1.04	Public Transport			EXCLUDED
1.05	Off site highways a Included elsewhere			EXCLUDED
	SECTION 106 PAYMENTS Total			0

SW WARRINGTON URBAN EXTENSION

COST REPORT NUMBER ONE, REV C - 1 MARCH 2019

A Section 106 Obligations

£0

REF	DESCRIPTION	QTY UNIT	RATE	TOTAL
2	CIL			
2.01	Contributions			
	a Excluded			EXCLUDED
	Sub-total			0
	CIL Total			0

SW WARRINGTON URBAN EXTENSION

COST REPORT NUMBER ONE, REV C - 1 MARCH 2019



B Strategic Off Site Works

£9,719,616

REF	DESCRIPTION	QTY UNIT	RATE	TOTAL
1	ENTRANCE JUNCTIONS			
1.01	J5: Runcorn Road, West			
	a New Junction; assumed staggered T junction or cross roads; un-signalled	1 item	850,000.00	850,000
1.02	J4: Runcorn Road, Central			
	a New Junction; assumed staggered T junction or cross roads; un-signalled	1 item	850,000.00	850,000
1.03	J3: Runcorn Road, East			
	a New Junction; assumed Roundabout	1 item	1,000,000.00	1,000,000
1.04	J1: A56 North Plot Access			
	a New Junction; new traffic signals and modification to existing Mill Lane	1 item	1,100,000.00	1,100,000
1.05	J0: A56 South Plot Access			
	a New Junction (Non RB solution - right turn through central reservation)	1 item	750,000.00	750,000
1.06	On Costs			
	a <i>Stage 3 safety audits</i>			incl
	b <i>Traffic Management</i>			incl
	c <i>Preliminaries</i>			incl
	d <i>Section 278 Inspection Fees</i>	8 %	4,550,000.00	364,000
	e <i>Bonding Costs</i>			excl
	f <i>Professional Fees</i>	10 %	4,914,000.00	491,400
	g <i>Contingency</i>	5 %	5,405,400.00	270,270
	ENTRANCE JUNCTIONS Total			5,675,670

SW WARRINGTON URBAN EXTENSION

COST REPORT NUMBER ONE, REV C - 1 MARCH 2019



B Strategic Off Site Works

£9,719,616

REF	DESCRIPTION	QTY UNIT	RATE	TOTAL
2	OFF SITE WORKS			
2.01	Improvements to Runcorn Road			
	a Improvements to Runcorn Road including minor realignment (scope undefined)	1,021 m	1,400.00	1,429,400
2.02	J2: A56 / Runcorn Road Junction			
	a Allowance for improvements to existing signalised junction; scope unknown	1 item	1,200,000.00	1,200,000
2.03	A56 / Mill Lane Junction			
	a Downgrade / modify existing Mill Lane junction; scope unknown (extra over J1)	1 item	100,000.00	100,000
2.04	Mill Lane Modifications / Stopping up?			
	a General allowance for length of Mill Lane	1 ProvSum	250,000.00	250,000
2.05	Works to Bridgewater Canal			
	a Provisional Allowance for undefined improvements	1,750 m	150.00	262,500
2.06	On Costs			
	a <i>Stage 3 safety audits</i>			incl
	b <i>Traffic Management</i>			incl
	c <i>Preliminaries</i>			incl
	d <i>Section 278 Inspection Fees</i>	8 %	3,241,900.00	259,352
	e <i>Bonding Costs</i>			excl
	f <i>Professional Fees</i>	10 %	3,501,252.00	350,125
	g <i>Contingency</i>	5 %	3,851,377.20	192,569
	Sub-total	33%		1,064,546
	OFF SITE WORKS Total			4,043,946

SW WARRINGTON URBAN EXTENSION

COST REPORT NUMBER ONE, REV C - 1 MARCH 2019



C Strategic On Site Works

£25,186,073

REF	DESCRIPTION	QTY UNIT	RATE	TOTAL
1	PRIMARY DISTRIBUTION ROADS			
1.01	Roads and Footpaths			
	New distribution roads			
a	Vehicular road: primary	1,530 m	1,350.00	2,065,500
	Extra over			
a	Junctions: primary/primary only	9 Nr	15,000.00	135,000
b	Levels issues; localised raising levels (SAY)	5 Nr	20,000.00	100,000
c	Homezones/feature areas (SAY)	4 Nr	15,000.00	60,000
d	Structures: existing watercourses	1 Nr	250,000.00	250,000
e	Bus stops/shelters (SAY)	4 Nr	35,000.00	140,000
	Roads and Footpaths Total			2,750,500
1.02	Drainage			
a	Highway drainage	1,530 m	30.00	45,900
b	FW runs	1,530 m	175.00	267,750
c	SW runs	1,530 m	300.00	459,000
	Drainage Total			772,650
1.03	Landscaping			
a	Highway landscaping	1,530 m	25.00	38,250
	Landscaping Total			38,250
1.04	Services			
a	Streetlighting	102 Nr	2,200.00	224,400
b	Lit bollards	31 Nr	450.00	13,950
	Services Total			238,350
1.05	Sundries			
a	Signage	31 Nr	1,000.00	31,000
b	Signage modifications (road names/directional etc)	1 item	10,000.00	10,000
c	Bus Gates; scope unknown (SAY)	2 Nr	100,000.00	200,000
	Sundries Total			241,000

SW WARRINGTON URBAN EXTENSION

COST REPORT NUMBER ONE, REV C - 1 MARCH 2019



C Strategic On Site Works

£25,186,073

REF	DESCRIPTION	QTY UNIT	RATE	TOTAL
1.06	Preliminaries			
	a Site establishment, supervision and management	10 %	4,040,750.00	404,075
	Preliminaries Total			404,075
1.07	Contingency and Risk			
	a Design and Price Risk	2 %	4,444,825	88,897
	b Construction Contingency	3 %	4,444,825	133,345
	c Specific Provisions: Adoption remedial work	1 item	100,000.00	100,000
	Contingency and Risk Total			322,241
1.08	Fees and other charges			
	Delivery Fees			
	a Professional fees on delivery	10 %	4,767,066.25	476,707
	Consents and fees			
	b Local Authority	8 %	5,243,772.88	419,502
	Fees and other charges Total			896,208
	PRIMARY DISTRIBUTION ROADS Total			5,663,275

SW WARRINGTON URBAN EXTENSION

COST REPORT NUMBER ONE, REV C - 1 MARCH 2019



C Strategic On Site Works

£25,186,073

REF	DESCRIPTION	QTY UNIT	RATE	TOTAL
2	STRATEGIC LANDSCAPING			
2.01	Strategic open space			
	<i>Allotments</i>			
a	Allotment Spaces	17,400 m2	15.00	261,000
b	Fencing	800 m	150.00	120,000
c	Car park: 30 m2 per space; full road construction	10 Nr	3,000.00	30,000
d	Signage / Power / Water	1 item	40,000.00	40,000
	<i>Open spaces</i>			
e	Formal park areas	18,800 m2	30.00	564,000
f	NEAP	1 Nr	250,000.00	250,000
g	Sundries to formal park areas	1 item	100,000.00	100,000
h	Landscaping allowance to existing woodland	89,000 m2	2.00	178,000
j	Proposed woodland planting	74,000 m2	5.00	370,000
k	Landscaping allowance to natural and semi-natural greenscape	266,900 m2	2.00	533,800
	Strategic open space Total			2,446,800
2.02	Recreational Routes			
d	Pedestrian footpath: works to existing route	420 m	50.00	21,000
a	Pedestrian footpath: new; 2m wide	5,800 m	100.00	580,000
c	Cycle route: 3m wide	1,350 m	150.00	202,500
e	Off site Strategic Route Connections	6 Nr	10,000.00	60,000
f	Extra over for bridges / structures	5 Nr	75,000.00	375,000
	Recreational Routes Total			1,238,500
2.03	Sundries			
a	Signage/street furniture/sundries	1 item	100,000.00	100,000
	Sundries Total			100,000

SW WARRINGTON URBAN EXTENSION

COST REPORT NUMBER ONE, REV C - 1 MARCH 2019



C Strategic On Site Works

£25,186,073

REF	DESCRIPTION	QTY UNIT	RATE	TOTAL
2.04	Preliminaries			
	a Site establishment, supervision and management	10 %	3,785,300.00	378,530
	c Road closure notices, adverts and approvals	0 item	excluded	excluded
	Preliminaries Total			378,530.00
2.05	Contingency and Risk			
	a Design and Price Risk	2 %	4,163,830.00	83,277
	b Construction Contingency	3 %	4,163,830.00	124,915
	c Specific Provisions: Adoption remedial works	1 item	50,000.00	50,000
	Contingency and Risk Total			258,192
2.06	Fees and other charges			
	a Professional Fees	10 %	4,422,021.50	442,202
	Fees and other charges Total			442,202
	STRATEGIC LANDSCAPING Total			4,864,224

SW WARRINGTON URBAN EXTENSION

COST REPORT NUMBER ONE, REV C - 1 MARCH 2019



C Strategic On Site Works

£25,186,073

REF	DESCRIPTION	QTY UNIT	RATE	TOTAL
3	SERVICES			
3.01	Off site diversions			
	a J1 - LV Pole	1 item	15,000.00	15,000
	b J2 - None expected	1 item	EXCL	EXCL
	c J3 - Diversion of Overhead BT	1 item	15,000.00	15,000
	d J4 - None expected	1 item	EXCL	EXCL
	e J5 - None expected	1 item	EXCL	EXCL
	f J6 - Diversion of underground BT	1 item	15,000.00	15,000
	g J7 - Diversion of underground LV	1 item	15,000.00	15,000
	h J7 - Diversion of underground BT	1 item	150,000.00	150,000
	j J7 - Diversion of underground Virgin	1 item	150,000.00	150,000
	On site diversions Total			802,202
3.02	On site diversions			
	a Diversion of HV infrastructure including replacing pole mounted transformers	1 item	750,000.00	750,000
	b Diversion of Overhead BT lines to SW corner of site	1 item	100,000.00	100,000
	On site diversions Total			1,210,000
3.02	Off Site Reinforcement			
	Electrical			
	a Cable lay off site	3,000 m	200.00	600,000
	b Primary Substation	1 Item	3,000,000.00	3,000,000
	Gas			
	a Medium pressure off site main to POC	1,250 m	200.00	250,000
	b Pressure Reduction System	1 Item	35,000.00	35,000
	Water			
	a Off site pipe lay to POC	1,000 m	200.00	200,000
	Off site reinforcement Total			3,885,000
3.03	On site infrastructure			
	a Electrical infrastructure; substations	8 Nr	60,000.00	480,000
	b Electrical, Gas and Water Connections	1,850 Nr	1,750.00	3,237,500
	On Site Infrastructure Total			3,717,500

SW WARRINGTON URBAN EXTENSION

COST REPORT NUMBER ONE, REV C - 1 MARCH 2019



C Strategic On Site Works

£25,186,073

REF	DESCRIPTION	QTY UNIT	RATE	TOTAL
3.04	Protection of existing utilities on site			
	General Allowances			
a	Provisional Sum	1 Prov	150,000	150,000
	Protection Total			150,000
3.05	Storm water			
	Drainage			
a	Conveyance in landscaped areas (SAY)	300 m	175.00	52,500
b	Manholes (assumed number)	10 Nr	2,500.00	25,000
	SUDS			
c	Assumed number and size of ponds (SAY)	4 Nr	175,000.00	700,000
n	Swale courses (SAY)	1,000 m	80.00	80,000
q	Dredge existing ditch courses (SAY)	150 m	20.00	3,000
r	New offsite connection (SAY)	1 Item	30,000.00	30,000
s	Headwalls	10 Nr	12,000.00	120,000
t	Headwalls; extra over for flow control	5 Nr	6,000.00	30,000
	Storm water Total			1,040,500
3.06	Foul Water			
	Drainage			
	<i>Foul strategy not clear</i>			
a	Provisional allowance for sewers in landscaped areas	300 m	175.00	52,500
b	Manholes	10 Nr	2,500.00	25,000
c	Pumping Stations	1 Nr	115,000.00	115,000
d	Off site works	1 Prov	200,000.00	200,000
	Foul Water Total			392,500
3.07	Drainage diversions			
	Provisional allowances			
a	Foul	1 item	30,000.00	30,000
b	Surface Water	1 item	30,000.00	30,000
	Drainage diversions Total			60,000
3.08	Sundries			
a	BT ducts / Virgin Media	1 item	150,000.00	150,000
	Sundries Total			150,000

SW WARRINGTON URBAN EXTENSION

COST REPORT NUMBER ONE, REV C - 1 MARCH 2019



C Strategic On Site Works

£25,186,073

REF	DESCRIPTION	QTY UNIT	RATE	TOTAL
3.09	Preliminaries			
	a Site establishment, supervision and management	10 %	10,805,500.00	1,080,550
	b Traffic Management; notices, adverts etc	1 item	12,000.00	12,000
	Preliminaries Total			1,092,550
3.10	Contingency and Risk			
	a Design and Price Risk	2 %	11,898,050.00	237,961
	b Construction Contingency	3 %	11,898,050.00	356,942
	c Specific risk provisions:			0
	Contingency and Risk Total			594,903
3.11	Fees and other charges			
	a Fees - services consultancy (gas, water, electricity)	3 %	12,492,952.50	374,789
	b Fees - delivery of services (gas, water, electricity and drainage)	3 %	12,492,952.50	374,789
	c Section 104 costs (inspection fees)	5 %	1,493,000.00	74,650
	d Section 104 costs (adoption legal fees)	1 item	10,000.00	10,000
	Fees and other charges Total			834,227
	SERVICES Total			13,327,180

SW WARRINGTON URBAN EXTENSION

COST REPORT NUMBER ONE, REV C - 1 MARCH 2019



C Strategic On Site Works

£25,186,073

REF	DESCRIPTION	QTY UNIT	RATE	TOTAL
4	ENVIRONMENTAL WORKS			
4.01	Ecological works			
	<i>Ecology Mitigation</i>			
a	Bird and Bat boxes	50 Nr	80.00	4,000
b	GCN / Other protected species allowance	1 item	200,000.00	200,000
c	Fencing (SAY)	500 m	40.00	20,000
e	Ecology Surveys etc (for construction)	1 item	75,000.00	75,000
f	Arbocultural Surveys	1 item	50,000.00	50,000
	<i>Invasive Species</i>			
a	Japanese Knotweed	1 item	25,000.00	25,000
b	Himalayan Balsam	1 item	25,000.00	25,000
	Ecological works Total			399,000
4.02	Enabling Works			
	<i>Ground improvement</i>			
a	Isolated hot spots of contamination (provisional)	1 item	30,000.00	30,000
b	Isolated ground improvement to road and infrastructure areas	1 item	50,000.00	50,000
	<i>Earthworks</i>			
c	Local plot adjustment / cut & fill	1 item	250,000.00	250,000
d	Top soil and subsoil handling strategy / levels issues	1 item	150,000.00	150,000
	Enabling Works Total			480,000
4.03	Preliminaries			
a	Site establishment, supervision and management on capital works	10 %	879,000.00	87,900
b	Traffic Management; notices, adverts etc	1 item	50,000.00	50,000
	Preliminaries Total			137,900
4.04	Contingency and Risk			
a	Design and Price Risk	2 %	1,016,900.00	20,338
b	Construction Contingency	3 %	1,016,900.00	30,507
c	Specific risk provisions:			0
	Contingency and Risk Total			50,845
4.05	Fees and other charges			
a	Fees - design and delivery fees on capital works	10 %	1,067,745.00	106,775
	Fees and other charges Total			106,775
	ENVIRONMENTAL WORKS Total			1,174,520

SW WARRINGTON URBAN EXTENSION

COST REPORT NUMBER ONE, REV C - 1 MARCH 2019



C Strategic On Site Works

£25,186,073

REF	DESCRIPTION	QTY UNIT	RATE	TOTAL
5	TEMPORARY WORKS			
5.01	Temporary Works			
	a Temporary Footpaths / diversions	1 item	25,000.00	25,000
	b Temporary haul roads	1 item	35,000.00	35,000
	c Temporary estate holding costs (H&S etc)	1 item	50,000.00	50,000
	d Temporary signage	1 item	15,000.00	15,000
5.02	Preliminaries			
	a Site establishment, supervision and management on capital works	10 %	125,000.00	12,500
	Preliminaries Total			12,500
5.03	Contingency and Risk			
	a Design and Price Risk	2 %	137,500.00	2,750
	b Construction Contingency	3 %	137,500.00	4,125
	c Specific risk provisions:			0
	Contingency and Risk Total			6,875
5.04	Fees and other charges			
	a Fees - design and delivery fees on capital works	10 %	125,000.00	12,500
	Fees and other charges Total			12,500
	TEMPORARY WORKS Total			156,875

Appendix 3: Turley Appraisal Comparison

BNP						
Warrington Borough Council - Sites allocation viability testing				Growth: Off		
SW Extension parcel 1	Site area	10.93	gross ha	Site area	18.69	gross ha
Development mix (square metres GIA)	Site area	8.33	net ha	Site area	8.33	net ha
	BNP Assumptions			Turley Assumptions		
Residential (units and development floor area)	250	29,125 sq m		292	27,806 sq m	
Affordable housing (% of total units)	30%			30%		
Summary of inputs						
Private housing sales value (£ per square metre)	2,799	175	units	2,799	21,296 sq m	205
Affordable rented value (£ per square metre)	1,449	50	units	1,400	4,340 sq m	58
Shared ownership value (£ per square metre)	1,959	25	units	1,959	2,170 sq m	29
Professional fees (% of total construction costs)	6%			8%		
Contingency (% of base build costs)	5%			3%		
Interest rate	6%			6.0%		
Marketing (% of private GDV)	3%			2.5%		
Profit on private housing (% of private housing GDV)	17%			20%		
Profit on affordable housing (% of affordable housing GDV)	6%			6%		
Profit on commercial (% on GDV)	17.5%			17.5%		
Build period (months)	24			33		
Sales period (months)	24			27		
Summary viability						
Private housing value (sq m; £ per sq m; total value)	20,388	2,799	57,057,273	21,296	2,799	59,607,504
Affordable rented housing value (sq m; £ per sq m; total value)	8,738	1,617	14,131,297	4,340	1,400	6,076,000
Shared ownership housing value (sq m; £ per sq m; total value)				2,170	1,959	4,251,030
Total residential value (sq m; total value)	29,126		71,188,570	27,806		69,934,534
Commercial value (sq m; £ per sq m; total value)	500	3,346	1,672,761	500	3,346	1,672,761
Gross Development Value			72,861,332			71,607,295
Residential Build						
Resi Base build (£1,030 psm)				27,806	1,030	28,639,818
Resi External Works % of base costs					15%	4,295,973
Resi Energy Requirements % of base costs					6%	1,718,389
Resi On site infrastructure (per unit)					7,986	2,331,912
Resi Strategic infrastructure (per unit)					16,322	4,766,000
Resi Contingency % of total costs costs					3%	1,281,033
Total residential build						43,033,124
Commercial Build						
Comm Base Build				500	1,294	647,000
Comm External Works % of base costs					10%	64,700
Comm Energy Requirements % of base costs					2%	12,940
Comm Contingency % of total costs					3%	21,739
Total commercial build						746,379
Total Build costs incl contingency	29,625 sqm	£1,561 per sqm	46,244,844	28,306	1,547	43,779,504
Garages				146	6,500	949,000
Fees			2,774,691			3,039,801
Sales and marketing			1,997,005			1,532,007
Residential CIL						
Residential S106			2,135,500			2,494,264
Accessibility standards			309,725			361,759
Total development costs			51,016,540			52,156,334
Developer's profit			10,119,547			12,833,856
Interest on build			1,976,022			211,177
Interest on land			3,640,251			552,954
Gross Residual Land Value			6,108,972			5,852,974
Stamp duty, agents and legal fees			415,410			364,372
NET RESIDUAL LAND VALUE	Per ha	£520,980	5,693,562	Per ha	£293,665	5,488,602
Benchmark land value	Per ha	£247,000	2,699,357	Per ha	£371,000	6,933,990
Result			VIABLE			UNVIABLE

**Appendix 4: Turley Parcel 1 Appraisal: WBC
Infrastructure Costs**

SWUE Parcel 1 Appraisal
Warrington Infrastructure

**SWUE Parcel 1 Appraisal
Warrington Infrastructure**

Appraisal Summary for Phase 1

Currency in £

REVENUE

Sales Valuation	Units	m ²	Sales Rate m ²	Unit Price	Gross Sales
Market Housing	205	21,296.00	2,799.00	290,768	59,607,504
Affordable Rented	58	4,340.00	1,400.00	104,759	6,076,000
Shared Ownership	29	2,170.00	1,959.00	146,587	4,251,030
Commercial	<u>1</u>	<u>500.00</u>	3,345.52	1,672,761	<u>1,672,761</u>
Totals	293	28,306.00			71,607,295

NET REALISATION

71,607,295

OUTLAY

ACQUISITION COSTS

Residualised Price (18.69 Ha @ 294,667.35 /Hect)		5,507,333		5,507,333
Stamp Duty	4.80%	264,352		
Agent Fee	1.00%	55,073		
Legal Fee	0.50%	27,537		
				346,962

CONSTRUCTION COSTS

Construction	m ²	Build Rate m ²	Cost	
Market Housing	21,296.00	1,030.00	21,934,880	
Affordable Rented	4,340.00	1,030.00	4,470,200	
Shared Ownership	2,170.00	1,030.00	2,235,100	
Commercial	<u>500.00</u>	1,294.00	<u>647,000</u>	
Totals	28,306.00 m²		29,287,180	
Resi Contingency		3.00%	1,281,047	
Comm Contingency		3.00%	21,739	
S106			2,494,264	
Accessibility Standards			361,759	
				33,445,989
Other Construction				
Resi External Works		15.00%	4,296,027	
Comm External Works		10.00%	64,700	
Resi Energy Requirements		6.00%	1,718,411	
Comm Energy Requirements		2.00%	12,940	
Resi On site Infrastructure	292.00 un	7,986.00 /un	2,331,912	
Resi Strategic Infrastructure	292.00 un	16,322.00 /un	4,766,024	
Garages			949,000	
				14,139,014

PROFESSIONAL FEES

Professional Fees	7.00%	3,039,834		3,039,834
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DISPOSAL FEES

Sales Agent & Marketing Fee	2.50%	1,532,007		1,532,007
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FINANCE

Debit Rate 6.000%, Credit Rate 0.000% (Nominal)				
Land			552,954	
Construction			211,177	
Total Finance Cost				764,131

TOTAL COSTS

58,775,269

PROFIT

12,832,026

Performance Measures

Profit on Cost%	21.83%
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SWUE Parcel 1 Appraisal**Warrington Infrastructure**

Profit on GDV%	17.92%
Profit on NDV%	17.92%
IRR	52.88%
Profit Erosion (finance rate 6.000)	3 yrs 4 mths

**SWUE Parcel 1 Appraisal
Warrington Infrastructure**

Detailed Cash flow Phase 1

	001:Apr 2019	002:May 2019	003:Jun 2019	004:Jul 2019	005:Aug 2019	006:Sep 2019
Monthly B/F	0	(5,854,295)	(5,883,566)	(5,912,838)	(7,168,989)	(8,469,881)
Revenue						
Sale - Market Housing	0	0	0	0	0	0
Sale - Affordable Rented	0	0	0	0	0	0
Sale - Shared Ownership	0	0	0	0	0	0
Sale - Commercial	0	0	0	0	0	0
Disposal Costs						
Sales Agent & Marketing Fee	0	0	0	0	0	0
Unit Information						
Market Housing						
Affordable Rented						
Shared Ownership						
Commercial						
Acquisition Costs						
Residualised Price	(5,507,333)	0	0	0	0	0
Stamp Duty	(264,352)	0	0	0	0	0
Agent Fee	(55,073)	0	0	0	0	0
Legal Fee	(27,537)	0	0	0	0	0
Construction Costs						
Con. - Market Housing	0	0	0	(664,693)	(664,693)	(664,693)
Con. - Affordable Rented	0	0	0	(135,461)	(135,461)	(135,461)
Con. - Shared Ownership	0	0	0	(67,730)	(67,730)	(67,730)
Con. - Commercial	0	0	0	(19,606)	(19,606)	(19,606)
Resi External Works	0	0	0	(130,183)	(130,183)	(130,183)
Comm External Works	0	0	0	(1,961)	(1,961)	(1,961)
Resi Energy Requirements	0	0	0	(52,073)	(52,073)	(52,073)
Comm Energy Requirements	0	0	0	(392)	(392)	(392)
Resi On site Infrastructure	0	0	0	(9,567)	(19,738)	(29,294)
Resi Strategic Infrastructure	0	0	0	(19,554)	(40,341)	(59,872)
Garages	0	0	0	(3,894)	(8,033)	(11,922)
Resi Contingency	0	0	0	(32,495)	(33,548)	(34,537)
Comm Contingency	0	0	0	(659)	(659)	(659)
S106	0	0	0	0	0	0
Accessibility Standards	0	0	0	(10,962)	(10,962)	(10,962)
Professional Fees						
Professional Fees	0	0	0	(77,358)	(79,815)	(82,123)
Net Cash Flow Before Finance	(5,854,295)	0	0	(1,226,587)	(1,265,194)	(1,301,468)
Debit Rate 6.000%	6.000%	6.000%	6.000%	6.000%	6.000%	6.000%
Credit Rate 0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Finance Costs (All Sets)	0	(29,271)	(29,271)	(29,564)	(35,697)	(42,023)
Net Cash Flow After Finance	(5,854,295)	(29,271)	(29,271)	(1,256,152)	(1,300,892)	(1,343,491)
Cumulative Net Cash Flow Monthly	(5,854,295)	(5,883,566)	(5,912,838)	(7,168,989)	(8,469,881)	(9,813,372)

**SWUE Parcel 1 Appraisal
Warrington Infrastructure**

Detailed Cash flow Phase 1

007:Oct 2019 (9,813,372)	008:Nov 2019 (11,197,847)	009:Dec 2019 (12,620,606)	010:Jan 2020 (14,079,473)	011:Feb 2020 (14,272,304)	012:Mar 2020 (13,243,286)	013:Apr 2020 (12,231,106)	014:May 2020 (11,234,381)
0	0	0	2,207,685	2,207,685	2,207,685	2,207,685	2,207,685
0	0	0	225,037	225,037	225,037	225,037	225,037
0	0	0	157,446	157,446	157,446	157,446	157,446
0	0	0	0	0	0	0	0
0	0	0	(55,192)	(55,192)	(55,192)	(55,192)	(55,192)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)
(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)
(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)
(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)
(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)
(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)
(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)
(392)	(392)	(392)	(392)	(392)	(392)	(392)	(392)
(38,236)	(46,562)	(54,274)	(61,371)	(67,854)	(73,721)	(78,974)	(83,612)
(78,147)	(95,165)	(110,927)	(125,432)	(138,681)	(150,674)	(161,410)	(170,889)
(15,560)	(18,949)	(22,088)	(24,976)	(27,614)	(30,002)	(32,140)	(34,027)
(35,462)	(36,324)	(37,123)	(37,858)	(38,529)	(39,136)	(39,680)	(40,160)
(659)	(659)	(659)	(659)	(659)	(659)	(659)	(659)
0	0	0	(1,247,132)	0	0	0	0
(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)
(84,283)	(86,294)	(88,157)	(89,871)	(91,437)	(92,855)	(94,124)	(95,244)
(1,335,408)	(1,367,015)	(1,396,288)	(135,384)	1,087,141	1,064,869	1,044,929	1,027,323
6.000%	6.000%	6.000%	6.000%	6.000%	6.000%	6.000%	6.000%
0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
(49,067)	(55,744)	(62,579)	(57,447)	(58,123)	(52,688)	(48,205)	(42,980)
(1,384,475)	(1,422,759)	(1,458,867)	(192,831)	1,029,018	1,012,181	996,724	984,343
(11,197,847)	(12,620,606)	(14,079,473)	(14,272,304)	(13,243,286)	(12,231,106)	(11,234,381)	(10,250,038)

**SWUE Parcel 1 Appraisal
Warrington Infrastructure**

Detailed Cash flow Phase 1

015:Jun 2020 (10,250,038)	016:Jul 2020 (9,275,831)	017:Aug 2020 (8,310,147)	018:Sep 2020 (7,350,074)	019:Oct 2020 (6,393,330)	020:Nov 2020 (5,438,051)	021:Dec 2020 (4,481,505)	022:Jan 2021 (3,521,378)
2,207,685	2,207,685	2,207,685	2,207,685	2,207,685	2,207,685	2,207,685	2,207,685
225,037	225,037	225,037	225,037	225,037	225,037	225,037	225,037
157,446	157,446	157,446	157,446	157,446	157,446	157,446	157,446
0	0	0	0	0	0	0	0
(55,192)	(55,192)	(55,192)	(55,192)	(55,192)	(55,192)	(55,192)	(55,192)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)
(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)
(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)
(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)
(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)
(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)
(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)
(392)	(392)	(392)	(392)	(392)	(392)	(392)	(392)
(87,636)	(91,045)	(93,839)	(96,018)	(97,582)	(98,532)	(98,867)	(98,587)
(179,113)	(186,079)	(191,790)	(196,244)	(199,441)	(201,382)	(202,067)	(201,496)
(35,664)	(37,052)	(38,189)	(39,076)	(39,712)	(40,099)	(40,235)	(40,121)
(40,577)	(40,929)	(41,219)	(41,444)	(41,606)	(41,705)	(41,739)	(41,710)
(659)	(659)	(659)	(659)	(659)	(659)	(659)	(659)
0	0	0	0	0	0	0	0
(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)
(96,216)	(97,039)	(97,714)	(98,241)	(98,618)	(98,848)	(98,929)	(98,861)
1,012,051	999,112	988,506	980,234	974,295	970,690	969,418	970,480
6.000%	6.000%	6.000%	6.000%	6.000%	6.000%	6.000%	6.000%
0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
(37,843)	(33,428)	(28,433)	(23,490)	(19,016)	(14,144)	(9,291)	(4,656)
974,207	965,683	960,073	956,744	955,279	956,546	960,127	965,824
(9,275,831)	(8,310,147)	(7,350,074)	(6,393,330)	(5,438,051)	(4,481,505)	(3,521,378)	(2,555,554)

**SWUE Parcel 1 Appraisal
Warrington Infrastructure**

Detailed Cash flow Phase 1

023:Feb 2021 (2,555,554)	024:Mar 2021 (2,828,810)	025:Apr 2021 (1,850,376)	026:May 2021 (862,710)	027:Jun 2021 135,351	028:Jul 2021 1,146,142	029:Aug 2021 2,171,995	030:Sep 2021 3,215,244
2,207,685	2,207,685	2,207,685	2,207,685	2,207,685	2,207,685	2,207,685	2,207,685
225,037	225,037	225,037	225,037	225,037	225,037	225,037	225,037
157,446	157,446	157,446	157,446	157,446	157,446	157,446	157,446
0	0	0	0	0	0	0	0
(55,192)	(55,192)	(55,192)	(55,192)	(55,192)	(55,192)	(55,192)	(55,192)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)
(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)
(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)
(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)
(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)
(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)
(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)
(392)	(392)	(392)	(392)	(392)	(392)	(392)	(392)
(97,693)	(96,184)	(94,060)	(91,321)	(87,968)	(84,000)	(79,417)	(74,219)
(199,667)	(196,583)	(192,242)	(186,645)	(179,791)	(171,681)	(162,314)	(151,691)
(39,757)	(39,143)	(38,279)	(37,164)	(35,800)	(34,185)	(32,320)	(30,204)
(41,618)	(41,461)	(41,242)	(40,958)	(40,611)	(40,200)	(39,726)	(39,188)
(659)	(659)	(659)	(659)	(659)	(659)	(659)	(659)
(1,247,132)	0	0	0	0	0	0	0
(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)
(98,645)	(98,281)	(97,768)	(97,106)	(96,296)	(95,337)	(94,230)	(92,975)
(273,257)	979,604	987,666	998,062	1,010,791	1,025,853	1,043,249	1,062,978
6.000%	6.000%	6.000%	6.000%	6.000%	6.000%	6.000%	6.000%
0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
0	(1,170)	0	0	0	0	0	0
(273,257)	978,434	987,666	998,062	1,010,791	1,025,853	1,043,249	1,062,978
(2,828,810)	(1,850,376)	(862,710)	135,351	1,146,142	2,171,995	3,215,244	4,278,222

**SWUE Parcel 1 Appraisal
Warrington Infrastructure**

Detailed Cash flow Phase 1

031:Oct 2021	032:Nov 2021	033:Dec 2021	034:Jan 2022	035:Feb 2022	036:Mar 2022
4,278,222	5,363,264	6,472,701	7,608,869	8,774,099	9,970,727
2,207,685	2,207,685	2,207,685	2,207,685	2,207,685	2,207,685
225,037	225,037	225,037	225,037	225,037	225,037
157,446	157,446	157,446	157,446	157,446	157,446
0	0	0	0	0	1,672,761
(55,192)	(55,192)	(55,192)	(55,192)	(55,192)	(97,011)
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)
(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)
(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)
(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)
(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)
(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)
(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)
(392)	(392)	(392)	(392)	(392)	(392)
(68,407)	(61,980)	(54,938)	(47,281)	(39,010)	(30,124)
(139,812)	(126,676)	(112,284)	(96,635)	(79,730)	(61,569)
(27,839)	(25,223)	(22,358)	(19,242)	(15,876)	(12,259)
(38,586)	(37,921)	(37,192)	(36,399)	(35,543)	(34,623)
(659)	(659)	(659)	(659)	(659)	(659)
0	0	0	0	0	0
(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)
(91,571)	(90,018)	(88,317)	(86,468)	(84,470)	(82,324)
1,085,041	1,109,438	1,136,167	1,165,231	1,196,627	2,861,299
6.000%	6.000%	6.000%	6.000%	6.000%	6.000%
0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
0	0	0	0	0	0
1,085,041	1,109,438	1,136,167	1,165,231	1,196,627	2,861,299
5,363,264	6,472,701	7,608,869	8,774,099	9,970,727	12,832,026

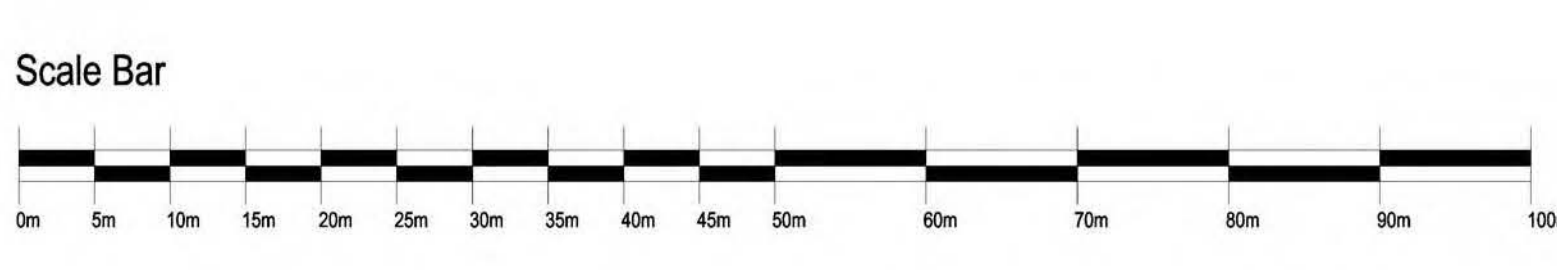
**Appendix 5: 474/P/PL01 Barratt Homes Planning
Layout**

SCHEDULE OF ACCOMMODATION

Ref	Barratt Type	House Type	Sqft	No	Total Sqft	
Site A (Lower Site)						
Affordable Units						
Was	Washington	2 bed mews house	614	6	3684	
Bar	Barton	3 bed mews house	706	6	4236	
Fik	Folkestone	3 bed semi detached house	830	4	3320	
Nor	Norbury	3 bed mews house	1107	6	6642	
Enn	Ennerdale	3 bed semi / detached house	917	3	2751	
Private Units						
Fik	Folkestone	3 bed semi / detached house	830	2	1660	
Enn	Ennerdale	3 bed semi / detached house	917	5	4585	
Esk	Eskdale	3 bed detached house	1058	4	4232	
Nor	Norbury	3 bed mews house	1107	2	2214	
Haw	Hawley	4 bed mews townhouse	1166	4	4664	
Kem	Kemford	4 bed detached house	1139	7	7973	
Hem	Hemsworth	4 bed detached house	1152	10	11520	
Ald	Alderney	4 bed detached house	1225	7	8575	
Lam	Lamberton	5 bed detached house	1552	10	15520	
					76	
Site B (Upper Site)						
Affordable Units						
Was	Washington	2 bed mews house	614	2	1228	
Bar	Barton	3 bed mews house	706	11	7766	
Fik	Folkestone	3 bed semi detached house	830	7	5810	
Nor	Norbury	3 bed mews house	1107	9	9963	
Private Units						
Fik	Folkestone	3 bed semi detached house	830	1	830	
Enn	Ennerdale	3 bed semi / detached house	917	5	4585	
Esk	Eskdale	3 bed detached house	1058	13	13754	
Haw	Hawley	4 bed mews townhouse	1166	4	4664	
Tew	Teakbury	4 bed detached house	1141	11	12551	
Rad	Radleigh	4 bed detached house	1317	12	15804	
Hal	Hale	4 bed detached house	1319	13	17147	
Aln	Alnmouth	4 bed detached house	1569	16	25104	
					104	
Total number of units and square footage					180	200782
Gross Site Area in Acres					18.45	
Undevelopable Area in Acres					4.78	
Net Site Area in Acres					13.67	
Density (units per acre)					13	
Density (units per hectare)					33	
Square foot / Acre					14,688	



- Legend**
- Proposed dwelling and house type code.
 - Proposed garage to be built.
 - Dwelling handing - as / opposite the construction dwg.
 - AF** Affordable Housing
 - AM** Acoustic Measures required. (Refer to Noise Assessment for Details)
 - Timber Fence (Refer to BTL01/BTD01&02 for details)
 - Wall (Refer to BTL01/BTD01&02 for details)
 - Estate Railings (Refer to BTL01/BTD01&02 for details)
 - Timber knee railing. (Refer to BTL01/BTD01&02 for details)
 - Ball top railing. (Refer to BTL01/BTD01&02 for details)
 - Timber gates to be erected to rear gardens. (as indicated on site layout).
 - Indicative position of new tree planting. (Refer to Landscape Layout for further details).
 - Indicates existing trees to be retained and protected during construction at all times.
 - Location of easement.



Rev	Description	Date	Drawn	Chk'd
0	Initial site plan	15/04/19	JSM	JSM
1	Revised site plan	16/04/19	JSM	JSM
2	Final site plan	17/04/19	JSM	JSM

BARRATT HOMES
MANCHESTER

Barratt Homes Manchester
(A division of BDW Trading Ltd)
4 Brindley Road
City Park
Manchester
M16 9HD
Tel: 0161 872 0161
Fax: 0161 855 2828

JOB: PEWTERSPEAR WARRINGTON

Title: PLANNING LAYOUT

Design By	Date	Drawing Number	Rev
JSM	05/01/19	474 / P / PL01	D
JSM	Scale Q1	1:500	

**Appendix 6: Turley Parcel 1 Appraisal: RLB
Infrastructure Costs**

SWUE Parcel 1 Appraisal
RLB Infrastructure

**SWUE Parcel 1 Appraisal
RLB Infrastructure**

Appraisal Summary for Phase 1

Currency in £

REVENUE

Sales Valuation	Units	m ²	Sales Rate m ²	Unit Price	Gross Sales
Market Housing	205	21,296.00	2,799.00	290,768	59,607,504
Affordable Rented	58	4,340.00	1,400.00	104,759	6,076,000
Shared Ownership	29	2,170.00	1,959.00	146,587	4,251,030
Commercial	<u>1</u>	<u>500.00</u>	3,345.52	1,672,761	<u>1,672,761</u>
Totals	293	28,306.00			71,607,295

NET REALISATION

71,607,295

OUTLAY

ACQUISITION COSTS

Residualised Price (18.69 Ha @ 374,997.26 /Hect)		7,008,699		7,008,699
Stamp Duty	4.85%	339,922		
Agent Fee	1.00%	70,087		
Legal Fee	0.50%	35,043		
				445,052

CONSTRUCTION COSTS

Construction	m ²	Build Rate m ²	Cost	
Market Housing	21,296.00	1,030.00	21,934,880	
Affordable Rented	4,340.00	1,030.00	4,470,200	
Shared Ownership	2,170.00	1,030.00	2,235,100	
Commercial	<u>500.00</u>	1,294.00	<u>647,000</u>	
Totals	28,306.00 m²		29,287,180	
Resi Contingency		3.00%	1,233,392	
Comm Contingency		3.00%	21,739	
S106			2,494,264	
Accessibility Standards			361,759	
				33,398,334
Other Construction				
Resi External Works		15.00%	4,296,027	
Comm External Works		10.00%	64,700	
Resi Energy Requirements		6.00%	1,718,411	
Comm Energy Requirements		2.00%	12,940	
RLB On & Off site Infrastructure	292.00 un	18,868.00 /un	5,509,456	
Garages			949,000	
				12,550,534

PROFESSIONAL FEES

Professional Fees	7.00%	2,928,640		2,928,640
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DISPOSAL FEES

Sales Agent & Marketing Fee	2.50%	1,532,007		1,532,007
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FINANCE

Debit Rate 6.000%, Credit Rate 0.000% (Nominal)				
Land			712,568	
Construction			199,434	
Total Finance Cost				912,002

TOTAL COSTS

58,775,268

PROFIT

12,832,027

Performance Measures

Profit on Cost%	21.83%
Profit on GDV%	17.92%

SWUE Parcel 1 Appraisal**RLB Infrastructure**

Profit on NDV%	17.92%
IRR	47.89%
Profit Erosion (finance rate 6.000)	3 yrs 4 mths

**SWUE Parcel 1 Appraisal
RLB Infrastructure**

Detailed Cash flow Phase 1

	001:Apr 2019	002:May 2019	003:Jun 2019	004:Jul 2019	005:Aug 2019	006:Sep 2019
Monthly B/F	0	(7,453,751)	(7,491,020)	(7,528,289)	(8,785,349)	(10,079,492)
Revenue						
Sale - Market Housing	0	0	0	0	0	0
Sale - Affordable Rented	0	0	0	0	0	0
Sale - Shared Ownership	0	0	0	0	0	0
Sale - Commercial	0	0	0	0	0	0
Disposal Costs						
Sales Agent & Marketing Fee	0	0	0	0	0	0
Unit Information						
Market Housing						
Affordable Rented						
Shared Ownership						
Commercial						
Acquisition Costs						
Residualised Price	(7,008,699)	0	0	0	0	0
Stamp Duty	(339,922)	0	0	0	0	0
Agent Fee	(70,087)	0	0	0	0	0
Legal Fee	(35,043)	0	0	0	0	0
Construction Costs						
Con. - Market Housing	0	0	0	(664,693)	(664,693)	(664,693)
Con. - Affordable Rented	0	0	0	(135,461)	(135,461)	(135,461)
Con. - Shared Ownership	0	0	0	(67,730)	(67,730)	(67,730)
Con. - Commercial	0	0	0	(19,606)	(19,606)	(19,606)
Resi External Works	0	0	0	(130,183)	(130,183)	(130,183)
Comm External Works	0	0	0	(1,961)	(1,961)	(1,961)
Resi Energy Requirements	0	0	0	(52,073)	(52,073)	(52,073)
Comm Energy Requirements	0	0	0	(392)	(392)	(392)
RLB On & Off site Infrastructure	0	0	0	(22,604)	(46,634)	(69,212)
Garages	0	0	0	(3,894)	(8,033)	(11,922)
Resi Contingency	0	0	0	(32,299)	(33,144)	(33,938)
Comm Contingency	0	0	0	(659)	(659)	(659)
S106	0	0	0	0	0	0
Accessibility Standards	0	0	0	(10,962)	(10,962)	(10,962)
Professional Fees						
Professional Fees	0	0	0	(76,902)	(78,874)	(80,726)
Net Cash Flow Before Finance	(7,453,751)	0	0	(1,219,418)	(1,250,404)	(1,279,518)
Debit Rate 6.000%	6.000%	6.000%	6.000%	6.000%	6.000%	6.000%
Credit Rate 0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Finance Costs (All Sets)	0	(37,269)	(37,269)	(37,641)	(43,739)	(49,991)
Net Cash Flow After Finance	(7,453,751)	(37,269)	(37,269)	(1,257,060)	(1,294,143)	(1,329,508)
Cumulative Net Cash Flow Monthly	(7,453,751)	(7,491,020)	(7,528,289)	(8,785,349)	(10,079,492)	(11,409,000)

**SWUE Parcel 1 Appraisal
RLB Infrastructure**

Detailed Cash flow Phase 1

007:Oct 2019 (11,409,000)	008:Nov 2019 (12,772,803)	009:Dec 2019 (14,168,507)	010:Jan 2020 (15,594,366)	011:Feb 2020 (15,748,785)	012:Mar 2020 (14,676,269)	013:Apr 2020 (13,615,938)	014:May 2020 (12,566,961)
0	0	0	2,207,685	2,207,685	2,207,685	2,207,685	2,207,685
0	0	0	225,037	225,037	225,037	225,037	225,037
0	0	0	157,446	157,446	157,446	157,446	157,446
0	0	0	0	0	0	0	0
0	0	0	(55,192)	(55,192)	(55,192)	(55,192)	(55,192)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)
(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)
(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)
(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)
(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)
(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)
(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)
(392)	(392)	(392)	(392)	(392)	(392)	(392)	(392)
(90,337)	(110,010)	(128,230)	(144,998)	(160,313)	(174,176)	(186,587)	(197,546)
(15,560)	(18,949)	(22,088)	(24,976)	(27,614)	(30,002)	(32,140)	(34,027)
(34,681)	(35,373)	(36,014)	(36,603)	(37,142)	(37,630)	(38,066)	(38,451)
(659)	(659)	(659)	(659)	(659)	(659)	(659)	(659)
0	0	0	(1,247,132)	0	0	0	0
(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)
(82,460)	(84,074)	(85,569)	(86,945)	(88,202)	(89,339)	(90,358)	(91,257)
(1,306,758)	(1,332,125)	(1,355,620)	(89,398)	1,137,985	1,120,109	1,104,105	1,089,975
6.000%	6.000%	6.000%	6.000%	6.000%	6.000%	6.000%	6.000%
0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
(57,045)	(63,579)	(70,239)	(65,021)	(65,468)	(59,778)	(55,129)	(49,608)
(1,363,803)	(1,395,704)	(1,425,859)	(154,419)	1,072,517	1,060,331	1,048,977	1,040,367
(12,772,803)	(14,168,507)	(15,594,366)	(15,748,785)	(14,676,269)	(13,615,938)	(12,566,961)	(11,526,595)

**SWUE Parcel 1 Appraisal
RLB Infrastructure**

Detailed Cash flow Phase 1

015:Jun 2020 (11,526,595)	016:Jul 2020 (10,493,036)	017:Aug 2020 (9,465,218)	018:Sep 2020 (8,440,575)	019:Oct 2020 (7,417,278)	020:Nov 2020 (6,393,999)	021:Dec 2020 (5,368,376)	022:Jan 2021 (4,338,551)
2,207,685	2,207,685	2,207,685	2,207,685	2,207,685	2,207,685	2,207,685	2,207,685
225,037	225,037	225,037	225,037	225,037	225,037	225,037	225,037
157,446	157,446	157,446	157,446	157,446	157,446	157,446	157,446
0	0	0	0	0	0	0	0
(55,192)	(55,192)	(55,192)	(55,192)	(55,192)	(55,192)	(55,192)	(55,192)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)
(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)
(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)
(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)
(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)
(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)
(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)
(392)	(392)	(392)	(392)	(392)	(392)	(392)	(392)
(207,052)	(215,105)	(221,706)	(226,855)	(230,551)	(232,795)	(233,587)	(232,926)
(35,664)	(37,052)	(38,189)	(39,076)	(39,712)	(40,099)	(40,235)	(40,121)
(38,786)	(39,069)	(39,301)	(39,482)	(39,612)	(39,691)	(39,719)	(39,696)
(659)	(659)	(659)	(659)	(659)	(659)	(659)	(659)
0	0	0	0	0	0	0	0
(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)
(92,037)	(92,698)	(93,240)	(93,662)	(93,965)	(94,149)	(94,214)	(94,160)
1,077,717	1,067,332	1,058,820	1,052,181	1,047,415	1,044,521	1,043,501	1,044,353
6.000%	6.000%	6.000%	6.000%	6.000%	6.000%	6.000%	6.000%
0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
(44,158)	(39,514)	(34,178)	(28,884)	(24,136)	(18,898)	(13,676)	(8,742)
1,033,559	1,027,818	1,024,643	1,023,298	1,023,279	1,025,623	1,029,825	1,035,611
(10,493,036)	(9,465,218)	(8,440,575)	(7,417,278)	(6,393,999)	(5,368,376)	(4,338,551)	(3,302,940)

**SWUE Parcel 1 Appraisal
RLB Infrastructure**

Detailed Cash flow Phase 1

023:Feb 2021 (3,302,940)	024:Mar 2021 (3,506,515)	025:Apr 2021 (2,459,360)	026:May 2021 (1,401,213)	027:Jun 2021 (334,724)	028:Jul 2021 741,982	029:Aug 2021 1,830,777	030:Sep 2021 2,933,534
2,207,685	2,207,685	2,207,685	2,207,685	2,207,685	2,207,685	2,207,685	2,207,685
225,037	225,037	225,037	225,037	225,037	225,037	225,037	225,037
157,446	157,446	157,446	157,446	157,446	157,446	157,446	157,446
0	0	0	0	0	0	0	0
(55,192)	(55,192)	(55,192)	(55,192)	(55,192)	(55,192)	(55,192)	(55,192)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)
(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)
(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)
(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)
(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)
(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)
(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)
(392)	(392)	(392)	(392)	(392)	(392)	(392)	(392)
(230,813)	(227,247)	(222,229)	(215,759)	(207,836)	(198,461)	(187,633)	(175,353)
(39,757)	(39,143)	(38,279)	(37,164)	(35,800)	(34,185)	(32,320)	(30,204)
(39,621)	(39,496)	(39,319)	(39,092)	(38,813)	(38,484)	(38,103)	(37,671)
(659)	(659)	(659)	(659)	(659)	(659)	(659)	(659)
(1,247,132)	0	0	0	0	0	0	0
(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)
(93,987)	(93,694)	(93,282)	(92,752)	(92,101)	(91,332)	(90,444)	(89,436)
(200,054)	1,051,676	1,058,146	1,066,490	1,076,706	1,088,795	1,102,757	1,118,592
6.000%	6.000%	6.000%	6.000%	6.000%	6.000%	6.000%	6.000%
0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
(3,520)	(4,520)	0	0	0	0	0	0
(203,574)	1,047,155	1,058,146	1,066,490	1,076,706	1,088,795	1,102,757	1,118,592
(3,506,515)	(2,459,360)	(1,401,213)	(334,724)	741,982	1,830,777	2,933,534	4,052,126

**SWUE Parcel 1 Appraisal
RLB Infrastructure**

Detailed Cash flow Phase 1

031:Oct 2021	032:Nov 2021	033:Dec 2021	034:Jan 2022	035:Feb 2022	036:Mar 2022
4,052,126	5,188,425	6,344,305	7,521,638	8,722,297	9,948,155
2,207,685	2,207,685	2,207,685	2,207,685	2,207,685	2,207,685
225,037	225,037	225,037	225,037	225,037	225,037
157,446	157,446	157,446	157,446	157,446	157,446
0	0	0	0	0	1,672,761
(55,192)	(55,192)	(55,192)	(55,192)	(55,192)	(97,011)
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
0	0	0	0	0	0
(664,693)	(664,693)	(664,693)	(664,693)	(664,693)	(664,693)
(135,461)	(135,461)	(135,461)	(135,461)	(135,461)	(135,461)
(67,730)	(67,730)	(67,730)	(67,730)	(67,730)	(67,730)
(19,606)	(19,606)	(19,606)	(19,606)	(19,606)	(19,606)
(130,183)	(130,183)	(130,183)	(130,183)	(130,183)	(130,183)
(1,961)	(1,961)	(1,961)	(1,961)	(1,961)	(1,961)
(52,073)	(52,073)	(52,073)	(52,073)	(52,073)	(52,073)
(392)	(392)	(392)	(392)	(392)	(392)
(161,620)	(146,436)	(129,798)	(111,709)	(92,167)	(71,172)
(27,839)	(25,223)	(22,358)	(19,242)	(15,876)	(12,259)
(37,188)	(36,654)	(36,069)	(35,433)	(34,745)	(34,007)
(659)	(659)	(659)	(659)	(659)	(659)
0	0	0	0	0	0
(10,962)	(10,962)	(10,962)	(10,962)	(10,962)	(10,962)
(88,309)	(87,063)	(85,698)	(84,213)	(82,610)	(80,887)
1,136,299	1,155,880	1,177,333	1,200,659	1,225,858	2,883,872
6.000%	6.000%	6.000%	6.000%	6.000%	6.000%
0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
0	0	0	0	0	0
1,136,299	1,155,880	1,177,333	1,200,659	1,225,858	2,883,872
5,188,425	6,344,305	7,521,638	8,722,297	9,948,155	12,832,027

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Warrington South West Urban Extension

Development Prospectus

June 2019



Turley

Contents

01 Introduction	4
02 Policy Context	8
03 Site Context	10
04 Opportunities and Constraints	15
05 The Proposals	16
06 Suitable & Achievable	20
07 Deliverable	26
08 Benefits	28
09 Summary & Conclusions	31

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Date of issue
June 2019

Client:
Peel Holdings (Management) Ltd, StoryHomes Ltd
and Ashall Property Ltd

Our reference:
PEEM3056

Manchester Ship Canal ▶

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01 Introduction

This Development Prospectus sets out a vision and concept masterplan for the sustainable development of the Warrington South West Urban Extension ('SWUE'), which is identified as a housing allocation in the Proposed Submission version of the Warrington Local Plan.

This document has been prepared on behalf of Peel Holdings (Management) Ltd, Story Homes and Ashall Property, who are working together as a consortium to promote the SWUE site.

The SWUE Consortium members each have land interests within the SWUE allocation and are committed to continuing to work together, and with Warrington Borough Council (WBC), to secure the delivery of much-needed housing and associated infrastructure at the earliest opportunity.

The Consortium members have extensive experience of promoting land for development and delivering high-quality, sustainable residential communities.



Peel:

Peel Holdings (Management) Ltd is part of Peel Land and Property, which is in turn part of the Peel Group; one of the leading infrastructure, real estate, transport and investment enterprises in the UK. Peel Land and Property has extensive real estate assets which consist of 1.2 million sq m (13 million sq ft) of investment property and over 15,000 hectares (37,000 acres) of strategic land and water throughout the UK. The breadth of Peel Land and Property's assets covers transformational developments including MediaCityUK and Liverpool Waters.



Story Homes:

Story Homes is a privately owned housebuilder with a long and successful reputation of building quality and high specification homes across the North West. A passion for quality and excellence has seen Story Homes become a multi award-winning UK property developer, with modern and attractive homes instantly inspiring buyers. Story Homes' success is underpinned by a determination to understand the needs of communities where they build and a goal to deliver design quality and high quality building specifications that enhance locations.



Ashall Property:

Ashall Property is a private property and development investment company which focuses on creating investment value through property development and asset management. Ashall Property has been successfully developing residential and commercial property since the 1930s and, in recent years, has developed projects with an investment value in excess of £500 million.

Context & Opportunity

The emerging Warrington Local Plan acknowledges a requirement to identify a suitable and sustainable portfolio of sites, including existing Green Belt sites, to meet its future housing needs over the period 2017 to 2037.

The Proposed Submission Version of the Local Plan ('PSLP') proposes the 'release' of land at Higher Walton from the Green Belt and its allocation for housing and related development over the plan period. The South West Urban Extension (SWUE) is expected to be developed as a sustainable urban extension to the main urban area of Warrington, to support a new community in a high quality residential setting with ease of access to Warrington's employment, recreation and cultural facilities.

The Consortium fully supports the allocation of the SWUE in the PSLP. The SWUE presents an opportunity to deliver a significant scale of new housing and associated infrastructure which will benefit both existing and new residents.

The development of the SWUE aligns with the overarching vision, objectives and spatial strategy of the PSLP. It also aligns with national policy which recognises that the supply of large numbers of new homes can often be best achieved through planning for larger scale development, including significant extensions to existing towns, provided they are well located and designed, and supported by the necessary infrastructure and facilities.

This Document

This document demonstrates that the SWUE site represents a sustainable opportunity capable of accommodating a desirable and high quality residential development. It will make a positive contribution to Warrington by integrating into the existing settlement, retaining and enhancing important features within and surrounding the site.

The remainder of this document is structured as follows:

- Overview of the relevant planning policy context
- Description of the site and its context
- An overview of the opportunities and constraints
- Presentation of a concept masterplan for the development of the site, including the site analysis and design process that has informed it
- An assessment of the proposals, to demonstrate that development of the site is suitable and achievable
- Confirmation of the Consortium's commitment to the comprehensive delivery of the site
- Summary of the community and socio-economic benefits that the development will secure
- Summary and conclusions



WARRINGTON
WATERFRONT

Chester to Manchester Rail

Manchester Ship Canal

WALTON

HIGHER WALTON

Crewe to Warrington Rail

MOORE

HOLY HEDGE
LANE

A56 Chester Road

02

Policy Context

National Planning Policy Framework

The National Planning Policy Framework ('the Framework') came into effect in March 2012, and has been subject to a number of updates in the years since. The most recent iteration of the Framework was published in February 2019.

Sustainable development is at the heart of the Framework. For 'plan-making', this means that Local Planning Authorities (LPAs) should positively seek opportunities to meet the development needs of their area (including for housing and affordable housing) with sufficient flexibility to adapt to rapid change.

The Framework recognises that the supply of large numbers of new homes can often be achieved through planning for larger scale development, including significant extensions to existing towns, provided they are well located and designed, and supported by the necessary infrastructure and facilities.

Green Belt boundaries may be altered (but only in exceptional circumstances) through the preparation or updating of Local Plans. When defining Green Belt boundaries, the need to promote sustainable patterns of development should be taken into account. New Green Belt boundaries should, inter alia, reflect the Local Plan strategy for meeting identified requirements for sustainable development, identify areas of safeguarded land (where necessary) in order to meet longer-term development needs, be able to demonstrate that Green Belt boundaries will not need to be altered at the end of the plan period and define boundaries clearly, using recognisable physical features which are likely to be permanent.

Warrington Local Plan

WBC is currently preparing a new Local Plan for Warrington which will guide development in the Borough over the plan period (2017 – 2037). The Proposed Submission version of the Local Plan was published for consultation in March 2019, and sets out the Council's proposed policies, including site allocations.

The PSLP recognises the need for Green Belt release in order to accommodate the borough's housing and economic requirements, and identifies the 'exceptional circumstances' required to justify Green Belt release. There is no other alternative than to release land from the Green Belt.

Land at Higher Walton is identified for removal from the Green Belt and allocated as a sustainable urban extension to the main urban area of Warrington. The SWUE is to be developed to support a new community in a high-quality residential setting with ease of access to Warrington's employment, recreation and cultural facilities. Policy MD3 of the PSLP indicates that the site will deliver around 1,600 homes alongside supporting infrastructure, including a new primary school and mixed-use local centre, areas of open space, landscape buffers and flood and ecological mitigation.

The Consortium considers that the site is capable of accommodating a higher number of dwellings than envisaged within the PSLP. The concept masterplan presented within this Development Prospectus shows capacity to deliver around 1,800 dwellings.

03 Site Context

Strategic Context

Warrington is a Unitary Authority adjoining the city regions of Liverpool and Manchester. It is well connected to both by the strategic transport network and is therefore well placed to capitalise on the growth ambitions for these areas and the wider North, as articulated through the Northern Powerhouse ambition.

The SWUE site adjoins the urban area of Warrington, and lies less than 2km south-west of its town centre and immediately adjacent to the neighbourhood of Walton. It also adjoins the wider Warrington Waterfront area, which is identified for significant housing and employment development over the plan period.

The Site

The SWUE site comprises approximately 119 ha of land to the south-west of the built-up area of Warrington. It currently comprises a mix of agricultural land and associated buildings and property.

The site slopes to the north: the highest point is around 30m AOD adjacent to the Bridgewater Canal, falling to 10m AOD along the Manchester Ship Canal.

Mature trees are located adjacent to the Ship Canal and railway embankments. There is also an area of mature woodland vegetation associated with a watercourse that flows north through the centre of the site. Trees with TPOs are located in the hedgerows along Runcorn Road and adjacent to the Bridgewater Canal to the south of the site. Mature hedgerows line either side of Runcorn Road, Mill Lane and the A56 Chester Road, with the occasional gap for field access and in some locations degraded hedgerows.

Runcorn Road and Mill Lane traverse the site. Mill Lane is an access track to the existing dwellings within the site. The route of the proposed Western Link Road lies at the eastern end of the site.

A public right of way runs through the site on a north west/south east alignment. The route crosses through the centre of an agricultural field connecting Runcorn Road and Mill Lane adjacent to the existing housing at Grange Green Manor, a recently renovated barn conversion development.



Surroundings

The site is bound by the Manchester Ship Canal to the north and the West Coast railway line to the north west. To the south east, the A56 forms the boundary, with a parcel of land to the south of the A56, immediately adjoining Walton and the Warrington settlement boundary, included. The Bridgewater Canal encloses the site at its southern boundary. At the eastern extent, the boundary follows Bellhouse Lane and Runcorn Road.

An area of industrial uses lies on the northern side of the Ship Canal, including Port Warrington and Salvay Interox Ltd.

The site is well related to existing facilities serving the established local residential area within Walton, including primary schools, a range of shops, public transport routes, a pub and a range of recreational facilities.

The Council has confirmed in the PSLP that the site's location will ensure good access to Stockton Heath District Centre, Warrington Town Centre, the major development area at Warrington Waterfront and other major existing and proposed employment areas, including Daresbury.

Existing bus routes along the Chester Road (A56) site frontage and through the site along Runcorn Road are summarised in the table below. The existing bus routes provide a good level of service and existing bus stops are within walking distance of the dwellings proposed on the site.

Both the 62 and X30 services run to Warrington Interchange where there are connections to a range of other bus services in Warrington and the nearby Warrington Central station provides national rail services.

The size of the site is such that it can, if necessary and subject to detailed evaluation, support improved bus services, providing enhanced connectivity. It is expected the full development will support additional bus services in due course, provided commercially by bus operators and with revenues off-setting operating costs.

Service No.	Route	Frequency
62	Warrington – Stockton Heath – Sci-Tech Daresbury – Runcorn – Widnes – Halebank (via Runcorn Road)	Half hourly (Weekdays) Hourly (Weekends)
62A	Warrington – Runcorn – Widnes – Halebank (via A56)	3 – 5 services daily (Weekdays)
X30	Warrington – Daresbury – Frodsham – Chester	Hourly (Weekdays and Saturdays)

1. View from Mill Lane looking north
2. View from PRoW FP Walton 2 looking west north across the site
3. View from A56/Chester Road looking east
4. View from A56/Chester Road looking west north

1



2



3



4





PRoW Penketh 26

Manchester Ship Canal

10

15

20

25

30

35

40

45

Moore Lane

Chester to Manchester Railway Line
Crewe to Warrington Railway Line

Bellhouse Lane

Mill Lane

PRoW Walton 2
Retained view line

Runcorn Road

PRoW Walton 4

Holly Hedge Lane

A56 / Chester Road

A56 / Chester Road

HIGHER WALTON

Walton Hall

PRoW Walton 6

Cheshire Ring Canal Walk

PRoW App

14
MOORE


















WALTON

A5060

04 Opportunities and Constraints

Opportunities and constraints relevant to the development of the site are shown on the plan opposite. They have been informed by site visits, reference to existing data such as the DEFRA Magic Mapping service and evidence base documents such as the Warrington Landscape Character Assessment 2007 and survey work instructed by the Consortium and presented in the technical appendix to this prospectus.

Key:

	Site boundary		Sensitive boundary
	Warrington Borough boundary		Nationally listed buildings/structure
	Retain existing vegetation within the site where possible		Locally listed buildings
	Existing buildings within/ bounding site		Conservation areas
	Existing watercourses/water bodies		Proposed Green Belt
	Extend of flood risk on site (Flood Zone 3)	HSE Consultation zones:	
	National Trail		Zone 1
	Public Rights of Way (PRoW)		Zone 2
	Gas pipe		Zone 3

05 The Proposals

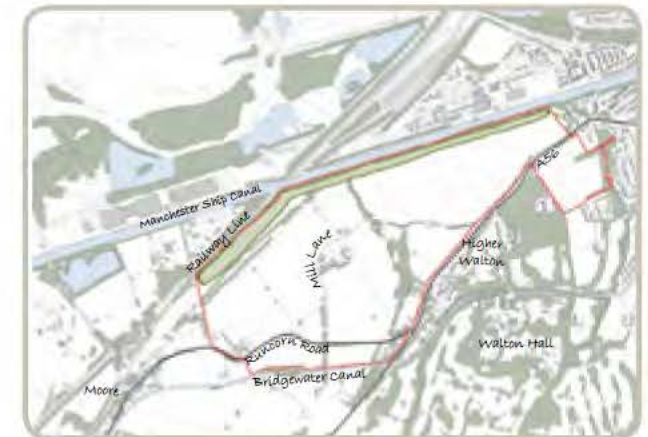
The opportunities and constraints identified through a landscape and visual appraisal have been combined with analysis of site constraints and opportunities in relation to arboriculture, ecology, heritage, noise, transport, flood risk and utilities.

The resultant concept masterplan demonstrates the potential development opportunities of the site with a proposed allocation under Policy MD3 of the PSLP.

The SWUE would be developed as a sustainable urban extension to the main urban area of Warrington, providing around 1,800 dwellings. The urban extension would support a new community in a high quality residential setting with ease of access to Warrington's employment, recreation and cultural facilities and be supported by a new primary school, local centre and extensive areas of open space and recreation provision.

The concept masterplan has been designed to support walking and cycling for local trips and to ensure that important ecological assets within the site are preserved with opportunities to provide additional habitats and enhance biodiversity.

The urban extension will preserve, and where possible enhance the heritage assets within the site and will be designed to respect the setting of nearby heritage assets, including the Bridgewater Canal and its bridges and the Walton Village Conservation Area.



Concept 1: Landscape buffer

Creation of landscape buffers along the northern and north western boundaries of the site. The planting of a woodland strip along these boundaries would strengthen the existing woodland and help to screen views of the industrial uses to the north of the Manchester Ship Canal. It would also help to reduce noise generated from the railway line on the western boundary.



Concept 2: Open space and recreational network

Creation of a green infrastructure network that preserves and enhances the existing landscape features within the site and provides an attractive setting for development. A wide landscape corridor along the northern and western boundaries would create an attractive linear park, incorporating the old dismantled railway line. A central green space set around the existing water course and woodland would create a focal community space including provision for a play area.



Concept 3: Access and circulation

Creation of a network of recreational routes throughout the site towards the National Trail, which runs alongside the Bridgewater Canal to the south of the site. These routes would offer a range of recreational loops of varying distance, linking the site to Moore, Higher Walton, Walton Hall, the existing Public Right of Way network and the Bridgewater Canal.



Concept 4: Development parcels

The remaining parts of the site would be available for development. The development areas radiate out from Mill Lane and the central green space, fronting onto the green infrastructure network. A link road in the north east provides a vehicular connection from the A56 to the Warrington Waterfront development, whilst providing additional access to the site and Warrington Town Centre. The site provides an opportunity to develop a community hub located along the primary route, this hub could include a local centre and school.



Former Norbert Dentressangle

Solvay Interox Ltd

MANCHESTER SHIP CANAL

A5090

A56

A56 Walton New

WALTON

HIGHER WALTON

A56 Chester Road

Railway line

Runcorn Road

Runcorn Road

Runcorn Road

Cheshire Ring Canal Walk



Holly Hedge Lane

A56 Chester Road

Walton Gardens




Walton Hall

KEY:

-  Site boundary
-  Local Authority Boundary
-  Proposed Green Belt
-  Existing vegetation
-  Proposed trees and woodland
-  Proposed development cells
-  Proposed development to be no higher than 2 storeys along A56
-  Potential locations for a school (A or B)
-  Proposed play area
-  Potential location for retail / local centre
-  Proposed primary road
-  Proposed secondary / tertiary roads
-  Proposed public open space
-  Proposed allotment
-  Existing Public Right of Way
-  Proposed footpath
-  Proposed cycleway with existing residential access retained
-  Proposed route of western link road
-  Gas pipeline and easement
-  Proposed vehicular access points

NB: Masterplan subject to change following detailed survey work

HSE Consultation Zones

-  Inner Zone (50m)
-  Middle Zone (65m)
-  Outer Zone (100m)

- Total site area: 119.59 ha / 295.52 ac
- Total existing properties within red line: 6.37 ha / 15.74 ac
- Total existing roads within red line (A56/Runcorn Road): 1.80 ha / 4.45 ac
- Total proposed spine road corridor within red line (outside development cells): 2.74 ha / 6.77 ac
- Total proposed green infrastructure (all typologies): 53.16 ha / 131.36 ac

Land north of A56 and Runcorn Road:

- Potential school (location to be confirmed): 1.40 ha / 3.46 ac
 - Potential retail/local centre: 0.50 ha / 1.24 ac
 - Residential development: 41.92 ha / 103.59 ac
 - Residential development within Solvay Interax Ltd outer zone: 13.50 ha / 33.36 ac (up to 473 units @ 35/ha)
 - Residential development within Solvay Interax Ltd middle zone: 0.86 ha / 2.13 ac (up to 30 units @ 35/ha)
 - Residential development within former Norbert Dentressangle outer zone: 6.70 ha / 16.56 ac (up to 235 units @ 35/ha)
- units @ 35 units per ha: 1467**

Land south of Runcorn Road:

- Residential development: 5.53 ha / 13.66 ac
- units @ 35 units per ha: 194**

Land south of A56 Chester Road:

- Residential development: 6.17 ha / 15.25 ac
 - Residential development within Solvay Interax Ltd outer zone: 1.95 ha / 4.82 ac (up to 68 units @ 35/ha)
- units @ 35 units per ha: 217**
- Total units across whole site @ 35 units per ha: 1878**

06 Suitable & Achievable

The Council has demonstrated that there are ‘exceptional circumstances’ to warrant the review of the Green Belt boundaries in the Borough. There are insufficient sites available within the existing urban area to meet the full housing needs of the borough, and neighbouring authorities are unable to accommodate some of Warrington’s identified housing needs.

The Council recognises that the urban extension is of a sufficient scale to provide a range of services to support a new residential community in this part of Warrington, including a local centre, primary school, health facility and a network of open spaces. Its location will also ensure good access to Stockton Heath District Centre, Warrington Town Centre, the major development at Warrington Waterfront and other major existing and proposed employment areas, including Daresbury. The ability of the SWUE to make such a significant and sustainable contribution towards meeting Warrington’s development needs provides the exceptional circumstances required to justify the removal of the site from the Green Belt.

A significant amount of technical assessment work has been undertaken on behalf of the SWUE Consortium to demonstrate that the SWUE site is suitable and achievable.

This technical work supplements the evidence base work undertaken by the Council and is submitted as a technical appendix to this Development Prospectus.

The following suite of investigations have been undertaken to inform this assessment:

- Landscape, Townscape and Visual Sensitivity Assessment and Development Appraisal (Randall Thorp)
- Ecological Appraisal (TEP)
- Noise Screening Assessment (Miller Goodall)
- Flood Risk Assessment & Drainage Appraisal (SGI)
- Arboricultural Walkover Survey and Desktop Assessment (TEP)
- Heritage Appraisal (Turley Heritage)
- Transport Appraisal (iTransport)
- Health & Safety (SGI)

The key findings of the technical work undertaken on behalf of the SWUE Consortium are summarised in the following table, and has influenced the concept masterplan presented in this Development Prospectus.

Environment

Landscape, Townscape & Visual Sensitivity

A Landscape, Townscape and Visual Sensitivity Assessment and Development Appraisal has been undertaken by Randall Thorp. The report considers the existing character and visibility of the site, reviews the landscape, adjacent townscape and visual baseline in order to provide evidence to support the allocation of the site and inform the concept masterplan for residential development.

The appraisal demonstrates the site's ability to accommodate development in principle without undue impacts on the surrounding landscape, and concludes that there is no reason why a well-designed development that preserves the existing landscape features such as watercourse and trees within a green infrastructure network and responds sensitively to the setting of the Walton Village Conservation Area and heritage assets, would have any significant effects on the landscape and townscape character of the surroundings.

With appropriate good design and well thought out landscape mitigation measures, development within the site has the potential to avoid significant effects on the visual amenity of the surrounding receptors.

There are no landscape, townscape or visual sensitivities which would prevent the SWUE site being developed as a sustainable urban extension for around 1,800 dwellings and associated infrastructure.

Ecology

A Preliminary Ecological Appraisal of the site has been undertaken by TEP, informed by the results of a desktop assessment and site surveys.

The appraisal concludes that the provision of large areas of open greenspace in the northern part of the SWUE site will be of benefit. New crossings through existing hedgerows, treelines and across watercourses will be designed so as to impose minimal impacts on protected species and habitats. Any losses will be mitigated within the open greenspace to be provided within the site.

Further detailed surveys will be required at planning application stage, including in relation to bats, amphibians, otter and water voles, badgers and nesting birds. A Reasonable Avoidance Method Statement (RAMS) for brown hare, hedgehog and potentially common toad will be provided to detail how harm to these species will be avoided during construction works. Management plans to prevent the spread of invasive species (Himalayan balsam, Japanese knotweed, Japanese rose and rhododendron) during development can be secured via condition at planning application stage.

The appraisal presents a number of measures which could be included to ensure that there is a measurable gain in biodiversity on the site. Such measures could potentially include the installation of bird and bat boxes around the site, the provision of areas of wildflower / grassland planting as part of the landscaping proposals, the inclusion of berry-bearing and nectar rich species of ornamental / landscape planting to provide a foraging resource for a range of wildlife species, including invertebrates, birds and bats.

The appraisal concludes that there are no overriding ecological constraints which preclude sustainable development of the site.

Noise

Miller Goodall has undertaken a desktop noise screening assessment, a preliminary walkover survey and preliminary noise measurements to review potential issues and solutions associated with noise at the SWUE site.

The assessment concludes that noise would not be a barrier to residential development on the site. Whilst the assessment identifies some areas of the site where noise will need to be considered at the detailed design stage (e.g. adjacent to existing roads and the railway line and industrial and commercial operations around the periphery of the site), a suitable and commensurate level of protection against noise can be provided following a detailed noise assessment(s). Such mitigation could include the orientation of plots within the layout, enhanced glazing / alternative ventilation to affected properties and / or acoustic barriers.

There will be no significant impacts for noise as a result of the development and, with good acoustic design, the impacts can be minimised.

Environment

Flood Risk and Drainage

A Flood Risk & Drainage Appraisal has been undertaken by Shepherd Gilmour Infrastructure (SGI) to provide an in-depth assessment of the potential flood risk on-site and identify an initial foul and surface water drainage strategy for the SWUE, which has informed the concept masterplan for the site.

The majority of the SWUE site is located within Flood Zone 1 (low probability of flooding), with some small areas close to the unnamed watercourse which crosses the site indicated as Flood Zones 2 and 3 (medium and high probability). Where possible, built development will be located within Flood Zone 1.

SGI has presented an indicative site-wide drainage strategy which demonstrates one option for how the site could be drained; there are likely to be a number of suitable drainage strategy options available.

The indicative drainage strategy presented by SGI indicates that the proposed development will prioritise infiltration as a means to dispose of surface water runoff. If ground conditions prohibit infiltration, plots / parcels will be allowed to discharge clean / untreated runoff into the main network(s) in the highway. The main surface water infrastructure will discharge clean / treated runoff into the Manchester Ship Canal or onsite watercourse at an approved greenfield runoff rate. Discharge locations and attenuation structure(s) can be approved at detailed design stage. The proposed foul flows from the development will discharge to existing United Utilities combined water sewer(s) via the main foul water infrastructure within the highway. Connection point(s) to the combined water sewer are to be agreed with United Utilities at detailed design stage.

Arboriculture

A preliminary arboricultural survey and desktop assessment of the SWUE site has been undertaken by TEP, to identify potential constraints and opportunities for future development and report on the preliminary assessment effects of the concept masterplan for the site.

Trees cover a relatively small proportion of the total site area and are predominantly concentrated towards the western half of the site. The majority are located along watercourses, on field boundaries and within hedgerows parallel to public highways.

In terms of quality and particularly habitat and amenity benefits, the tree population is good but could be improved. The extant population provides good screening and contributes to visual amenity and the creation of a rural aesthetic. However, canopy cover is relatively low and connectivity would benefit from reinforcement in some areas.

Existing tree cover on the site is relatively limited and mostly confined to a few key areas following water courses, the canals and railway, and public highways. Due to these areas being less suitable for development due to proximity to sensitive receptors or sources of noise, the concept masterplan generally respects existing tree cover. It is therefore likely that residential development in broad accordance with the concept masterplan could be delivered without necessitating significant tree removal.

Given the landscaping and green infrastructure shown on the concept masterplan, it is also likely that development of the site would result in an increase in tree canopy cover. This point is reinforced by the relatively low extant tree cover within agricultural fields.

A detailed tree survey undertaken according to BS5837:2012 will be undertaken to inform the detailed design stage.

Environment

Heritage

A Heritage Appraisal has been undertaken and identifies heritage assets with potential to be affected by the development of the SWUE site and identifies whether there are heritage constraints to development and how these constraints could be resolved or mitigated.

The appraisal recommends a number of measures which will help to reduce the impact of the development on the significance (by way of setting) of the identified heritage assets. These measures have been incorporated into the concept masterplan that has been prepared by Randall Thorp. The Heritage Appraisal concludes that, if these measures are implemented, the development of the SWUE will sustain the significance of the following designated heritage assets, in accordance with NPPF Paragraphs 192 and 193:

- Aqueduct carrying the Bridgewater Canal over Chester Road (old line)(grade II listed)
- Thomasons Bridge over Bridgewater Canal (grade II listed)
- Acton Grange Bridge (Over Bridgewater Canal) (grade II listed)
- Walnut Tree Farmhouse (grade II listed)
- Walton Hall Lodge (now Lodge to Crematorium) (grade II listed)
- Gates, gatepiers and screens at Walton Hall Lodge (now Lodge to Crematorium) (grade II listed), and
- Walton Village Conservation Area (grade II listed).

The requirement of Section 66(1) of the Planning (Listed Buildings and Conservation Areas) Act can be satisfied in determining future planning applications, subject to a considered design approach.

The development of the SWUE site will result in the partial loss of the rural setting of the following locally listed buildings (non-designated heritage assets):

- 2 Cockfight Cottages
- 4 Cockfight Cottages
- Porch House Farm
- Canal Farmhouse
- Grange Green Manor
- Grange Mill House
- The Vicarage
- School converted to Home
- Underbridge Cottages
- Stoneoaks Cottage, and
- 99 Chester Road.

In accordance with NPPF Paragraph 197, in weighing future applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

Infrastructure

Highways

Transport has prepared a transport appraisal which considers the transport and highways related aspects of the development proposals at SWUE.

The appraisal demonstrates that the proposed development will support and promote sustainable development and sustainable travel patterns with residents able to meet day-to-day needs locally. As such, it is a suitable location for development.

Access to the site is proposed off Chester Road and Runcorn Road and feasibility level designs of the principal accesses have been produced and the capacity of these considered. The access arrangements will operate satisfactorily. Access to the site is deliverable and achievable.

The proposed Western Link will provide significant additional capacity in the central Warrington Road network and will assist in facilitating the full SWUE development proposals.

Traffic assessments of a first phase of development, delivered in advance of the Western Link, demonstrate that the generated traffic flows will form only a small proportion of existing traffic flows, well within daily variations in traffic, and will not result in severe traffic impacts.

The residual cumulative traffic impacts of development on the site will not be severe and therefore, in accordance with the NPPF, development should not be prevented on transport grounds.

Health & Safety

Solvay Interox Ltd and the Former Norbert Dentressangle site are located to the north of the Manchester Ship Canal. Both facilities are identified by the Health & Safety Executive (HSE) as an upper tier COMAH (Control of Major Accident Hazards Regulations 2006) site. The Inner, Middle and Outer HSE Consultation Zones extend into the SWUE site.

The concept masterplan has been prepared to accord with the HSE safety zoning. Consequently, the proposed housing will be located in the middle and outer consultation zones, which will comply with the HSE guidelines.

Discussions with the HSE to agree this position are ongoing.

There is no health and safety reason to prevent the site being allocated for residential development.

The technical assessments demonstrate that the site is not affected by any insurmountable constraints. The concept masterplan as presented is, therefore, fully deliverable.



07

Deliverable

The SWUE Consortium members each have land interests within the South West Urban Extension. All three members have significant experience of promoting and delivering residential development across the North West of England.

The Consortium fully supports the allocation of the SWUE in the PSLP. The SWUE presents an opportunity to deliver a significant scale of new housing and associated infrastructure which will benefit both existing and new residents.

The development of the SWUE aligns with the overarching vision, objectives and spatial strategy of the PSLP. It also aligns with national policy which recognises that the supply of large numbers of new homes can often be best achieved through planning for larger scale development, including significant extensions to existing towns, provided they are well located and designed, and supported by the necessary infrastructure and facilities.

The SWUE Consortium are committed to continuing to work together, and with the Council, to ensure that the SWUE is developed in a comprehensive and coordinated manner at the earliest opportunity. A Memorandum of Understanding has been prepared and confirms the Consortium members' commitment to joint working.

As demonstrated in the preceding section of this Development Prospectus, a significant amount of technical assessment work has been undertaken on behalf of the SWUE Consortium members, both collectively and individually. This technical assessment work demonstrates that, subject to obtaining planning permission, there are no insurmountable obstacles to immediate development on the SWUE site.





08 Benefits

Community Benefits



New local centre

including retail and health facilities



53 hectares

of green infrastructure, including formal play space, recreation areas and allotments



Land and contributions to a new

Western Link Road



30%

affordable housing



Land and contributions to a new

Primary School



Financial contributions towards additional

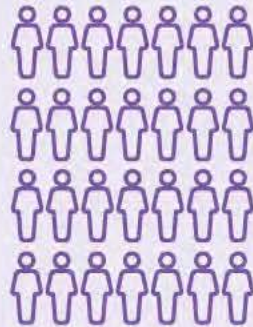
Secondary School Places

Construction Phase



£222 million

Investment¹ in the developments' construction.



135 net additional jobs

Full-time equivalent (FTE) jobs supported on average during the construction period (circa 17 years)

Including 90 direct jobs

Supported in the North West (FTE), including 40 in Warrington

Plus 45 indirect/induced jobs

Supported in the North West (FTE), including 10 in Warrington



£148 million

GVA² economic output during construction, including £54 million in Warrington

Operational Phase



4,200

New residents, of whom 2,035 are likely to be in employment



£3.1 million

Annual uplift in Council Tax collected by Warrington Borough Council



£10.6 million

New Homes Bonus payments to Warrington Borough Council



£55.5 million

Gross annual resident income



£9.8 million

Resident expenditure upon first occupation to 'make a house feel like a home'



£23.7 million

Annual retail expenditure by residents



£13.2 million

Annual leisure expenditure by residents



290 jobs

In retail and leisure industries supported resident expenditure

¹ The total construction investment includes infrastructure costs and professional fees

² GVA (Gross Value Added) measure the value of output created (i.e. turnover) net of inputs used to produce a good or service (i.e. production of outputs). It provides a key measure of economic productivity. Put simply the GVA is the total of all revenue into businesses, which is used to fund wages, profits and taxes.



09 Summary & Conclusions

This Development Prospectus sets out a vision and concept masterplan for the sustainable development of the Warrington South West Urban Extension (SWUE), which is identified as a housing allocation in the Proposed Submission Version of the Warrington Local Plan.

The concept masterplan presented within this document provides a framework which responds to its context. It demonstrates that the site is capable of accommodating around 1,800 new homes (including affordable housing) alongside supporting infrastructure including a potential primary school and local centre, strategic green infrastructure, local open space and drainage and highways infrastructure.

This document has been prepared on behalf of the South West Urban Extension (SWUE) Consortium, which comprises Peel Holdings (Management) Ltd, Story Homes and Ashall Property. The Consortium are committed to continuing to work together, and with Warrington Borough Council, to secure the delivery of much-needed housing and associated infrastructure on the site at the earliest opportunity.



Turley

South West Urban Extension
Technical Appendix

**Peel Holdings (Management) Ltd,
Story Homes Ltd and Ashall Property Ltd.**
June 2019



South West Urban Extension Warrington

Landscape, Townscape and
Visual Sensitivity Assessment
and Development Appraisal



**RANDALL
THORP**

June 2019

01 Overview and introduction	2
02 Methodology	4
03 Planning policy and published landscape character assessment	9
04 Landscape/townscape character and visual receptors	12
05 Landscape and visual sensitivity	21
06 Development potential of the site	24
07 Illustrative Masterplan	28

Randall Thorp Document Control

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Overview

Randall Thorp LLP has been commissioned by a consortium of developers (Peel Holdings, Story Homes, Ashall Property) to produce a Landscape, Townscape and Visual sensitivity assessment.

This report has been produced in response to the proposed allocation of this site as an urban extension to Warrington Town within Warrington Borough Council's Proposed Submission Version Local Plan (2019) (PSLP).

This assessment will assist in demonstrating the site is suitable to accommodate new residential development in relation to landscape character, townscape character and visual sensitivity.

This forms one of a suite of reports commissioned to inform the development of a masterplan for the site and to assess its deliverability. Together, these reports form part of the evidence base which underpins the proposed allocation of the site within the PSLP.

Intr

The purpose of this report is to provide an assessment of the landscape, townscape and visual sensitivity of the South West Urban Extension site and its surroundings, and demonstrates the sites ability to accommodate development in principle without undue impacts on the surrounding landscape. The strategic location of the site and the existing settlement of Higher Walton within the Warrington Borough are shown on **Figure 1** (Page 3).

Figure 2 (Page 5) shows the site in relation to Higher Walton, Lower Walton and the surrounding landscape. Higher Walton is located in close proximity to the edge of Warrington, on the southern side of the A56, in the south west of the Warrington Borough.

The site lies to the immediate south west of the settlement boundary of Warrington. It is bound by the Manchester Ship Canal to the north and the West Coast Railway to the north west. To the south east the A56 forms the boundary, with a plot of land to the south of the A56, immediately adjoining the Warrington settlement boundary, included. The Bridgewater Canal encloses the site at its southern boundary. At the eastern extent, the boundary follows Bellhouse Lane and Runcorn Road.

The site currently comprises a mix of agricultural land and associated buildings and property. Mill Lane runs through the site, providing access to a number of private properties and farm buildings. An area of industrial uses lies on the northern side of the Ship Canal, known as Warrington Waterfront. The route of the proposed Western Link Road lies at the eastern end of the site.

The site is presently designated as Green Belt land within the Warrington Unitary Development Plan (June 2005), but has been identified by the Council as a site to be released from the Green Belt and allocated for housing development through the PSLP.

This report considers the existing character and visibility of the site. The report reviews the landscape, adjacent townscape and visual baseline in order to provide evidence to support the allocation of the site and inform the future masterplanning for residential development.

An illustrative masterplan is provided to demonstrate one possible solution for the development of the site, which has been informed by the findings of this report.

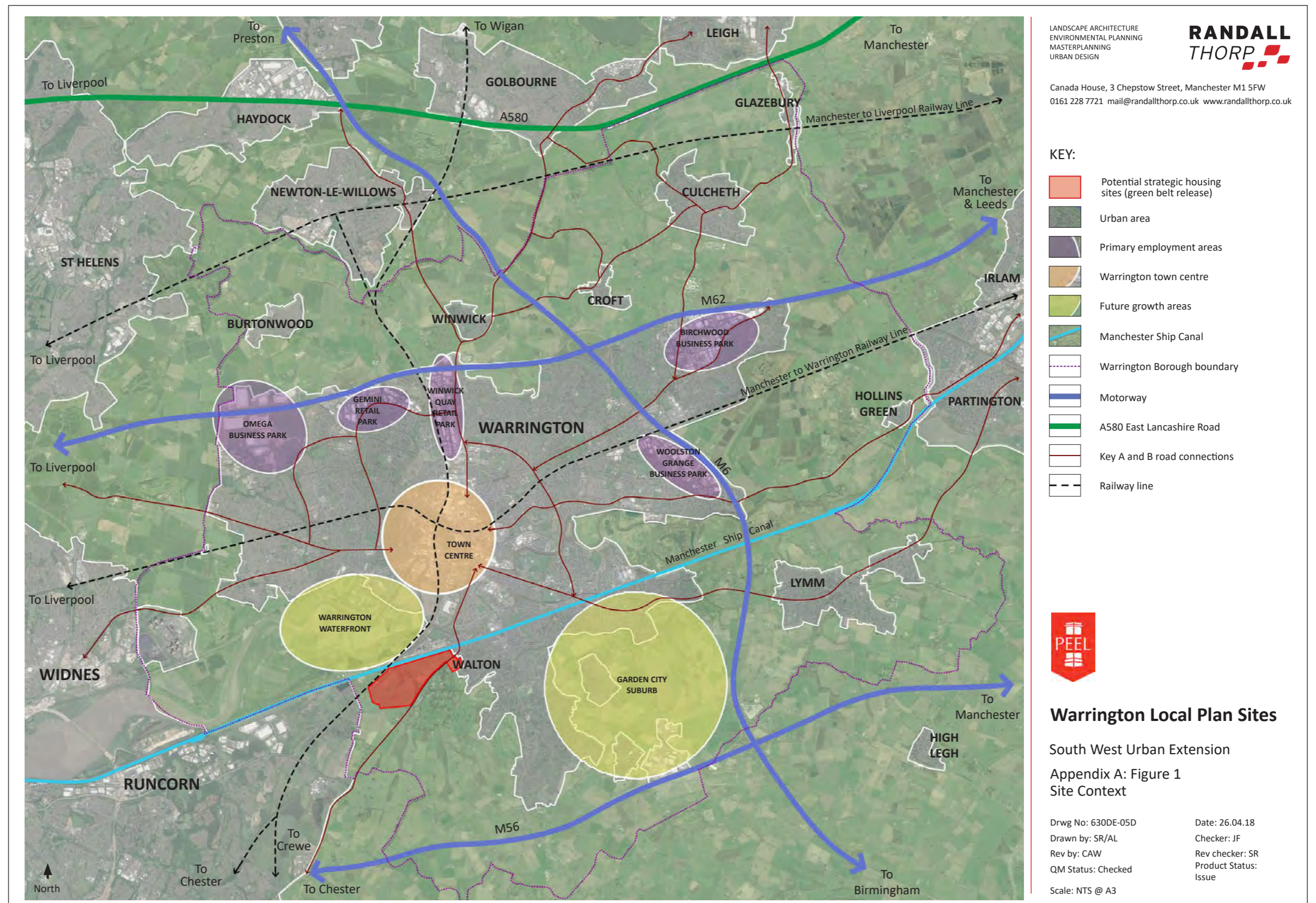


Figure 1 - Site Context

Methodology

Guidance

This Landscape, Townscape and Visual Sensitivity Assessment has been prepared in accordance with “Guidelines for Landscape and Visual Impact Assessment” (GLVIA3), Third Edition. These guidelines explain that it is necessary to tailor Landscape and Visual Appraisals to the specific nature of the proposals, and that a prescriptive approach should not be applied.

Study area

For the purposes of the report a landscape study area, which encompasses the wider landscape context of Higher Walton has been adopted. **Figure 2** (Page 7) illustrates the study area.

Approach

An appropriate level of assessment has been carried out for the purposes of demonstrating that the site is suitable for allocation. The findings of the assessment have informed the development of the illustrative masterplan as shown later in the report.

The principle objectives of the assessment are:

- Identify the planning policy constraints
- Consider the published Landscape Character Assessments
- An evaluation of the landscape and townscape character
- Identify visual receptors
- Describe and evaluate the existing landscape character of the site and its immediate surroundings
- Assess the landscape and visual sensitivity of the site and its immediate surroundings

- Advise on the development potential of the site considering the landscape and visual sensitivity and the evaluation of the adjoining townscape as set out above.

Baseline studies

The baseline study identifies the landscape, townscape and visual character and components of the site within the study area shown in **Figure 2** (Page 7).

The following documents have been reviewed as part of the desk study:

- Landscape Institute and the Institute of Environmental Management and Assessment – Guidelines for Landscape and Visual Impact Assessment (GLVIA), Third Edition (2013)
- Landscape Institute Advice Note 01/11 – Photography and Photomontages in Landscape and Visual Impact Assessment (March 2011);
- Townscape Character Assessment Technical Information Note 05/2017
- Warrington: A Landscape Character Assessment – Prepared 2007 (Warrington LCA 2007)
- Warrington Local Plan Core Strategy – Adopted July 2014
- Warrington Borough Council PSLP (2019)
- Warrington Borough Council Local Plan, Settlement Profiles - Outlying Settlements July 2017
- Walton Village Conservation Area (December 2000)
- Halton Core Strategy (April 2013)
- Moore Village Parish Plan (2006)
- Halton Landscape Character Assessment – Prepared 2009

Initial field work was undertaken in April 2018; the field work establishes an understanding of the landscape within and around the site, its component parts and subdivisions, as well as the contribution currently made by different areas in terms of landscape quality and character, value, green infrastructure functions and accessibility. It also establishes the visual baseline to identify the range of views of the site, and whether there are any public viewpoints which are important in terms of appreciating the character of the site.

Photographs have been taken from publicly accessible locations as an aide-mémoire.

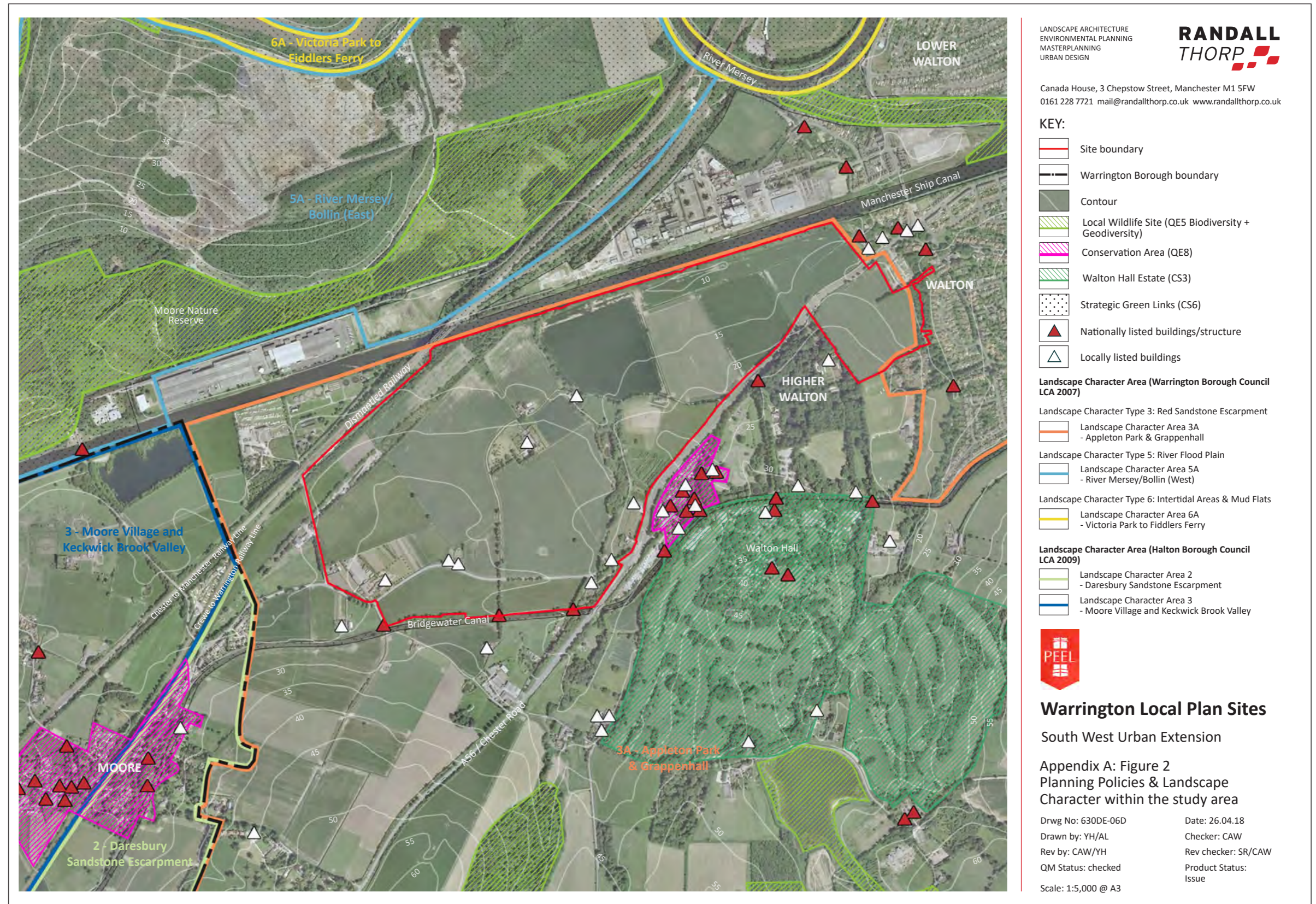


Figure 2 - Character within the study area

Methodology for appraisal

ape

The guidance in GLVIA3 underpins the complete process of landscape and visual impact assessment and states that the value of the landscape should be considered as part of the baseline studies. ‘Landscape value’ and ‘susceptibility to change’ are taken into account when establishing the overall sensitivity of a landscape prior to making an assessment of the landscape impacts. In broad terms landscape value is defined as a considered combination of the value of the landscape with its susceptibility to change.

GLVIA3 suggests two approaches to determining landscape value, the first applies to areas where there are existing landscape characterisation studies and where there are landscape designations in place, and the second applies when there is no existing evidence base. It goes on, however to suggest (para 5.29) that in practice a combination of these approaches is most effective.

In the case of this settlement there is a published assessment, Warrington LCA (2007), which sets out the key landscape characters in the Warrington Borough. This LCA does not attach any values to any particular landscape type or landscape area. It is an objective assessment of the 2007 landscapes within Warrington Borough.

In addition Box 5.1 on page 84 of GLVIA lists a range of factors that are generally agreed to help in valuing landscapes.

Box 5.1

Range of factors that can help in the identification of valued landscapes

- **Landscape quality (condition):** A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements.
- **Scenic quality:** The term used to describe landscapes that appeal primarily to the senses (primarily but not wholly the visual senses).
- **Rarity:** The presence of rare elements or features in the landscape or the presence of a rare Landscape Character Type.
- **Representativeness:** Whether the landscape contains a particular character and/or features or elements which are considered particularly important examples.
- **Conservation interests:** The presence of features of wildlife, earth science or archaeological or historical and cultural interest can add to the value of the landscape as well as having value in their own right.
- **Recreation value:** Evidence that the landscape is valued for recreational activity where experience of the landscape is important.
- **Perceptual aspects:** A landscape may be valued for its perceptual qualities, notably wildness and/or tranquillity.
- **Associations:** Some landscapes are associated with particular people, such as artists or writers, or events in history that contribute to perceptions of the natural beauty of the area.

Based on Swanwick and Land Use Consultants (2002)

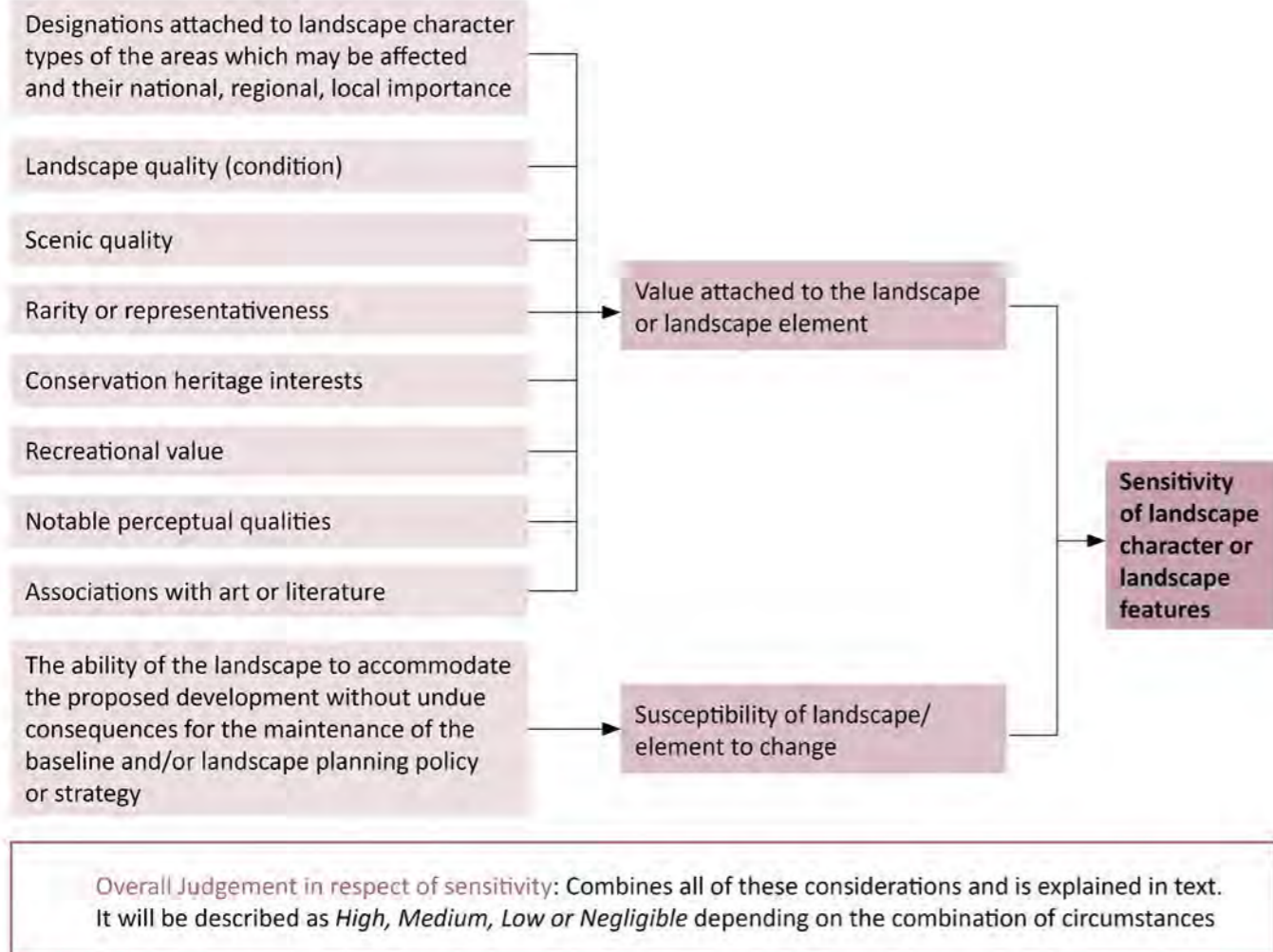
The value of the landscape is assessed in this report using a combination of the considerations set out in Box 5.1 of GLVIA3 and the key characteristics identified in the Warrington LCA (2007).

‘Susceptibility to change’ is defined at paragraph 5.40 of GLVIA3 which states:

“This means the ability of the landscape receptor (whether it be the overall character or quality/condition of a particular landscape type or area, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or the achievement of planning policies and strategies”.

The level of susceptibility to change of any landscape will depend on both its existing characteristics and on the characteristics of the development being proposed. A landscape may have a high susceptibility to change if the elements are proposed which are completely new/alien in the context of the landscape, or where new elements would be highly visible in an open view. Likewise a landscape would have a low susceptibility to change if the site is not widely visible and the new elements proposed are already found in the existing environment.

The following diagram summarises some of the considerations contributing to the evaluation of landscape sensitivity.



Methodology for evaluating townscape character

Using GLVIA and the Landscape Institute Townscape Character Assessment Technical Information Note 05/2017 (TIN) this report includes an evaluation of the townscape character within close proximity of the site.

Townscape is described in GLVIA3, paragraph 2.7:

“the landscape within the built-up area, including the buildings, the relationship between them, the different types of urban open spaces, including green spaces and the relationship between buildings and open spaces.”

Consideration of the townscape character will provide an understanding of how a place has evolved and developed over time to respond to natural, social and economic drivers; and how this is reflected in the layout of the streets, the architecture of the buildings and materials used; and the historic development of the surroundings.

A study of the historic development; movement and connectivity; urban structure and built form; heritage assets; green infrastructure and public realm and tranquility has been carried out in order to evaluate the townscape relevant to the site and surrounding area.

This evaluation will provide an understanding of the intrinsic character and qualities of a place and can be used as a guide to the location, design, scale, massing and type of development that can be accommodated. A townscape character assessment can form the basis for assessing the effects of change and whether a new development is appropriate in its context.

Methodology for appraisal

In line with GLVIA a visual appraisal has been carried out to identify the sensitivity of the visual receptors.

Visual sensitivity is a considered combination of the value attached to a view and the susceptibility of the viewer to change.

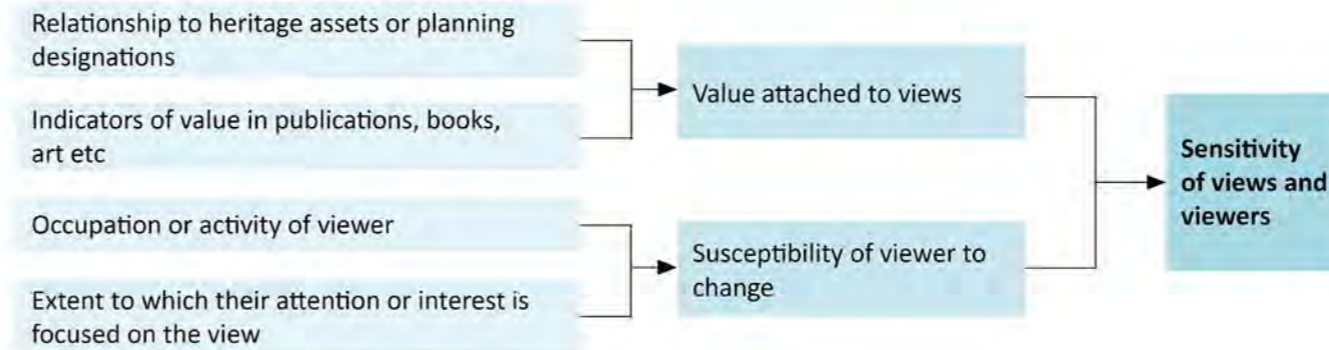
The value attached to views takes account of the recognition of value through planning designation and value attached through appearance in tourist literature.

The susceptibility of visual receptors to change will vary according to the occupation or activity of those experiencing the view and the extent to which their attention is focused on the view.

Viewpoints considered representative of potentially sensitive receptors situated within the study area at varying distances and directions have been identified. Views from public viewpoints, such as Public Rights of Way (PRoW) and roads in the vicinity have been considered.

The following diagram summarises some of the considerations contributing to the evaluation of visual sensitivity.

Visual receptors



Overall Judgement in respect of sensitivity: Combines these considerations which are explained in the text. It will be described as *High, Medium or Low* depending on the combination of circumstances

Planning policy and published landscape character assessment

National Planning Policy Framework

Section 15 of the NPPF, Conserving and Enhancing the Natural Environment, (paragraph 170) sets out how planning policies and decisions should contribute to and enhance the natural and local environment by:

- Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of best and most versatile agricultural land, and of trees and woodland;

The site is not nationally or locally designated for its landscape or biodiversity value. It is not remarkable and does not contribute to the intrinsic character and beauty of the open countryside. It is not yet known if the site is considered to be best and most versatile agricultural land, this will be subject to further survey work. Therefore the site is not considered to be a valued landscape in terms of NPPF February 2019.

Emerging planning policy - Warrington PSLP 2017-2037

The draft version of the Warrington PSLP was approved for consultation in March 2019. This includes emerging landscape policies that require consideration as part of the site promotion. Once adopted, the PSLP will replace the Local Plan Core Strategy (2014).

The site is proposed to be allocated under policy MD3 - South West Urban Extension of the PSLP. It is identified as *"land comprising*

approximately 112ha to the south west of Warrington" and that it *"will be removed from the Green Belt and allocated as a sustainable urban extension."*

Policy GB1 - Green Belt of the PSLP identifies that there are exceptional circumstances that require Green Belt release within the Borough in order *"to ensure that sufficient land is provided to meet the Council's development needs and aspirations."*

Other emerging policies of relevance to the site include DC3 - Green Infrastructure, DC5 - Open Space, Outdoor sports and recreation provisions, DC6 - Quality of place, design and layout.

Adopted planning policy - Warrington Local Plan Core Strategy

The Warrington Local Plan Core Strategy was adopted by Warrington Borough Council (WBC) on 21st July 2014 and replaced the previously Adopted Unitary Development Plan. **Figure 2** (Page 5) identifies the site and the surrounding landscape planning policies within the study area.

The majority of the landscape to the south and west of Higher Walton and within the South West Urban Extension site is indicated as Green Belt, which is set out within Policy CS 5 – Overall Spatial Strategy – Green Belt. This is a spatial policy which is not specifically related to landscape quality objectives.

Warrington Borough Council recognises the need for Green Belt release in order to accommodate the Borough's housing and economic requirements.

Walton Village Conservation Area is located to the east of the urban extension site and to the west of Walton Hall, there are a number of Listed Buildings within the Conservation Area and study area; these features are identified in Policy QE8 – Historic Environment. The Local Plan recognises the value of the heritage assets to the Borough and sets out the policy to appropriately protect and enhance these areas. To the north of the SWUE site is the Manchester Ship Canal and the River Mersey, and to the south is the Bridgewater Canal; these areas are designated within the Local Plan under Policy CS6 – Strategic Green Link. This policy sets out the need to care for and manage the Green Infrastructure in the Borough.

Located within the study area are a number of Local Wildlife Sites designated under Policy QE5 – Biodiversity and Geodiversity including the Moore Nature Reserve to the north of the Manchester Ship Canal. This policy sets out the need to protect and enhance (where possible) these sites which are recognized locally for nature and geological value.

The site lies within close proximity of Halton Borough Council boundary and Moore Conservation Area designated as BE12,13,14 of the Halton Unitary Development Plan.

Published landscape character assessment

Figure 2 (Page 5) shows the extent of the Landscape Character Areas within the study area. The Landscape Character Area within which the site is located, and the adjoining Landscape Character Areas are detailed below.

Warrington LCA 2007 sets out and describes, on an area by area basis, the Borough's distinctive landscape, its cultural history, landscape sensitivity and landscape change, together with recommended management and landscape objectives. The Borough is divided into broad Landscape Character Types; these are then divided into more detailed Landscape Character Areas.

Appendix B includes extracts of the relevant Landscape Character Area descriptions from the Warrington LCA 2007.

Landscape Character Areas within Halton Borough are identified within the Halton Borough Landscape Character Assessment carried out in 2009.

Appendix C includes extracts of the relevant Landscape Character Area descriptions from the Halton Landscape Character Assessment.

Landscape Character Area 3A – Appleton Park and Grappenhall

The site is located within Landscape Character Area 3A. The relevant key characteristics of Landscape Character Area 3A are:

- Sweeping northerly views
- Strongly sloping land to the north
- Incised stream valleys running in a northerly direction
- Exposed red sandstone in outcrops, walls and older buildings
- Gorse in hedgerows and sandy banks
- Numerous small ponds in the farmland
- Linear woodlands, coverts and tree clumps
- Raised knolls
- Sparsity of hedgerow trees

- Hedge running along contour lines or at right angles to them
- Advanced landscaping and 'entrance' features relating to proposed housing development

Landscape Character Area 3A is described within the Warrington Landscape Character Assessment as:

“The Appleton Park and Grappenhall areas form two parcels of land of similar character split by housing development associated with the A49 London Road. These areas are bordered to the south by the distinct ridgeline crest and the ridge road running between the villages of Hatton, Stretton and Appleton Thorn and to the north by the flood plain of the River Mersey, marking the bottom of the escarpment slope. The western boundary is formed by Warrington Borough boundary at Moore and the eastern boundary by a subtle landscape character change on the spur line to Massey Brook basin.”

Landscape Character Area 5A – River Mersey/Bollin

Landscape Character Area 5A lies to the north of the site. The relevant key characteristics of Landscape Character Area 5A are:

- The River Mersey and the River Bollin
- Mounded landfill sites
- Slurry and dredging lagoons
- Importance for nature conservation
- Dominance of floodplain crossings (road and rail bridges)
- Residual floodplain meadows
- Widespread residential and industrial development on the floodplain
- Artificial levee and channel constraints to the river

- Lack of visual importance of the river (normally screened from views)
- The Mersey Way recreational footpath

Landscape Character Area 5A is described within the Warrington Landscape Character Assessment as:

“The River Mersey and its broad floodplain forms a major landscape character, dividing the Borough into roughly two halves on an east/west axis. The River Bollin flood plain merges with the Mersey floodplain from the east. The Mersey displays the typical characteristics of a lowland mature river, winding across a broad floodplain with large meander loops. Much of the river has been prevented from naturally flooding onto its floodplain by the creation of artificial levee embankments, whilst its channel has also been occasionally straightened or restricted by sheet piling, walls or other hard structures.”

Halton Landscape Character Area 2 – Daresbury Sandstone Escarpment

Landscape Character Area 2 Daresbury Sandstone Escarpment is located to the west of the site beyond the Warrington Borough boundary. The relevant key characteristics of are:

- Distinctive escarpment landform with the east steeply sloping, western slopes are more gently undulating
- Rural Character although views of industry in the north reduce this slightly
- Landuse is predominately pasture on steeper slopes and pockets of arable on gentler slopes
- Regular geometric field pattern with a high proportion of post medieval fields

- Farmland bordered by generally intact closely clipped low hedgerows and frequent hedgerow trees
- Pockets of parkland around Daresbury Hall
- Frequent isolated trees within fields
- Frequent clusters of wooded field ponds
- Long linear tree groups; most are prominent on high ground
- Small tracks and lanes often with walled boundaries
- Avenue of trees along tracks and lanes
- Small linear settlement and infrequent scattered farmsteads
- Expansive views from high ground although landform creates a high level of enclosure on lower ground

Landscape Character Area 2 is described within the Halton Landscape Character Assessment as:

“This character area extends from Moore in the north along the Bridgewater Canal to Newton Lane in the south. The area retains a rural character although views of industrial warehouses and development along the Mersey in views within the north reduce this sense of tranquillity particularly close to Moore. The area has strong similarities and correlation with the adjacent Appleton Park and Grappenhall Red Sandstone Escarpment Character Area (within Warrington Borough).

Landform is a distinctive escarpment with a steeper slope to the east and a shallower gentle slope to the west. This area is at a relatively high elevation compared with Runcorn to the west with a high point of 78m AOD immediately to the south of Daresbury.”

Halton Landscape Character Area 3 – Moore Village and Keckwick Brook Valley

Landscape Character Area 3 – Moore Village and Keckwick Brook Valley is located to the west of the site beyond the Warrington Borough boundary. The relevant key characteristics of are:

- Narrow shallow river valley
- Informal open space and isolated pockets of farmland
- Frequent infrastructure routes such as railways overhead lines and roads
- Long linear field pattern following watercourse; smaller fields closer to settlements
- Segmentation of the landscape through railways on embankments; watercourses and canals and roads which bisect the area
- Prominent wooded watercourse
- Two spurs of the Bridgewater Canal area features within the area
- Small pockets of woodland and clumps of trees
- Daresbury Firs is a prominent conifer woodland on higher ground
- Large areas of informal open space are rough grassland on the fringes of Runcorn
- Frequent stone and brick bridges over canals
- Urban fringes and industrial development prominent within views
- Commercial/ industrial development prominent on ridgeline

Landscape Character Area 3 is described within the Halton Landscape Character Assessment as:

“This character area forms a narrow valley along Keckwick Brook. The western extent of the area is defined by housing development at the edge of Sandymoor, Runcorn. The eastern extent is defined by

the ridgeline of Keckwick Hill and A56. A small belt of land extends south from the M56 between Barker’s Hollow Road and the Bridgewater Canal.

This is a broad valley with steeper slopes to the east rising to a high point of approximately 70m AOD at Keckwick Hill. The land falls towards the Bridgewater Canal and is a shallow floodplain that gradually begins to rise at the residential edge of Sandymoor and reaches a high point at Windmill Hill outside the character area.”

Summary of the landscape character of the site and its surroundings

The site sits within Landscape Character Area 3A ‘Appleton Park and Grappenhall’. Northerly views from within the site are visually obstructed by the industrial works to the north of the Manchester Ship Canal. The site does not benefit from the sweeping northerly views that can be enjoyed elsewhere in the character area. Whilst the site does have typical characteristics such as a stream valley, ponds and linear woodlands these features are not unusual and can be found in many other character areas.

The site is located on the lower lying land within this character area and is therefore less visually sensitive to development than the land on the ridgeline of the sand stone escarpment. The site is not noted as being a particularly important or representative example within this landscape character area.

Development within this area is in keeping with the general characteristics of the adjacent urban and suburban characteristics.

Landscape/townscape character and visual receptors

Landscape character of the study area

The study area comprises low-lying land which falls north towards the ship canal. To the north of the ship canal an area of industrial works dominates views. The well vegetated nature reserve and landfill site provide some screening to the north.

The majority of the vegetation within the study area is focused around Higher Walton and along the water courses, with areas of mature woodland following the Bridgewater Canal, the Manchester Ship Canal and the nearby brooks/ tributaries.

The Chester to Manchester and Crewe to Warrington train lines, and the dismantled railway run through the study area and are also heavily vegetated.

Townscape character of the study area

The townscape adjacent to the site comprises of Higher Walton and Lower Walton which forms part of Walton Parish.

Historical development

The historic Walton Village Conservation area is identified on **Figure 2**. The Walton Village Conservation Area is described in the Conservation Leaflet produced by Warrington Borough Council in December 2000. The part of the village with the Conservation Area is situated south west of the site in Higher Walton and dates back to Roman times. It was once part of the Walton Hall Estate. The conservation area “owes much of its character however to the unity in architectural style of its building” (Walton Village Conservation Area Leaflet Dec 2000) which gives the village its character. Until the 1960s Walton Village,

Higher Walton “consisted solely of Victorian and Edwardian buildings comprising a post office, 3 pairs of semi-detached cottages, the Parish Hall and attached cottage, a small works, the church and 3 detached houses” (Walton Village Conservation Area Leaflet Dec 2000). In the 1960’s 11 houses were constructed to the north of the Walton Village, Higher Walton at Lychgate. The Walton Village fronts onto the Old Chester Road, and development is focused along this route. The A56/ Chester New Road by pass has been built to the west diverting through-traffic along the dual carriageway.

Lower Walton is located to the north of the site and has more of an association with the urban area of Warrington and Stockton Heath. The architectural style is mixed in terms of ages and types of built form include semi-detached houses, rows of terrace housing adjacent the canal, an area of detached bungalows, farmhouses and barn conversions as well as more recently built development.

Moore Conservation Area is also located within the study area approximately 500m from the South Warrington Urban Extension site, there is no inter-visibility between Moore and the site.

Due to the distance, topography and intervening vegetation and built form it is considered that any development of the site would not affect the characteristics or heritage assets of Moore Village Conservation Area.

Movement and connectivity

The A56 Chester Road is the main vehicular transport link through Walton connecting Runcorn to Warrington. The route is a dual carriageway with a segregated cycle lane and grass verges. On the

approach to Lower Walton the surroundings become more urbanised the grass verges and central reservation to the A56 ends, and the existing vegetation in view is located within the curtilage of the properties at Lower Walton.

The vegetation adjacent to the Walton Village and the layout of the existing buildings with housing backing onto or siding onto the A56 means that there is no visual connection between the A56 and the Higher Walton Conservation Area.

Runcorn Road passes through the site on an east- west alignment connecting Moore to Higher Walton. The road has a rural character on the approach to Moore Village from Higher Walton, the retention of Green Belt between Moore Village and Warrington is required in order to maintain the character and approach to Moore village.

The Manchester Ship Canal and Bridgewater Canal traverse the study area connecting Liverpool and Warrington to Manchester City Centre.

The Chester to Manchester and Crewe to Warrington Railway Lines run diagonally through the study area crossing the Manchester Ship Canal over a large cantilever bridge which is a visible urbanising feature in the landscape.

Within the study area there are two nationally recognised trails; the Cheshire Ring Canal Walk and the Trans Pennine Trail. Access to these trails from the adjacent townscape is via the surrounding highways network and through residential areas (see **Figure 3**, Page 14).

Urban structure and built form

Lower Walton comprises a mixture of housing styles and densities; with the denser terrace housing running adjacent to the Manchester Ship Canal and less dense development to the south. The roads are set out in a traditional grid pattern and the buildings tend to follow a regular building line parallel to the road edge.

Higher Walton is less dense than Lower Walton and comprises mainly large detached buildings, with a less rigid layout. There is an abundance of hedgerows and vegetation to the fronts of the properties giving a softer street scene. Despite the various building materials used there is a unity in the architectural style in the village; most commonly the use of red sandstone block to create decorative features in the brickwork to the south of the village. In the north a cluster of 1960s brick and white render present a different building style. The village comprise 2 storey buildings only.

Heritage assets

The listed and locally listed buildings are heritage assets including listed bridges located in both Higher Walton and Lower Walton; the majority of which are located to the south east of the study area, and focused within Walton Village Conservation Area.

There are a number of listed and locally listed buildings located within Moore Village Conservation Area; however there is no intervisibility between these buildings and the site. A heritage assessment has been carried out and records that there are no known associative relationships between the site and Moore Conservation Area.

Green infrastructure and public realm

Walton Hall is a country house and Grade II Listed building. The garden and grounds of the Hall are open to the public. To the south is Walton Hall Golf Course and the Appleton reservoir. These areas form the majority of the green infrastructure throughout the study area however the cemetery and other incidental green space contribute to the public realm.

Tranquillity

The heavily trafficked A56 and the railway line mean that the area is not considered to be tranquil (as defined by CPRE).

Lower Walton sits adjacent to one of the few bridges that crosses the Manchester Ship Canal and is heavily trafficked. The hub of the town centre is around the junction of the A56 Chester Road, B5156 Ellesmere Road and A5060. The busy roads and industrial uses to the north of the Manchester Ship Canal mean the townscape of Lower Walton is not considered to be a tranquil setting.

Stakeholder engagement

The site lies directly west of Lower Walton and is proposed to be allocated by Warrington Borough Council under Policy MD3 of the PSLP.

Site descrip

Figure 3 (Page 14) shows the site in relation to Warrington, Lower Walton and Higher Walton; its landscape features and context.

The South West Urban Extension site comprises approximately 119ha of agricultural land, associated buildings and property. It is situated

to the south west of the built-up area of Warrington. The Manchester Ship Canal forms the northern boundary of the site. The west coast mainline /Chester- Manchester Railway line forms the north western boundary on a raised embankment. To the south the Bridgewater Canal defines the site boundary and the A56/Chester Road forms the majority of the western boundary. To the north the site boundary crosses the A56 and includes a field parcel adjacent to Walton at the most northerly point of the site. Runcorn Road traverses the southern part of the site and links Warrington to Runcorn. The site slopes to the north which is a typical feature of the landscape character of the area. The highest point is around 30m AOD adjacent to the Bridgewater Canal; falling to 10m AOD along the Manchester Ship Canal.

Within the site there are mature tree belts that follow the ship canal and the railway embankments. There is also an area of mature woodland vegetation associated with a water course that flows north through the centre of the site. Trees with TPOs are located in the hedgerows along Runcorn Road and adjacent to the Bridgewater Canal to the south of the site. Mature hedgerows line either side of Runcorn Road, Mill Lane and the A56 Chester Road, with the occasional gap for field access and in some locations degraded hedgerows. To the south west, beyond the A56 Chester Road boundary, mature woodland and trees cover a large portion of Higher Walton and Walton Hall. To the north of the site, on the opposite side of the Manchester Ship Canal beyond the industrial works, is a large area of mature woodland that is identified as the Moore Nature Reserve.

Runcorn Road and Mill Lane traverse the site. Mill Lane is an access track to the existing dwellings within the site.

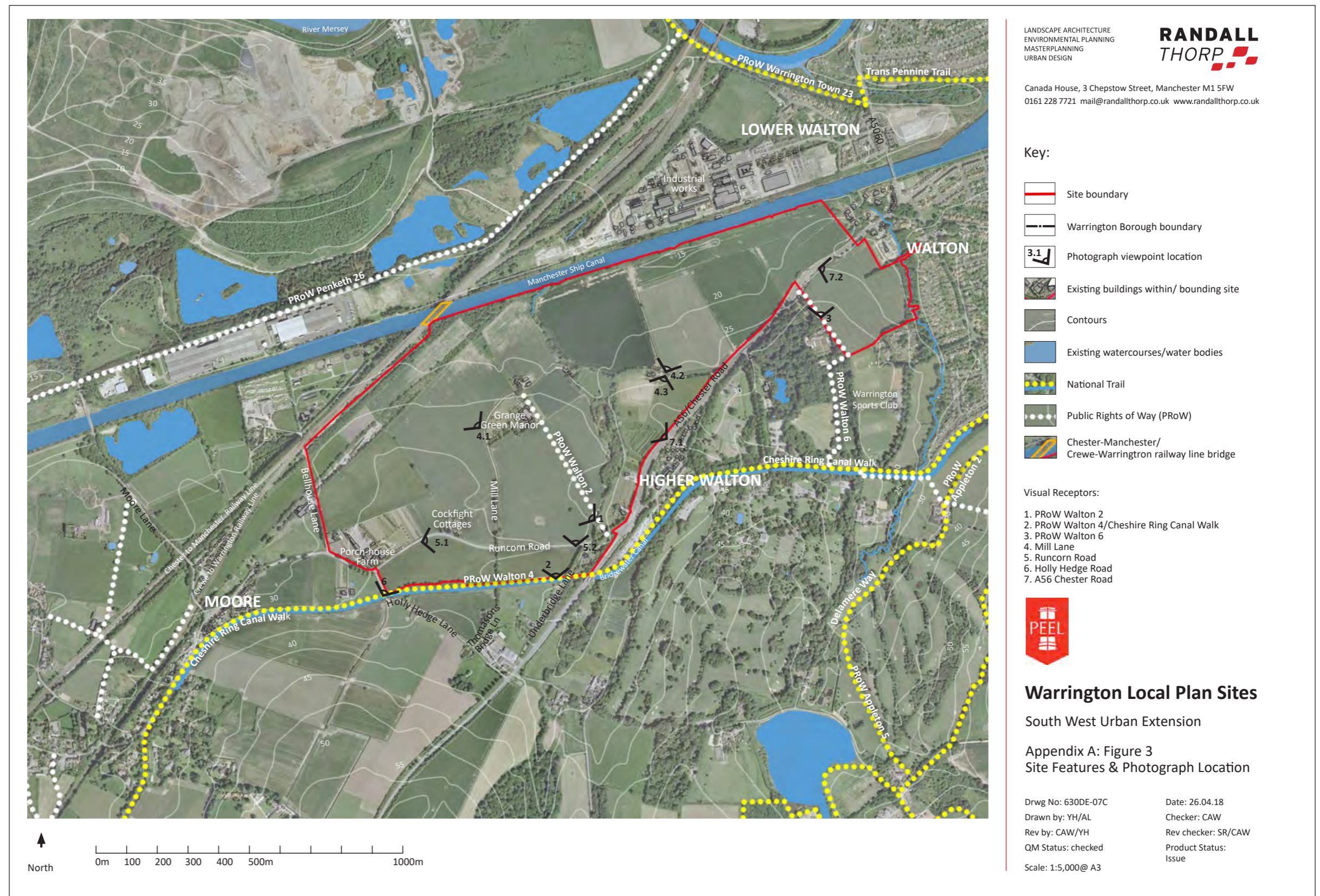


Figure 3 - Site Features & Photograph Location

A public right of way runs through the site on a north west/ south east alignment. The route crosses through the centre of an agricultural field connecting Runcorn Road and Mill Lane adjacent to the existing housing at Grange Green Manor, a recently renovated barn conversion development. The remaining PRoWs within close proximity lie outside the site and along the site boundaries.

Visual receptors and views of the site

Figure 3 (Page 14) illustrates the locations of the photograph viewpoints taken from visual receptors within and around the site.

Figures 4 - 7 (Page 17 - 20) include the Photographs 1 - 7 which are taken from publicly accessible viewpoints within and around the site. Views from private residencies have not been considered. Any consideration of residential amenity would need to be carried out as a separate assessment.

Observations made during the site visit identified the following publicly accessible visual receptors:

- 1 Pedestrians using PRoW FP Walton 2
- 2 Pedestrians using PRoW FP Walton 4/ Cheshire Ring Canal Walk
3. Pedestrians using PRoW FP Walton 6
- 4 Motorists using Mill Lane
- 5 Motorists using Runcorn Road
- 6 Motorists using Holly Hedge Lane
- 7 Motorists and cyclists using A56/ Chester Road

Descrip

receptors

1 PRoW FP Walton 2 (Photographs 1)

The footpath provides a pedestrian link from Grange Green Manor to Runcorn Road and beyond to Higher Walton via the A56 crossing. From Runcorn Road the route passes down the side of a detached house towards a small timber footbridge. Mature trees associated with the unnamed watercourse which flows through the site filter views of the site. After crossing the watercourse, the route continues north through the centre of site across an agricultural field. From this point there are clear views across the agricultural land to the north and west. In these views the house at Underbridge Lane, Grange Green Manor, and Cockfighter Cottages are visible. The chimneys at Fiddlers Ferry, the railway bridge over the Manchester Ship Canal, and the pylons through the site can also be seen. Further north the route passes down the side of Grange Green Manor with vegetation either side of the path limiting any long-distance views. The footpath terminates at Mill Lane.

2 PRoW Walton 4/ Cheshire Ring Canal Walk (Photographs 2)

The footpath forms part of the Cheshire Ring Canal Walk which connects six historic canals. The walk is a nationally recognised trail and has recreational value. The route runs outside of the site adjacent to the southern boundary. Due to the intervening vegetation, views into the site are screened or filtered for the majority of the route. There is a portion of the footpath that runs on higher ground and in this location there are clear views across the open agricultural fields towards Runcorn Road, the site can be seen in the middle distance. In these views the residential buildings at Underbridge Lane and Grange Green Manor are visible. The railway bridge over the Manchester Ship

Canal, the pylons through the site, and the industrial works located to the north of the site can also be seen.

3 Walton 6 (Photograph 3)

This footpath provides a pedestrian link from Cheshire Ring Canal Walk/ PRoW Walton 4 to Higher Walton. The majority of the route is enclosed by existing vegetation. As the route follows the boundary of the site there are filtered views across the site towards residential development at Walton. As the route emerges from the trees on the site edge there are clear views across the site. In these views the industrial works to the north of the Manchester Ship Canal, central Warrington and the existing residential development of Walton can be seen.

4 Mill Lane (Photographs 4.1 – 4.3)

Mill Lane is a narrow single-track lane which is framed on both sides by well-managed hedgerows. The lane runs through the centre of the site creating a loop from Runcorn Road on the southern boundary of the site connecting to the A56 on the eastern boundary. The track provides vehicular access to existing dwellings. There are no footpaths on either side of the lane. Due to the mature hedgerows on both sides of the lane there are limited views across the site, although any tall elements within the site may be evident and the rooftops of development may be visible. Gaps in the hedgerow provide glimpsed/ fleeting views across the agricultural fields. In these views the pylons within the site, the railway bridge and the industrial works located to the north of the Manchester Ship Canal can be seen. The railway embankment and associated vegetation to the north of the site restrict long distance views to the north and screens Moore Nature Reserve.

5 Runcorn Road (Photographs 5.1 – 5.2)

Runcorn Road runs on a west-east alignment connecting Warrington and Chester Road to Moore village and Runcorn beyond. The road is a well-used vehicular link but not a popular pedestrian route as there is often no footpath or a footpath on only one side of the road. There are clear views across the agricultural fields to the south of the site towards the vegetation associated with the Bridgewater Canal. Views to the north of the road are fleeting and often screened by existing hedgerows or residential buildings and their associated boundary treatments. When travelling east along Runcorn Road towards the site through Moore Village Conservation Area it is not possible to see the site. When travelling west along Runcorn Road it is not possible to see Moore Village Conservation Area from within the site. It is important to retain the rural character of this route on the approach to Moore village.

6 Holly Hedge Lane (Photographs 6)

Holly Hedge Lane is a narrow lane running from the A56 to Runcorn Road. Due to the intervening vegetation and the topography of the lane the site is not visible for the majority of the route. As the road travels north over the Bridgewater Canal there are clear views across the field parcels to the south of the site. In this view the houses fronting on to Runcorn Road are visible in the middle distance and the industrial works north of the Manchester Ship Canal can be seen.

7 A56 Chester Road (Photographs 7)

The A56 Chester Road follows the south eastern boundary of the site. The route is a dual carriageway with segregated cycle lane and grass verges. Due to the tall mature hedgerow running along this boundary there are no direct views into the site. However, if developed it may be possible to see rooftops of the development if not set back from the road. The road is a dual carriageway, it is heavily trafficked with a cycle lane and not a popular walking route. There are gaps in the hedgerow providing views across the agricultural fields however these are glimpses views that are experienced at speed.

Visual receptors scoped out of this assessment

The site borders the existing settlement edge of Lower Walton, which lies to the east of the site. A number of residential roads in Lower Walton have glimpsed views of the field or boundaries of the site immediately adjacent to the settlement edge. These roads include Hill Cliffe Road, Grantham Avenue and Rutland Avenue. Due to the limited nature of these views, these receptors have been scoped out of this appraisal.

Warrington Sports Club lies to the south of the site adjacent to the edge of Lower Walton. There is potential for glimpsed views of a small part of the site through the existing boundary vegetation. However, as the primary focus of the users of this facility is the sports they are playing/watching. Views of the surrounding areas for users of this facility have been scoped out of this appraisal.

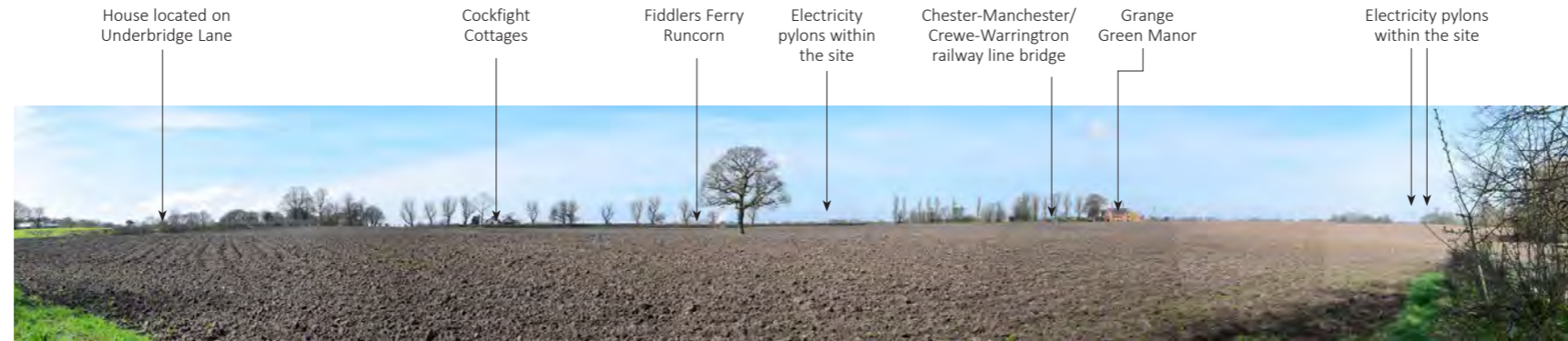


Photo 1 - View from PRoW FP Walton 2 looking west north across the site

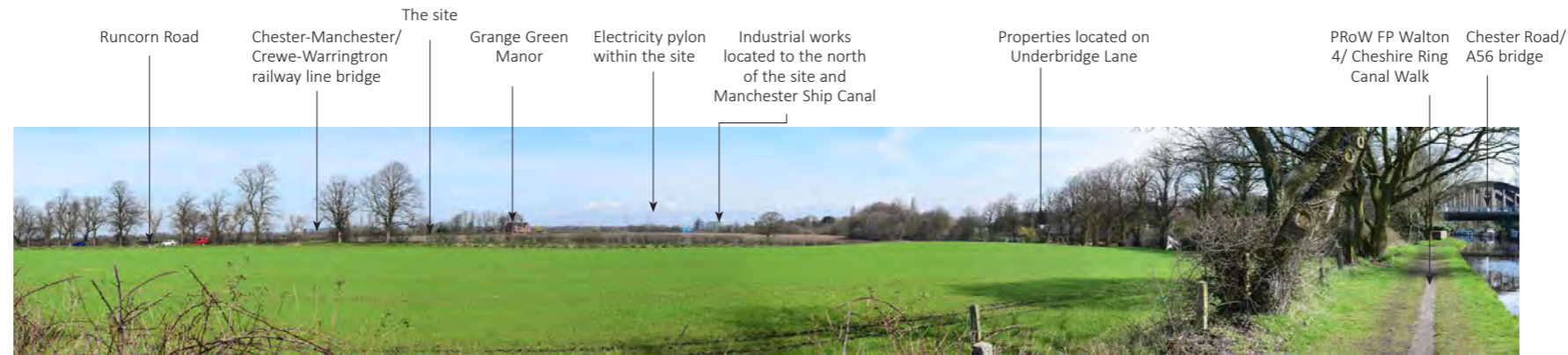


Photo 2 - View from PRoW FP Walton 4/ Cheshire Ring Canal Walk looking north across to the site



Photo 3 - View from PRoW Walton 6 looking north

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Warrington Local Plan Sites

South West Urban Extension

Appendix A: Figure 4
Viewpoint Photographs

Drwg No: 630DE-09D

Date: 09.04.18

Drawn by: YH

Checker: CAW

Rev by: CAW

Rev checker: SR

QM Status: checked

Product Status:

Scale: NTS

Issue

Figure 4 - Viewpoint Photographs

Photo 4.1 - View from Mill Lane east north


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Photo 4.2 - View from Mill Lane looking north

Photo 4.3 - View from Mill Lane looking east



Warrington Local Plan Sites
South West Urban Extension

Appendix A: Figure 5
Viewpoint Photographs

Drwg No: 630DE-10D	Date: 09.04.18
Drawn by: YH	Checker: CAW
Rev by: CAW/YH	Rev checker: SR
QM Status: checked	Product Status: Issue
Scale: NTS	

Figure 5 - Viewpoint Photographs



Photo 5.1 - View from Runcorn Road looking east south

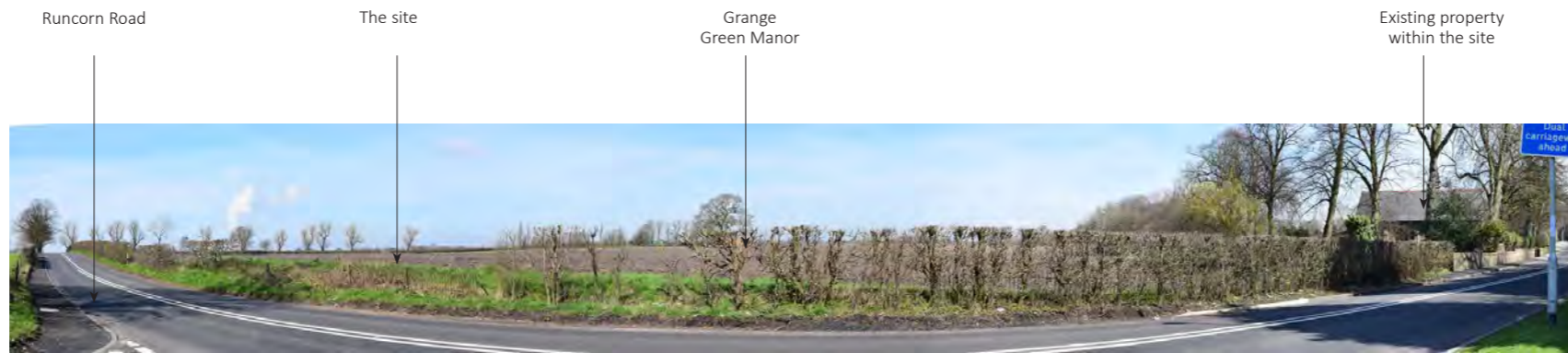


Photo 5.2 - View from Runcorn Road looking north



Photo 6 - View from Holly Hedge looking east north across the site

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Warrington Local Plan Sites

South West Urban Extension

Appendix A: Figure 6
Viewpoint Photographs

Drwg No: 630DE-11D

Drawn by: YH

Rev by: CAW/YH

QM Status: checked

Scale: NTS

Date: 09.04.18

Checker: CAW

Rev checker: SR

Product Status:

Issue

Figure 6 - Viewpoint Photographs




Photo 7.1 - View from A56/Chester Road looking west north

LANDSCAPE ARCHITECTURE
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Photo 7.2 - View from A56/Chester Road looking east



Warrington Local Plan Sites
South West Urban Extension

Appendix A: Figure 7
Photography Location Plan

Drwg No: 630DE-12D	Date: 30.10.18
Drawn by: YH	Checker: CAW
Rev by:	Rev checker:
QM Status: checked	Product Status: Issue
Scale: 1:10,000 @ A3	

Figure 7 - Viewpoint Photographs

Landscape

The landscape within the study area is not designated for its landscape value.

above sets out the designations within the wider landscape context.

The value of the landscape within the site and its immediate surroundings is considered below using the guidelines of GLVIA3 Box 5.1.

Overall it is considered that this is not a valued landscape. The landscape value of the site and its immediate surroundings is therefore considered to be **Medium - Low**.

LANDSCAPE VALUE
LANDSCAPE QUALITY (CONDITION)
The areas to the south of the Manchester Ship Canal comprises a mixture of agricultural land, industrial works, areas of parkland at Walton Hall, the golf course and residential development. The Warrington LCA 2007 describes the <i>“presence of red sandstone frequently punctuates the landscape and in the form of outcrops to road and canal cuttings, quarries and in the building vernacular houses and wall.”</i> , <i>“farmland comprises mainly pastureland”</i> and <i>“hedgerow trees are present but not in great numbers”</i> . To the north of the Ship Canal, the landscape character assessment 5A River Mersey/ Bollin describes: <i>“The flood plains have been extensively developed and altered without consideration to its landscape sensitivity”</i> . The site is predominantly agricultural land comprising existing vegetation and landscape features such as the water course give the site landscape quality. There are no designated landscape features within the site.
SCENIC QUALITY
To the south of the Manchester Ship Canal the knolls and crest lines of the sandstone escarpment are visually sensitive features in the landscape; the landscape character assessment 3A Appleton Park and Grappenhall describes the landscape <i>“comprises of strongly sloping land to the north, offering sweeping long-distance views, occasionally restricted by the presence of linear deciduous woodlands, coverts and tree groups.”</i> There are sweeping views north experienced from within the site and surrounding footpath network, however these views are experienced in the context of industrial works and electricity pylons which stand out in the landscape.
RARITY
There are some locally recognised nature reserves within the site and the study area, but these are not known for their rarity; the remaining landscape within the study area is common of the Landscape Character Areas and is considered to be ordinary.
REPRESENTATIVENESS
There are some landscape features within the site and landscape setting which are considered to be characteristic of the landscape character. However these features such as incised stream valleys and small farmland ponds are found widely across the borough. The landscape does not contain elements which are considered particularly important examples.
CONSERVATION INTERESTS
There are a number of listed buildings, including two listed bridges that cross the canal on the southern boundary of the urban extension site. The Walton Village Conservation Area at Higher Walton and the Moore Conservation Area within the Halton Borough are located within the Study Area adding to the overall landscape value. The undeveloped floodplains area to the north of the site are described in the Warrington Landscape Character Assessment as having <i>“conservation importance”</i> and there a number of locally designated wildlife sites, including the Moore Nature Reserve located to the north of Manchester Ship Canal. The A56/ Chester Road and the Manchester Ship Canal provide a strong separation between the site and these surrounding conservation interests. There are no nationally designated areas such as SSSI located within the study area or within close proximity of Higher Walton.
RECREATION VALUE
The Trans Pennine Trail, which provides links to the Mersey Valley Trail and the Cheshire Ring Canal Walk, which follows the Bridgewater Canal are important nationally recognised recreational links. Walton Hall Estate comprises a golf course, gardens and a number of recreational facilities. The site itself has little recreational value with one PRow crossing into the site with no clear recreational destination.
PERCEPTUAL ASPECTS
The heavily trafficked A56/ Chester Road; and the Chester- Manchester and Crewe - Warrington railway line run through the study area. The development and industrial buildings on the flood plain has altered this agricultural landscape. The character of the Daresbury Sandstone Escarpment describes <i>“views of industrial warehouses and development along the Mersey in views within the north reduce this sense of tranquillity particularly close to Moore”</i> . From much of the land to the south of the Manchester Ship Canal the views north include Industrial Units and infrastructure which comprises features such as chimneys. This is not a landscape which can be perceived as wilderness or tranquil.
ASSOCIATIONS
There are no known associations with any published art, literature or folklore which would add to its landscape value.

Susceptibility to change

The study area comprises of a mixture of agricultural, industrial and urban landscapes and much of the study area is experienced in the context of the adjacent existing residential or industrial uses reducing the vulnerability to change.

The landscape to the south of the Manchester Ship Canal is considered in the local landscape character assessment to be “sensitive to development” in respect of visual prominent built development on the knolls and crest/skylines. Development in the low-lying areas could be incorporated into the area without undue consequences for the maintenance of the baseline and as such susceptibility to change is considered to be **Medium**.

Conclusion in respects of the landscape

As can be ascertained from the descriptions there is nothing to indicate that there is anything about the study area which should be considered remarkable or out of the ordinary. Landscape features such as field boundaries, watercourses, public rights of way, and existing large mature trees are identified as having local importance and are site specific.

There are a number of locally listed buildings within the site which are separated from Walton Conservation Area by the A56/ Chester Road.

The landscape character assessment identifies the higher land on the sandstone escarpments as visually sensitive to development. The site and surrounding study area are within the less prominent lower lying land which is less visually sensitive to development.

The landscape sensitivity of the site and its immediate surroundings results from the consideration of the landscape value and its susceptibility to change. As the **landscape value is considered to be Medium - Low, and the susceptibility to change is considered to be Medium**. The landscape sensitivity of the site and its immediate surroundings is considered to be **Medium – Low**.

Value and sensitivity of views and visual receptors

In line with GLVIA and **Diagram 2** within the methodology, the sensitivity of the visual receptor is a considered combination of the value of the view and the susceptibility to change of the visual receptor.

The following **Table 1** illustrates the sensitivity of the identified visual receptors

The landscape is not designated nationally or locally for its landscape value and is not valued for its scenic quality.

Table 1: Sensitivity of visual receptors

VISUAL RECEPTOR TYPE	VALUE OF THE VIEW	SUSCEPTIBILITY TO CHANGE	RESULTING SENSITIVITY
Receptor 1 (Photograph 1.1) Pedestrians using PRow FP Walton 2	Medium No recognised value attached to the views. Some value in relation to locally designated heritage assets.	High The landscape setting is likely to be valued by those engaged in recreational activity	High - Medium
Receptor 2 (Photograph 2) Pedestrians using PRow FP Walton 4/ Cheshire Ring Canal Walk	High - Medium Published recreational route. Some value in relation to designated heritage assets. Views across an ordinary landscape with industrial works visible in the distance.	High The landscape setting is likely to be valued by those engaged in recreational activity	High
Receptor 3 (Photograph 3) Pedestrians using PRow FP Walton 6	Medium No recognised value attached to the views. Some value in relation to locally designated heritage assets.	High The landscape setting is likely to be valued by those engaged in recreational activity	High - Medium
Receptor 4 (Photograph 4.1 – 4.3) Motorists using Mill Lane	Medium No recognised value attached to the views. Some value in relation to locally designated heritage assets. Long distance views in the gaps in the vegetation north towards the industrial works	Medium Primarily using routes for access rather than focusing on the views.	Medium

VISUAL RECEPTOR TYPE	VALUE OF THE VIEW	SUSCEPTIBILITY TO CHANGE	RESULTING SENSITIVITY
Receptor 5 (Photograph 5.1 – 5.2) Motorists using Runcorn Road	Medium No recognised value attached to the views. Some value in relation to designated heritage assets. Views across an ordinary landscape with industrial works visible in the distance.	Medium Taking in to account their speed of travel, the fleeting views and because their interest is focused on the road and driving rather than the views.	Medium
Receptor 6 (Photograph 6.1) Motorists using Holly Hedge Lane	Medium No recognised value attached to the views. Some value in relation to locally designated heritage assets. Views across an ordinary landscape with industrial works visible in the distance.	Medium Taking in to account their speed of travel, the fleeting views and because their interest is focused on the road and driving rather than the views.	Medium
Receptor 7 (Photograph 7) Motorists and cyclists using A56/ Chester Road	Low No recognised value attached to the views. Views of the highway, corridor.	Low Taking in to account their speed of travel, the fleeting views and because their interest is focused on the road and driving rather than the views.	Low

Development potential

The evaluation of landscape, townscape and the visual receptors highlights any sensitivities of the site. Any proposed masterplan should take into consideration the sensitivities in order to demonstrate good design and a contribution to the landscape and its existing character. The opportunities and constraints plan on page 27 and appended to this assessment (**Appendix D**) illustrates the relevant considerations for the site.

Evaluation

The landscape sensitivity of the site and its surroundings is considered to be **Medium-Low** in Chapter 5 of this report.

The site is located on the lower lying land in this Landscape Character Area, which is less sensitive than the more prominent escarpment, knolls and crest-lines.

There would be an inevitable loss of arable farmland as a result of developing the site, however the urban area of Warrington, existing residential development and industrial uses lie within close proximity to the site and influence the character of the area.

The existing field boundaries and landscape features within the site such as trees, hedgerows, and watercourses, should be preserved and enhanced to maintain a sense of the former rural character. These features are of local value, which should be retained and incorporated within the illustrative masterplan. The existing hedgerow should be retained and enhanced along the A56 in the proximity of Walton Hall Lodge. The proposals should include for new hedgerow and tree planting which would complement the existing character.

Due to the restrictions on development within the consultation zones set by the industrial works to the north of the site, the scale of developable area would be constrained. A large area of land to the south of the Manchester Ship Canal would be retained as public open space with a potential opportunity for a country park.

Development of the site could achieve the relevant recommended management and landscape objectives identified within the Warrington LCA 2007 and with good design contribute to the landscape and its existing character. The relevant recommended management and landscape objectives within Warrington LCA 2007 are:

- *Control planned housing development, pulling back construction on the skyline crest*
- *Encourage hedgerow retention and restoration*
- *Encourage the replacement of new hedgerow trees*

Evaluation

The key townscape features in both Higher and Lower Walton are the listed buildings and conservation areas and any development adjacent to the town will need to respect the character and setting of these areas, with restricted building heights along the A56 and adjacent Walton Lodge.

There are two listed bridges located on the southern boundary of the site. Any development should be set back from the canal and respect the setting of these bridges.

Lower Walton is heavily trafficked, and its character is influenced by adjacent industrial uses. Higher Walton has a more distinctive character and is more tranquil, with most of the through traffic diverted onto the A56 which separates the village to the north from the site.

The townscape comprises a mix of age, architectural style, scale and materials and new development can therefore be integrated into the urban structure. The characteristics and qualities of the adjacent townscape should be used as a guide to the design, scale and massing and type of development to ensure that any proposals for new development are appropriate in the site context.

Due to the intervening vegetation and built form, and the topography of the land there is no inter visibility between the site and Moore Village. On the approach to Moore from Walton and Higher Walton the proposals should demonstrate a gap between the two settlements and retain the character of the approach to the conservation area at Moore Village. Any site access from Runcorn Road should be sensitively designed to retain the rural character of this road on the approach to Moore Village.

Evaluation

The sensitivity of each visual receptor with views of the site has been assessed in Chapter 5 of this report.

Any proposals should retain Mill Lane within a wide open green corridor. Where possible view lines towards locally listed buildings

should be retained, and views towards the industrial uses to the north of the site should be screened.

The alignment of FP Walton 2 should be retained as part of any development proposals in order to retain connectivity to the surroundings. The public right of way should be retained within green routes and would benefit from an attractive active frontage and natural surveillance, as well as maintained views towards the principle elevation of Grange Green Manor. There is also the opportunity to retain the former mill and mill pond within a green corridor with a potential to reinstate the mill pond at part of the proposed development.

The elevated position of the Cheshire Ring Canal Walk provides opportunities for views into the site. Development proposals should be set back to retain the character of PRow FP Walton 4, whilst screening views of the heavy industry on the horizon.

Development should be set back from PRow FP Walton 6 to provide a soft development edge alongside this footpath. There is opportunity for views into the site through gaps in the existing vegetation from this route and these could be retained within the development proposals.

Runcorn Road, the A56 Chester Road, and Holly Hedge Lane are all part of longer route through Warrington, Cheshire and Runcorn. Any proposals should be designed to ensure these routes are screened from development where appropriate or benefit from attractive active frontages of development. Residential development is not at odds with the surroundings and many of the existing buildings within the site are residential or agricultural buildings converted for residential uses.

The site is visually contained from the north by the vegetation associated with the railway embankment and the canal. In views from the site, looking north, the industrial works are visible unattractive features on the horizon. Fiddler Ferry chimneys and the railway bridge are urbanising features visible from within the site. Proposals should include additional screen planting along this north edge to screen the taller industrial land uses. Higher Walton and Walton Hall Estate are also densely vegetated preventing any long-distance views towards the site from the south.

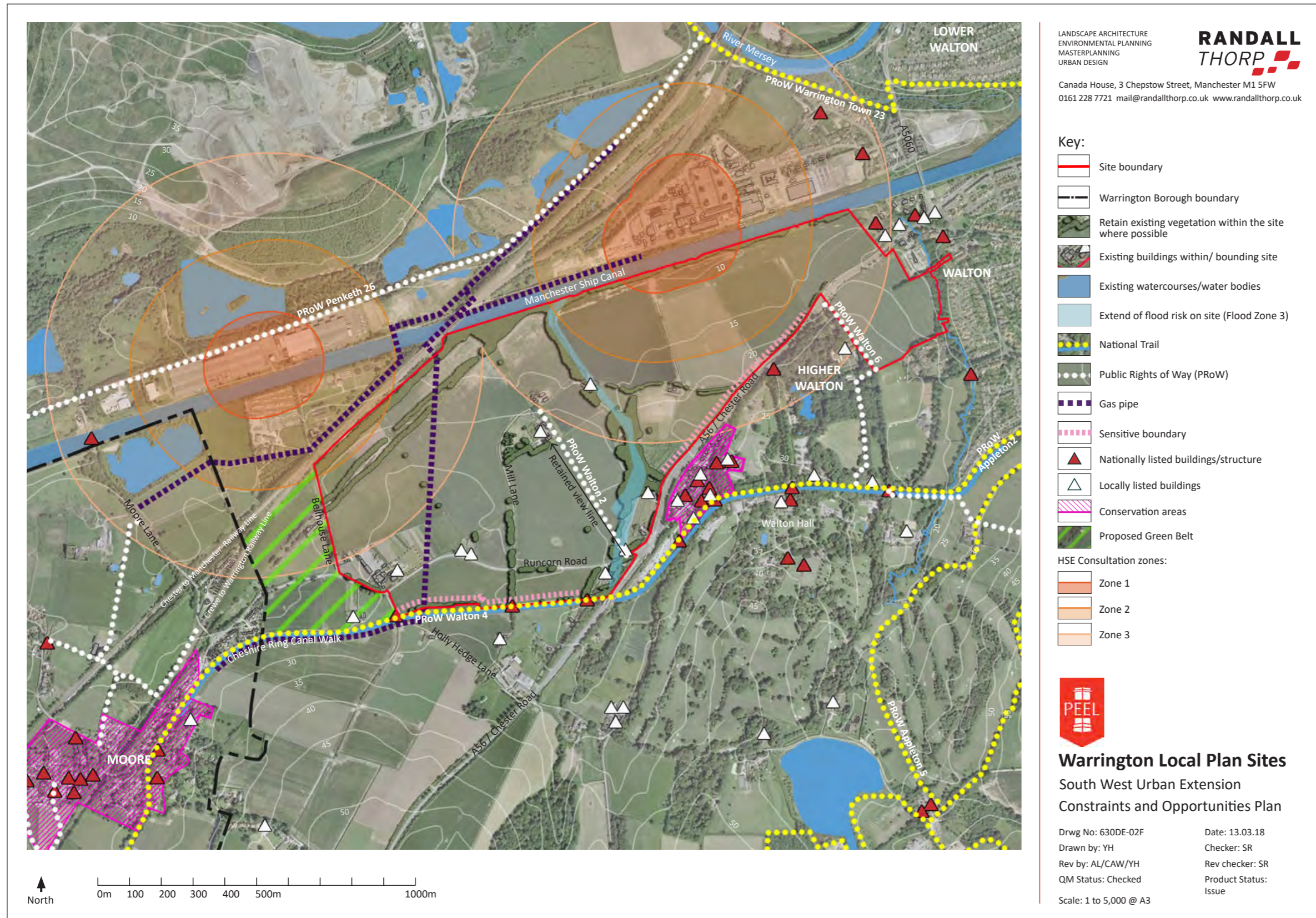
Development potential of the site

The plan over leaf highlights the opportunities and constraints established through this appraisal, as well as the identified areas of flood risk, HSE consultation zones, and gas pipe easements which will need to remain free from development.

There is no reason why a well-designed development that preserves the existing landscape features such as water course and trees within a green infrastructure network and responds sensitively to the setting of the Conservation Area and heritage assets would have any significant effects on the landscape and townscape character of the surroundings.

With appropriate good design and well thought out landscape mitigation measures, development within the site has the potential to avoid significant effects on the visual amenity of the surrounding receptors.

For the reasons outlined above, this report considers the South West Urban Extension site to be a sustainable and achievable location to be allocated for new housing development within the new Warrington Borough PSLP.



Constraints and opportunities

Illustrative masterplan

The opportunities and constraints identified through the landscape and visual appraisal have been combined with analysis of site constraints and opportunities from other consultants in relation to arboriculture, ecology, heritage, noise, transport, flood risk and utilities. This resultant illustrative masterplan (Page 29) has been prepared to demonstrate the potential development opportunities of the site with a proposed allocation for housing under Policy MD3 of the PSLP.

Land to the north of the A56 at Higher Walton would be developed as a sustainable urban extension to the main urban area of Warrington, providing up to 1,800 new homes. The urban extension would support a new community in a high quality residential setting with ease of access to Warrington's employment, recreation and cultural facilities. The new community would be supported by:

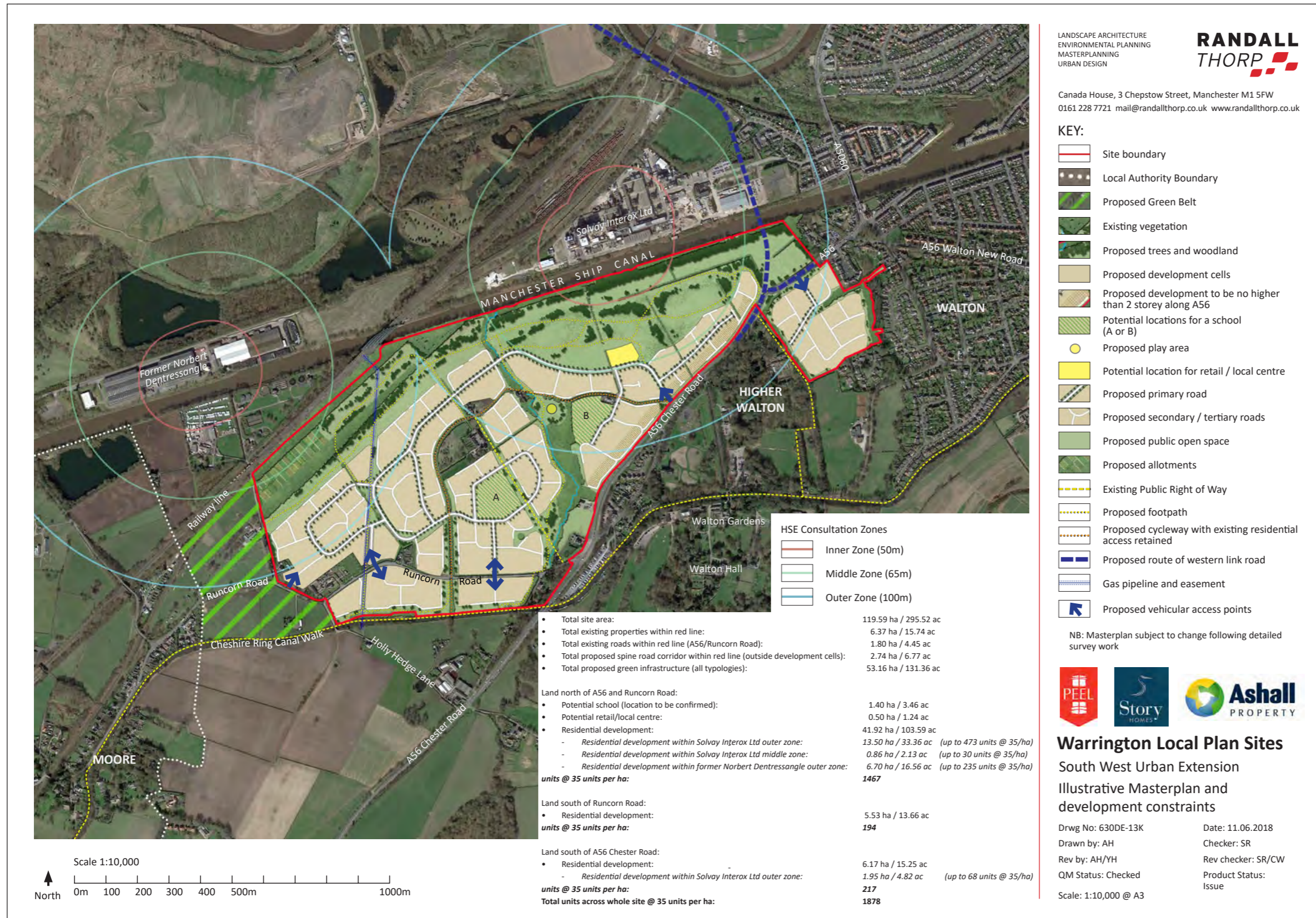
- a new primary school
- a local centre comprising local shops, a potential new health facility, subject to needs, and other community facilities as necessary to support the new residential community.
- extensive areas of open space and recreation provision.

The development will be designed to support walking and cycling for local trips. It will benefit from the new Western Link and improved public transport to enable access to the town centre, Stockton Heath, the Waterfront development, and other major employment areas, including Daresbury.

The new Green Belt boundary will ensure clear separation between Warrington and Runcorn and will provide a strategic gap between the urban extension and the village of Moore. It is essential that this separation is maintained to preserve the function of the Green Belt and the separate identity of Warrington and Halton communities.

Development will ensure that important ecological assets within the site are preserved with opportunities to provide additional habitats and enhance biodiversity.

The urban extension will preserve, and where possible enhance the heritage assets within the site and will be designed to respect the setting of nearby heritage assets, including the Bridgewater Canal and its bridges and the Walton Village Conservation Area.



Illustrative masterplan



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THE
ENVIRONMENT
PARTNERSHIP



SOUTH WEST URBAN EXTENSION HIGHER WALTON PRELIMINARY ECOLOGICAL ASSESSMENT

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CONTENTS	PAGE
Executive Summary	1
1.0 Introduction	3
2.0 Site Overview	4
3.0 Methods	6
4.0 Results	11
5.0 Discussion and Conclusions.....	17
6.0 Recommendations	21

TABLES	PAGE
Table 1. Desk Study Information Sources	6
Table 2. Categorisation of Trees and Habitats for Bats	8

FIGURES	PAGE
Figure 1. Site Location Plan (Contains Ordnance Survey data © Crown copyright and database right 2018.	4

APPENDICES

- APPENDIX A: Proposed Development
- APPENDIX B: Desk Based Assessment
- APPENDIX C: Target Notes

DRAWINGS

- Drawing 1 – G6929.01.006B Phase 1 Habitat Map

Executive Summary

1. TEP was commissioned by a consortium of developers (Peel Land and Property, Story Homes and Ashall Property) in May 2018 to carry out an ecological assessment of a parcel of land northwest of Higher Walton, Warrington, which is known as the South West Urban Extension (SWUE). This assessment is to inform release of this site for development as part of the new Warrington Local Plan.
2. The site is located off Runcorn Road, Higher Walton and is composed of large arable fields separated by hedgerows, ditches and tree lines. There are also areas of tall ruderal vegetation and woodland blocks along the northern site boundary. The site has good connectivity to the wider area along the surrounding tree lines and hedgerows, along the Manchester Ship Canal to the north and along the Bridgewater Canal to the south.
3. A constraints and opportunities report was produced by TEP for this site in September 2017 and also included an extended Phase 1 Habitat Survey and desktop assessment. This Ecological Assessment is based on the findings of those surveys.
4. Based on the desktop assessment and site surveys to date, TEP's assessment indicates that there are no overriding ecological constraints which preclude sustainable development of the site.
5. Moore Nature Reserve LWS lies 200m north of the site. To prevent any impacts from increased public pressure on the site, for amenity use and for dog walking, large areas of open greenspace at the north of site have been retained and public footpaths are to be created across the site.
6. An Arboricultural Report has been produced by TEP to ensure woodland, hedgerows and scattered mature trees are suitably protected throughout the development. All recommendations made in this report will be adhered to throughout development.
7. New crossings through hedgerows, treelines and across watercourses are to be installed. These will be designed so as to impose minimal impacts on protected species and habitats. Any losses will be mitigated within the open greenspace to the north of the site.
8. Himalayan balsam, Japanese knotweed, Japanese rose and rhododendron are present across the site. A management plan will be produced detailing measures required to prevent their spread during development.
9. There are trees on site with potential to support roosting bats and the site boundaries and internal linear features offer foraging and commuting potential to local bat species. Further survey will be undertaken to determine the use of the site by foraging, commuting and roosting bats. Should bats be identified and are likely to be impacted by development, mitigation measures and/or a licence from Natural England may be required. If any buildings are to be affected by the development, further survey of these will also be required.
10. All ponds on site or within 500m of proposed development will be subject to amphibian survey prior to works commencing on site. Should Great Crested Newts

- (GCN) be found, it is considered that there is adequate opportunity within retained open greenspace, which consists of approximately 37ha at the northern boundary and a further 5ha running through the centre of site, to mitigate for any impacts. The level of mitigation will be informed by the results of further survey and may require discussion with Natural England (NE) and a licence application.
11. Otter and water vole surveys will be undertaken to inform any development within close proximity to the banks of the watercourses running across, or adjacent to, the site. Should otter or water vole be present, suitable mitigation measures will be put in place and a licence obtained from NE if required. Again, it is considered that there is adequate space within the retained green open space to mitigate for any impacts. The level of mitigation will be informed by the results of further survey.
 12. Further survey will be undertaken to confirm the presence or absence of badger prior to submittal of a detailed planning application. There is adequate space within the retained green open space to mitigate for any impacts. The level of mitigation will be informed by the results of further survey.
 13. The habitats present on site are suitable to support nesting birds. If vegetation clearance cannot be undertaken outside the nesting bird season (March - August inclusive) checks will first be undertaken by a suitably qualified ecologist.
 14. Detailed winter bird surveys have been undertaken of the site. The results of these surveys are presented in a separate report (TEP Ref: 6929.01.021). All recommendations made in this report will be adhered to during development to prevent negative impacts on wintering birds.
 15. A Reasonable Avoidance Method Statement will be produced detailing how harm to brown hare, hedgehog and potentially common toad, will be avoided during works.
 16. Biodiversity enhancement measures suitable for this site are set out in section 7.34.

1.0 Introduction

- 1.1 TEP was commissioned by a consortium of developers (Peel Land and Property, Story Homes and Ashall Property) in May 2018 to carry out an ecological assessment of a parcel of land northwest of Higher Walton, Warrington, which is known as the South West Urban Extension (SWUE). This assessment is to inform potential future residential development of the site.
- 1.2 Warrington Council is currently undertaking a review of their local plan. As part of this there has been a call for sites which are capable of supporting new residential development. Peel considers that this site would represent a sustainable location for residential development, capable of making a very significant contribution to meeting the housing needs of Warrington over the emerging plan period.
- 1.3 TEP undertook a constraints and opportunities assessment for this site in September 2017 (Ref: 6612.06.002). This included an extended Phase 1 Habitat Survey and desk based assessment. An Arboricultural Constraints report has also been produced for the site (TEP Ref: 6929.02.002) and should be read in conjunction with this report. Site proposals are included at Appendix A.
- 1.4 The assessment has been informed by the following surveys:
 - Desk based assessment;
 - Extended Phase 1 habitat survey (September 2017 and May 2019); and
 - Ground-based inspection of trees for bat roost potential.
- 1.5 The objectives of this assessment are to:
 - Describe the existing vegetation and give an overview of the habitats present;
 - Identify any features of conservation value such as designated sites and protected or notable habitats and species within the site or the wider zone of influence;
 - Advise on further survey or mitigation requirements that may be needed to inform the evolving proposal; and
 - Outline opportunities for biodiversity enhancement in line with the requirements of the National Planning Policy Framework.

2.0 Site Overview

- 2.1 The site lies to the immediate south west of the settlement boundary of Warrington. It is bound by the Manchester Ship Canal to the north and the West Coast Railway to the north west. To the south east the A56 Runcorn Road forms the boundary, with a plot of land to the south of the A56, immediately adjoining the Warrington settlement boundary, included. The Bridgewater Canal encloses the site at its southern boundary. At the eastern extent, the boundary follows Bellhouse Lane and Runcorn Road.
- 2.2 The site currently comprises a mix of agricultural land and associated buildings and property. Mill Lane runs through the site, providing access to a number of private properties and farm buildings. An area of industrial uses lies on the northern side of the Ship Canal, known as Warrington Waterfront. The route of the proposed Western Link Road lies at the eastern end of the site.
- 2.3 The site is presently designated as Green Belt land within the Warrington Unitary Development Plan (June 2005), but has been identified by the council as a site to be released from the Green Belt and allocated for housing development through the emerging Local Plan.



Figure 1. Site Location Plan (Contains Ordnance Survey data © Crown copyright and database right 2018).

- 2.4 Land at Higher Walton will be developed as a sustainable urban extension to the main urban area of Warrington, providing up to 1,800 new homes. The urban extension will support a new community in a high quality residential setting with ease of access to Warrington's employment, recreation and cultural facilities.
- 2.5 The new community will be supported by:
- A new primary school
 - A local centre comprising local shops, a potential new health facility (subject to needs), and other community facilities as necessary to support the new residential community
 - Extensive areas of open space and recreation provision.
- 2.6 The development will be designed to support walking and cycling for local trips. It will benefit from the new Western Link and improved public transport to enable access to the town centre, Stockton Heath, the Waterfront development and other major employment areas, including Daresbury.
- 2.7 Development will ensure that important ecological assets within the site are preserved with opportunities to provide additional habitats and enhance biodiversity.
- 2.8 The urban extension will preserve, and where possible enhance, the heritage assets within the site and will be designed to respect the setting of nearby heritage assets, including the Bridgewater Canal and its bridges and Walton Village Conservation Area.
- 2.9
- 2.10 Community infrastructure will need to be phased according to the requirements of the development.

3.0 Methods

Desk Based Assessment

- 3.1 Information regarding designated sites, notable habitats and existing protected and notable species records of the past decade, within a 1km minimum radius of the site (distances as specified in table), were gathered from the sources listed in Table 1. Relevant policies from the local plan(s) relating to biodiversity were also identified (Table 1).

Table 1. Desk Based Assessment Information Sources

Source	Nature of Information
MAGIC Map ¹	Statutory protected sites and priority habitats to 1km from the site boundary, with international sites to 10km.
rECOrd Local Environmental Records Centre	Local wildlife sites and citations, species records to 1km from the site boundary.
Local Plan	Any planning policy allocations on the site. Relevant biodiversity policies, local wildlife site designations, wildlife corridors.
Local Biodiversity Action Plan	Local habitat and species action plans
Google Maps	Aerial Photography to assess areas not physically accessed

Limitations

- 3.2 Species records can provide a useful indication of the species present within the search area, although the absence of a given species from the dataset cannot be taken to represent actual absence.

¹ Multi-Agency Geographic Information for the Countryside - Searchable mapping website

Extended Phase 1 Habitat Survey

- 3.3 A Phase 1 Habitat survey was completed by TEP ecologists Ian Holland ACIEEM and Lindsey Roberts GradCIEEM in September 2017 and May 2019 using the standard JNCC Phase 1 habitat assessment method (2010)². This method records the habitat types present in and immediately surrounding the site, based on the JNCC descriptions. Plant species are identified in accordance with Stace (2010)³ and recorded as target notes using the DAFOR⁴ scale. This report details the cumulative findings of both the 2017 and 2019 surveys.
- 3.4 The survey method was extended through the additional recording of specific features indicating the presence, or potential presence, of protected species or other species of nature conservation significance, including invasive species, in accordance with Guidelines for Preliminary Baseline Ecological Appraisal (CIEEM, 2013⁵).
- 3.5 Part of the northern site could not be accessed by TEP (the parcel of land to the east of the A56, Chester Road) but has been subject to a separate assessment undertaken by Tyler Grange (Report Ref: 10468_R02a_LRD_HB) and the results of this survey have been incorporated into this report.

Limitations

- 3.6 The site survey was undertaken during the optimum time period of April to October. However, access restrictions meant portions of the site could not be subject to a detailed survey. These areas have been assessed using available aerial photography. As survey of these sites will be undertaken prior to a detailed planning application, this limitation is not considered to impact on the findings of this report.

Bats

Ground-based Inspection of Trees

- 3.7 A ground-based inspection of trees was carried out alongside the Phase 1 Habitat Survey, looking for signs of bat activity and features suitable for roosting in accordance with Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition) (Collins, 2016)⁶.
- 3.8 Potential roost features (PRF) include rot holes, splits, snags and flaking or lifted bark. Ivy cover can be suitable for roosting, for example, where the stems are overlapping and matted to form a crevice feature beneath. Ivy cover that is not sufficiently established to offer roosting opportunities, but which may mask other suitable features on a tree, is noted separately as a potential constraint.

² JNCC (2010) Handbook for Phase 1 Habitat Survey: A technique for environmental audit. Joint Nature Conservation Committee, Peterborough

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

⁴ DAFOR = Dominant, Abundant, Frequent, Occasional & Rare

⁵ Chartered Institute of Ecology and Environmental Management. Guidelines for Preliminary Ecological Appraisal. (CIEEM <http://www.cieem.net/>), 2013.

⁶ Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition)

- 3.9 Each tree was then categorised, based on the findings of the inspection. In parallel with this, the proposed working areas were considered for their value to support foraging and dispersal by bats, taking into account the habitats present, their position in the wider landscape of the estate and connectivity to surrounding habitat features. The categories used are as listed in Table 2 (based on Collins, 2016, Table 4.1).
- 3.10 The findings of the daytime inspections are used to determine the scope of any further nocturnal surveys to ascertain whether a roost is present and, if so, the species and status.

Limitations

- 3.11 The survey was undertaken in September when the trees were still in leaf, this limits the surveyor's ability to see small cracks and crevices within the tree canopy.

Table 2. Categorisation of Trees and Habitats for Bats

Category of Suitability	Description of Roosting Habitat	Description of Habitat for Foraging & Dispersal
Confirmed roost	Roosting bats or evidence thereof identified.	Habitats known to be used by bats entering or exiting the roost, or which support associated foraging or commuting behaviour.
High suitability	A tree possessing potential roost features (PRF) that is/are suitable for use by larger numbers of bats on a regular basis and potentially for longer periods of time, due to their size, shelter, protection and surrounding habitat.	Continuous high quality habitat that is strongly connected with the wider landscape and is likely to be used regularly by commuting or dispersing bats (e.g. river valley, vegetated stream, woodland edge, hedgerows with trees), or by foraging bats (e.g. broadleaved woodland, grazed parkland, tree-lined watercourses or ponds).
Moderate suitability	A tree with PRF that could be used by bats but which is unlikely to support a roost of high conservation status with respect to roost type i.e. maternity or hibernation. Note: Roosts of high conservation status with respect to species can only be determined once presence is confirmed.	Continuous habitat connected to the wider landscape that could be used by bats for commuting (e.g. lines of trees or scrub or linked back gardens), or foraging bats (e.g. trees, scrub, water, grassland).

Category of Suitability	Description of Roosting Habitat	Description of Habitat for Foraging & Dispersal
Low suitability	A tree with PRF that could be used by individual bats on an opportunistic basis, but which do not offer sufficient space, shelter, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats.	Habitat that could be used by small numbers of commuting bats (e.g. a gappy hedgerow or un-vegetated stream) or foraging bats (e.g. a lone tree or small patch of scrub) but which is not well connected to the surrounding countryside.
Negligible suitability	Inspected tree with no/exceptionally poor suitability PRF.	No, or exceptionally poor quality, habitat features on site that likely to be used by foraging, commuting or dispersing bats. A general lack of linear features and low habitat, structural or floristic diversity.

Water Vole/ Otter

- 3.12 No detailed survey for water vole and otter was undertaken, however, any watercourses present on site were subject to a visual assessment from the banks of the watercourse for their potential to support these species.

Badger

- 3.13 A detailed badger survey was undertaken alongside the Phase 1 Habitat Survey. The standard methodology as recommended by Harris, Cresswell and Jefferies (1989) was followed to complete a thorough search for evidence which would indicate the presence of badgers both on the site and locally. Evidence of badger occupation and activity sought included:
- Setts: including earth mounds, evidence of bedding and pathways between setts;
 - Latrines: often located close to setts, at territory boundaries or adjacent to favoured feeding areas;
 - Prints and paths or trackways;
 - Hairs caught on rough wood or fencing;
 - Other evidence: including snuffle holes, feeding and playing areas and scratching posts.

Limitations

- 3.14 Not all areas of the site could be accessed during the survey. However these areas would be subject to survey prior to submittal of a detailed planning application. Therefore this limitation is not considered to significantly impact on the findings of this report.

Birds

- 3.15 A winter bird survey has been undertaken by TEP, The methods and limitations for this survey are presented in a separate report produced by TEP (Ref: 6929.01.021).

4.0 Results

Planning Context

- 4.1 Relevant extracts of local planning policy are provided in the desk study (Appendix B). In summary, the site lies within the Green Belt in the Warrington Borough Council Local Plan Core Strategy (adopted July 2014).
- 4.2 Ecological policies relevant to the site include Policy QE5 'Biodiversity and Geodiversity', which sets out the council's aim to protect and, where possible, enhance sites of recognised nature and geological value, and Policy QE6 'Environment and Amenity Protection' which states that the council will only support development which would not lead to an adverse impact on the environment or amenity of future occupiers or those currently occupying adjoining or nearby properties, or does not have an unacceptable impact on the surrounding area.
- 4.3 The aim of this report is to support allocation of this site within the proposed Warrington Local Plan. Within the draft allocation plan this site is to be removed from the Green Belt and identified as a draft residential allocation.

Designated Sites

- 4.4 There are four international site designations within 10km the site boundary. The closest of these is Mersey Estuary Special Protection Area (SPA) and Ramsar, located approximately 7.6km west of site. This is designated for its internationally important bird life, which may use the SWUE site. There is therefore the potential for indirect impacts on this site.
- 4.5 Manchester Mosses Special Area of Conservation (SAC), which is composed of a number of different sites and is designated for its degraded raised bog habitat which is still capable of natural regeneration. The closest part of this site, Risley Moss, lies approximately 8km north east of the site. The other site is Rixton Clay Pits SAC which lies approximately 9km to the north east and is designated for its populations of great crested newt. Due to their distance from the SWUE site and reasons for designation, no impacts are anticipated on either site.
- 4.6 There are no nationally designated sites within 1km of the site.
- 4.7 Five Local Wildlife Sites (LWS) were identified in the desktop data provided by rECOrd. The closest locally designated site is Moore Nature Reserve LWS which is 200m north of the proposed development site, but separated from it by the Manchester Ship Canal. Walton Locks LWS lies approximately 400m north east and is direct connected to the site via the Manchester Ship Canal. All other LWSs lack any direct connectivity to, or are outside the influencing distance of, the development.
- 4.8 The site falls within three SSSI Impact Risk Zones (IRZ), although it is not clear exactly which site/sites these relate to as there are a number within close proximity. IRZs highlight the potential for effects on a SSSI if certain types of development are planned within a specified radius of it. Although residential development is not highlighted as of concern, potentially relevant categories include:

- Discharges - any discharge of water or liquid waste over 20m³/day to ground or to surface water.

Habitats and Flora

4.9 The desk based assessment (Appendix B) identified the following notable habitats and flora. Notable habitats identified on the MAGIC Map dataset on or adjacent to site are as follows:

- Deciduous woodland is present in the north and east of the site and directly adjacent to the eastern and western boundary; and
- Coastal floodplain grazing marsh lies approximately 250m to the west at the southern end of the site.

4.10 Records of the following flora were also returned within 1km of the site:

- Protected species: Bluebell *hyacinthoides non-scripta* and Freiberg's screw-moss *Tortula freibergii*.
- Non-native invasive species: Giant hogweed *Heracleum mantegazzianum*, giant knotweed *Fallopia sachalinensis*, giant rhubarb *Gunnera tinctoria*, Himalayan balsam *Impatiens glandulifera*, Japanese knotweed *Fallopia japonica* and Rhododendron *Rhododendron ponticum*.

4.11 Habitats present in and around the site are described below and illustrated in TEP drawing G6929.01.006B. Target notes are provided in Appendix C.

4.12 Parts of the site could not be accessed during the site survey due to access restrictions, however it appears from aerial imagery that the site is largely contiguous, containing a similar mix of arable fields surrounded by hedgerows and trees.

Trees and Scrub Habitats

4.13 Woodland defines the northern boundary of the site, running along the entire edge of the Manchester Ship canal (TN3) and also defines the western boundary (TN21). The woodland blocks are dominated by English oak *Quercus robur* and also contain sycamore *Acer pseudoplatanus*, ash *Fraxinus excelsior* and silver birch *Betula pendula*. The woodland along the eastern boundary is densely planted with a species poor understory containing abundant nettle *Urtica dioica* and bracken *Pteridium aquilinum*.

4.14 The woodland to the north is a mix of largely mature and semi mature trees again dominated by English oak. The woodland is a linear belt approximately 10m wide and contains an understory dominated by bracken and creeping bent *Agrostis stolonifera*.

4.15 A further band of woodland runs north south through the centre of site along the top of a narrow watercourse (TN19). This is again dominated by English oak but also contains large amounts of common lime *Tilia x europaea*.

4.16 A final band of woodland is present at the eastern extent of the site which is dominated by sycamore with other species present including horse chestnut, hawthorn, ash, birch, elder *Sambucus nigra*, common lime and oak.

- 4.17 Scattered trees are present across the site including mature oak and common lime trees around field boundaries. Small amounts of scattered scrub are also present across the site composed of hawthorn *Crataegus monogyna* and bramble *Rubus fruticosus agg.*
- 4.18 The site contains a mix of species poor intact hedgerows (TN15, TN20, TN23, TN33), dominated by hawthorn and blackthorn *Prunus spinosa*, and defunct species poor hedgerows (TN9, TN26) which are largely found in the north west of site.
- 4.19 The woodland and hedgerows will qualify as important habitats under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

Grassland Habitats

- 4.20 The field boundaries in the north east of site are generally bordered by a narrow band of semi improved neutral grassland (TN6). This contains frequent common bent *Agrostis capillaris*, false oat grass *Arrhenatherum elatius*, cock's-foot *Dactylis glomerata*, rough meadow grass *Poa trivialis* and nettle. In the south west of the site, the grassland bounding the fields was more improved (TN16) containing abundant false-oat grass, cock's foot and perennial rye-grass *Lolium perenne*.
- 4.21 Bordering the woodland at the north of site are areas of continuous tall ruderal vegetation (TN4) and continuous bracken. The tall ruderal vegetation is also found sporadically across the site, mostly associated with the field boundaries (TN24).
- 4.22 Tall ruderal vegetation at the northern boundary (TN4) has been specifically planted for birds and contains obviously planted species such as sunflower *Helianthus annuus* and flax *Linum sp.*
- 4.23 The majority of fields across the site are in use as arable fields and are currently cropped.

Wetland Habitats

- 4.24 There are no ponds which have been identified on site. However, a small duck pond is present at Canal Farm, 70m SW of site and two small woodland ponds are present within woodland 220m and 310m south west of the eastern most land parcel. Aerial photography also appears to show a large pond in a block of woodland just to the south of Mill Lane, however this could not be accessed to confirm.
- 4.25 The site is isolated from ponds in the wider area by the Manchester Ship Canal to the north, the Bridgewater Canal to the south and the A66 dual carriageway to the east. There appear to be no other waterbodies with direct connectivity to the site.
- 4.26 A brook approximately 2m wide by up to 1m deep runs north south through the site (TN13) and is heavily shaded along most of its length by mature and semi mature woodland. Another small brook lines the eastern site boundary, flowing northwards it has a steady fast flow and a depth of around 5cm - 30cm. The brook lies within a woodland block and eventually enters the Manchester Ship Canal.

Other Habitats

- 4.27 A number of buildings fall within the redline boundary. Those within an area of hardstanding, adjacent to TN35, are to be lost to development but all other buildings are to be retained and will not be affected by development.
- 4.28 Tracks and roads are present across the site made up of hard standing and bare ground. There is also an area of bare ground and ephemeral vegetation present along the northern boundary (TN7). This contains abundant scentless mayweed *Tripleurospermum inodorum* and frequent fat-hen *Chenopodium album*.
- 4.29 An ornamental plant nursery is present at TN34 which supply a nearby garden centre.

Protected and Invasive Flora

- 4.30 Invasive species identified on site which are listed under Schedule 9 of the Wildlife and Countryside Act 1981 include Himalayan balsam, Japanese knotweed, rhododendron *Rhododendron ponticum* and Japanese rose *Rosa rugosa*. The exact locations are shown in the Phase 1 Habitat Survey (G6929.01.006B).

Connectivity with the Wider Landscape

- 4.31 The site has good connectivity to the wider area along the treelines and hedgerows which border the site and along the railway line at the western boundary. The site also has excellent connectivity along the Manchester Ship Canal for birds and bats.

Fauna

Bats

- 4.32 Common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, Daubenton's bat *Myotis daubentonii*, brown long eared bat *Plecotus auritus* and noctule bat *Nyctalus noctula* have been recorded within 1km.
- 4.33 Daubenton's bat, brown long eared bat, pipistrelle bat and noctule bat have been identified within 1km grid squares which cover the site.
- 4.34 Trees on site were subject to a ground based inspection for their potential to support roosting bats. The results of this survey are shown in the Phase 1 Habitat drawing (G6929.01.006B). In summary there are individual trees present across the site with both low, moderate and high potential to support roosting bats. There are also a number of trees within the woodland blocks with potential to support roosting bats and areas of woodland not accessed during the survey.
- 4.35 The buildings to be lost, those within the hardstanding adjacent to TN35 are largely open barn buildings with limited potential to support roosting bats, however there are a small number of wooden huts and other structures which may have potential to support roosting bats.
- 4.36 The site offers bat roosting potential in trees and foraging and commuting potential along the site boundaries and internal linear features.

Amphibians

- 4.37 Both great crested newt (GCN) *Triturus Cristatus* and common toad *Bufo bufo* have been identified within 1km of the site boundary. Common toad have been identified within a 1km grid square which covers the site and GCN have been identified approximately 750m west of site beyond Manchester Ship Canal.
- 4.38 Although no ponds were identified on site during the survey, there are three ponds within 500m with no barriers to amphibian dispersal and a review of aerial photography suggests there is a large pond within an area of woodland to the south of Mill Lane. Confirmation of whether the pond actually exists will be required to confirm if there is any potential for impacts on amphibians. The site also contains habitat suitable to support foraging and hibernating amphibians.
- 4.39 However the site is bordered to the east by Chester New Road (A56), a busy dual carriage way, to the north by the Manchester ship Canal and to the south by the Bridgewater Canal, all of which are barriers to newt migration.

Otter and water vole

- 4.40 Records of both otter *Lutra lutra* and water vole *Arvicola amphibius* have been returned within 1km. The water vole record is to the north of the site beyond the Manchester Ship Canal. The otter record is to the north east of the site and appears to be from the Manchester Ship Canal itself, as there do not appear to be any other significant water courses in the relevant grid square.
- 4.41 The watercourse running down the centre of site contains habitat suitable to support water vole with running water and vegetated banks, although they are heavily shaded. However, it appears to be poorly connected to the other potential habitat. It is unlikely, given its size, to support breeding otter but may offer foraging and commuting potential although, due to its lack of connectivity and the presence of a weir where it joins the Manchester Ship Canal, as indicated on online mapping, this is considered unlikely.
- 4.42 The water course in the east of site has been identified in the Tyler Grange report (Ref: 10468_R02a_LRD_HB) as being suitable to support both water vole and otter.

Badger

- 4.43 Records of badger *Meles meles* have been returned within 1km including within the 1km grid square which covers the site.
- 4.44 The Tyler Grange report (Ref: 10468_R02a_LRD_HB) identified evidence of badger within the plot of land to the east of site including foraging evidence and setts. No evidence of badger was found on the site to the west of Chester Road such as snuffle holes, latrines or setts. However, there is habitat suitable to support this species on and directly adjacent to site, primarily within the areas of semi natural broadleaved woodland.

Birds

- 4.45 Extensive bird records have been recorded within 1km of site including birds listed under Birds of Conservation Concern, S41 priority species and those listed under Schedule 1 of the Wildlife and Countryside Act 1981 (As amended). Full details of birds found within 1km are listed in Appendix B.
- 4.46 The majority of bird records are associated with Moore Nature Reserve which contains a number of large lagoons.
- 4.47 The site has good potential to support breeding birds in the woodland, trees, hedgerows and scrub habitats.
- 4.48 Winter bird surveys have been completed by TEP, the results of which are presented in a separate report (Ref: 6929.01.021). In summary, during the winter bird surveys low numbers of wader species were occasionally recorded within the site, including peak counts of 22 lapwing (31st January 2019) and three snipe (7th February 2019). No other wader species were recorded within the site. The only wildfowl species recorded within the site was mallard, with a peak count of four individuals on 26th February 2019. A gadwall was recorded just outside the northern site boundary on the Manchester Ship Canal on 25th March. The only raptor species recorded included a single kestrel and a single buzzard.
- 4.49 A number of Bird of Conservation Concern species were recorded during the winter bird survey including small groups of fieldfare (peak count: 40 individuals), starling (peak count: 45 individuals), black-headed gull (peak count: 26 individuals) and stock dove (peak count: 24 individuals). Small numbers of dunnoek, grey partridge, house sparrow, linnet, mistle thrush and song thrush were also recorded.
- 4.50 On 25th March two kingfisher were recorded flying at the southern boundary of the site. An active kingfisher nest with an adult male bird next to it was also recorded on the Manchester Ship Canal at the north eastern boundary of the site on this date.

Other Fauna

- 4.51 Records of invertebrates were returned within 1km. However the site is heavily managed for agriculture and lacks any significant areas of flowering plants suitable to support an important invertebrate population.
- 4.52 No records of protected reptile species were returned within 1km. The site lacks any significant habitat suitable to support reptiles as there are few areas suitable for basking and few foraging opportunities to sustain a reptile population.
- 4.53 The site has potential to support brown hare *Lepus europeus* and hedgehog *Erinaceus europaeus*, which have been recorded in the area.

5.0 Discussion and Conclusions

- 5.1 This section discusses the potential impacts on ecological receptors associated with the proposed development plan (Appendix A). Consideration is given to the 'mitigation hierarchy', i.e. that impacts are first avoided or where this is not practicable, mitigated and as a final resort, compensated (off-set).
- 5.2 The proposed development includes areas of residential development within the centre of the site and areas of open green space along the northern and western boundaries.
- 5.3 The proposed plan shows careful consideration for retention of features of ecological value. The watercourse through the centre of site and the surrounding woodland is to be retained and buffered by at least 5m to avoid impacts on water voles, with the exception of two crossing points. The large block of woodland in the centre of site is also to be retained as are the majority of hedgerows across the site. A large area of open greenspace which incorporates existing woodland blocks is also to be retained at the northern boundary.

Designated Sites

- 5.4 Moore Nature Reserve is the closest LWS but is located north of the Manchester Ship Canal which forms a barrier to migration of terrestrial species. Direct negative impacts on this LWS are considered unlikely. However indirect impacts from increased public pressure on the site are possible. Mitigation measures to avoid negative impacts have been included in the site design and are discussed in Section 6.0.
- 5.5 The Mersey Estuary SPA/Ramsar is located within influencing distance of the site and has good connectivity along the Manchester Ship Canal and River Mersey to the north. The SPA is designated largely for its waterfowl and there are no habitats suitable to support waterfowl present on site. However, it is also designated for its passage and wintering waders which include redshank and lapwing, which could use the habitats on site. A Habitats Regulations Assessment (HRA) is to be produced for the site by TEP as a separate document.
- 5.6 Should the HRA identify any likely impacts on the SPA there is 37ha of open greenspace at the northern boundary and the further 5ha running through the centre of site within which mitigation can be implemented. This mitigation will be informed by completion of the HRA. Impacts on SPA birds can also be minimised using acoustic and visual screening and timing works to avoid sensitive periods for these bird species.
- 5.7 All other protected sites lack connectivity to the site or are of a distance where direct or indirect impacts are unlikely to occur.
- 5.8 The site lies within three SSSI IRZ. If run off of surface water to ground or nearby watercourses is likely to exceed 20m³ per day the council should consult with Natural England to discuss the potential impacts.

Habitats and Flora

- 5.9 The habitats of highest importance on the site are the woodland blocks and the hedgerows along the site boundaries. These are S41 habitats of principal importance. All hedgerows and woodland blocks are proposed to be retained throughout development as shown in the proposals at Appendix A. However some small crossings for roads and footpath access will be required. These will be carefully designed to minimise impacts on ecology. Hedgerow and woodland lost to development will need to be mitigated for within the final design.
- 5.10 The watercourse and mature tree lines crossing the site are also of ecological value as they offer foraging, commuting and breeding opportunities for a range of species. These habitats are also to be retained. Again however, some crossings are likely to be required. These will be carefully designed to minimise impacts on features of ecological value and any losses will be mitigated as discussed in Section 6.0.
- 5.11 The areas of grassland and arable crops across the site are to be lost to development, however these are of little ecological value.
- 5.12 Himalayan balsam, Japanese knotweed, Japanese rose and rhododendron have been recorded on site. A management plan for removal of these species will be produced.
- 5.13 No protected plant species were recorded on site.

Fauna

Bats

- 5.14 All British bats are European protected species, afforded full protection under the Conservation of Habitats & Species Regulations 2010 (as amended) and partial protection under the Wildlife and Countryside Act 1981(as amended). Bats are protected from killing or injury, and from disturbance at the place of rest. Bat roosts are also protected from obstruction, damage or destruction (whether or not a bat is in occupation at the time).
- 5.15 There are a number of trees on site with low and moderate potential to support roosting bats. Further survey of these trees will be undertaken as detailed in Section 7.0 if any are to be lost or disturbed during development. It is likely the buildings located adjacent to TN35 have some potential to support roosting bats and will be lost during development. An assessment of their roosting potential will be undertaken prior to submission of a planning application.
- 5.16 The trees, hedgerows and woodland within the site and its boundaries offer foraging and commuting potential for bats. Bat activity surveys will be undertaken to determine the use of the site by the local bat population as discussed in Section 6.0.

Amphibians

- 5.17 Although no waterbodies were recorded on site during the survey, there appears to be a large pond in an area of woodland not accessed at that time. There are records of GCN and common toad within 1km of the site.

- 5.18 Aside from the potential on site waterbody there are three additional waterbodies with no barriers to dispersal within 500m, the influencing distance for development on amphibians that could potentially be impacted by works. Further survey of these ponds will be undertaken to determine the presence or absence of protected amphibian species.
- 5.19 Based on the illustrative masterplan there is approximately 37ha of open greenspace at the northern boundary and a further 5ha running through the centre of site within which mitigation can be undertaken. Therefore, should evidence of protected amphibians be found on site it is considered that all necessary mitigation can be undertaken within the site red line boundary.

Otter and water vole

- 5.20 The otter is a European protected species (EPS) and is also partially protected under Schedule 5 of the Wildlife and Countryside Act 1981. The water vole is fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 and is a priority conservation species.
- 5.21 The watercourse running through the centre of site and the brook in the east of site have potential to support breeding water vole, but are considered unlikely to be used by otter. However, otter have been recorded on the Manchester Ship Canal which forms the western boundary of the site, so there is the potential for indirect impacts on this species. Further survey for water vole, and possibly otter, will be undertaken as detailed in Section 6.0.
- 5.22 The majority of development on site will contain at least a 5m buffer between the banks of the watercourses and closest development, avoiding any potential impacts on water voles. However, should mitigation be required this will be informed by the further surveys and can be undertaken within the 37ha of open greenspace at the northern boundary and the further 5ha running through the centre of site.

Badger

- 5.23 Badgers are fully protected under 'The Protection of Badgers Act 1992'. Evidence of badger was found in the east of site and the remaining habitats present are capable of supporting foraging and commuting badger. The site also offers further sett building potential within the woodland and the base of hedgerows crossing the site. The majority of the site (composed of arable fields) is considered sub optimal for sett building and given the general monoculture of this habitat is unlikely to offer significant foraging potential. Further survey for this species will be undertaken prior to development as detailed in Section 6.0.
- 5.24 The further survey will identify the level of badger activity on site and hence the amount of mitigation required. This can be undertaken within the 37ha of open greenspace at the northern boundary and the further 5ha running through the centre of site.

Birds

- 5.25 Native nesting birds, their nests and eggs are protected under the Wildlife & Countryside Act 1981 (as amended) from damage and destruction, from the time of nest construction to fledging of the young. This is a risk if vegetation clearance or lopping of trees is carried out in the nesting period (generally considered to be between March to August inclusive, although some species nest outside this period).
- 5.26 As the majority of potential nesting habitat will be retained that there will be no long-term significant impacts on the breeding bird assemblage.
- 5.27 Winter bird surveys have been undertaken on site. The results of which are to be published in a separate report (TEP Ref: 6929.01.021).

Other Species

- 5.28 The site has suitability to support brown hare and hedgehog and records of these species have been returned within 1km. Reasonable avoidance measures will be required to ensure no negative effects on these species. These are discussed further in section 6.0

6.0 Recommendations

- 6.1 This section sets out appropriate recommendations for impact avoidance, mitigation and enhancement. Any requirement for further surveys is also described, where relevant.
- 6.2 The manner of development shown in the indicative site proposals does not show any impediments to sustainable development provided the standard mitigation measures listed in the sections below are adhered to and all future survey work this report recommends is undertaken. The indicative site proposals show a framework for development which responds positively to the site's ecological context and seeks to, where possible, avoid impacts on the site ecology or mitigate for impacts and provide opportunities for enhancement.
- 6.3 The site is currently being considered for release in the emerging Warrington Local Plan. This section identifies mitigation, avoidance and enhancement measures and the need for any further survey required should the site be taken forward for a detailed planning application.
- 6.4 These recommendations are based on the masterplan shown in Appendix A.
- 6.5 All areas which could not be accessed for this survey will be subject to a detailed survey prior to submittal for a planning application. This report will then be updated with the findings. However, these areas were viewed from site boundaries where possible and detailed review of aerial images has been undertaken. Based on this it is considered that these areas are of a similar make up to the rest of site, comprising primarily arable fields, woodland, buildings and hedgerows, and therefore the recommendations for these areas are likely to be in line with those made below.

Designated Sites

- 6.6 The site contains suitable habitat to support wintering birds associated with the Mersey Estuary SPA/Ramsar site. . Given the proximity to the Mersey Estuary SPA and the records of birds on site a Habitats Regulations Assessment (HRA) will be undertaken on this site.
- 6.7 Should the HRA identify any likely impacts on the SPA there is 37ha of open greenspace at the northern boundary and the further 5ha running through the centre of site within which mitigation can be implemented. This mitigation will be informed by completion of the HRA. Impacts on SPA birds can also be minimised using acoustic and visual screening and timing works to avoid sensitive periods for these bird species.
- 6.8 Moore Nature Reserve LWS lies 200m north of the site. There may be increased public pressure on the site for amenity use and for dog walking. This is to be mitigated through the creation of large areas of open greenspace at the north of site which are not currently publically accessible.

Habitats and Flora

- 6.9 The habitats of highest importance on site are the hedgerows and the woodland blocks present across site. The hedgerows and woodland blocks are to be retained, with the exception of a small number of crossings for roads and footpaths. The crossing points will be informed by detailed ecological and arboricultural survey to identify the locations with the lowest impact. The loss of small areas of woodland and hedgerows will be offset within the newly created open greenspace to the north of site.
- 6.10 An Arboricultural Implications Assessment has been undertaken by TEP. All recommendations made in the report will be adhered to during development to ensure retained woodland and scattered mature trees on and directly adjacent to the site are suitably protected throughout the development.
- 6.11 A number of mature trees may be affected by development. Replacement native tree planting will be undertaken to mitigate for the loss of any trees on site at a rate of two for one.
- 6.12 New bridge and road crossings will be required across the watercourse on site. These will be designed with wildlife in mind, avoiding mature trees and other features of ecological value where possible. Their placement will also take into account the results of the otter and water vole survey as discussed below.

Invasive Species

- 6.13 Himalayan balsam, Japanese knotweed, Japanese rose and rhododendron are present across the site. These are listed under Schedule 9 of the Wildlife and Countryside Act 1981, as amended, which makes it an offence to grow or otherwise cause these species to spread in the wild. A site specific management plan will be produced detailing the management and removal of these species prior to development and this will be included within a site specific Construction Environmental Management Plan (CEMP).

Bats

- 6.14 There are a number of trees and buildings with bat roosting potential present on site. Prior to submission of a detailed planning application, an updated ground based assessment of trees and buildings with bat potential or those not subject to previous survey will be undertaken to identify any change in condition since the last survey or to confirm the presence/absence of features suitable to be used by roosting bats.
- 6.15 Trees with moderate or high potential should ideally be retained. However if removal is necessary these should first be climbed, if possible, under supervision of a licensed bat consultant to further investigate potential roosting features using an endoscope.
- 6.16 If an aerial survey is inconclusive, or not feasible, or trees are confirmed as having moderate or high potential to support roosting bats, dusk emergence or dawn re-entry surveys will be required. Trees with moderate potential will require two surveys and those with high potential will require three surveys in line with advice provided in the Bat Conservation Trust Guidelines 2016. Should dusk emergence or dawn re-entry surveys be required these can only be undertaken between May and August.

- 6.17 If a confirmed roost is recorded, and the tree needs to be removed, a licence would first need to be gained from Natural England.
- 6.18 Any trees identified as containing low potential to support roosting bats can be 'soft felled' under the supervision of a licensed bat consultant.
- 6.19 There are a number of buildings within the site boundary. If any of these buildings will be affected by the proposals, a detailed survey will be undertaken to confirm their potential to support roosting bats. This would initially take the form of an external and internal survey. Depending on the findings, further nocturnal surveys may be required.
- 6.20 There are a number of tree lines and waterways across the site and associated with the site boundaries. Further survey will be undertaken prior to development to determine if these are important foraging or commuting routes for bats.
- 6.21 The majority of site is covered by heavily managed arable land, however the hedgerows and woodland blocks on site have moderate suitability to support bats. Therefore, one dusk or dawn transect survey visit per month will be undertaken (April to October) prior to submittal of a detailed planning application, including at least one survey incorporating both dusk and dawn within a 24hr period. Static monitoring will also be required at two locations per transect and recording must continue for five consecutive nights in suitable weather conditions.
- 6.22 If important bat foraging and commuting routes are identified on site a detailed mitigation strategy will be produced prior to development. This will include details on retention of important habitats and creation of suitable mitigation measures
- 6.23 Regardless of findings a sensitive lighting strategy for the site will be produced detailing measures required to avoid light spill on to important foraging and commuting corridors for bats and other crepuscular species. The key areas include retained woodland blocks, the Manchester ship canal and the Bridgewater canal.
- 6.24 Based on the proposed development framework it is anticipated that there is suitable land within the retained greenspace, including 37ha of open greenspace at the northern boundary and the further 5ha running through the centre of site, to mitigate for any negative impacts on bat species. The level of mitigation required will be informed by the results of the surveys. New scrub, hedgerow or woodland planting can be undertaken if replacement foraging and commuting habitat is required and there are numerous mature trees present, to which new bat roost boxes can be fixed. Built-in roost features can also be incorporated into new buildings adjacent to semi natural habitats.

Amphibians

- 6.25 The majority of the site is covered by arable fields which are considered suboptimal habitat for amphibians. However, the hedgerows and woodland offer some foraging, hibernation and ranging habitat. A pond may be present in the centre of site and three further ponds are present within 500m. Further survey of these ponds will be required prior to development. Initially eDNA assessment will be undertaken. This involves water samples being collected from the pond by a suitably licensed ecologist and sent to a lab for testing. This survey will confirm the presence or absence of GCN only. This survey can be undertaken between 15th April and 30th June only.
- 6.26 Should the eDNA analysis confirm the presence of GCN then traditional surveys involving bottle trapping, egg searching and torchlight survey would likely be required. A total of six surveys are required across March to June to confirm the population size with three surveys during the peak season of mid-April to mid-May.
- 6.27 If GCN are found to be present on site a licence would be required from Natural England to enable works. There have recently been a number of new policies introduced by Natural England in relation to GCN mitigation. The most appropriate method for mitigating newts on site should be reviewed at the time of submittal for planning.
- 6.28 It is also possible that common toad and other common amphibians could be present on site if the pond exists. As part of the CEMP a toad Reasonable Avoidance Method Statement (RAMS) will be produced to prevent harm to this species during site clearance works.
- 6.29 Based on the proposed development framework it is anticipated that there is suitable land within the 37ha of open greenspace at the northern boundary and the further 5ha running through the centre of site to mitigate for any negative impacts on amphibian species. The level of mitigation required will be dependent upon the results of the further surveys. Should it be required there is adequate space present to allow creation of new ponds and supporting amphibian habitat.

Otter and water vole

- 6.30 The majority of development on site will contain at least a 5m buffer between the banks of the watercourses and closest development, avoiding any potential impacts on water voles. However, road and bridge crossings are required across the watercourse on site to allow connection of new roads. To ensure there are no adverse impacts on water vole detailed survey of the watercourses will be undertaken to inform siting of the new crossings. There is also the potential for indirect impacts on otters using the Manchester Ship Canal, so further survey for this species may also be required.
- 6.31 Otter surveys can be undertaken at any time of year but water vole surveys, which require two site visits, should be undertaken one between mid-April and June and the other between July and September, with the surveys undertaken at least two months apart.

- 6.32 If any evidence of water vole is found, the first step should be to adjust the crossing location to avoid any impact on this species. The bridge would also need to be designed in such a way as to not limit commuting for water vole along the watercourse. If this is not possible and direct impacts are anticipated, a licence may be required from Natural England.
- 6.33 Based on the proposed development framework it is anticipated that there is suitable land within the retained greenspace to the north of site to mitigate for any negative impacts on otter and water vole species, including 37ha of open greenspace at the northern boundary and the further 5ha running through the centre of site. The level of mitigation will be dependent upon the results of further survey. Should mitigation require it there is adequate space to create new waterbodies/water courses suitable to support water vole. Additional tree planting can be undertaken along the boundary of the Manchester ship canal to provide additional resting/holt creation opportunities for otter.

Badger

- 6.34 Evidence of badger was identified in the east of the site only. However, badgers are highly transient, and therefore could increase their range across the site. Therefore, prior to submittal of a detailed planning application an updated survey for presence of badger activity on site will be undertaken.
- 6.35 No development should take place within 30m of a badger sett. Where this is not possible the activity status of each sett entrance must first be established. The activity survey involves monitoring each hole identified on site for a period of four weeks using sand traps, hair traps and camera traps to determine if the holes are in use. If active sett entrances are found to be present within 30m of proposed development, they may then need to be closed under licence from Natural England.
- 6.36 Should a main badger sett be found within 30m of the proposed development which needs to be closed under licence, creation of a new artificial badger sett is likely to be needed. The need for artificial setts would be dependent on the outcomes of the further survey. The proposals show 37ha of open greenspace at the northern boundary and the further 5ha running through the centre of site which contains areas suitable for creation of an artificial sett.
- 6.37 A Reasonable Avoidance Method Statement will also be produced for the site and good construction site management will be undertaken to avoid impacts during the construction stage.

Birds

- 6.38 To avoid adverse impacts on nesting birds, vegetation clearance should be completed outside of the nesting period (typically taken to be March to August inclusive). Where this is not practicable, a nesting bird check must be carried out by a suitably qualified ecologist a maximum of 24 hours in advance of works to confirm no active nests are present. In the event that an active nest is identified, works within the surrounding area (radius dependent on species and context) must halt until the chicks have fledged.

- 6.39 There will be a large number of retained mature trees, to which new bird nest boxes can be attached in order to mitigate for the loss of nesting habitat. There is also scope for planting of compensatory nesting habitat within the retained greenspace to the north of site.
- 6.40 Given the presence of arable fields on site and clear flight lines, the site is determined to be suitable for supporting wintering bird species. A winter bird survey has been undertaken across the majority of the site. The results of this are shown in a separate report (TEP ref: 6929.01.021).

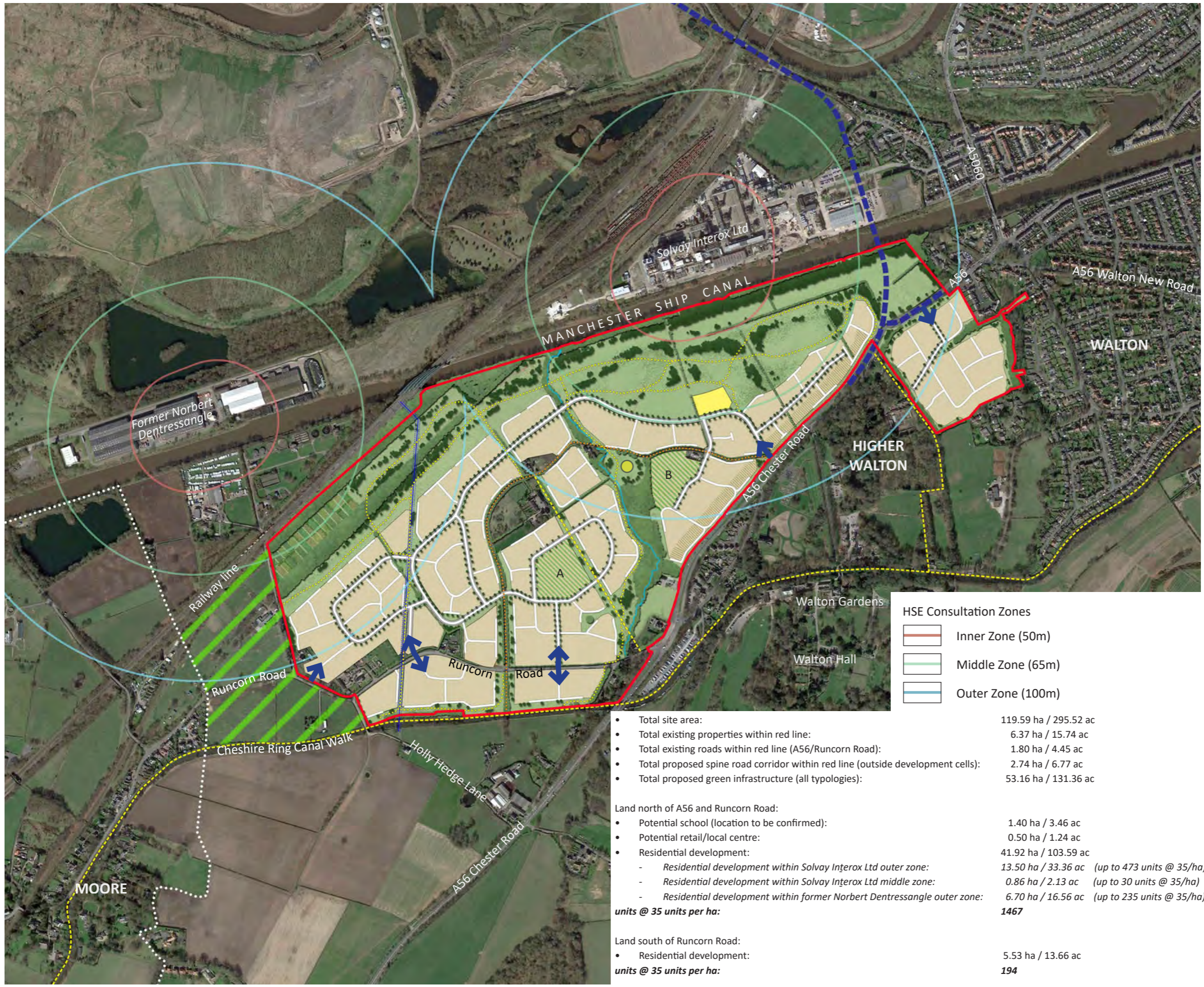
Hedgehog and Brown hare

- 6.41 There is potential for brown hare and hedgehog to use this site. A Reasonable Avoidance Method Statement (RAMS) will be produced to ensure that there are no negative impacts on these species. This will be included within the CEMP for the site.
- 6.42 This RAMS will include recommendations with regard to the timing of works, vegetation management prior to site stripping and details of any works which will require ecological supervision.
- 6.43 Provided the RAMS is adhered to throughout development there will be no negative impacts on these species.

Biodiversity Enhancement

- 6.44 In line with the new National Planning Policy Framework there is a need for measurable gain in biodiversity. To ensure that this is delivered, a Biodiversity Enhancement Strategy will be produced at the planning application stage. Measures which could potentially be included are listed below:
- Installing a selection of bird boxes on the site will enhance nesting opportunities for a range of birds.
 - Enhancement of bat roosting opportunities could be provided via the installation of bat boxes around the site. A range of bat boxes could be installed on retained trees or where feasible, within the structure of the new build.
 - Landscaping proposals should consider provision of pockets of wildflower/grassland planting. The new planting mix should include an appropriate native grassland/wildflower seed mix which should enhance the ecological value of the site.
 - Any ornamental/landscape planting should aim to include berry-bearing and nectar rich species which are native or of known wildlife value. These can provide a foraging resource for a range of wildlife species including invertebrates, and will also provide a foraging resource for birds and bats.

APPENDIX A: Proposed Development



- KEY:**
- Site boundary
 - Local Authority Boundary
 - Proposed Green Belt
 - Existing vegetation
 - Proposed trees and woodland
 - Proposed development cells
 - Proposed development to be no higher than 2 storey along A56
 - Potential locations for a school (A or B)
 - Proposed play area
 - Potential location for retail / local centre
 - Proposed primary road
 - Proposed secondary / tertiary roads
 - Proposed public open space
 - Proposed allotments
 - Existing Public Right of Way
 - Proposed footpath
 - Proposed cycleway with existing residential access retained
 - Proposed route of western link road
 - Gas pipeline and easement
 - Proposed vehicular access points

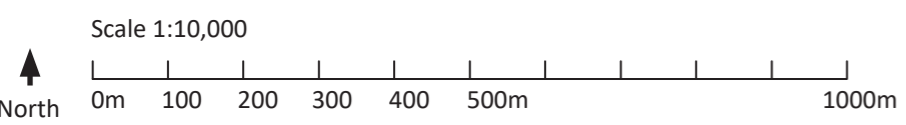
- HSE Consultation Zones**
- Inner Zone (50m)
 - Middle Zone (65m)
 - Outer Zone (100m)

- Total site area: 119.59 ha / 295.52 ac
- Total existing properties within red line: 6.37 ha / 15.74 ac
- Total existing roads within red line (A56/Runcorn Road): 1.80 ha / 4.45 ac
- Total proposed spine road corridor within red line (outside development cells): 2.74 ha / 6.77 ac
- Total proposed green infrastructure (all typologies): 53.16 ha / 131.36 ac

- Land north of A56 and Runcorn Road:
- Potential school (location to be confirmed): 1.40 ha / 3.46 ac
 - Potential retail/local centre: 0.50 ha / 1.24 ac
 - Residential development: 41.92 ha / 103.59 ac
 - Residential development within Solvay Interlox Ltd outer zone: 13.50 ha / 33.36 ac (up to 473 units @ 35/ha)
 - Residential development within Solvay Interlox Ltd middle zone: 0.86 ha / 2.13 ac (up to 30 units @ 35/ha)
 - Residential development within former Norbert Dentressangle outer zone: 6.70 ha / 16.56 ac (up to 235 units @ 35/ha)
- units @ 35 units per ha: 1467**

- Land south of Runcorn Road:
- Residential development: 5.53 ha / 13.66 ac
- units @ 35 units per ha: 194**

- Land south of A56 Chester Road:
- Residential development: 6.17 ha / 15.25 ac
 - Residential development within Solvay Interlox Ltd outer zone: 1.95 ha / 4.82 ac (up to 68 units @ 35/ha)
- units @ 35 units per ha: 217**
- Total units across whole site @ 35 units per ha: 1878**



NB: Masterplan subject to change following detailed survey work



Warrington Local Plan Sites
South West Urban Extension
Illustrative Masterplan and
development constraints

Drwg No: 630DE-13K Date: 11.06.2018
 Drawn by: AH Checker: SR
 Rev by: AH/YH Rev checker: SR/CW
 QM Status: Checked Product Status: Issue
 Scale: 1:10,000 @ A3

APPENDIX B: Desk Based Assessment

**Desk Based Ecology Assessment
Higher Walton, Warrington (WA4 6SH)
Approximate Central Grid Reference: SJ 58860 85238**

Contents

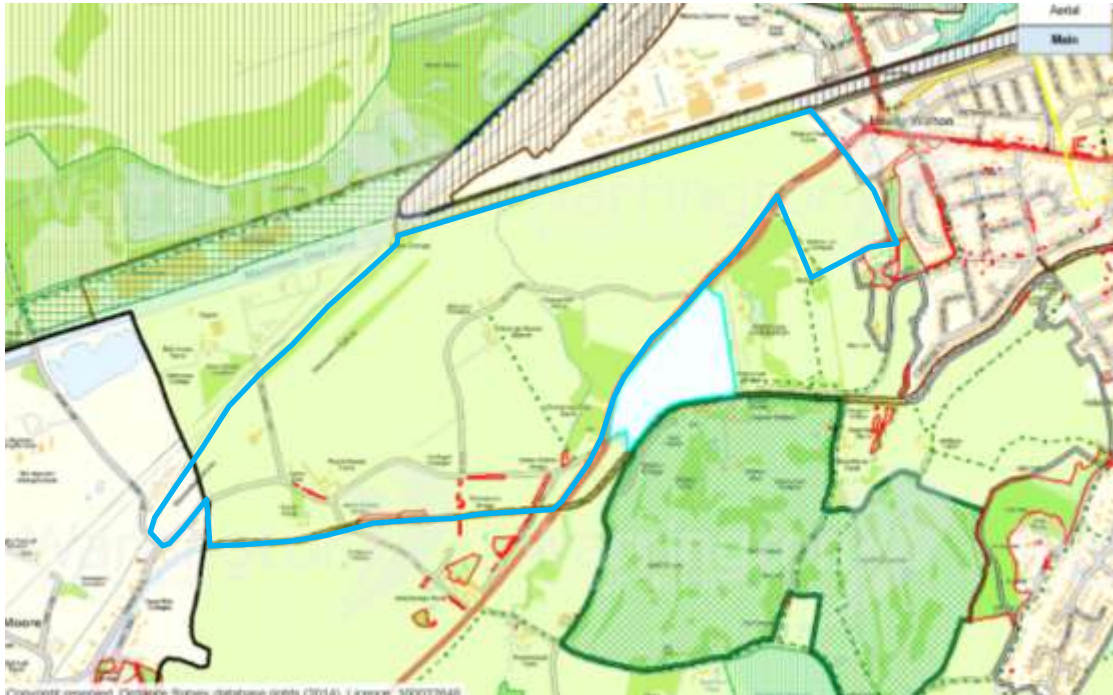
- **Site location plan**
- **Extracts of relevant planning policies from local plan**
- **Local site designations**
- **Local species records**
- **National site designations**
- **Habitat inventory records**

Site location plan



Contains Ordnance Survey data © Crown copyright and database right 2017

Extract of Warrington Borough Council Local Plan (adopted July 2014) – Proposals map and supporting key



— Site location

Local Plan Core Strategy ✓

- LPCS Area Boundaries
- LPCS CC1 Inset and Green Belt Settlements:
 - Region
 - Region
- LPCS CC3 Walton Hall Estate
- LPCS CS5 OSS Green Belt
- LPCS CS5 Overall Spatial Strategy Green Belt
- LPCS CS6 Strategic Green Links
- LPCS CS7 Strategic Location The Town Centre
- LPCS CS8 Strategic Proposal Omega and Lingley Mere
- LPCS CS9 Strategic Location Inner Warrington
- LPCS CS11 Strategic Opportunity Port Warrington
- LPCS IW2 Victoria Park
- LPCS MP3 Active Travel Greenway Network
- LPCS MP6 Transport Infrastructure Safeguarded Schemes
- LPCS MP6 Transport Infrastructure Safeguarded Schemes
- LPCS PV1 Development in Existing Employment Areas
- LPCS PV2 Fiddlers Ferry
- LPCS PV4 Primary Shopping Area
- LPCS QE5 European Sites International Importance
- LPCS QE5 Local Nature Reserves
- LPCS QE5 Local Wildlife Sites

- LPCS QE5 SSSIs
- LPCS QE8 Ancient Monuments
- LPCS QE8 Archaeological Importance
- LPCS QE8 Conservation Areas
- LPCS SN4 Hierarchy of Centres
 - Point
 - Point
 - Point
 - Region
- LPCS SW1 Stockton Heath District Centre
- LPCS Trunk Roads and Primary Routes
- LPCS WW1 Chapelford Urban Village

Conservation Areas ✓

- Conservation Areas
 - Region
 - Region

Tree Preservation Orders ✓

- Active
 - Region
 - Region
 - Region
 - Region
 - Region
 - Region

Extracts of relevant planning policies and supplementary planning guidance

Policy CS 1

Overall Spatial Strategy - Delivering Sustainable Development

Throughout the borough, development proposals that are sustainable will be welcomed and approved without delay.

To be sustainable, development must accord with national and local planning policy frameworks, taking into account other material considerations, and must, in no particular order, have regard to:

- the planned provision made for economic and housing growth;
- the requirement to provide for recognised and identified development needs;
- the priority afforded to the protection of the Green Belt and the character of the countryside;
- the priority afforded to accommodating growth in Inner Warrington through the use of previously developed land;
- the importance of sustaining and enhancing the vitality and viability of the Town Centre and other designated centres that act as community hubs;
- the need to develop sites, services and facilities in appropriate locations accessible by public transport, walking and cycling;
- the need to make the best use of existing transport, utility, social and environmental infrastructure within existing settlements, and ensure additional provision where needed to support development;
- the need to address the causes of and be resilient to the effects of climate change;
- the need to sustain and enhance the borough's built heritage, biodiversity and geodiversity;
- the importance of prudently using resources and maximising re-use, recovery and recycling where possible;
- the need to safeguard environmental standards, public safety, and residential amenity;
- the delivery of high standards of design and construction, that have regard to local distinctiveness and energy efficiency; and
- the need to improve equality of access and opportunity.

The Council's approach will always be to work proactively with applicants jointly to find solutions which mean that proposals can accord with the development plan and be approved without delay wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.

Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision then the Council will grant permission unless material considerations indicate otherwise - taking into account whether:

- Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole; or
- Specific policies in that Framework indicate that development should be restricted.

Policy CS 5

Overall Spatial Strategy - Green Belt

The Council will maintain the general extent of the Green Belt for as far as can be seen ahead and at least until 2032, in recognition of its purposes:

- to check the unrestricted sprawl of large built-up areas;
- to prevent neighbouring towns from merging into one another;
- to assist in safeguarding the countryside from encroachment; and
- to assist in urban regeneration by encouraging the recycling of derelict and other urban land.

The boundaries of the Green Belt in Warrington, which is contiguous with the Green Belt in Merseyside, Greater Manchester, and North Cheshire, are shown on the Policies Map.

The strategic locations and proposals set out in Policy CS2 - Quantity and Distribution of Development provide for significant growth throughout and beyond the plan period. There is therefore no need to review Strategic Green Belt boundaries during the plan period.

A minor detailed change to the approved Green Belt boundary in the Warrington Unitary Development Plan has been made at Bents Garden Centre, Glazebury.

Development Proposals within the Green Belt will be approved where they accord with relevant national policy.

Policy CS 6

Overall Spatial Strategy – Strategic Green Links

The Council will work with partners to develop and adopt a strategic approach to the care and management of the borough's Green Infrastructure. A key focus of these efforts will be on reinforcing, and maximising the environmental and socio-economic benefits from, those Strategic Green Links which connect the borough to the wider sub-region such as:

- The Bridgewater Canal
- The Mersey Valley;
- The River Bollin;
- Sankey Valley Park and St. Helens Canal;
- The Transpennine Trail; and
- Bold Forest Park

The Council is committed to supporting wider programmes and initiatives which seek to connect the borough's Strategic Green Links with employment areas, residential communities, and Green Infrastructure Assets including the Manchester Mosses, Mersey Forest, Walton Hall Estate and the potential significant country park in the Arpley area when landfill operations have finished and restoration is complete.

In accordance with Policy QE3 the Development Management Process will contribute to the objectives of this Policy.

Policy QE 3

Green Infrastructure

The Council will work with partners to develop and adopt an integrated approach to the provision, care and management of the borough's Green Infrastructure. Joint working and the assessment of applications will be focussed on:

- protecting existing provision and the functions this performs;
- increasing the functionality of existing and planned provision especially where this helps to mitigate the causes of and addresses the impacts of climate change;
- improving the quality of existing provision, including local networks and corridors, specifically to increase its attractiveness as a sport, leisure and recreation opportunity and its value as a habitat for biodiversity;
- protecting and improving access to and connectivity between existing and planned provision to develop a continuous right of way and greenway network and integrated ecological system;
- securing new provision in order to cater for anticipated increases in demand arising from development particularly in areas where there are existing deficiencies assessed against standards set by the Council.

Policy QE 5

Biodiversity and Geodiversity

The Council will work with partners to protect and where possible enhance sites of recognised nature and geological value. These efforts will be guided by the principles set out in National Planning Policy and those which underpin the strategic approach to the care and management of the borough's Green Infrastructure in its widest sense.

Sites and areas recognised for their nature and geological value are shown on the Policies Map and include:

- European Sites of International Importance
- Sites of Special Scientific Interest
- Regionally Important Geological Sites
- Local Nature Reserves
- Local Wildlife Sites
- Wildlife Corridors

The specific sites covered by the above designations at the time of publication are detailed in Appendix 3.

Proposals for development which may affect **European Sites of International Importance** will be subject to the most rigorous examination in accordance with the Habitats Directive. Development or land use change not directly connected with or necessary to the management of the site and which is likely to have significant effects on the site (either individually or in combination with other plans or projects) and which would affect the integrity of the site, will not be permitted unless the Council is satisfied that;

- there is no alternative solution; and
- there are imperative reasons of over-riding public interest for the development or land use change.

Proposals for development in or likely to affect **Sites of Special Scientific Interest (SSSI)** will be subject to special scrutiny. Where such development may have an adverse effect, directly or indirectly, on the SSSI it will not be permitted unless the reasons for the development clearly outweigh the nature conservation value of the site itself and the national policy to safeguard the national network of such sites.

Proposals for development likely to have an adverse effect on **regionally and locally designated sites** will not be permitted unless it can be clearly demonstrated that there are reasons for the development which outweigh the need to safeguard the substantive nature conservation value of the site or feature.

Proposals for development which may adversely affect the integrity or continuity of **UK Key habitats** or other habitats of local importance, or adversely affect **EU Protected Species**, **UK Priority Species** or other species of local importance, or which are the subject of **Local Biodiversity Action Plans** will only be permitted if it can be shown that the reasons for the development clearly outweigh the need to retain the habitats or species affected and that mitigating measures can be provided which would reinstate the habitats or provide equally viable alternative refuge sites for the species affected.

All development proposals affecting protected sites, wildlife corridors, key habitats or priority species (as identified in Local Biodiversity Action Plans) should be accompanied by information proportionate to their nature conservation value including;

- a site survey where necessary to identify features of nature and geological conservation importance; an assessment of the likely impacts of the proposed development proposals for the protection and management of features identified for retention;
- an assessment of whether the reasons for the development clearly outweigh the nature conservation value of the site, area or species; and
- proposals for compensating for features damaged or destroyed during the development process

Where development is permitted, the Council will consider the use of conditions or planning obligations to ensure the protection and enhancement of the site's nature conservation interest and/or to provide appropriate compensatory measures.

Policy QE 6

Environment and Amenity Protection

The Council, in consultation with other Agencies, will only support development which would not lead to an adverse impact on the environment or amenity of future occupiers or those currently occupying adjoining or nearby properties, or does not have an unacceptable impact on the surrounding area. The Council will take into consideration the following:

- The integrity and continuity of tidal and fluvial flood defences;
- The quality of water bodies, including canals, rivers, ponds and lakes;
- Groundwater resources in terms of their quantity, quality and the ecological features they support;
- Land quality;
- Air quality;
- Noise and vibration levels and times when such disturbances are likely to occur;
- Levels of light pollution and impacts on the night sky;
- Levels of odours, fumes, dust, litter accumulation and refuse collection / storage.
- The need to respect the living conditions of existing neighbouring residential occupiers and future occupiers of new housing schemes in relation to overlooking/loss of privacy, outlook, sunlight, daylight, overshadowing, noise and disturbance;
- The effect and timing of traffic movement to, from and within the site and car parking including impacts on highway safety;
- The ability and the effect of using permitted development rights to change use within the same Use Class (as set out in the in the Town and Country Planning (General Permitted Development Order) without the need to obtain planning consent.

Proposals may be required to submit detailed assessments in relation to any of the above criteria to the Council for approval.

Where development is permitted which may have an impact on such considerations, the Council will consider the use of conditions or planning obligations to ensure any appropriate mitigation or compensatory measures are secured.

Development proposals on land that is (or is suspected to be) affected by contamination or ground instability or has a sensitive end use must include an assessment of the extent of the issues and any possible risks. Development will only be permitted where the land is, or is made, suitable for the proposed use.

Additional guidance to support the implementation of this policy is provided in the Design and Construction and Environmental Protection Supplementary Planning Documents.

Policy CC 1

Inset and Green Belt Settlements

The following settlements are Inset (that is excluded) from the Green Belt:

Appleton Thorn	Grappenhall Heys
Burtonwood	Hollins Green
Croft	Lymm
Culcheth	Oughtrington
Glazebury	Winwick

Within these settlements new build development, conversions and redevelopment proposals will be allowed providing they comply with national planning policy and are sustainable in terms of Policy CS1.

The following are Green Belt settlements (that is washed over) within the Green Belt:

Broomedge	Heatley/Heatley Heath
Collins Green	Higher Walton
Cuerdley Cross	Mee Brow/Fowley Common
Glazebrook	New Lane End
Grappenhall Village	Stretton
Hatton	Weaste Lane

Within these settlements development proposals will be subject to Green Belt policies set out in national planning policy. New build development may be appropriate where it can be demonstrated that the proposal constitutes limited infill development of an appropriate scale, design and character in that it constitutes a small break between existing development which has more affinity with the built form of the settlement as opposed to the openness of the Green Belt; unless the break contributes to the character of the settlement.

The boundaries of Inset and Green Belt villages are shown on the Policies Map.

Policy CC 2

Protecting the Countryside

Development proposals in the countryside which accord with Green Belt policies set out in national planning policy will be supported provided that;

- the detailed siting and design of the development relates satisfactorily to its rural setting, in terms of its scale, layout and use of materials;
- they respect local landscape character, both in terms of immediate impact, or from distant views;
- unobtrusive provision can be made for any associated servicing and parking facilities or plant, equipment and storage;
- they relate to local enterprise and farm diversification; and
- it can be demonstrated that there would be no detrimental impact on agricultural interests.

Map provided by RECORD of site designations within 1km

Local Sites

Local Wildlife Sites

Moore Meadows / HA027

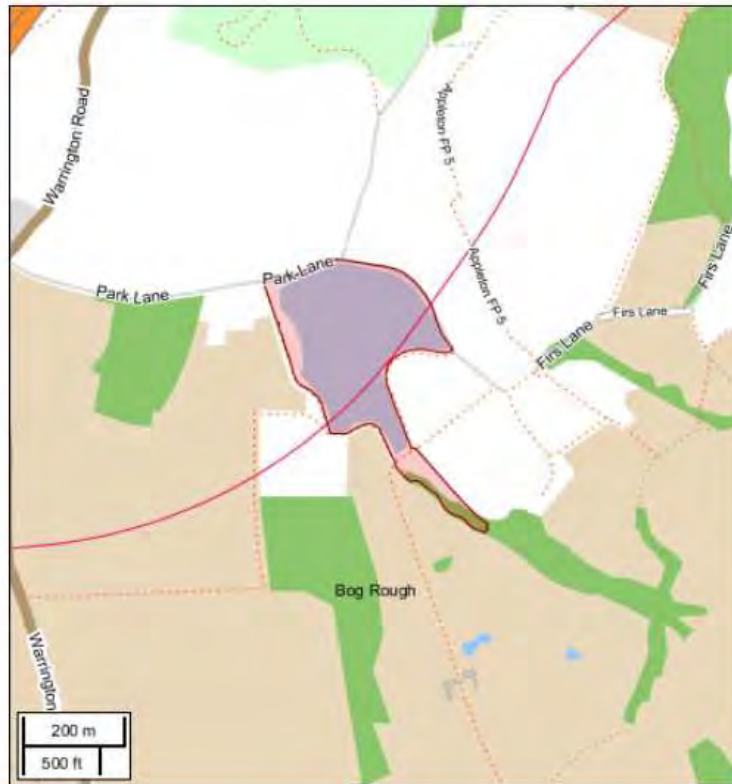
Map



Site name	Moore Meadows
Site code	HA027
Authority	Halton Local Wildlife Sites Partnership
Site centroid	SJ5717784289

Appleton Reservoir / WA001

Map



Site name	Appleton Reservoir
Site code	WA001
Authority	Warrington Local Wildlife Sites Partnership
Site centroid	SJ6023484127

Rows Wood / WA028

Map



Site name	Rows Wood
Site code	WA028
Authority	Warrington Local Wildlife Sites Partnership
Site centroid	SJ5921983759

Walton Locks / WA040

Map



Site name	Walton Locks
Site code	WA040
Authority	Warrington Local Wildlife Sites Partnership
Site centroid	SJ6059586373

Moore Nature Reserve / WA023

Map



Site name	Moore Nature Reserve
Site code	WA023
Authority	Warrington Local Wildlife Sites Partnership
Site centroid	SJ5738585369

Extract of species data provided by RECORD within 1km

Map



Designated Species Summary

Taxa	Designation Name	Occurrence in Cheshire tetrads between 2006-2017 (%)	Occurrence in Cheshire tetrads all years (%)
American Mink (<i>Neovison vison</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	10%	22%
Autumnal Rustic (<i>Eugnorisma glareosa</i>)	NERC S41, UK BAP Priority Species	<1%	5%
Barn Owl (<i>Tyto alba</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber, Wildlife and Countryside Act Schedule 9	23%	58%
Barnacle Goose (<i>Branta leucopsis</i>)	Birds of Conservation Concern [RSPB] - Amber, Wildlife and Countryside Act Schedule 9	2%	7%
Bittern (<i>Botaurus stellaris</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Red, NERC S41, UK BAP Priority Species	2%	7%
Black Swan (<i>Cygnus atratus</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	1%	2%
Black Tern (<i>Chlidonias niger</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	<1%	9%
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	Birds of Conservation Concern [RSPB] - Amber	23%	41%
Black-necked Grebe (<i>Podiceps nigricollis</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	2%	4%
Black-tailed Godwit (<i>Limosa limosa</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Red, NERC S41	5%	10%
Bluebell (<i>Hyacinthoides non-scripta</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 8	31%	69%
Brambling (<i>Fringilla montifringilla</i>)	Wildlife and Countryside Act - Schedule 1	9%	23%
Brown Hare (<i>Lepus europaeus</i>)	Local Biodiversity Action Plan Species, NERC S41, UK BAP Priority Species	21%	80%
Brown Long-eared Bat (<i>Plecotus auritus</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 5, NERC S41, Conservation (Habs and Sp) Regulations 2010 - Schedule 2, UK BAP Priority Species	24%	37%
Brown-spot Pinion (<i>Agrochola litura</i>)	NERC S41, UK BAP Priority Species	<1%	6%
Bullfinch (<i>Pyrrhula pyrrhula</i>)	Local Biodiversity Action Plan Species, Birds of Conservation	20%	70%

	Concern [RSPB] - Amber, NERC S41		
Canada Goose (<i>Branta canadensis</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	26%	53%
Centre-barred Sallow (<i>Atethmia centrago</i>)	NERC S41, UK BAP Priority Species	1%	7%
Cetti's Warbler (<i>Cettia cetti</i>)	Wildlife and Countryside Act - Schedule 1	2%	2%
Cinnabar (<i>Tyria jacobaeae</i>)	NERC S41, UK BAP Priority Species	13%	30%
Common Frog (<i>Rana temporaria</i>)	Wildlife and Countryside Act - Schedule 5	33%	63%
Common Gull (<i>Larus canus</i>)	Birds of Conservation Concern [RSPB] - Amber	9%	25%
Common Pipistrelle (<i>Pipistrellus pipistrellus</i>)	Wildlife and Countryside Act - Schedule 5, NERC S41, Conservation (Habs and Sp) Regulations 2010 - Schedule 2	39%	42%
Common Porpoise (<i>Phocoena phocoena</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 5, NERC S41, Conservation (Habs and Sp) Regulations 2010 - Schedule 2, UK BAP Priority Species	<1%	4%
Common Tern (<i>Sterna hirundo</i>)	Birds of Conservation Concern [RSPB] - Amber	3%	13%
Common Toad (<i>Bufo bufo</i>)	Wildlife and Countryside Act - Schedule 5, NERC S41, UK BAP Priority Species	23%	41%
Cuckoo (<i>Cuculus canorus</i>)	Birds of Conservation Concern [RSPB] - Red, NERC S41, UK BAP Priority Species	8%	69%
Curlew (<i>Numenius arquata</i>)	Birds of Conservation Concern [RSPB] - Amber, NERC S41, UK BAP Priority Species	14%	53%
Daubenton's Bat (<i>Myotis daubentonii</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 5, NERC S41, Conservation (Habs and Sp) Regulations 2010 - Schedule 2	8%	15%
Dot Moth (<i>Melanchra persicariae</i>)	NERC S41, UK BAP Priority Species	3%	14%
Dunlin (<i>Calidris alpina</i>)	Birds of Conservation Concern [RSPB] - Red	5%	15%
Dunnock (<i>Prunella modularis</i>)	Birds of Conservation Concern [RSPB] - Amber, NERC S41	29%	84%
Dusky Thorn (<i>Ennomos fuscantaria</i>)	NERC S41, UK BAP Priority Species	1%	8%
Ear Moth (<i>Amphipoea oculea</i>)	NERC S41, UK BAP Priority Species	<1%	3%
Eastern Grey Squirrel (<i>Sciurus carolinensis</i>)	Wildlife and Countryside Act Schedule 9	31%	54%
Eurasian Badger (<i>Meles meles</i>)	Protection of Badgers Act 1992	59%	74%

Eurasian Red Squirrel (<i>Sciurus vulgaris</i>)	Wildlife and Countryside Act - Schedule 5, NERC S41, UK BAP Priority Species	<1%	11%
European Otter (<i>Lutra lutra</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 5, NERC S41, Conservation (Habs and Sp) Regulations 2010 - Schedule 2, UK BAP Priority Species	11%	22%
European Water Vole (<i>Arvicola amphibius</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 5, NERC S41, UK BAP Priority Species	13%	52%
Fieldfare (<i>Turdus pilaris</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Red	19%	39%
Flounced Chestnut (<i>Agrochola helvola</i>)	NERC S41, UK BAP Priority Species	<1%	3%
Freiberg's Screw-moss (<i>Tortula freibergii</i>)	IUCN Global Red List - Near Threatened, Nationally Rare, NERC S41, UK BAP Priority Species	10%	10%
Gadwall (<i>Anas strepera</i>)	Birds of Conservation Concern [RSPB] - Amber	6%	12%
Garganey (<i>Anas querquedula</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	1%	7%
Giant Hogweed (<i>Heracleum mantegazzianum</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	5%	10%
Giant Knotweed (<i>Fallopia sachalinensis</i>)	Invasive Non-Native Species	<1%	2%
Giant-rhubarb (<i>Gunnera tinctoria</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	<1%	<1%
Glaucous Gull (<i>Larus hyperboreus</i>)	Birds of Conservation Concern [RSPB] - Amber	<1%	5%
Golden Plover (<i>Pluvialis apricaria</i>)	Birds of Conservation Concern [RSPB] - Amber	5%	17%
Goldeneye (<i>Bucephala clangula</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	6%	14%
Grasshopper Warbler (<i>Locustella naevia</i>)	Birds of Conservation Concern [RSPB] - Red, NERC S41, UK BAP Priority Species	5%	24%
Great Black-backed Gull (<i>Larus marinus</i>)	Birds of Conservation Concern [RSPB] - Amber	6%	16%
Great Crested Newt (<i>Triturus cristatus</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 5, NERC S41, Conservation (Habs and Sp) Regulations 2010 - Schedule 2, UK BAP Priority Species	20%	37%
Green Sandpiper (<i>Tringa ochropus</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	5%	17%

Green Woodpecker (<i>Picus viridis</i>)	Birds of Conservation Concern [RSPB] - Amber	12%	45%
Greenshank (<i>Tringa nebularia</i>)	Wildlife and Countryside Act - Schedule 1	3%	12%
Grey Partridge (<i>Perdix perdix</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Red, NERC S41, UK BAP Priority Species	8%	60%
Grey Plover (<i>Pluvialis squatarola</i>)	Birds of Conservation Concern [RSPB] - Amber	2%	7%
Grey Wagtail (<i>Motacilla cinerea</i>)	Birds of Conservation Concern [RSPB] - Amber	14%	45%
Greylag Goose (<i>Anser anser</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	10%	18%
Grizzled Skipper (<i>Pyrgus malvae</i>)	IUCN Global Red List - Vulnerable, NERC S41, UK BAP Priority Species	<1%	2%
Herring Gull (<i>Larus argentatus</i>)	Birds of Conservation Concern [RSPB] - Red	11%	33%
Herring Gull (<i>Larus argentatus</i> subsp. <i>argenteus</i>)	NERC S41, UK BAP Priority Species	<1%	<1%
Hobby (<i>Falco subbuteo</i>)	Wildlife and Countryside Act - Schedule 1	9%	17%
House Martin (<i>Delichon urbicum</i>)	Birds of Conservation Concern [RSPB] - Amber	23%	67%
House Sparrow (<i>Passer domesticus</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Red, NERC S41, UK BAP Priority Species	35%	84%
Iceland Gull (<i>Larus glaucooides</i>)	Birds of Conservation Concern [RSPB] - Amber	1%	4%
Indian Balsam (<i>Impatiens glandulifera</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	24%	36%
Jack Snipe (<i>Lymnocyptes minimus</i>)	Birds of Conservation Concern [RSPB] - Amber	4%	12%
Japanese Knotweed (<i>Fallopia japonica</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	18%	31%
Kestrel (<i>Falco tinnunculus</i>)	Birds of Conservation Concern [RSPB] - Amber	35%	80%
Kingfisher (<i>Alcedo atthis</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	15%	45%
Lapwing (<i>Vanellus vanellus</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Red, NERC S41, UK BAP Priority Species	28%	79%
Large-flowered Hemp-nettle (<i>Galeopsis speciosa</i>)	IUCN Global Red List - Vulnerable	1%	8%
Large-leaved Lime (<i>Tilia platyphyllos</i>)	Nationally Scarce	6%	15%

Lesser Black-backed Gull (<i>Larus fuscus</i>)	Birds of Conservation Concern [RSPB] - Amber	12%	29%
Lesser Spotted Woodpecker (<i>Dendrocopos minor</i>)	Birds of Conservation Concern [RSPB] - Red, NERC S41	5%	40%
Little Egret (<i>Egretta garzetta</i>)	Birds of Conservation Concern [RSPB] - Amber	7%	9%
Little Grebe (<i>Tachybaptus ruficollis</i>)	Birds of Conservation Concern [RSPB] - Amber	11%	29%
Little Ringed Plover (<i>Charadrius dubius</i>)	Wildlife and Countryside Act - Schedule 1	3%	13%
Mallard (<i>Anas platyrhynchos</i>)	Birds of Conservation Concern [RSPB] - Amber	42%	82%
Marsh Harrier (<i>Circus aeruginosus</i>)	Birds of Conservation Concern [RSPB] - Amber	3%	7%
Marsh Tit (<i>Poecile palustris</i>)	Birds of Conservation Concern [RSPB] - Red, NERC S41	2%	29%
Meadow Pipit (<i>Anthus pratensis</i>)	Birds of Conservation Concern [RSPB] - Amber	13%	45%
Mediterranean Gull (<i>Larus melanocephalus</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	4%	7%
Merlin (<i>Falco columbarius</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	6%	14%
Mistle Thrush (<i>Turdus viscivorus</i>)	Birds of Conservation Concern [RSPB] - Amber	23%	82%
Narrow-leaved Bitter-creed (<i>Cardamine impatiens</i>)	IUCN Global Red List - Near Threatened, Nationally Scarce	<1%	<1%
Noctule Bat (<i>Nyctalus noctula</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 5, NERC S41, Conservation (Habs and Sp) Regulations 2010 - Schedule 2, UK BAP Priority Species	23%	32%
Oak Hook-tip (<i>Watsonalla binaria</i>)	NERC S41, UK BAP Priority Species	2%	11%
Oystercatcher (<i>Haematopus ostralegus</i>)	Birds of Conservation Concern [RSPB] - Amber	13%	23%
Peregrine (<i>Falco peregrinus</i>)	Wildlife and Countryside Act - Schedule 1	11%	19%
Pied Flycatcher (<i>Ficedula hypoleuca</i>)	Birds of Conservation Concern [RSPB] - Amber	1%	13%
Pink-footed Goose (<i>Anser brachyrhynchus</i>)	Birds of Conservation Concern [RSPB] - Amber	8%	15%
Pintail (<i>Anas acuta</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	4%	12%
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%	54%

Pochard (<i>Aythya ferina</i>)	Birds of Conservation Concern [RSPB] - Amber	6%	19%
Red Hemp-nettle (<i>Galeopsis angustifolia</i>)	IUCN Global Red List - Critically Endangered, Nationally Scarce, NERC S41, UK BAP Priority Species	<1%	<1%
Red Kite (<i>Milvus milvus</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber, Wildlife and Countryside Act Schedule 9	5%	7%
Red-crested Pochard (<i>Netta rufina</i>)	Wildlife and Countryside Act Schedule 9	<1%	2%
Red-eared Terrapin (<i>Trachemys scripta</i>)	Invasive Non-Native Species	<1%	<1%
Redshank (<i>Tringa totanus</i>)	Birds of Conservation Concern [RSPB] - Amber	9%	22%
Redstart (<i>Phoenicurus phoenicurus</i>)	Birds of Conservation Concern [RSPB] - Amber	3%	22%
Redwing (<i>Turdus iliacus</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Red	18%	38%
Reed Bunting (<i>Emberiza schoeniclus</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Amber, NERC S41, UK BAP Priority Species	19%	73%
Rhododendron (<i>Rhododendron ponticum</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	19%	42%
Ring Ouzel (<i>Turdus torquatus</i>)	Birds of Conservation Concern [RSPB] - Red, NERC S41, UK BAP Priority Species	1%	8%
Ringed Plover (<i>Charadrius hiaticula</i>)	Birds of Conservation Concern [RSPB] - Amber	4%	15%
Ringlet (<i>Aphantopus hyperantus</i>)	Local Biodiversity Action Plan Species	14%	15%
Ring-necked Parakeet (<i>Psittacula krameri</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	<1%	1%
Rosy Rustic (<i>Hydraecia micacea</i>)	NERC S41, UK BAP Priority Species	2%	12%
Ruddy Duck (<i>Oxyura jamaicensis</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	3%	14%
Russian-vine (<i>Fallopia baldschuanica</i>)	Invasive Non-Native Species	1%	3%
Sacred Ibis (<i>Threskiornis aethiopicus</i>)	Invasive Non-Native Species	<1%	<1%
Sand Leek (<i>Allium scorodoprasum</i>)	Locally Rare and Scarce	<1%	<1%
Sand Martin (<i>Riparia riparia</i>)	Birds of Conservation Concern [RSPB] - Amber	7%	35%
Scaup (<i>Aythya marila</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Red, NERC S41,	3%	9%

UK BAP Priority Species			
Shaded Broad-bar (<i>Scotopteryx chenopodiata</i>)	NERC S41, UK BAP Priority Species	3%	18%
Shepherd's Cress (<i>Teesdalia nudicaulis</i>)	IUCN Global Red List - Near Threatened, Locally Rare and Scare	<1%	2%
Short-eared Owl (<i>Asio flammeus</i>)	Birds of Conservation Concern [RSPB] - Amber	4%	12%
Shoveler (<i>Anas clypeata</i>)	Birds of Conservation Concern [RSPB] - Amber	8%	18%
Skylark (<i>Alauda arvensis</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Red, NERC S41	20%	85%
Small Cudweed (<i>Filago minima</i>)	Locally Rare and Scare	<1%	2%
Small Square-spot (<i>Diarsia rubi</i>)	NERC S41, UK BAP Priority Species	2%	14%
Smew (<i>Mergellus albellus</i>)	Birds of Conservation Concern [RSPB] - Amber	1%	4%
Smooth Newt (<i>Lissotriton vulgaris</i>)	Wildlife and Countryside Act - Schedule 5	14%	35%
Snipe (<i>Gallinago gallinago</i>)	Birds of Conservation Concern [RSPB] - Amber	13%	54%
Song Thrush (<i>Turdus philomelos</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Red	33%	87%
Soprano Pipistrelle (<i>Pipistrellus pygmaeus</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 5, NERC S41, Conservation (Habs and Sp) Regulations 2010 - Schedule 2, UK BAP Priority Species	29%	32%
Spinach (<i>Eulithis mellinata</i>)	NERC S41, UK BAP Priority Species	<1%	7%
Spotted Flycatcher (<i>Muscicapa striata</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Red, NERC S41, UK BAP Priority Species	6%	60%
Starling (<i>Sturnus vulgaris</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Red, NERC S41	30%	86%
Stock Dove (<i>Columba oenas</i>)	Birds of Conservation Concern [RSPB] - Amber	10%	65%
Swallow (<i>Hirundo rustica</i>)	Birds of Conservation Concern [RSPB] - Amber	44%	87%
Swift (<i>Apus apus</i>)	Birds of Conservation Concern [RSPB] - Amber	22%	81%
Teal (<i>Anas crecca</i>)	Birds of Conservation Concern [RSPB] - Amber	11%	28%
Tree Pipit (<i>Anthus trivialis</i>)	Birds of Conservation Concern [RSPB] - Red, NERC S41, UK BAP Priority Species	2%	22%
Tree Sparrow (<i>Passer montanus</i>)	Local Biodiversity Action Plan Species, Birds of Conservation	10%	72%

	Concern [RSPB] - Red, NERC S41, UK BAP Priority Species		
Tufted Duck (<i>Aythya fuligula</i>)	Birds of Conservation Concern [RSPB] - Amber	13%	31%
Turkey Oak (<i>Quercus cerris</i>)	Invasive Non-Native Species	12%	28%
Water Pipit (<i>Anthus spinoletta</i>)	Birds of Conservation Concern [RSPB] - Amber	<1%	3%
West European Hedgehog (<i>Erinaceus europaeus</i>)	NERC S41, UK BAP Priority Species	24%	44%
Wheatear (<i>Oenanthe oenanthe</i>)	Birds of Conservation Concern [RSPB] - Amber	8%	32%
Whinchat (<i>Saxicola rubetra</i>)	Birds of Conservation Concern [RSPB] - Amber	3%	21%
White Ermine (<i>Spilosoma lubricipeda</i>)	NERC S41, UK BAP Priority Species	2%	15%
White-letter Hairstreak (<i>Satyrrium w-album</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 5, IUCN Global Red List - Endangered, NERC S41, UK BAP Priority Species	5%	16%
Whitethroat (<i>Sylvia communis</i>)	Birds of Conservation Concern [RSPB] - Amber	17%	70%
Whooper Swan (<i>Cygnus cygnus</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	3%	8%
Willow Warbler (<i>Phylloscopus trochilus</i>)	Birds of Conservation Concern [RSPB] - Amber	18%	83%
Wood Sandpiper (<i>Tringa glareola</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	<1%	5%
Woodcock (<i>Scolopax rusticola</i>)	Birds of Conservation Concern [RSPB] - Amber	8%	45%
Yellow Wagtail (<i>Motacilla flava</i>)	Birds of Conservation Concern [RSPB] - Red, NERC S41	5%	54%
Yellowhammer (<i>Emberiza citrinella</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Red, NERC S41, UK BAP Priority Species	14%	77%
Yellow-legged Gull (<i>Larus michahellis</i>)	Birds of Conservation Concern [RSPB] - Amber	1%	2%

Species Summary Report

Species Grid Id Summary Report

AMPHIBIAN

Taxon name	Grid ref. id
Great Crested Newt	3 (2013)
Common Frog	3 (2007-2013), 6 (2007), 8 (2011), 12 (2013-2015), 13 (2011)
Common Toad	3 (2006-2017), 6 (2007), 12 (2009-2015), 15 (2010)
Smooth Newt	3 (2010-2011), 6 (2007)

BIRD

Taxon name	Grid ref. id
Common Tern	3 (2012)
Grey Plover	3 (2006)
Dunlin	7 (2010), 8 (2007)
Greenshank	7 (2011), 8 (2007)
Meadow Pipit	3 (2006), 4 (2015), 6 (2015), 8 (2006-2011)
Barnacle Goose	3 (2012), 7 (2012)
Cetti's Warbler	8 (2010), 12 (2015)
Cuckoo	3 (2009-2012), 8 (2007-2011), 12 (2009)
Marsh Tit	3 (2006), 8 (2010)
Jack Snipe	3 (2013), 7 (2010), 8 (2006)
Brambling	3 (2006-2013), 7 (2014), 8 (2006-2010)
Herring Gull	3 (2014)
Black Swan	3 (2012), 7 (2011-2012)
Black-necked Grebe	3 (2006), 7 (2006-2014), 8 (2006)
Black Tern	13 (2010)
Garganey	7 (2010), 8 (2010), 12 (2012)
Fieldfare	3 (2010-2014), 6 (2015), 7 (2011), 8 (2006-2015), 12 (2010-2013), 13 (2009), 15 (2010)
Greylag Goose	3 (2007-2015), 6 (2015), 7 (2009-2015), 8 (2011-2012), 12 (2012-2015)
Merlin	3 (2014)
Mistle Thrush	2 (2007), 3 (2009-2015), 6 (2014-2015), 7 (2009-2012), 8 (2006-2015), 10 (2009), 12 (2010-2015), 18 (2009)
Glaucous Gull	6 (2014-2015), 7 (2010-2013), 8 (2010)
Grey Partridge	3 (2012-2013), 6 (2014-2015), 8 (2007-2012), 10 (2009)

Marsh Harrier	3 (2010-2013), 6 (2014-2015), 7 (2011), 12 (2010)
Green Sandpiper	3 (2006-2013), 7 (2007-2014), 8 (2006-2010), 11 (2009), 12 (2009-2011)
Grey Wagtail	3 (2006-2015), 6 (2007), 7 (2009-2014), 8 (2010), 12 (2009-2010), 14 (2008)
Little Egret	3 (2010-2015), 6 (2014), 7 (2010-2014), 8 (2010-2011), 12 (2009-2012)
Great Black-backed Gull	3 (2012-2014), 6 (2015), 7 (2009-2016), 8 (2010-2012)
Iceland Gull	3 (2006-2015), 6 (2014-2015), 7 (2006-2014), 8 (2006-2012)
Mediterranean Gull	3 (2012), 7 (2006-2014)
Lesser Black-backed Gull	3 (2011-2014), 6 (2014), 7 (2007-2016), 8 (2010-2012), 11 (2010), 12 (2007-2015), 15 (2006-2013)
Little Ringed Plover	7 (2010-2014), 8 (2007-2014), 12 (2009-2015)
Golden Plover	8 (2006-2013)
Lapwing	3 (2010-2015), 4 (2010), 5 (2010), 6 (2014-2015), 7 (2007-2011), 8 (2006-2013), 9 (2013), 11 (2009-2010), 12 (2009-2015), 13 (2011)
Kestrel	3 (2009-2015), 4 (2010), 6 (2014-2015), 7 (2009-2014), 8 (2006-2012), 11 (2015), 12 (2009-2012), 15 (2007-2013)
Goldeneye	3 (2010-2015), 6 (2014), 7 (2010-2015), 8 (2006-2012), 12 (2011-2012)
Curlew	3 (2010-2015), 6 (2007-2015), 7 (2013), 8 (2006-2012), 12 (2013)
Barn Owl	4 (2015), 12 (2014), 13 (2009)
Bittern	3 (2012-2013), 11 (2009), 12 (2006-2013)
Lesser Spotted Woodpecker	3 (2007-2015), 6 (2014-2015), 7 (2006-2012), 8 (2010-2012), 12 (2006-2011)
Little Grebe	3 (2006-2017), 6 (2013-2015), 7 (2007-2017), 8 (2006-2012), 11 (2009-2010), 12 (2009-2015), 13 (2009-2012), 15 (2006-2012), 18 (2010)
Hobby	2 (2006), 3 (2006), 7 (2010), 12 (2014)
Black-tailed Godwit	3 (2014), 7 (2014), 12 (2014)
Green Woodpecker	3 (2006-2015), 6 (2014-2015), 7 (2006-2014), 8 (2010-2012), 12 (2010-2017)
Herring Gull	3 (2012-2015), 6 (2014-2015), 7 (2009-2015), 8 (2006-2012), 12 (2008-2010), 15 (2007-2013)
Canada Goose	3 (2007-2017), 6 (2013-2015), 7 (2007-2017), 8 (2006-2012), 11 (2009-2012), 12 (2009-2015), 13 (2009-2011), 15 (2007-2012)
House Sparrow	3 (2015), 8 (2010-2015), 15 (2006-2014), 18 (2006-2013)
House Martin	3 (2009-2013), 7 (2009-2015), 8 (2010), 13 (2011), 15 (2007-2012), 18 (2008)
Bullfinch	3 (2009-2017), 6 (2007-2015), 7 (2009-2015), 8 (2006-2012), 11 (2009), 12 (2009-2015), 15 (2008-2014), 18 (2007-2010)
Duncock	2 (2007), 3 (2009-2017), 6 (2007-2015), 7 (2009-2015), 8 (2006-2015), 10 (2012), 12 (2009-2015), 14 (2016), 15 (2006-2011), 16 (2007), 18 (2006-2013)
Kingfisher	3 (2006-2015), 6 (2014), 7 (2006-2014), 8 (2010-2011), 11 (2009-2013), 12 (2006-2015), 15 (2007-2016)

Gadwall	3 (2009-2015), 6 (2014-2015), 7 (2006-2017), 8 (2006-2012), 11 (2009), 12 (2009-2015), 13 (2012), 18 (2009)
Common Gull	3 (2012-2015), 7 (2010-2014), 8 (2010-2012), 12 (2012-2015), 15 (2006-2013), 18 (2011)
Grasshopper Warbler	3 (2012), 4 (2010), 8 (2007-2010)
Black-headed Gull	2 (2006), 3 (2011-2015), 6 (2014-2015), 7 (2007-2017), 8 (2010-2012), 11 (2010), 12 (2010-2013), 13 (2009-2013), 15 (2006-2013), 18 (2007-2013)
Mallard	1 (2006), 2 (2007), 3 (2006-2017), 6 (2007-2017), 7 (2007-2017), 8 (2006-2013), 10 (2009), 11 (2008-2014), 12 (2007-2015), 13 (2009-2017), 14 (2010-2013), 15 (2006-2017), 16 (2007), 18 (2006-2013)
Teal	3 (2008-2015), 6 (2014-2015), 7 (2009-2015), 8 (2006-2012), 11 (2009), 12 (2009-2015), 13 (2009-2011), 15 (2007-2013)
Shoveler	3 (2008-2015), 6 (2014-2015), 7 (2006-2016), 8 (2006-2012), 12 (2009-2015), 13 (2011)
Swift	3 (2007-2015), 7 (2009-2015), 8 (2010), 10 (2012), 12 (2008-2015), 15 (2006-2014), 17 (2009-2011), 18 (2007-2011)
Peregrine	3 (2011-2014), 7 (2010-2014), 8 (2010-2012), 9 (2012), 12 (2006-2011), 14 (2008), 15 (2009-2014)
Song Thrush	2 (2007), 3 (2009-2015), 6 (2007-2015), 7 (2009-2015), 8 (2006-2012), 10 (2011-2012), 11 (2016), 12 (2008-2015), 13 (2011), 15 (2007-2011), 18 (2006-2013)
Reed Bunting	2 (2007), 3 (2009-2015), 4 (2010), 6 (2014-2015), 7 (2009-2015), 8 (2006-2012), 11 (2009-2010), 12 (2009-2015), 15 (2010)
Tufted Duck	3 (2006-2017), 6 (2014-2015), 7 (2007-2017), 8 (2006-2012), 11 (2009-2010), 12 (2007-2015), 13 (2009-2017), 15 (2007-2013), 16 (2007), 18 (2008-2012)
Pochard	3 (2009-2014), 6 (2014-2015), 7 (2007-2017), 8 (2006-2012), 11 (2009), 12 (2010-2015), 15 (2007-2011)
Stock Dove	3 (2009-2015), 4 (2015), 6 (2007), 7 (2009), 8 (2006-2012), 12 (2009-2015)
Oystercatcher	3 (2009-2014), 6 (2014-2015), 7 (2007-2015), 8 (2010-2013), 11 (2010), 12 (2009-2015), 15 (2008-2011)
Redwing	3 (2006-2015), 4 (2015), 6 (2014-2015), 7 (2010-2015), 8 (2006-2015), 12 (2010-2012), 13 (2009), 14 (2009), 15 (2010), 18 (2010-2013)
Starling	3 (2012-2015), 6 (2007-2015), 7 (2010-2015), 8 (2006-2015), 12 (2010-2013), 15 (2006-2010), 18 (2006-2013)
Whitethroat	2 (2007), 3 (2009-2015), 4 (2010), 6 (2015), 7 (2009-2015), 8 (2007-2011), 11 (2015), 12 (2009-2015), 13 (2011), 15 (2008), 18 (2007-2011)
Willow Warbler	3 (2009-2015), 4 (2010), 6 (2015), 7 (2009-2015), 8 (2007-2011), 11 (2009), 12 (2009-2015), 15 (2007-2009), 18 (2009-2013)
Pink-footed Goose	3 (2012-2014), 7 (2010), 8 (2010-2012)
Sand Martin	3 (2007-2015), 6 (2012), 7 (2007-2015), 8 (2010-2011), 11 (2008-2013), 12 (2009-2015)
Tree Sparrow	3 (2006), 6 (2014-2015), 8 (2006)
Yellowhammer	2 (2007), 3 (2010-2012), 6 (2014-2015), 8 (2006-2010)
Wheatear	3 (2006-2007), 7 (2015), 8 (2007-2010), 12 (2012)

Scaup	3 (2010), 7 (2010), 12 (2010)
Snipe	3 (2012-2013), 7 (2009-2015), 8 (2006-2012), 11 (2009), 12 (2009-2013)
Smew	3 (2013), 7 (2012-2013), 12 (2012-2013)
Woodcock	3 (2012), 8 (2006-2012), 12 (2010)
Ruddy Duck	3 (2006-2009), 7 (2006-2010), 8 (2006-2010), 12 (2010)
Yellow Wagtail	3 (2013-2015), 7 (2010-2012), 12 (2010)
Skylark	3 (2006-2014), 4 (2015), 5 (2010), 8 (2006-2011), 12 (2009-2012)
Swallow	1 (2006), 2 (2007), 3 (2009-2015), 6 (2010), 7 (2009-2015), 8 (2010-2011), 10 (2007), 11 (2009-2015), 12 (2008-2012), 13 (2009-2011), 14 (2008-2010), 15 (2007-2010)
Red Kite	3 (2007-2013)
Spotted Flycatcher	3 (2006), 7 (2011)
Redshank	7 (2010), 8 (2006-2010), 12 (2010)
Ringed Plover	7 (2011)
Whinchat	3 (2012), 7 (2012), 8 (2007), 12 (2010)
Red-crested Pochard	3 (2011), 7 (2011)
Sacred Ibis	7 (2012)
Yellow-legged Gull	3 (2013), 7 (2006-2015)
Pied Flycatcher	2 (2013)
Short-eared Owl	8 (2006-2012)
Whooper Swan	7 (2010), 8 (2010)
Pintail	3 (2007), 7 (2011), 8 (2006), 12 (2006)
Ring-necked Parakeet	8 (2010)
Water Pipit	12 (2010)
Ring Ouzel	3 (2007)
Wood Sandpiper	7 (2011)
Tree Pipit	7 (2010)
Redstart	8 (2011)

FLOWERING PLANT

Taxon name	Grid ref. id
Giant-rhubarb	11 (2010)
Large-leaved Lime	11 (2007)
Giant Knotweed	12 (2011)
Large-flowered Hemp-nettle	2 (2008)
Narrow-leaved Bitter-cress	11 (2010)

Japanese Knotweed	7 (2014), 10 (2007-2016), 11 (2007), 12 (2007-2011)
Bluebell	1 (2007), 2 (2007), 6 (2007), 7 (2009-2015), 9 (2013), 11 (2010), 14 (2013), 18 (2009)
Giant Hogweed	6 (2007), 11 (2015), 12 (2015), 15 (2010-2011)
Indian Balsam	6 (2007-2009), 7 (2009-2014), 11 (2010), 12 (2007-2015), 13 (2011), 15 (2009-2012)
Small Cudweed	12 (2014)
Shepherd's Cress	12 (2011)
Turkey Oak	1 (2006), 3 (2014), 7 (2015), 13 (2011)
Red Hemp-nettle	3 (2012)
Rhododendron	6 (2006), 10 (2016), 11 (2016)
Sand Leek	15 (2009)
Russian-vine	15 (2009)

INSECT - BUTTERFLY

Taxon name	Grid ref. id
Grizzled Skipper	15 (2016)
White-letter Hairstreak	3 (2012), 7 (2011-2014)
Ringlet	3 (2014)

INSECT - MOTH

Taxon name	Grid ref. id
Ear Moth	3 (2012)
Dusky Thorn	3 (2012-2013)
Dot Moth	12 (2011)
Flounced Chestnut	12 (2011)
Brown-spot Pinion	12 (2011)
Autumnal Rustic	12 (2011-2012)
Centre-barred Sallow	12 (2012)
Cinnabar	2 (2007), 3 (2010-2013), 12 (2009), 15 (2012), 18 (2010)
Small Square-spot	12 (2011-2012)
Rosy Rustic	12 (2011)
White Ermine	3 (2011-2012), 12 (2011)
Oak Hook-tip	3 (2013)
Shaded Broad-bar	3 (2012)
Spinach	12 (2011)

MARINE MAMMAL

Taxon name	Grid ref. id
Common Porpoise	11 (2006)

MOSS

Taxon name	Grid ref. id
Freiberg's Screw-moss	1 (2008), 2 (2008), 6 (2008), 10 (2008), 11 (2008), 14 (2008), 17 (2008)

REPTILE

Taxon name	Grid ref. id
Red-eared Terrapin	11 (2011), 12 (2008)

TERRESTRIAL MAMMAL

Taxon name	Grid ref. id
European Water Vole	12 (2008)
Eurasian Red Squirrel	11 (2016)
Brown Hare	6 (2015), 7 (2015), 8 (2007), 12 (2015)
Daubenton's Bat	3 (2011), 7 (2010), 12 (2013)
Common Pipistrelle	12 (2013), 13 (2011), 15 (2008-2011)
American Mink	11 (2009), 12 (2009), 14 (2008), 15 (2012)
Brown Long-eared Bat	14 (2013)
European Otter	18 (2012)
Eastern Grey Squirrel	2 (2009), 3 (2008-2015), 6 (2007-2015), 7 (2009-2014), 8 (2006-2012), 10 (2009-2011), 11 (2010-2016), 12 (2008-2015), 13 (2011), 14 (2011), 15 (2006-2015), 18 (2007-2013)
Eurasian Badger	2 (2012), 3 (2014-2016), 5 (2007), 6 (2011-2013), 7 (2014), 10 (2008-2015), 11 (2014), 12 (2012-2015), 13 (2013), 14 (2008-2015), 15 (2009-2016), 17 (2012), 18 (2010-2013)
West European Hedgehog	2 (2007), 6 (2007), 12 (2009), 15 (2008-2014)
Pipistrelle	6 (2007), 7 (2010-2011), 8 (2010-2011), 11 (2009-2012), 12 (2010), 14 (2008), 15 (2010)
Noctule Bat	3 (2012-2015), 12 (2013), 13 (2013), 14 (2010)
Soprano Pipistrelle	3 (2010-2015), 12 (2009), 13 (2011), 15 (2009-2010)

MAGIC Map 10km search zone for designated wildlife sites – Map



MAGIC Map search for SSSI Impact Risk Zones for site only

SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?
2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:

All Planning Applications

Infrastructure

Airports, helipads and other aviation proposals.

Wind & Solar Energy

Solar schemes with footprint > 0.5ha, all wind turbines.

Minerals, Oil & Gas

Rural Non Residential

Residential

Rural Residential

Air Pollution

Combustion

Waste

Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.

Composting

Discharges

Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location).

Water Supply

Notes

GUIDANCE – How to use the Impact Risk Zones

[/Metadata for magic/SSSI IRZ User Guidance MAGIC.pdf](#)

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW?
2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:

All Planning Applications

Infrastructure

Airports, helipads and other aviation proposals.

Wind & Solar Energy

Solar schemes with footprint > 0.5ha, all wind turbines.

Minerals, Oil & Gas

Rural Non Residential

Residential

Rural Residential

Air Pollution

Pig & poultry units, slurry lagoons > 750m² & manure stores > 3500t.

Combustion

General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.

Waste

Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.

Composting

Discharges

Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location).

Water Supply

Notes

GUIDANCE – How to use the Impact Risk Zones

[/Metadata for magic/SSSI IRZ User Guidance MAGIC.pdf](#)

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All Planning Applications

Infrastructure

Airports, helipads and other aviation proposals.

Wind & Solar Energy

Solar schemes with footprint > 0.5ha, all wind turbines.

Minerals, Oil & Gas

Rural Non Residential

Residential

Rural Residential

Air Pollution

Pig & poultry units, slurry lagoons > 4000m²

Combustion

General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.

Waste

Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.

Composting

Discharges

Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location).

Water Supply

Notes

GUIDANCE – How to use the Impact Risk Zones

[/Metadata_for_magic/SSSI_IRZ_User_Guidance_MAGIC.pdf](#)

MAGIC Map 1km search zone for habitat inventory data



APPENDIX C: Target Notes

KEY - D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note 1

The eastern section is relatively flat with a slight slope northwards and immediately bounded by the Manchester Ship Canal to the north. Access to the site is possible via Mill Lane, a narrow lane to the south of the site.

Whilst on site a green woodpecker was heard calling, three blackbirds were noted within the woodland to the north of the site and five wood pigeons were noted within the arable fields in addition to 12 grey partridge. High levels of badger activity were noted on site in the form of frequent latrines, snuffle holes, mammal pathways and mammal holes. Rabbit activity was also noted.

Target Note 2

Arable habitat is present throughout the eastern fields and is the dominant habitat in terms of area. All the arable habitat here is used for silage purposes and has recently been cut and baled. The most eastern arable field within the site appears to have also been used for barley in rotation with silage, with some cut barley evident. All of the fields have defunct native hedgerows along their boundaries with the exception of along the southern site boundary where intact hedgerows or wire fencing are present.

The arable fields have thin strips of neutral semi-improved grassland present along the field boundaries.

Target Note 3

Semi-natural broad-leaved woodland is present along the northern boundary and drain through the centre of site. The woodland contains trees ranging in age from young to mature though the majority of trees are semi-mature or mature. The woodland structure is not particularly complex as it is only a thin belt of woodland approximately 10m wide

Within the semi-natural broad-leaved woodland belt along the northern boundary and centre of site some mature trees were noted as have bat roost suitability with features such as trunk splits and branch cavities evident as well as being of a size and age which increase the likelihood of potential roost features being present.

The ground-flora in the semi-natural broad-leaved woodland is dominated by Himalayan balsam along the eastern boundary. Whereas, the main area of woodland along the Manchester Ship Canal banks has ground-flora dominated by grass species with frequent bracken and occasional bramble.

Mammal pathways lead into the woodland in the north-western corner of the site in particular, with badger snuffle holes and latrines also noted. A badger sett with a single hole was noted along the Manchester Ship Canal bank. Frequent latrines and some snuffle holes were present along the intact hedgerow along the southern site boundary. It was noted that badgers may use the hedgerow along the eastern site boundary as a pathway to the Manchester Ship Canal bank.

<i>Quercus robur</i>	English Oak	A
<i>Acer pseudoplatanus</i>	Sycamore	F
<i>Agrostis capillaris</i>	Common Bent	F
<i>Fraxinus excelsior</i>	Ash	F
<i>Pteridium aquilinum</i>	Bracken	F
<i>Quercus cerris</i>	Turkey Oak	F
<i>Agrostis stolonifera</i>	Creeping Bent	O
<i>Alnus glutinosa</i>	Alder	O
<i>Betula pendula</i>	Silver Birch	O
<i>Chamerion angustifolium</i>	Rosebay Willowherb	O
<i>Crataegus monogyna</i>	Hawthorn	O
<i>Cytisus scoparius</i>	Broom	O
<i>Dryopteris filix-mas</i>	Male-fern	O

<i>Poa trivialis</i>	Rough Meadow-grass	O
<i>Prunus avium</i>	Wild Cherry	O
<i>Rubus fruticosus agg.</i>	Bramble	O
<i>Salix caprea</i>	Goat Willow	O
<i>Salix fragilis</i>	Crack Willow	O
<i>Sambucus nigra</i>	Elder	O
<i>Sorbus aucuparia</i>	Rowan	O
<i>Corylus avellana</i>	Hazel	R
<i>Ilex aquifolium</i>	Holly	R
<i>Taxus baccata</i>	Yew	R
<i>Ulex europaeus</i>	Gorse	R

Target Note 4

Tall ruderal vegetation is present throughout the site but particularly along the northern site boundary with the Manchester Ship Canal. The largest band of tall ruderal vegetation in the north-west of the site has been sown purposefully as a seed mix for birds, including high proportions of flax, wild millet and sunflowers. A second large band of tall ruderal vegetation dominated by redshank and broad-leaved dock is present in the north-east corner of the site.

Small patches of tall ruderal vegetation are also present along field margins and are dominated by nettle in these locations.

The drain which runs south to north along the centre of site is dominated by Himalayan balsam with frequent nettle and some great willowherb.

Two sections of bank along the Manchester Ship Canal are also dense with tall ruderal vegetation dominated by nettle, rosebay willowherb and bracken with some bramble scrub.

Grasses are occasionally interspersed amongst tall ruderal species predominantly false oat-grass and cock's-foot.

<i>Impatiens glandulifera</i>	Himalayan Balsam	D
<i>Urtica dioica</i>	Nettle	D
<i>Helianthus annuus</i>	Sunflower	A
<i>Linum sp.</i>	Flax species	A
<i>Persicaria maculosa</i>	Redshank	A
<i>Raphanus raphanistrum</i>	Wild Radish	A
<i>Trifolium pratense</i>	Red Clover	A
<i>Tripleurospermum inodorum</i>	Scentless Mayweed	A
<i>Calystegia sepium</i>	Hedge Bindweed	F
<i>Chamerion angustifolium</i>	Rosebay Willowherb	F
<i>Cirsium arvense</i>	Creeping Thistle	F
<i>Epilobium hirsutum</i>	Great Willowherb	F
<i>Galium aparine</i>	Cleavers	F
<i>Rumex obtusifolius</i>	Broad-leaved Dock	F
<i>Trifolium repens</i>	White Clover	F
<i>Arrhenatherum elatius</i>	False Oat-grass	O
<i>Cirsium vulgare</i>	Spear Thistle	O
<i>Convolvulus arvensis</i>	Field Bindweed	O
<i>Dactylis glomerata</i>	Cock's-foot	O
<i>Equisetum arvense</i>	Field Horsetail	O
<i>Lathyrus pratensis</i>	Meadow Vetchling	O
<i>Lotus corniculatus</i>	Bird's-foot Trefoil	O
<i>Pteridium aquilinum</i>	Bracken	O
<i>Rubus fruticosus agg.</i>	Bramble	O
<i>Senecio jacobaea</i>	Common Ragwort	O
<i>Sonchus asper</i>	Prickly Sow-thistle	O
<i>Veronica chamaedrys</i>	Germander Speedwell	O
<i>Vicia cracca</i>	Tufted Vetch	O
<i>Filago vulgaris</i>	Common Cudweed	R

KEY - D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note 5

A large spoil heap in the centre of site which looks to have been recently piled. There is little vegetation covering the mound.

Target Note 6

Semi-improved neutral grassland is present throughout the site mainly around arable field boundaries where fields have not been cut or intensively managed up to the field boundaries. The strips of semi-improved neutral grassland bounding the field edges have not been noticeably set aside and are generally no more than 1m wide.

Semi-improved neutral grassland is also present as ground-flora within the semi-natural

<i>Agrostis capillaris</i>	Common Bent	F
<i>Arrhenatherum elatius</i>	False Oat-grass	F
<i>Dactylis glomerata</i>	Cock's-foot	F
<i>Poa trivialis</i>	Rough Meadow-grass	F
<i>Urtica dioica</i>	Nettle	F
<i>Agrostis stolonifera</i>	Creeping Bent	O
<i>Anthriscus sylvestris</i>	Cow Parsley	O
<i>Bromus hordeaceus</i>	Soft Brome	O
<i>Chamerion angustifolium</i>	Rosebay Willowherb	O
<i>Epilobium hirsutum</i>	Great Willowherb	O
<i>Equisetum arvense</i>	Field Horsetail	O
<i>Galium aparine</i>	Cleavers	O
<i>Heracleum sphondylium</i>	Hogweed	O
<i>Holcus lanatus</i>	Yorkshire-fog	O
<i>Plantago lanceolata</i>	Ribwort Plantain	O
<i>Ranunculus repens</i>	Creeping Buttercup	O
<i>Senecio jacobaea</i>	Common Ragwort	O
<i>Trifolium repens</i>	White Clover	O
<i>Tripleurospermum inodorum</i>	Scentless Mayweed	O
<i>Geum urbanum</i>	Wood Avens	R

Target Note 7

Bare ground with ephemeral vegetation is present along the northern site boundary. Ephemeral vegetation is short but generally consists of arable weeds.

Bare ground is also present along a tarmaced track leading from Mill Lane north to the Manchester Ship Canal and an area where trees have been woodchipped and trunks chopped and stored in bags on pallets. A large spoil heap of wood chippings is present in this location in addition to a large spoil heap of compost, both are categorised as 'Other Habitat'.

<i>Tripleurospermum inodorum</i>	Scentless Mayweed	A
<i>Chenopodium album</i>	Fat-hen	F
<i>Persicaria maculosa</i>	Redshank	F
<i>Rumex obtusifolius</i>	Broad-leaved Dock	F
<i>Trifolium repens</i>	White Clover	F
<i>Anagallis arvensis</i>	Scarlet Pimpernel	O
<i>Plantago major</i>	Greater Plantain	O
<i>Senecio jacobaea</i>	Common Ragwort	O
<i>Sonchus oleraceus</i>	Smooth Sow-thistle	O
<i>Veronica chamaedrys</i>	Germander Speedwell	O
<i>Vicia cracca</i>	Tufted Vetch	O
<i>Equisetum arvense</i>	Field Horsetail	R

Target Note 8

A species-poor intact native hedgerow is present along the track leading towards the Manchester Ship Canal and along the site boundary with Mill Lane. Both are dominated by hawthorn. There is evidence of mainly badger and some rabbit activity along these boundaries.

The defunct species-poor native hedgerows within the site are similar in composition to those that are intact, also being hawthorn dominant. Similar semi-improved neutral ground-flora is also present at the base of the hedgerows.

<i>Crataegus monogyna</i>	Hawthorn	D
<i>Dactylis glomerata</i>	Cock's-foot	A
<i>Arrhenatherum elatius</i>	False Oat-grass	F
<i>Betula pendula</i>	Silver Birch	F
<i>Artemisia vulgaris</i>	Mugwort	O
<i>Bromus hordeaceus</i>	Soft Brome	O
<i>Calystegia sepium</i>	Hedge Bindweed	O
<i>Fraxinus excelsior</i>	Ash	O
<i>Galium aparine</i>	Cleavers	O
<i>Hedera helix</i>	Ivy	O
<i>Heracleum sphondylium</i>	Hogweed	O
<i>Prunus spinosa</i>	Blackthorn	O
<i>Rubus fruticosus agg.</i>	Bramble	O
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O
<i>Urtica dioica</i>	Nettle	O
<i>Acer pseudoplatanus</i>	Sycamore	R
<i>Quercus robur</i>	English Oak	R

Target Note 9

A species-poor intact native hedgerow with trees is present along the south-eastern site boundary. The hedgerow is relatively unmanaged and 2.5m-3m in height being higher in sections where the trees are growing more densely. None of the trees within the hedgerow were noted as having bat roost suitability though they are of value for nesting birds particularly common and widespread species such as wood pigeon.

Ground-flora beneath the hedgerow included semi-improved neutral grassland species as noted around arable field boundaries.

<i>Crataegus monogyna</i>	Hawthorn	D
<i>Acer pseudoplatanus</i>	Sycamore	A
<i>Fraxinus excelsior</i>	Ash	A
<i>Sambucus nigra</i>	Elder	O
<i>Ulmus sp.</i>	Elm species	O
<i>Malus sylvestris</i>	Crab-apple	R
<i>Quercus robur</i>	English Oak	R
<i>Rhododendron ponticum</i>	Rhododendron	R

Target Note 10

Species-poor defunct native hedgerow

Target Note 11

There are some scattered broad-leaved trees along the site boundaries though they are not abundant.

<i>Quercus cerris</i>	Turkey Oak	O
<i>Quercus robur</i>	English Oak	O
<i>Sorbus intermedia</i>	Swedish Whitebeam	O

KEY - D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note 12

Continuous bracken is present along the northern site boundary with the Manchester Ship Canal. Scattered bracken is also located within the tall ruderal habitats and both are noted within the area of semi-natural broad-leaved woodland.

<i>Pteridium aquilinum</i>	Bracken	D
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Target Note 13

Flowing water is present along the centre of site and northern site boundary. Along the centre of site boundary the flowing water consists of a drain within semi-natural broad-leaved woodland. The drain is heavily shaded by the broad-leaved trees and is dominated by Himalayan balsam. There is low potential for water vole.

Target Note 14

Invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) are present within the site. These include some rhododendron noted within the hedgerow along the southern site boundary and the abundance of Himalayan balsam along most site boundaries and the drain within the centre of site

Target Note 15

A mature species poor hedgerow dominated by hawthorn which is typical of that which runs around the arable fields.

<i>Crataegus monogyna</i>	Hawthorn	D
<i>Galium aparine</i>	Cleavers	F
<i>Corylus avellana</i>	Hazel	O
<i>Rubus fruticosus</i> agg.	Bramble	O
<i>Calystegia</i> sp.	Bindweed species	R
<i>Ilex aquifolium</i>	Holly	R
<i>Quercus robur</i>	English Oak	R

Target Note 16

The fields within the centre of site are surrounded by a narrow strip of improved grassland, within this are scattered areas of tall ruderal vegetation.

<i>Arrhenatherum elatius</i>	False Oat-grass	A
<i>Dactylis glomerata</i>	Cock's-foot	A
<i>Lolium perenne</i>	Perennial Ryegrass	A
<i>Anthriscus sylvestris</i>	Cow Parsley	F
<i>Chamerion angustifolium</i>	Rosebay Willowherb	F
<i>Cirsium arvense</i>	Creeping Thistle	F
<i>Poa trivialis</i>	Rough Meadow-grass	F
<i>Artemisia vulgaris</i>	Mugwort	O
<i>Avena sativa</i>	Oat	O
<i>Equisetum arvense</i>	Field Horsetail	O
<i>Heracleum sphondylium</i>	Hogweed	O
<i>Matricaria chamomilla</i>	Scented Mayweed	O
<i>Plantago lanceolata</i>	Ribwort Plantain	O
<i>Pteridium aquilinum</i>	Bracken	O
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O
<i>Sonchus asper</i>	Prickly Sow-thistle	O
<i>Urtica dioica</i>	Nettle	O
<i>Vicia sativa</i>	Common Vetch	O
<i>Achillea millefolium</i>	Yarrow	R
<i>Fumaria muralis</i>	Common Ramping-fumitory	R
<i>Galeopsis</i> sp.	Hemp-nettle species	R

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<i>Hypochaeris radicata</i>	Common Cat's-ear	R
<i>Persicaria bistorta</i>	Bistort	R
<i>Senecio jacobaea</i>	Common Ragwort	R

Target Note 17

Near the southern edge of the area surveyed the site is bounded by a mature garden with overhanging trees.

<i>Malus pumila</i>	Apple	F
<i>Acer sp.</i>	Maple species	O
<i>Hedera helix</i>	Ivy	O
<i>Lonicera periclymenum</i>	Honeysuckle	O
<i>Prunus domestica</i>	Plum	O
<i>Prunus sp.</i>	Cherry species	O
<i>Salix x chrysocoma</i>	Weeping Willow	R

Target Note 18

This is a continuous strand of tall ruderal vegetation which has been taken over by Himalayan balsam.

<i>Impatiens glandulifera</i>	Himalayan Balsam	D
<i>Urtica dioica</i>	Nettle	A
<i>Arrhenatherum elatius</i>	False Oat-grass	F
<i>Chamerion angustifolium</i>	Rosebay Willowherb	F
<i>Dactylis glomerata</i>	Cock's-foot	F
<i>Rubus fruticosus agg.</i>	Bramble	F
<i>Senecio jacobaea</i>	Common Ragwort	O
<i>Geranium molle</i>	Dove's-foot Cranesbill	R

Target Note 19

The watercourse which runs through the centre of site is covered by mature woodland at its southern end. The watercourse is bounded by a sheep net fence with a recently planted hawthorn hedge which is overshadowed by the woodland.

<i>Quercus robur</i>	English Oak	A
<i>Tilia x europaea</i>	Common Lime	A
<i>Acer pseudoplatanus</i>	Sycamore	F
<i>Alnus glutinosa</i>	Alder	F
<i>Crataegus monogyna</i>	Hawthorn	F
<i>Sambucus nigra</i>	Elder	F
<i>Betula pendula</i>	Silver Birch	O
<i>Fraxinus excelsior</i>	Ash	O
<i>Populus nigra italica</i>	Lombardy Poplar	O
<i>Prunus spinosa</i>	Blackthorn	O
<i>Rubus fruticosus agg.</i>	Bramble	O
<i>Quercus cerris</i>	Turkey Oak	R
<i>Salix viminalis</i>	Osier	R
<i>Symphoricarpos albus</i>	Snowberry	R

Target Note 20

A section of hawthorn hedge adjacent to a private garden which has been under planted/gap filled with ornamental and garden hedge species.

<i>Crataegus monogyna</i>	Hawthorn	A
<i>Prunus spinosa</i>	Blackthorn	A
<i>Betula pendula</i>	Silver Birch	O
<i>Rubus fruticosus agg.</i>	Bramble	O
<i>Ligustrum vulgare</i>	Wild Privet	R
<i>Pinus sp.</i>	Pine species	R
<i>Syringa vulgaris</i>	Lilac	R

KEY - D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note 21

Areas of broadleaved woodland along the northern edge of site. These contain a poor understory and are densely planted.

<i>Quercus robur</i>	English Oak	D
<i>Betula pendula</i>	Silver Birch	A
<i>Crataegus monogyna</i>	Hawthorn	A
<i>Urtica dioica</i>	Nettle	A
<i>Acer pseudoplatanus</i>	Sycamore	F
<i>Pteridium aquilinum</i>	Bracken	F
<i>Sambucus nigra</i>	Elder	F
<i>Cirsium vulgare</i>	Spear Thistle	O
<i>Galium aparine</i>	Cleavers	O
<i>Oenothera sp.</i>	Evening-primrose species	O
<i>Prunus spinosa</i>	Blackthorn	O
<i>Salix cinerea</i>	Grey Willow	O
<i>Silene dioica</i>	Red Campion	O
<i>Fallopia japonica</i>	Japanese Knotweed	R
<i>Geranium sylvaticum</i>	Wood Cranesbill	R
<i>Lamium album</i>	White Dead-nettle	R
<i>Prunus padus</i>	Bird Cherry	R
<i>Rosa rugosa</i>	Japanese Rose	R
<i>Rosa sp.</i>	Rose species	R
<i>Verbascum thapsus</i>	Common Mullein	R

Target Note 22

A small area of continuous tall ruderal vegetation.

<i>Impatiens glandulifera</i>	Himalayan Balsam	D
<i>Cirsium arvense</i>	Creeping Thistle	A
<i>Oenothera sp.</i>	Evening-primrose species	F
<i>Plantago lanceolata</i>	Ribwort Plantain	F
<i>Rumex obtusifolius</i>	Broad-leaved Dock	F
<i>Urtica dioica</i>	Nettle	F
<i>Arctium minus</i>	Lesser Burdock	O
<i>Artemisia vulgaris</i>	Mugwort	O
<i>Lamium purpureum</i>	Red Deadnettle	O
<i>Matricaria chamomilla</i>	Scented Mayweed	O
<i>Matricaria discoidea</i>	Pineapple-weed	O
<i>Poa annua</i>	Annual Meadow-grass	O
<i>Rubus idaeus</i>	Raspberry	R

Target Note 23

The site is composed of a number of arable fields surrounded by hawthorn dominated hedgerows. Those hedgerows at TN23 are mostly intact, with occasional gaps for entrance of farm machinery, and are species poor.

This target note also includes the vegetation at the base of the hedgerows which is typical of arable field margins.

<i>Crataegus monogyna</i>	Hawthorn	D
<i>Anthriscus sylvestris</i>	Cow Parsley	A
<i>Festuca rubra</i>	Red Fescue	F
<i>Galium aparine</i>	Cleavers	F
<i>Holcus lanatus</i>	Yorkshire-fog	F
<i>Urtica dioica</i>	Nettle	F
<i>Bromus hordeaceus</i>	Soft Brome	O
<i>Bromus sp.</i>	Brome species	O
<i>Calystegia sp.</i>	Bindweed species	O
<i>Dactylis glomerata</i>	Cock's-foot	O
<i>Equisetum arvense</i>	Field Horsetail	O
<i>Geranium pyrenaicum</i>	Hedgerow Cranesbill	O
<i>Hedera helix</i>	Ivy	O

<i>Rubus fruticosus</i> agg.	Bramble	O
<i>Taraxacum officinale</i> agg.	Dandelion	O
<i>Brassica nigra</i>	Black Mustard	R
<i>Cardamine pratensis</i>	Cuckooflower	R
<i>Ilex aquifolium</i>	Holly	R
<i>Plantago lanceolata</i>	Ribwort Plantain	R
<i>Pteridium aquilinum</i>	Bracken	R
<i>Rumex crispus</i>	Curled Dock	R
<i>Rumex obtusifolius</i>	Broad-leaved Dock	R
<i>Sisymbrium officinale</i>	Hedge Mustard	R
<i>Solanum dulcamara</i>	Bittersweet	R

Target Note 24

In parts hedgerow is absent around the site boundary and here, tall ruderal vegetation is instead dominant.

<i>Anthriscus sylvestris</i>	Cow Parsley	D
<i>Bromus</i> sp.	Brome species	F
<i>Cirsium arvense</i>	Creeping Thistle	F
<i>Achillea millefolium</i>	Yarrow	O
<i>Bromus hordeaceus</i>	Soft Brome	O
<i>Dactylis glomerata</i>	Cock's-foot	O
<i>Festuca rubra</i>	Red Fescue	O
<i>Geranium pyrenaicum</i>	Hedgerow Cranesbill	O
<i>Rubus fruticosus</i> agg.	Bramble	O
<i>Schedonorus arundinaceus</i>	Tall Fescue	O
<i>Urtica dioica</i>	Nettle	O
<i>Brassica nigra</i>	Black Mustard	R
<i>Cardamine pratensis</i>	Cuckooflower	R
<i>Plantago major</i>	Greater Plantain	R
<i>Rumex obtusifolius</i>	Broad-leaved Dock	R
<i>Senecio vulgaris</i>	Groundsel	R
<i>Sisymbrium officinale</i>	Hedge Mustard	R
<i>Taraxacum officinale</i> agg.	Dandelion	R
<i>Tragopogon pratensis</i>	Goat's-beard	R

Target Note 25

In the south east of site is a narrow footpath which is bordered on the east by an intact hedgerow and on the west by a hedgerow and trees. Much of the ground flora is similar in composition to the surrounding arable field margins.

<i>Anthriscus sylvestris</i>	Cow Parsley	A
<i>Aesculus hippocastanum</i>	Horse-chestnut	F
<i>Lolium perenne</i>	Perennial Ryegrass	F
<i>Quercus</i> sp.	Oak species	F
<i>Urtica dioica</i>	Nettle	F
<i>Bromus hordeaceus</i>	Soft Brome	O
<i>Bromus</i> sp.	Brome species	O
<i>Galium aparine</i>	Cleavers	O
<i>Poa trivialis</i>	Rough Meadow-grass	O
<i>Rubus fruticosus</i> agg.	Bramble	O
<i>Salix caprea</i>	Goat Willow	R
<i>Sorbus intermedia</i>	Swedish Whitebeam	R

Target Note 26

A defunct hedgerow runs along the south west of site adjacent to the Bridgewater Canal.

<i>Crataegus monogyna</i>	Hawthorn	D
<i>Anthriscus sylvestris</i>	Cow Parsley	F
<i>Galium aparine</i>	Cleavers	F
<i>Bromus hordeaceus</i>	Soft Brome	O
<i>Bromus</i> sp.	Brome species	O
<i>Rubus fruticosus</i> agg.	Bramble	O
<i>Urtica dioica</i>	Nettle	O
<i>Equisetum arvense</i>	Field Horsetail	R
<i>Rumex acetosa</i>	Common Sorrel	R
<i>Vicia sativa</i>	Common Vetch	R

Target Note 27

The eastern boundary is bordered by a hedge and trees. The trees are mostly mature common lime with heavy ivy cover.

<i>Tilia x europaea</i>	Common Lime	D
<i>Hedera helix</i>	Ivy	A
<i>Acer pseudoplatanus</i>	Sycamore	F
<i>Crataegus monogyna</i>	Hawthorn	F
<i>Prunus spinosa</i>	Blackthorn	R

Target Note 28

A small band of trees at the edge of a field boundary.

<i>Tilia x europaea</i>	Common Lime	D
<i>Ulmus procera</i>	English Elm	R

Target Note 29

The southern boundary sits adjacent to a narrow block of broadleaved woodland. The actual boundary itself is a mix of remnant hawthorn hedge and flailed woodland edge.

<i>Acer pseudoplatanus</i>	Sycamore	A
<i>Quercus sp.</i>	Oak species	A
<i>Crataegus monogyna</i>	Hawthorn	F
<i>Hedera helix</i>	Ivy	F
<i>Sambucus nigra</i>	Elder	F
<i>Geranium robertianum</i>	Herb-Robert	O
<i>Hyacinthoides x massartiana</i>	Hybrid Bluebell	O
<i>Pteridium aquilinum</i>	Bracken	O
<i>Epilobium sp.</i>	Willowherb species	R
<i>Ilex aquifolium</i>	Holly	R
<i>Silene flos-cuculi</i>	Ragged Robin	R
<i>Sorbus aucuparia</i>	Rowan	R

Target Note 30

A small arable field is present in the west of site surrounded by a hawthorn hedgerow and associated flora typical of field margins.

<i>Crataegus monogyna</i>	Hawthorn	D
<i>Anthriscus sylvestris</i>	Cow Parsley	A
<i>Urtica dioica</i>	Nettle	F
<i>Brassica nigra</i>	Black Mustard	O
<i>Bromus hordeaceus</i>	Soft Brome	O
<i>Bromus sp.</i>	Brome species	O
<i>Festuca rubra</i>	Red Fescue	O
<i>Galium aparine</i>	Cleavers	O
<i>Cirsium vulgare</i>	Spear Thistle	R
<i>Geranium robertianum</i>	Herb-Robert	R
<i>Sisymbrium officinale</i>	Hedge Mustard	R
<i>Taraxacum officinale agg.</i>	Dandelion	R

Target Note 31

This is a large field which appears to have been set aside and has naturally colonised. It is surrounded to the north and south by woodland bands and to the west by a species poor intact hawthorn hedgerow.

<i>Poa annua</i>	Annual Meadow-grass	D
<i>Viola arvensis</i>	Field Pansy	D
<i>Spergula arvensis</i>	Corn Spurrey	A
<i>Festuca rubra</i>	Red Fescue	O
<i>Lamium purpureum</i>	Red Deadnettle	O
<i>Papaver rhoeas</i>	Common Poppy	O
<i>Stellaria media</i>	Chickweed	O
<i>Capsella bursa-pastoris</i>	Shepherd's-purse	R

Target Note 32

The field at TN31 is surrounded by a narrow band of young plantation woodland.

<i>Ulmus procera</i>	English Elm	A
<i>Crataegus monogyna</i>	Hawthorn	F
<i>Prunus spinosa</i>	Blackthorn	F
<i>Quercus sp.</i>	Oak species	F
<i>Sorbus aucuparia</i>	Rowan	F
<i>Bromus hordeaceus</i>	Soft Brome	O
<i>Galium aparine</i>	Cleavers	O
<i>Rubus fruticosus agg.</i>	Bramble	O
<i>Ulex europaeus</i>	Gorse	O
<i>Urtica dioica</i>	Nettle	O
<i>Acer pseudoplatanus</i>	Sycamore	R
<i>Betula pendula</i>	Silver Birch	R
<i>Bromus sp.</i>	Brome species	R
<i>Epilobium sp.</i>	Willowherb species	R
<i>Geranium robertianum</i>	Herb-Robert	R
<i>Myosotis sp.</i>	Forget-me-not species	R
<i>Prunus sp.</i>	Cherry species	R
<i>Pteridium aquilinum</i>	Bracken	R
<i>Sambucus nigra</i>	Elder	R

Target Note 33

A species poor hawthorn hedgerow runs along the boundary of this field. It is defunct to the east but is intact where it runs through the middle of site.

<i>Crataegus monogyna</i>	Hawthorn	D
<i>Dactylis glomerata</i>	Cock's-foot	D
<i>Anthriscus sylvestris</i>	Cow Parsley	F
<i>Bromus hordeaceus</i>	Soft Brome	F
<i>Galium aparine</i>	Cleavers	F
<i>Geranium pyrenaicum</i>	Hedgerow Cranesbill	F
<i>Bromus sp.</i>	Brome species	O
<i>Acer pseudoplatanus</i>	Sycamore	R
<i>Arrhenatherum elatius</i>	False Oat-grass	R
<i>Quercus sp.</i>	Oak species	R

Target Note 34

In the centre of site are two separate fields of ornamental planting. This is commercial planting sold at a nearby garden centre. Around the ornamental planting semi improved grassland has been allowed to grow.

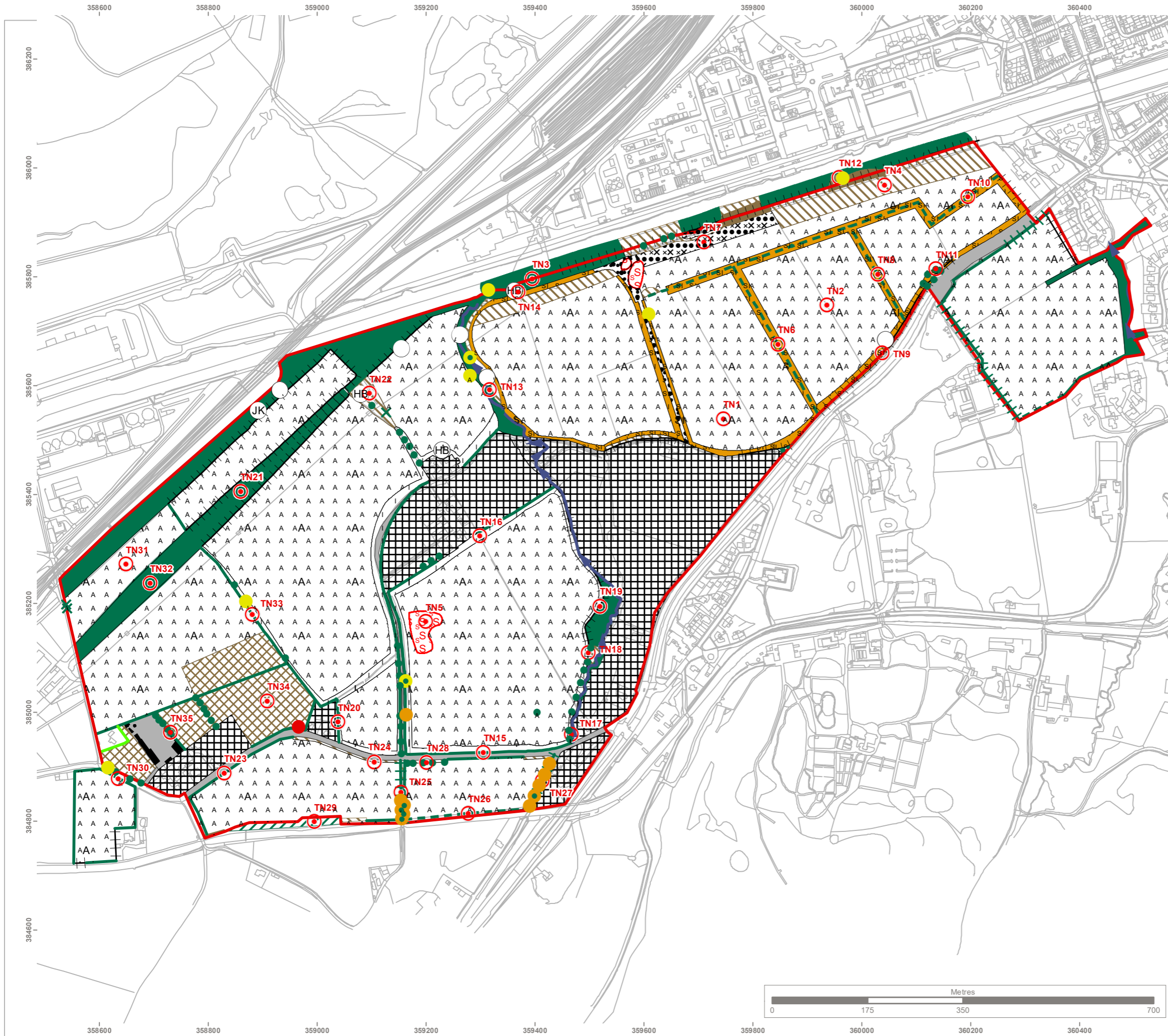
<i>Bromus hordeaceus</i>	Soft Brome	F
<i>Bromus sp.</i>	Brome species	F
<i>Cirsium arvense</i>	Creeping Thistle	F
<i>Epilobium sp.</i>	Willowherb species	F
<i>Lolium perenne</i>	Perennial Ryegrass	F
<i>Stellaria media</i>	Chickweed	F
<i>Taraxacum officinale agg.</i>	Dandelion	F
<i>Cornus sanguinea</i>	Dogwood	O
<i>Epilobium hirsutum</i>	Great Willowherb	O
<i>Geranium pyrenaicum</i>	Hedgerow Cranesbill	O
<i>Plantago lanceolata</i>	Ribwort Plantain	O
<i>Rumex crispus</i>	Curled Dock	O
<i>Senecio vulgaris</i>	Groundsel	O
<i>Trifolium pratense</i>	Red Clover	O
<i>Calystegia sp.</i>	Bindweed species	R
<i>Dipsacus fullonum</i>	Teasel	R
<i>Lamium album</i>	White Dead-nettle	R
<i>Matricaria discoidea</i>	Pineapple-weed	R
<i>Potentilla anserina</i>	Silverweed	R
<i>Rumex obtusifolius</i>	Broad-leaved Dock	R
<i>Sonchus asper</i>	Prickly Sow-thistle	R

Target Note 35

This is a narrow band of vegetation formed of a line of aspen trees to the north with a hawthorn hedgerow to the south.

DRAWINGS

Drawing 1 – G6929.01.006B Phase 1 Habitat Map

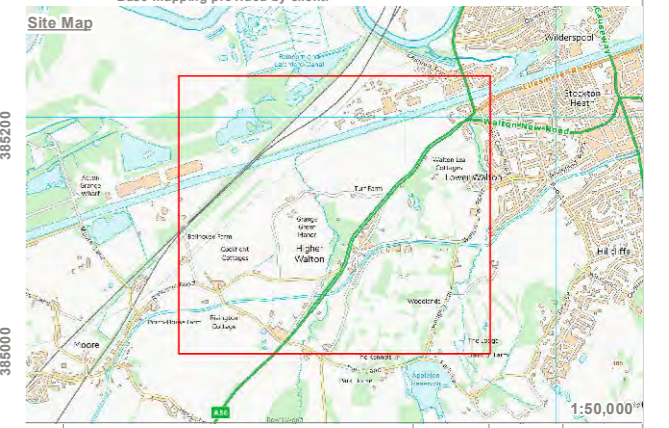


- KEY**
- Site Boundary
 - Further plots under consideration
 - Target Notes
 - Himalayan Balsam
 - Japanese Knotweed
 - Japanese Rose
 - Rhododendron Ponticum
 - Scattered Scrub
 - Scattered Broad-leaved Trees
 - Broad-leaved Tree with Low Bat Potential
 - Broad-leaved Tree with Moderate Bat Potential
 - Broad-leaved Tree with High Bat Potential
 - Running Water
 - Species-poor Intact Hedge
 - Conifer Hedge
 - Species-poor Defunct Hedge
 - Species-poor Hedge and Trees
 - Fence
 - Semi-natural Broad-leaved Woodland
 - Plantation Broad-leaved Woodland
 - Broad-leaved Parkland/Scattered Trees
 - Semi-improved Neutral Grassland
 - Improved Grassland
 - Continuous Bracken
 - Tall Ruderal
 - Spoil

Contains species information provided by Tyler Grange

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B	Updated site boundary	IH	AN	05/19
Rev	Description	Drawn	Approved	Date

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Peel Sites, Warrington - Higher Walton

Title
Phase 1 Habitat Survey

Drawing Number
G6929.01.006B

Drawn	Checked	Approved	Scale	Date
JS	JS/LS	AP	1:7,000 @ A3	24/05/2019



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SOUTH WEST URBAN EXTENSION HIGHER WALTON WINTER BIRD REPORT

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CONTENTS	PAGE
1.0 Introduction	1
2.0 Site Overview	2
3.0 Methods	3
4.0 Results	4
5.0 Discussion and Recommendations	9

TABLES	PAGE
Table 1: Ornithological information and consultations	3
Table 2: Populations of qualifying species and assemblage supported by the Mersey Estuary SPA as stated within the 2004 citation (see Appendix A)	4
Table 3: Winter bird Transect Survey Results	7

FIGURES	PAGE
Figure 1: Higher Walton site boundary (red line)	2

APPENDICES

APPENDIX A: Weather Data

APPENDIX B: Designated Site Citation

DRAWINGS

G6929.01.023 – Winter Bird Survey Visit 1 30&31.01.2019

G6929.01.024 – Winter Bird Survey Visit 2 06&07.02.2019

G6929.01.025 – Winter Bird Survey Visit 3 26.02.2019

G6929.01.026 - Winter Bird Survey Visit 4 08&11.03.2019

G6929.01.027 - Winter Bird Survey Visit 5 26.03.2019

1.0 Introduction

- 1.1 TEP was commissioned in by Peel Land and Property Ltd to undertake winter bird surveys at Higher Walton, Warrington (Grid reference SJ 58860 85238). The site is located in Warrington, Cheshire and is bounded by the canal to the south, A56 and housing to the east, Manchester Ship Canal to the north and railway, road and agricultural land to the west.
- 1.2 The objectives of this report are to:
- Detail the methods and results of the winter bird survey.
 - Identify features of value within or near to the site for wintering birds, any potential impacts of the development on wintering birds and any potential constraints for development proposals.
 - Provide recommendations for minimising impacts on wintering birds at or near to the site.
- 1.3 The nearest internationally designated site for birds is the Mersey Estuary Special Protection Area (SPA) and Ramsar site, which is located 10km to the north west of the proposed development site. The Mersey Estuary is designated for a number of wintering waders and wildfowl, including shelduck, teal, pintail, golden plover, dunlin, black-tailed godwit and redshank, as well as its waterbird assemblage. This survey included an assessment in respect of these species, and other birds of conservation concern.
- 1.4 This assessment is based on the assumption that it is possible that construction or earthmoving works might take place at any location within the red line boundary shown in Figure 1.

2.0 Site Overview

- 2.1 The site is centred at grid reference SJ 58860 85238. It is located in Warrington, Cheshire and is bounded by the canal to the south, A56 and housing to the east, Manchester Ship Canal to the north and railway, road and agricultural land to the west.
- 2.2 The site comprises arable fields divided by hedgerows. It also contains some broadleaved woodland and tall ruderal vegetation, mainly along the west and north boundary. A brook surrounded by broadleaved woodland flows through the central part of the site. The site boundary is shown on Figure 1.



Figure 1: Higher Walton site boundary (red line)

3.0 Methods

Desktop Survey

- 3.1 Information was gathered regarding protected sites and habitats/species of conservation concern within 10, 5 and 1km of the proposed development site. The sources used are presented in Table 1.

Table 1: Ornithological information and consultations

SOURCE OF INFORMATION	NATURE OF INFORMATION
Multi-Agency Geographic Information for the Countryside (MAGIC) Map	Statutory protected sites and priority habitat inventory
Warrington Borough Council Local Plan (adopted July 2014)	Proposal map, relevant planning policies
Google Maps	Satellite imagery
RECORD	Species data

3.2 Winter Bird Survey

The winter bird survey comprised of five visits undertaken between January and April 2019. Weather was recorded during every survey and weather data is in the Appendix A.

- 3.3 During each survey visit a transect route was walked throughout the proposed development site. During the survey all birds within the following bird groups were recorded directly onto the survey map, as well as details of their activity using standard British Trust for Ornithology (BTO) codes:

- All waders, wildfowl, raptors and other waterbird species
- Red (BRd) and Amber (BAm) List Birds of Conservation Concern (BoCC)
- Section 41 bird species listed on the Natural Environment and Rural Communities (NERC) Act 2006 (S41)
- Schedule 1 bird species listed on the Wildlife and Countryside Act (1981) (WCA1)

4.0 Results

Desktop Survey

4.1 Internationally Designated sites

There are two internationally designated sites within 10km of the proposed development:

- Mersey Estuary Special Protection Area (SPA)
- Mersey Estuary Ramsar

4.2 Both of these sites occupy the same geographical area and are located approximately 10km to the southwest is designated for its habitats and importance for wading birds.

4.3 On 30th June 2004 Natural England published an updated Conservation Objectives list for the Mersey Estuary SPA. The list of qualifying species published is as follows:

- Shelduck (non-breeding)
- Teal (non-breeding)
- Pintail (non-breeding)
- Golden plover (non-breeding)
- Dunlin (non-breeding)
- Black-tailed godwit (non-breeding)
- Redshank (non-breeding)

4.4 The populations of qualifying species supported by the Mersey Estuary SPA as stated within the earlier 2004 citation are presented in Table 2.

4.5 The Mersey Estuary Ramsar is designated for the same species as the Mersey Estuary SPA under Criterion 6. This site is also designated under Criterion 5 for supporting an internationally important assemblage of wintering waterfowl. The designation also lists a number of 'noteworthy species' which occur at levels of national importance. These include ringed plover, curlew, spotted redshank and greenshank during the spring and autumn and wigeon during the winter.

Table 2: Populations of qualifying species and assemblage supported by the Mersey Estuary SPA as stated within the 2004 citation (see Appendix A)

Species	5-yr peak mean (1993/94 – 1997/98)	% GB population	% biogeographical population
Golden plover	3,040	1.2	-
Shelduck	6,746	-	2.2
Teal	11,723	-	2.9
Pintail	1,169	-	1.9
Dunlin	48,789	-	3.7
Black-tailed godwit	976	-	2.8
Redshank (winter)	4,993	-	3.8

Species	5-yr peak mean (1993/94 – 1997/98)	% GB population	% biogeographical population
Redshank (passage)	4,513	3.5	-
Wintering Waterbirds Assemblage	104,599	-	-

Nationally Designated Sites

4.6 There are three nationally designated sites for birds within 10km of the site:

- Highfield Moss SSSI located 10km northeast of the site is designated for its habitats and plant communities, the white faced darter dragonfly and birds associated with the habitats present;
- Woolston Eyes SSSI located 5km northeast of the site is designated for its breeding bird assemblages and for wintering wildfowl;
- Mersey Estuary SSSI - Mersey North Bank is located 10km north of the site and is designated for its littoral sediment and species (including birds) supported by this habitat.

Species Records

4.7 The following waterbird and raptor bird species records were returned within 1 km of the site in the desktop study:

- Common tern (BAm)
- Grey plover (BAm)
- Dunlin (BAm)
- Greenshank (WCA1, BAm)
- Barnacle goose (BAm)
- Jack snipe
- Black-necked grebe (WCA1, BAm)
- Black tern (WCA1)
- Garganey (WCA1, BAm)
- Greylag Goose (WCA1, BAm)
- Green sandpiper (WCA1, BAm)
- Little egret
- Little ringed plover (WCA1)
- Golden plover (S42)
- Lapwing (S41, 42, BRd)
- Kestrel (S42, BAm)
- Goldeneye (WCA1, BAm)
- Curlew (S41, 42, BRd)
- Barn owl (WCA1)

- Bittern (WCA1, S41, 42, BAm)
- Little grebe
- Hobby (WCA1)
- Black-tailed godwit (WCA1, S41, BRd)
- Gadwall (BAm)
- Teal (BAm)
- Shoveler (BAm)
- Peregrine (WCA1)
- Tufted duck
- Pochard (BRd)
- Oystercatcher (BAm)
- Pink-footed goose (BAm)
- Scaup (WCA1, S41, BRd)
- Snipe (BAm)
- Smew (BAm)
- Red kite (WCA1)
- Redshank (BAm)
- Ringed plover (S42, BRd)
- Short-eared owl (BAm)
- Whooper swan (WCA1, BAm)
- Pintail (WCA1, BAm)
- Wood sandpiper (WCA1, BAm)

Winter Bird Survey

- 4.8 The winter bird survey results are summarised in table three below, including peak counts for each species recorded.
- 4.9 A total of 26 target species were recorded during the winter bird survey. Five of these were wader or wildfowl species.
- 4.10 The following species of conservation concern were recorded during the winter bird survey:
- 13 Red Listed species: fieldfare, grey partridge, grey wagtail, herring gull, house sparrow, lapwing, linnet, mistle thrush, redwing, skylark, song thrush, starling and yellowhammer
 - 9 Amber Listed species: black-headed gull, dunnock, kingfisher, gadwall, kestrel, mallard, reed bunting, snipe and stock dove
 - 11 species included in Section 41/42 of the NERC Act (2006): dunnock, grey partridge, herring gull, house sparrow, lapwing, linnet, reed bunting, skylark, song thrush, starling and yellowhammer
 - Four SPA qualifying species: lapwing, cormorant, black-headed gull, herring gull

Table 3: Winter bird Transect Survey Results

Species	Visit number					Peak count (date recorded)
	1	2	3	4	5	
Black-headed gull	20	2	1	30	0	30 - 08/03/2019
Buzzard	1	2	1	1	2	2 - 30/01/2019, 26/03/2019
Canada Goose	1	0	0	1	0	1 - 08/03/2019,
Cormorant	0	0	0	0	1	1 - 26/03/2019
Duncock	1	7	7	9	10	10 - 26/03/2019
Kingfisher	0	0	0	0	3	3 - 26/03/2019
Fieldfare	0	0	15	37	40	40 - 26/03/2019
Gadwall	0	0	0	0	1	1 - 26/03/2019
Grey Partridge	0	0	2	2	0	2 - 26/02/2019, 08/03/2019
Grey Wagtail	0	0	0	0	1	1 - 26/03/2019
Grey Heron	0	0	0	1	2	2 - 26/03/2019
Herring Gull	1	0	0	0	0	1 - 30/01/2019
House Sparrow	3	0	56	40	50	56 - 26/02/2019
Kestrel	0	1	0	0	0	1 - 06/02/2019
Lapwing	22	0	0	0	6	22 - 30/01/2019
Linnet	0	0	1	0	0	1 - 26/02/2019
Mallard	2	7	5	1	5	7 - 06/02/2019
Mistle Thrush	2	9	3	2	2	9 - 06/02/2019
Redwing	0	1	0	0	0	1 - 06/02/2019
Reed Bunting	0	0	0	1	0	1 - 08/03/2019
Skylark	0	0	4	2	4	4 - 26/02/2019, 26/03/2019
Snipe	0	3	0	0	0	3 - 06/02/2019
Song Thrush	0	0	5	9	5	9 - 08/03/2019
Starling	27	11	9	45	7	45 - 08/03/2019

Species	Visit number					Peak count (date recorded)
	1	2	3	4	5	
Stock Dove	0	12	6	24	24	24 - 08/03/2019, 26/03/2019
Yellowhammer	0	0	0	2	0	2 - 08/03/2019

Visit dates: 1. 30/01/19, 2. 06/02/19, 3. 26/02/19, 4. 08/03/19, 5. 26/03/19

5.0 Discussion and Recommendations

5.1 The Mersey Estuary SPA, Ramsar and SSSI sites are the nearest internationally designated sites being 10km of the proposed development. Qualifying species for the SPA and Ramsar include golden plover, shelduck, teal, pintail, dunlin, black-tailed godwit and redshank. No qualifying species for the SPA or Ramsar were recorded within the site during the winter bird survey.

5.2 Woolston Eyes SSSI is located 5 km northeast of the proposed development site and is designated for its breeding bird assemblages and for wintering wildfowl.

Waders

5.3 The results show that the site is used by lapwing during the winter period, with a peak count of 22 birds recorded during survey visit one on 30th January 2019. The arable fields at the site are suitable for supporting wintering lapwing.

5.4 Three snipe were recorded during the second visit on 6th February. Grassland habitats at the site are suitable for wintering snipe.

Wildfowl

5.5 Mallard were recorded during every survey visit and gadwall recorded on one occasion. The fields and the brook flowing through the central part of the site with the proximity of the Manchester Ship Canal provide potentially suitable habitat for wintering wildfowl.

Other Birds of Conservation Concern

5.6 An active kingfisher nest was recorded at the edge of the site in the bank of the Manchester Ship Canal during the late March survey visit. Kingfisher were also recorded along the brook at the south of the site during the March survey visit.

5.7 The results showed that the site is used during winter by large numbers of foraging Fieldfare. Fields together with broad-leaved woodland and hedges are important wintering habitat for fieldfare and redwing.

5.8 The proposed development site is considered to have some interest for farmland BoCC bird species during the winter including house sparrow (peak count 56), stock dove, mistle thrush, yellowhammer and grey partridge. 13 BoCC Red List and 9 Amber List species were recorded during the transect survey. There is plenty of suitable habitat for farmland species within the immediate surroundings of the site.

5.9 Although only low numbers of waders and wildfowl were recorded during the winter bird survey, it should be noted that the distribution of wintering birds are largely influenced by land use. Due to the nature of crop rotation on farmland, the land use and subsequently the distribution of wintering bird species may vary from year to year. It may therefore be necessary to re-assess the usage of land by winter birds prior to works taking place.

- 5.10 It is likely that the landscape will support a range of common and widespread species during the bird breeding season, as well as some red listed and amber listed BoCC species and S41 species. S41 species present may include skylark, which nest on the ground in open fields and dunnock, linnet, tree sparrow and yellowhammer which nest in or adjacent to hedgerows and areas of trees and scrub. The site was found to support breeding kingfisher - an amber listed and Schedule 1 bird species.

APPENDIX A: Weather Data

APPENDIX B: Designated Site Citation

Add appendix content here.

DRAWINGS

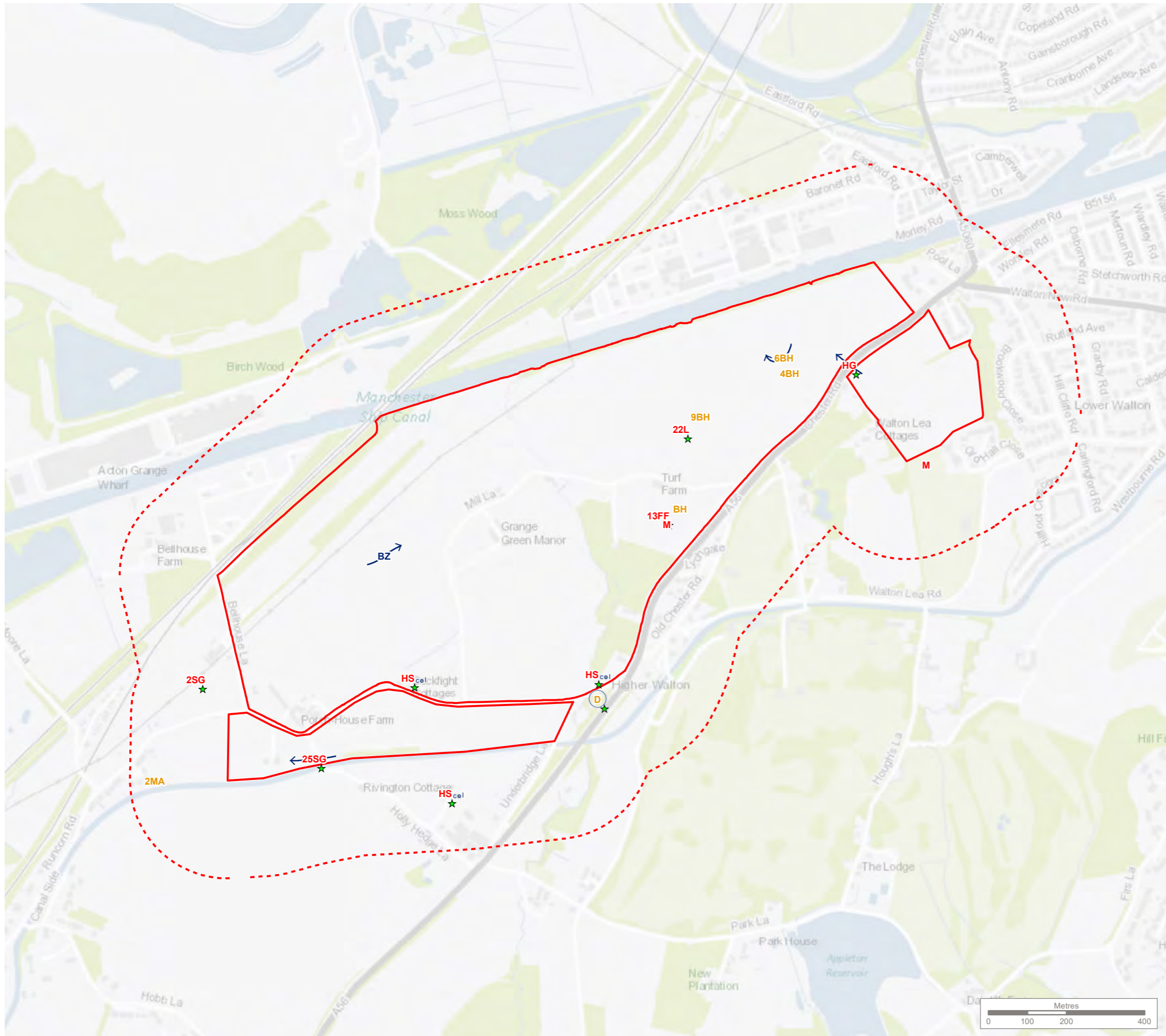
G6929.01.023 – Winter Bird Survey Visit 1 30&31.01.2019

G6929.01.024 – Winter Bird Survey Visit 2 06&07.02.2019

G6929.01.025 – Winter Bird Survey Visit 3 26.02.2019

G6929.01.026 - Winter Bird Survey Visit 4 08&11.03.2019

G6929.01.027 - Winter Bird Survey Visit 5 26.03.2019



KEY

- Higher Walton survey boundary
- Higher Walton survey boundary - 250m offset
- ★ Section 41 species
- ★ Schedule 1 species
- ☉ A colony of birds
- A bird in song
- Directional flight line

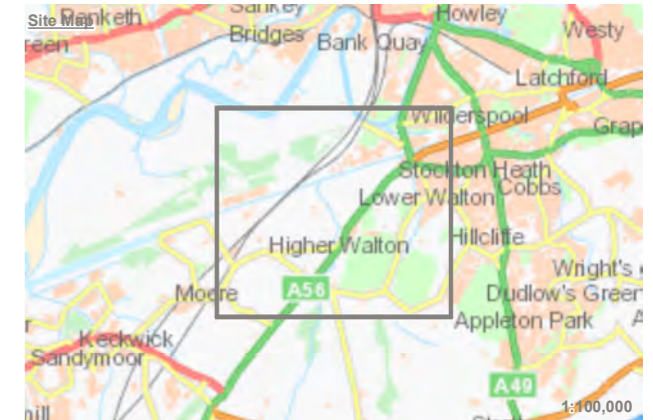
Species Codes

- | | |
|----------------------|------------------|
| BH Black-headed gull | HS House sparrow |
| BZ Buzzard | L Lapwing |
| D Dunnock | M Mistle thrush |
| FF Fieldfare | MA Mallard |
| HG Herring gull | SG Starling |

Note

Red Red List Species Amber Amber List Species

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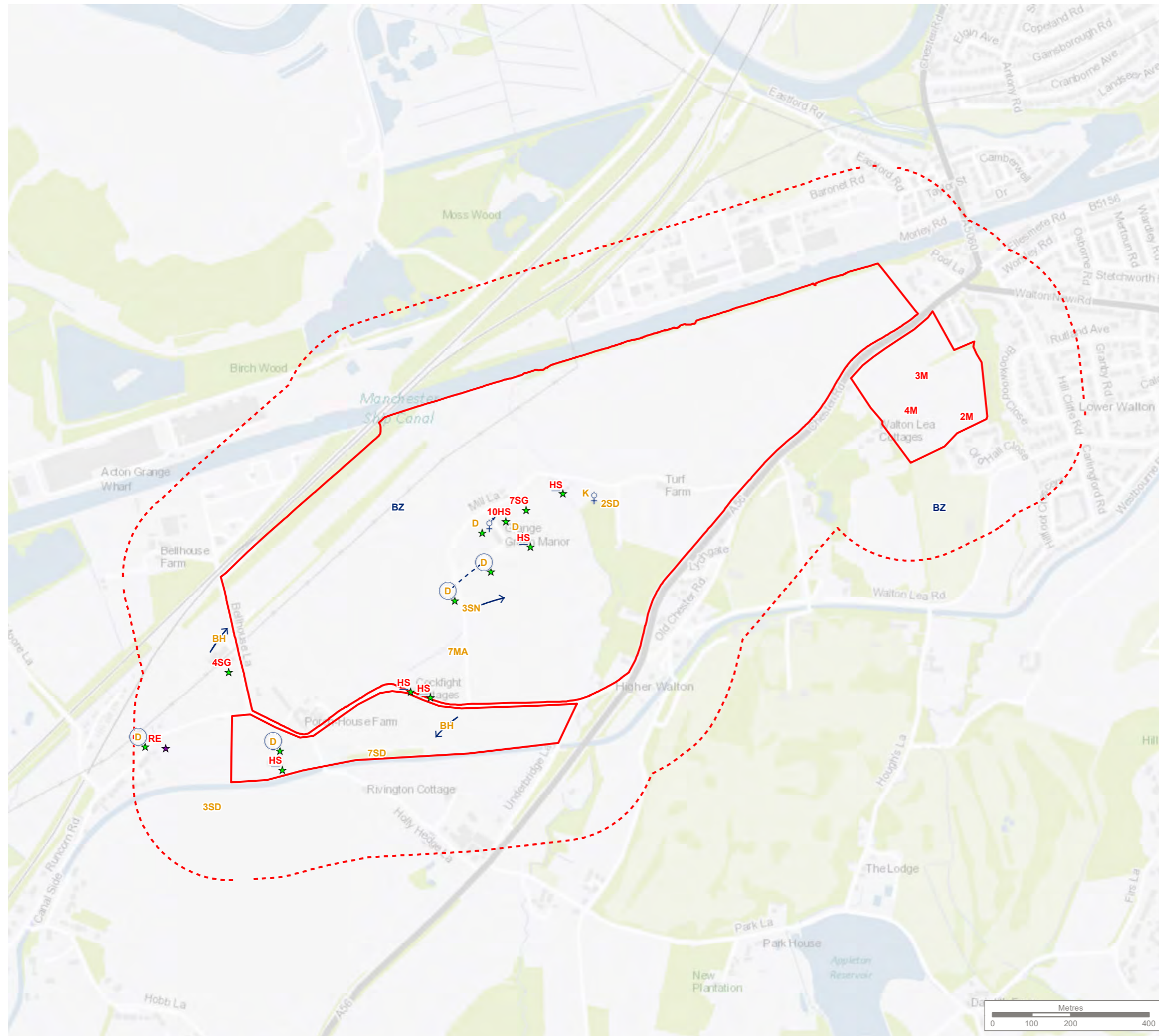
Project
Port Warrington, Warrington

Title
Winter Bird Survey - Higher Walton
 Visit 1 - 30th and 31st January 2019

Drawing Number
G6929.01.023

Drawn	Checked	Approved	Scale	Date
MK	MS	LJ	1:10,000 @ A3	14/06/2019





KEY

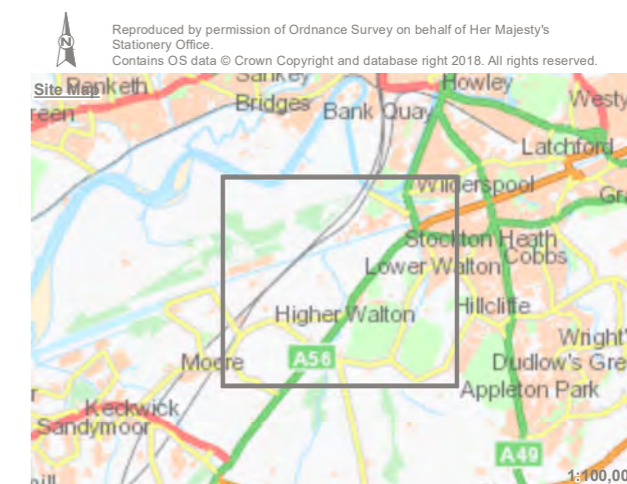
- Higher Walton survey boundary
- Higher Walton survey boundary - 250m offset
- ★ Section 41 species
- ★ Schedule 1 species
- ♀ A female
- ♂ A male and female pair
- A bird calling
- A bird in song
- Directional flight line
- Simultaneous registration (different birds)

Species Codes

- BH Black-headed gull
- MA Mallard
- BZ Buzzard
- RE Redwing
- D Dunnock
- SD Stock dove
- HS House sparrow
- SG Starling
- K Kestrel
- SN Snipe
- M Mistle thrush

Note

Red Red List Species Amber Amber List Species



Rev	Description	Drawn	Approved	Date

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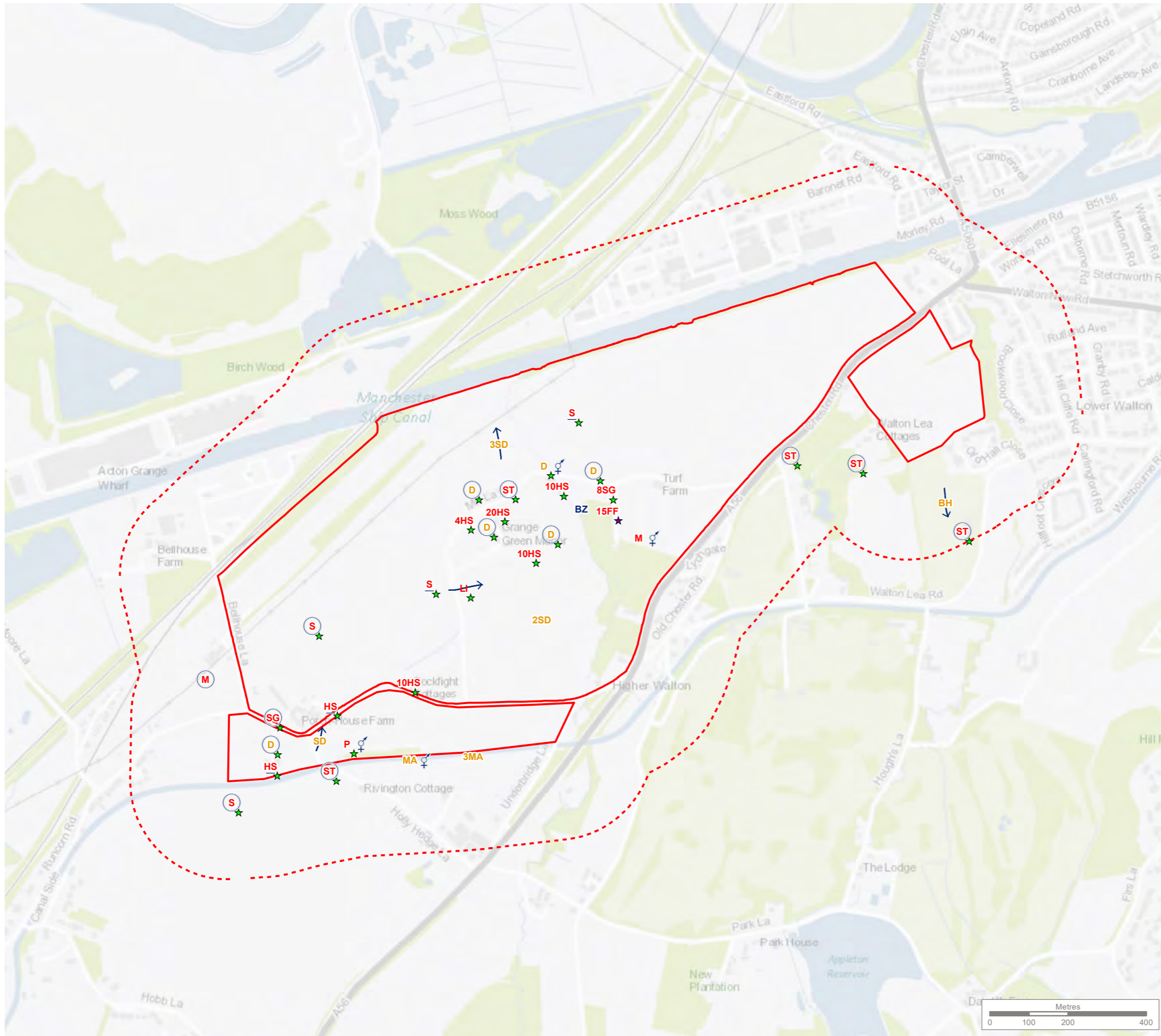
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Project
Port Warrington, Warrington

Title
Winter Bird Survey - Higher Walton
 Visit 2 - 06th and 07th February 2019

Drawing Number
G6929.01.024

Drawn	Checked	Approved	Scale	Date
MK	MS	LJ	1:10,000 @ A3	14/06/2019



KEY

- Higher Walton survey boundary
- Higher Walton survey boundary - 250m offset
- ★ Section 41 species
- ★ Schedule 1 species
- ♂ Female symbol
- ♀ Male symbol
- A bird calling
- A bird in song
- Directional flight line

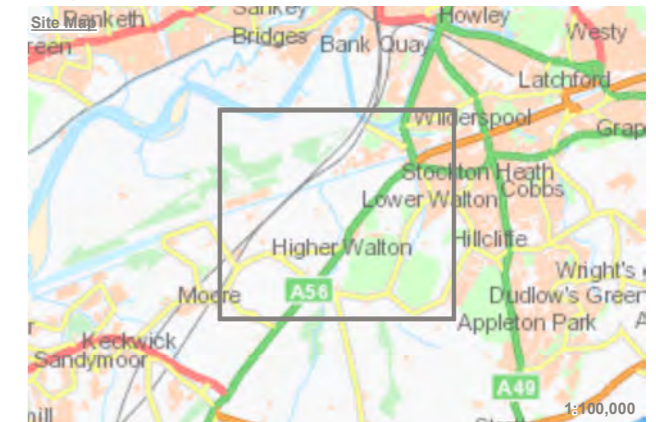
Species Codes

- | | |
|----------------------|------------------|
| BH Black-headed gull | MA Mallard |
| BZ Buzzard | P Grey partridge |
| D Dunnock | S Skylark |
| FF Fieldfare | SD Stock dove |
| HS House sparrow | SG Starling |
| LI Linnet | ST Song thrush |
| M Mistle thrush | |

Note

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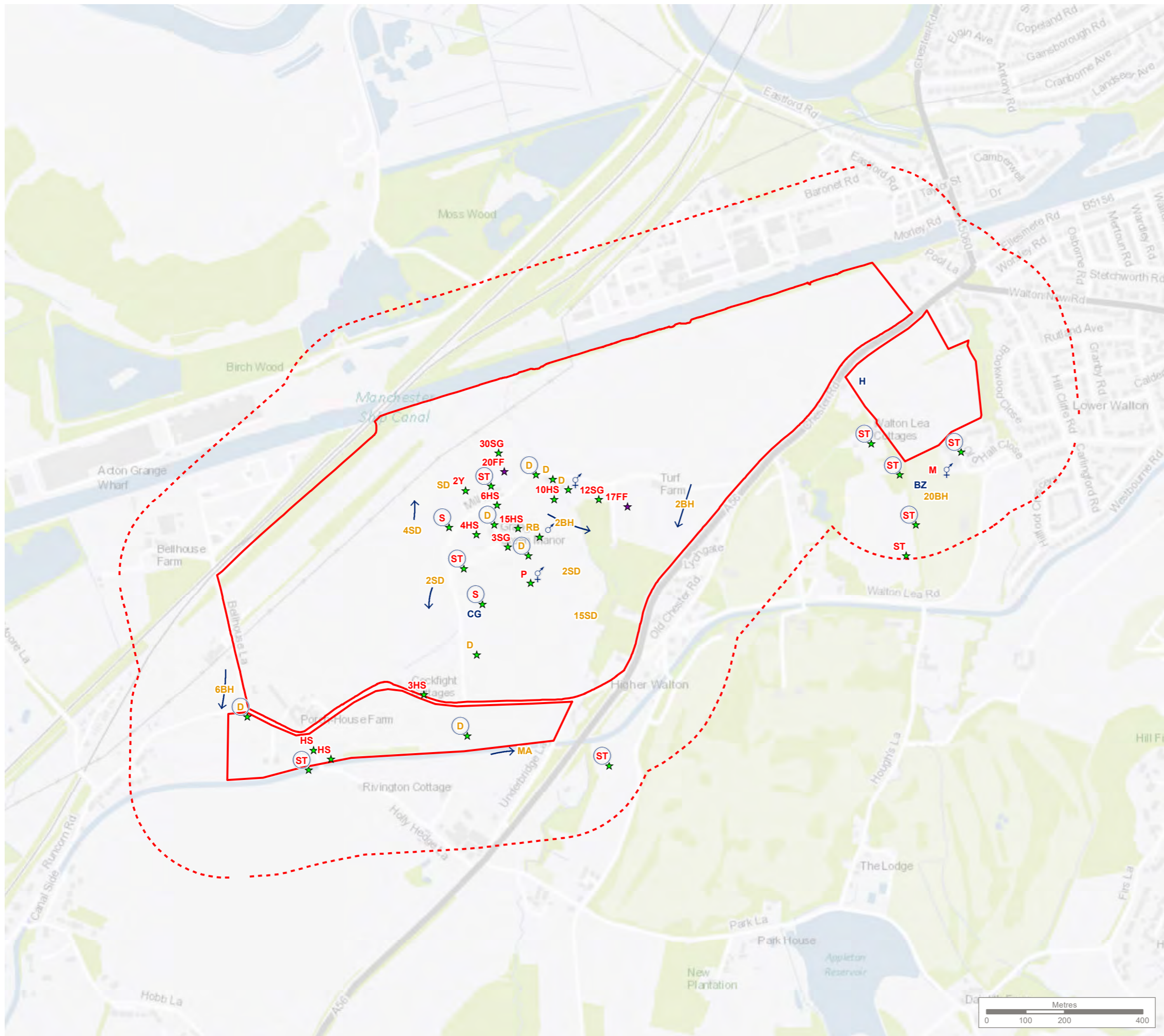
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Project
Port Warrington, Warrington

Title
Winter Bird Survey - Higher Walton
 Visit 3 - 26th February 2019

Drawing Number
G6929.01.025

Drawn	Checked	Approved	Scale	Date
MK	MS	LJ	1:10,000 @ A3	14/06/2019



KEY

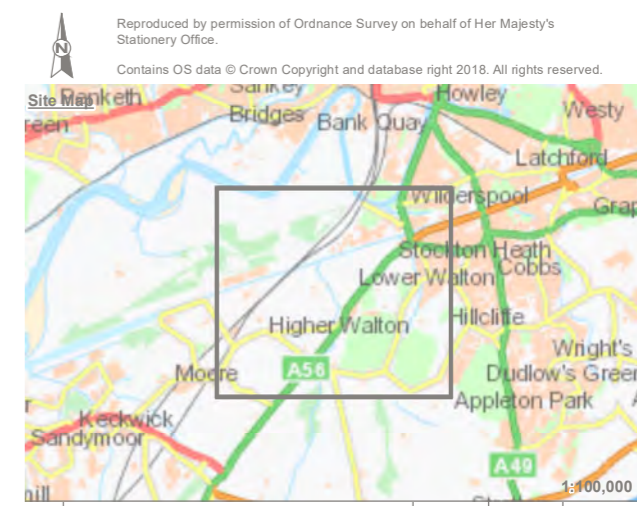
- Higher Walton survey boundary
- Higher Walton survey boundary - 250m offset
- ★ Section 41 species
- ★ Schedule 1 species
- ♂ A male
- ♀ Male and female pair
- A bird in song
- Directional flight line

Species Codes

- | | |
|----------------------|------------------|
| BH Black-headed gull | MA Mallard |
| BZ Buzzard | P Grey partridge |
| CG Canada goose | RB Reed bunting |
| D Dunnock | S Skylark |
| FF Fieldfare | SD Stock dove |
| H Grey heron | SG Starling |
| HS House sparrow | ST Song thrush |
| M Mistle thrush | Y Yellowhammer |

Note

Red Red List Species Amber Amber List Species



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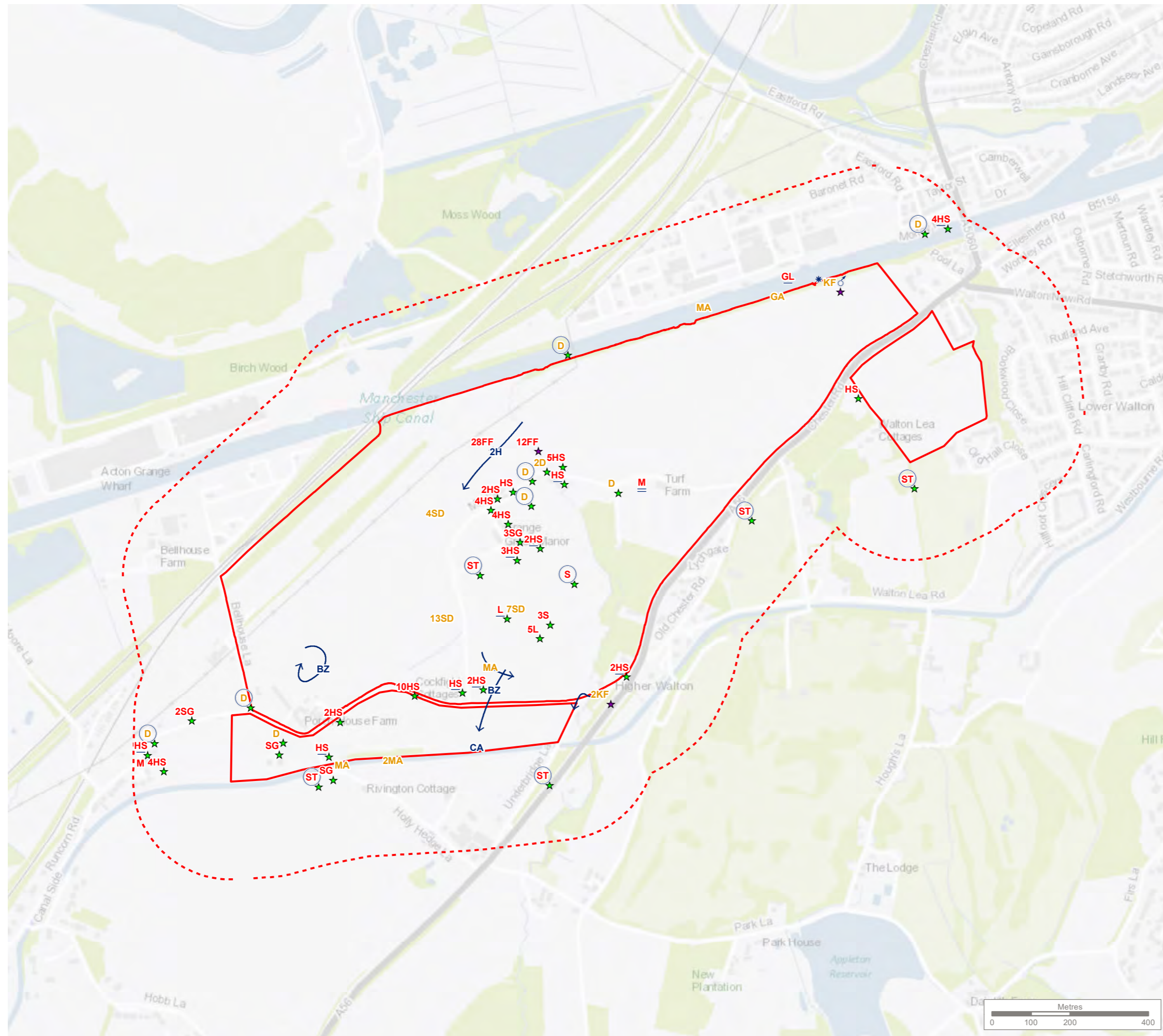
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Project
Port Warrington, Warrington

Title
Winter Bird Survey - Higher Walton
Visit 4 - 08th and 11th March 2019

Drawing Number
G6929.01.026

Drawn	Checked	Approved	Scale	Date
MK	MS	LJ	1:10,000 @ A3	14/06/2019



KEY

- Higher Walton survey boundary
- Higher Walton survey boundary - 250m offset
- ★ Section 41 species
- ★ Schedule 1 species
- ♂ A male
- A bird calling
- A bird in song
- = A bird repeatedly giving alarm-calls/other vocalisations
- ✱ A nest occupied with eggs/brood
- Directional flight line

Species Codes

- | | |
|------------------|-----------------|
| BZ Buzzard | KF Kingfisher |
| CA Cormorant | L Lapwing |
| D Dunnock | M Mistle thrush |
| FF Fieldfare | MA Mallard |
| GA Gadwall | S Skylark |
| GL Grey wagtail | SD Stock dove |
| H Grey heron | SG Starling |
| HS House sparrow | ST Song thrush |

Note

Red Red List Species Amber Amber List Species

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Project
Port Warrington, Warrington

Title
Winter Bird Survey - Higher Walton
Visit 5 - 26th March 2019

Drawing Number
G6929.01.027

Drawn	Checked	Approved	Scale	Date
MK	MS	LJ	1:10,000 @ A3	14/06/2019





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NOISE SCREENING ASSESSMENT

on behalf of

**PEEL HOLDINGS (LAND & PROPERTY)
LTD, STORY HOMES AND ASHALL
PROPERTY**

for the site at

SOUTH WEST URBAN EXTENSION

REPORT DATE: 11TH JUNE 2019

REPORT NUMBER: 101780_V5

Miller Goodall Ltd
Ground Floor
Ashworth House
Deakins Business Park
Blackburn Road
Egerton
Bolton
Lancashire
BL7 9RP

Tel: 01204 596166

www.millergoodall.co.uk

Company registration number 5201673

Summary

Miller Goodall Ltd (MG) has, on behalf of a consortium of developers (Peel Investments North, Story Homes and Ashall Property), undertaken a desktop noise screening assessment, a preliminary walk over survey and preliminary noise measurements to review potential issues and solutions associated with noise on a proposed development of a residential led mixed-use development with the potential to deliver around 1,800 dwellings. The study has been undertaken to support the promotion of the land through the Warrington Local Plan. Warrington Borough Council (WBC) is currently undertaking a review of its Local Plan which will guide development in the Borough to 2037. The Council has now prepared its Proposed Submission Local Plan.

The study concludes that noise should not be a barrier to residential development on the land. Areas have been identified where noise will need to be carefully considered at the design phase of the development, these include the areas in close proximity to industrial or transport sources. In these areas it is recommended that a detailed noise assessment is undertaken which considers noise mitigation measures to minimise noise to achieve recommended National standards.


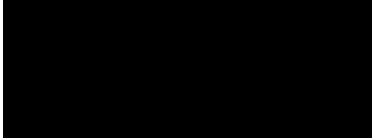
In relation to the impact of the development on the noise environment, information is limited and significance will need to be assessed via detailed modelling at a later date and mitigation measures considered.

The aim of this assessment was to provide an initial overview to determine whether the site is suitable for the proposed use. The assessment has identified a number of noise sources which will require further assessment, however with suitable design of the site and acoustic mitigation measures it is considered that a suitable and commensurate level of protection against noise will be provided to the occupants of the proposed accommodation

The impact of the development has not been able to be assessed in detail however it is not expected that there will be significant impacts for noise as a result of the development and with good acoustic design the impacts can be minimised.

Record of changes

Prepared By Jo Miller MIOA Reviewed By Michael Rickard MIOA

Signed		Signed	
Date	11th June 2019	Date	11th June 2019

Version	Date	Change	Initials
1	12 th April 2018	Initial issue	JLM
2	9 th July 2018	Minor amendments	JLM
3	31 st October 2018	Amendments to final draft	JLM
4	15 th May 2019	Amendments to Masterplan	JLM
5	11 th June 2019	Minor amendments	RM

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Contents

Summary	1
Contents	3
1 Introduction	5
2 Site Description	5
3 Proposed Development	6
4 Policy Context	7
4.1 Noise Policy Statement for England	7
4.2 National Planning Policy Framework	8
4.3 Planning Practice Guidance – Noise	9
4.4 Local Planning Policy	9
5 Acoustic Standards and Guidance	10
5.1 ProPG: Planning & Noise – Professional Practice Guidance on Planning & Noise – New Residential Development – May 2017	10
5.2 BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings	12
5.3 World Health Organisation (WHO) Guidelines for Community Noise 1999	13
5.4 BS 4142: 2014 ‘Methods for rating and assessing industrial and commercial sound’	13
6 Impact of Existing Noise Sources on the Development	15
6.1 Noise Survey	15
6.2 Monitoring Results.....	16
6.3 Noise Mapping	19
6.4 Road Traffic Noise.....	19
6.5 Railway Noise.....	20
6.6 Industrial Noise.....	20
7 Impact of Noise from the Proposed Development	22
7.1 Transport Noise	22
7.2 Construction Noise and Vibration Impacts	23
7.3 New Commercial and Educational developments	23
7.4 Protecting areas from increased noise	23
8 Summary and Conclusions	24
APPENDICES	25
Appendix 1: Site Outline and Monitoring Positions	26
Appendix 2: Illustrative Master Plan and Development Constraints	27
Appendix 3a: Road Traffic Predicted Noise Contours $L_{Aeq,16hour}$	28
Appendix 3b: Railway Predicted Noise Contours $L_{Aeq,16hour}$	29

Appendix 4: Potential Industrial and Commercial Noise Sources 30
Appendix 5: Tranquil Areas..... 31
Glossary of Terms 32

1 Introduction

- 1.1 This noise report is submitted in support of a proposed housing allocation within the Warrington Local Plan for a site located to the south east of the Manchester Ship Canal, namely the South West Urban Extension. The site sits within the administrative boundary of Warrington Metropolitan Borough Council (WMBC).
- 1.2 This report provides a review of the existing noise sources in proximity to the proposed development site and assesses the potential impact of the proposed development on the local noise environment. It is provided as part of a suite of documents which have informed the development of the illustrative masterplan for the site's development and which collectively demonstrate that the site presents a suitable and deliverable development opportunity and is not affected by any insurmountable constraints which would impede its development over the emerging plan period
- 1.3 The external noise in urban areas is generally dominated by road traffic sources, along with industrial and commercial sources in some areas. Generally residential areas do not generate significant noise sources of concern.
- 1.4 Noise impacts need to be considered as part of the planning process both to ensure the new development does not create adverse noise impacts on existing receptors and also that new developments are not adversely impacted by existing noise sources to an unacceptable degree.
- 1.5 An initial review of the area has been undertaken to determine existing and future noise sources and noise sensitive receptors and any potential key noise issues have been identified together with any additional work which may be required.

2 Site Description

- 2.1 The site lies to the immediate south west of the settlement boundary of Warrington. It is bound by the Manchester Ship Canal to the north and the West Coast Railway to the north west. To the south east, the A56 Runcorn Road forms the boundary, with a plot of land to the south of the A56, immediately adjoining the Warrington settlement boundary, included. The Bridgewater Canal encloses the site at its southern boundary. At the eastern extent, the boundary follows Bellhouse Lane and Runcorn Road.
- 2.2 The site currently comprises a mix of agricultural land and associated buildings and property. Mill Lane runs through the site, providing access to a number of private properties and farm buildings. An area of industrial uses lies on the northern side of the Ship Canal, known as Warrington Waterfront. The route of the proposed Western Link Road lies at the eastern end of the site.
- 2.3 The site is presently designated as Green Belt land within the Warrington Unitary Development Plan (June 2005), but has been identified by the Council as a site to be released from the Green Belt and allocated for housing development through the emerging Local Plan.

3 Proposed Development

- 3.1 Land at Higher Walton will be developed as a sustainable urban extension to the main urban area of Warrington, providing around 1,800 new homes. The urban extension will support a new community in a high quality residential setting with ease of access to Warrington's employment, recreation and cultural facilities.
- 3.2 The new community will be supported by:
- A new primary school
 - A local centre comprising local shops, a potential new health facility (subject to needs), and other community facilities as necessary to support the new residential community
 - Extensive areas of open space and recreation provision.
- 3.3 The development will be designed to support walking and cycling for local trips. It will benefit from the new Western Link and improved public transport to enable access to the town centre, Stockton Heath, the Waterfront development and other major employment areas, including Daresbury.
- 3.4 Development will ensure that important ecological assets within the site are preserved with opportunities to provide additional habitats and enhance biodiversity.
- 3.5 The urban extension will preserve, and where possible enhance, the heritage assets within the site and will be designed to respect the setting of nearby heritage assets, including the Bridgewater Canal and its bridges and Walton Village Conservation Area.
- 3.6 Four highways access points are proposed, as indicated in the draft Illustrative Masterplan in Appendix 2:-
- 3.7 The assessment for noise is based on the development taking place both with and without the Warrington Western Link Road (WWLR), which will provide a new road connection to the south-west of Warrington, linking the A56/A5060 Chester Road with the A57 at Great Sankey. The WWL is proposed to run to the south and west of Warrington town centre between A56 Chester Road and A57 Sankey Way. The preferred route of the scheme is included in Appendix 2. The scheme includes (starting from its southern end):-
- A large traffic signal controlled junction with A56 Chester Road.
 - A high-level crossing of the Manchester Ship Canal.
 - A road under the West Coast Mainline railway and Walton Viaduct.
 - A large roundabout junction providing connections to the north and south for development at Warrington Waterfront.
 - A bridge over the River Mersey, adjacent to the existing crossing at Forrest Way.
 - Bridges over the Fiddler's Ferry railway line, Sankey Brook, Liverpool Road and the St Helens Canal.
 - A large traffic signal controlled cross-roads junction with A57 Sankey Way and Cromwell Avenue.

4 Policy Context

4.1 Noise Policy Statement for England

4.1.1 The Noise Policy Statement for England (NPSE¹), published in March 2010, sets out the long-term vision of Government noise policy. The Noise Policy aims, as presented in this document, are:

“Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- avoid significant adverse effects on health and quality of life;
- mitigate and minimise adverse effects on health and quality of life; and
- where possible, contribute to the improvement of health and quality of life.”

4.1.2 The NPSE makes reference to the concepts of NOEL (No Observed Effect Level) and LOAEL (Lowest Observed Adverse Effect Level) as used in toxicology but applied to noise impacts. It also introduces the concept of SOAEL (Significant Observed Adverse Effect Level) which is described as the level above which significant adverse effects on health and the quality of life occur.

4.1.3 The first aim of the NPSE is to avoid significant adverse effects, taking into account the guiding principles of sustainable development (as referenced in Section 1.8 of the Statement). The second aim seeks to provide guidance on the situation that exists when the potential noise impact falls between the LOAEL and the SOAEL, in which case:

“...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”.

4.1.4 Importantly, the NPSE goes on to state:

“This does not mean that such adverse effects cannot occur”.

4.1.5 The Statement does not provide a noise-based measure to define SOAEL, acknowledging that the SOAEL is likely to vary depending on the noise source, the receptor and the time in question. NPSE advises that:

“Not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available”

4.1.6 It is therefore likely that other guidance will need to be referenced when applying objective standards for the assessment of noise, particularly in reference to the SOAEL, whilst also taking into account the specific circumstances of a proposed development.

¹ Noise Policy Statement for England, Defra, March 2010

4.2 National Planning Policy Framework

4.2.1 The National Planning Policy Framework (NPPF²) initially published in March 2012, was updated in February 2019. One of the documents that the NPPF replaces is Planning Policy Guidance Note 24 (PPG 24) "Planning and Noise"³.

4.2.2 The revised NPPF advises that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives). One of these is an environmental objective which is described in par. 8 (c):

"to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."

4.2.3 At par. 170 we are advised that:

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

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

4.2.4 Par. 180 goes on to state:

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

a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

² National Planning Policy Framework, Ministry of Housing, Communities and Local Government, July 2018

³ Planning Policy Guidance 24: Planning and Noise, DCLG, September 1994

4.3 Planning Practice Guidance – Noise

4.3.1 As of March 2014, a Planning Practice Guidance⁴ for noise was issued which provides additional guidance and elaboration on the NPPF. It advises that when plan-making and decision-taking, the Local Planning Authority should consider the acoustic environment in relation to:

- Whether or not a significant adverse effect is occurring or likely to occur;
- Whether or not an adverse effect is occurring or likely to occur; and
- Whether or not a good standard of amenity can be achieved.

4.3.2 In line with the Explanatory Note of the NPSE, the PPG goes on to reference the LOAEL and SOAEL in relation to noise impact. It also provides examples of outcomes that could be expected for a given perception level of noise, plus actions that may be required to bring about a desired outcome. However, in line with the NPSE, no objective noise levels are provided for LOAEL or SOAEL although the PPG acknowledges that:

“...the subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation”.

4.3.3 Examples of these factors include:

- The source and absolute noise level of the source along with the time of day that it occurs;
- Where the noise is non-continuous, the number of noise events and pattern of occurrence;
- The frequency content and acoustic characteristics of the noise;
- The effect of noise on wildlife;
- The acoustic environment of external amenity areas provided as an intrinsic part of the overall design;
- The impact of noise from certain commercial developments such as night clubs and pubs where activities are often at their peak during the evening and night.

4.3.4 The PPG also provides general advice on the typical options available for mitigating noise. It goes on to suggest that Local Plans may include noise standards applicable to proposed developments within the Local Authority's administrative boundary, although it states that:

“Care should be taken, however, to avoid these being implemented as fixed thresholds as specific circumstances may justify some variation being allowed”.

4.3.5 The PPG was amended in December 2014 to clarify guidance on the potential effect of noise from existing businesses on proposed new residential accommodation. Even if existing noise levels are intermittent (for example, from a live music venue), noise will need to be carefully considered and appropriate mitigation measures employed to control noise at the proposed accommodation.

4.4 Local Planning Policy

Warrington South West Urban Extension Framework Plan Document – June 2017

⁴ Planning Practice Guidance – Noise, <http://planningguidance.planningportal.gov.uk/blog/guidance/noise/>, 06 March 2014

4.4.1 A report was prepared by AECOM for the master-planning of the South West Urban Extension for Warrington Borough Council. The framework plan options have been developed giving consideration to the landscape, historic assets, transport considerations, utilities and the environmental context. The WSWUE is looking to provide a long term large scale sustainable mixed-use development, to provide around 1,800 new homes, 2 ha Local Centre for community facilities, a new 2 ha primary school, a new 20 ha local park and around 31 ha of associated Open Spaces.

4.4.2 The Framework Plan developed in 2017 does not provide specific technical evidence in relation to noise. The only specific reference to noise is the within conceptual approach, option 1, which provides a green buffer to the A56 to reduce the impact of noise and air quality.

Warrington Proposed Submission Version Local Plan – April 2019

4.4.3 The Proposed Submission Version Local Plan was approved for consultation on 25th March 2019. Policy MD3 of this plan addresses the South West Urban Extension. Part 42 States:

“The design of the urban extension must incorporate appropriate measures to mitigate noise and air quality impact from the A56 Chester Road, Western Link Road and the railway line”.

5 Acoustic Standards and Guidance

5.1 ProPG: Planning & Noise – Professional Practice Guidance on Planning & Noise – New Residential Development – May 2017

5.1.1 ProPG: Planning and Noise is new guidance with the aim of delivering sustainable development and promoting good health and well-being through the effective management of noise which may impact on new residential developments. The guidance aims to complement the national planning policy and encourages the use of good acoustic design at the earliest phase of the planning process. It builds upon the recommendations of various other guidance documents including NPPF, NPSE and PPG-Noise, BS 8233 and WHO.

5.1.2 The guidance is applicable to new residential developments which would be exposed predominantly to noise from existing transport sources. The ProPG advocates a risk based approach to noise using a two-stage process:

- Stage 1 – an initial noise risk assessment of the proposed development site; and
- Stage 2 – a systematic consideration of four key elements: –
 - Element 1 – demonstrating a ‘Good Acoustic Design Process’;
 - Element 2 – observing internal ‘Noise Level Guidelines’;
 - Element 3 – undertaking an ‘External Amenity Area Noise Assessment’; and
 - Element 4 – consideration of ‘Other Relevant Issues’.

5.1.3 The ProPG approach is underpinned by the preparation and delivery of an 'Acoustic Design Statement' (ADS), whereby the higher the risk for noise at the site, the more detailed the ADS. The ADS should address the following issues:

- Present the initial site noise risk assessment, including the pre-development acoustic conditions prior to development;
- Describe the external noise levels that occur across the site both before and after any necessary mitigation measures have been incorporated. The external noise assessment with mitigation measures in place should use an informed judgement of typical worst-case conditions;
- Demonstrate how good acoustic design is integrated into the overall design and how the proposed acoustic design responds to specific circumstances of the site;
- Confirm how the internal noise level guidelines will be achieved, including full details of the design measures and building envelope specifications;
- A detailed assessment of the potential impact on occupants should be undertaken where individual noise events are expected to exceed 45 dB $L_{AF,max}$ more than 10 times a night inside bedrooms;
- Priority should be given to enable the use of openable windows where practical across the development. Where this is not practical to achieve the internal noise level guidelines with windows open, then full details of the proposed ventilation and thermal comfort arrangements must be provided;
- Present the findings of the external amenity area noise assessment;
- Present the findings of the assessment of other relevant issues;
- Confirm for a low risk site how adverse impacts of noise will be mitigated and minimised;
- Confirm for a medium or high noise risk site how adverse impacts of noise will be mitigated and minimised and clearly demonstrate that a significant adverse noise impact has been avoided.

5.1.4 ProPG target noise levels are based on existing guidance from BS 8233 and WHO (see below). Table 1 below outlines the guidance noise levels for different room types during day and night times.

Table 1: ProPG guideline indoor ambient noise levels for dwellings

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living Room	35 dB $L_{Aeq,16hr}$	-
Dining	Dining room/area	40 dB $L_{Aeq,16hr}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16hr}$	30 dB $L_{Aeq,8hr}$ 45 dB $L_{Amax,F}$

5.1.5 The footnotes to this table suggest that internal noise level limits can be relaxed by up to 5 dB where development is considered necessary or desirable, and still represent “reasonable” internal conditions. They also suggest that in such cases, external levels which exceed WHO guidance target levels (see WHO section below) may still be acceptable provided that reasonable internal noise levels are achieved. Although, where the acoustic environment of external amenity areas is intrinsic to the overall design, “noise levels should ideally not be above the range 50 – 55 dB $L_{Aeq,16hr}$ ”. The wording of ProPG (and BS 8233:2014) is clear that exceedance of guideline noise levels in external areas should not prohibit the development of desirable developments in any event.

5.2 BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings

5.2.1 This standard provides recommended guideline values for internal noise levels within dwellings which are similar in scope to guideline values contained within the World Health Organisation (WHO) document, Guidelines for Community Noise (1999)⁵. These guideline noise levels are shown in Table 2, below.

Table 2: BS 8233: 2014 guideline indoor ambient noise levels for dwellings

Location	Activity	07:00 to 23:00	23:00 to 07:00
Living Room	Resting	35 dB $L_{Aeq,16hr}$	-
Dining room/area	Dining	40 dB $L_{Aeq,16hr}$	-
Bedroom	Sleeping (daytime resting)	35 dB $L_{Aeq,16hr}$	30 dB $L_{Aeq,8hr}$

5.2.2 BS 8233:2014 advises that:

“regular individual noise events...can cause sleep disturbance. A guideline value may be set in terms of SEL⁶ or $L_{Amax,F}$ depending on the character and number of events per night. Sporadic noise events could require separate values”.

5.2.3 BS 8233:2014 adopts guideline external noise values provided in WHO for external amenity areas such as gardens and patios. The standard states that it is “desirable” that the external noise does not exceed 50 dB $L_{Aeq,T}$ with an upper guideline value of 55 dB $L_{Aeq,T}$ whilst recognising that development in higher noise areas such as urban areas or those close to the transport network may require a compromise between elevated noise levels and other factors that determine if development in such areas is warranted. In such circumstances, the development should be designed to achieve the lowest practicable noise levels in external amenity areas.

⁵ World Health Organisation Guidelines for Community Noise, 1999

⁶ Sound exposure level or L_{AE}

5.3 World Health Organisation (WHO) Guidelines for Community Noise 1999

- 5.3.1 The WHO Guidelines 1999 recommends that to avoid sleep disturbance, indoor night-time guideline noise values of 30 dB L_{Aeq} for continuous noise and 45 dB L_{AFmax} for individual noise events should be applicable. It is to be noted that the WHO Night Noise Guidelines for Europe 2009⁷ makes reference to research that indicates sleep disturbance from noise events at indoor levels as low as 42 dB L_{AFmax} . The number of individual noise events should also be taken into account and the WHO guidelines suggest that indoor noise levels from such events should not exceed approximately 45 dB L_{AFmax} more than 10 – 15 times per night.
- 5.3.2 The WHO document recommends that steady, continuous noise levels should not exceed 55 dB L_{Aeq} on balconies, terraces and outdoor living areas. It goes on to state that to protect the majority of individuals from moderate annoyance, external noise levels should not exceed 50 dB L_{Aeq} .

5.4 BS 4142: 2014 'Methods for rating and assessing industrial and commercial sound'

- 5.4.1 BS 4142: 2014⁸ provides guidance on the assessment of the likelihood of complaints relating to noise from industrial sources. It replaced the 1997 edition of the Standard in October 2014. The key aspects of the Standard are summarised below.
- 5.4.2 The standard presents a method of assessing potential noise impact by comparing the noise level due to industrial sources (the Rating Level) with that of the existing background noise level at the nearest noise sensitive receiver in the absence of the source (the Background Sound Level).
- 5.4.3 The Specific Noise Level - the noise level produced by the source in question at the assessment location - is determined and a correction applied for certain undesirable acoustic features such as tonality, impulsivity or intermittency. The corrected Specific Noise Level is referred to as the Rating Level.
- 5.4.4 In order to assess the noise impact, the Background Sound Level is arithmetically subtracted from the Rating Level. The standard states the following:
- *Typically, the greater this difference, the greater the magnitude of the impact,*
 - *A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context,*
 - *A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context,*
 - *The lower the Rating Level is relative to the measured Background Sound Level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the Rating Level does not exceed the Background Sound Level, this is an indication of the specific sound source having a low impact, depending on the context.*

⁷ WHO Night Noise Guidelines for Europe 2009

⁸ BS 4142:2014 Methods for rating and assessing industrial and commercial sound

- 5.4.5 In addition to the margin by which the Rating Level of the specific sound source exceeds the Background Sound Level, the 2014 edition places emphasis upon an appreciation of the context, as follows:

An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context.

- 5.4.6 The 2014 edition of BS 4142 also introduces a requirement to consider and report the uncertainty in the data and associated calculations and to take reasonably practicable steps to reduce the level of uncertainty.

6 Impact of Existing Noise Sources on the Development

6.1 Noise Survey

- 6.1.1 Noise measurements were undertaken at two locations identified in Appendix 1 in accordance with BS 7445-1: 2003⁹ by Gareth Willox of Miller Goodall Ltd. The measurement locations were to provide an estimate of the current noise levels during the daytime, night-time measurements have not been undertaken at this stage, since the assessment is proposed as a strategic screening exercise.
- 6.1.2 The calibration of the sound level meter was checked before and after measurements with negligible deviation (<0.1 dB). Details of the equipment used are shown in Table 3, below.

Table 3: Noise monitoring equipment

Equipment Description	Type Number	Manufacturer	Serial No.	Date Calibrated	Calibration Certification Number
Class 1 ^{10,11} Integrating Real Time 1/3 Octave Sound Analyser	NOR 140	Norsonic	1406815	12/01/17	474629844
Microphone	NOR 1225	Norsonic	264687	15/12/16	474629844
Class 1 Calibrator ¹²	NOR 1251	Norsonic	34123	05/07/17	02777/1

- 6.1.3 Specific, background and ambient noise monitoring was undertaken at the times specified in Table 4, below. Weather conditions were determined both at the start and on completion of the survey. It is considered that meteorological conditions were appropriate for environmental noise measurements. Measurement locations are shown in Appendix 1.

Table 4: Dates, times and weather conditions during noise measurements

Measurement Location	Date	Time	Weather conditions
MP1 and MP2	29/03/2018	10:35 – 11:35	Overcast, dry, 3 – 7 °C, still

⁹ BS 7445-1: 2003 Description and measurement of environmental noise - Part 1: Guide to quantities and procedures

¹⁰ IEC 61672-1 (2002) Electroacoustics – Sound level meters Part 1: Specifications

¹¹ IEC 61260 (1995) Electroacoustics – Octave-band and fractional-octave-band filters

¹² IEC 60942 (2003) Electroacoustics – Sound calibrators

6.1.4 Measurements were taken to establish an estimate of the noise levels in the area and were not intended as a full detailed noise assessment. As part of the further design of the site and development of the full planning application further more detailed noise monitoring would be required. This would include longer term daytime and night-time noise monitoring at a number of locations across the site.

6.1.5 The measurement locations are detailed below and indicated on Appendix 1.

- MP1 Approximately 130 m from A56 on Mill Lane
- MP2 At the northern end of the site approximately 85 m from the Manchester Ship Canal and opposite Solvay Interlox Industrial site and approximately 340 m from the railway line.

6.1.6 The noise sources within the vicinity of the measurement locations are summarised in Table 5, below:

Table 5: Description of noise sources affecting the site

Measurement Locations	Noise Sources
MP1	Birds, distant road traffic noise from A56 Chester Road.
MP2	Train noise, bird song and distant road traffic noise. No noise evident from Solvay Interlox.

6.2 Monitoring Results

6.2.1 A summary of the broadband measurement data is provided in Table 6 below. All data are sound pressure levels in dB re 20 μ Pa.

Table 6: Summary of noise measurements

Measurement Location	Start Time	$L_{Aeq,T,5}$ mins (dB)	Overall L_{AFmax} (dB)	$L_{AF10,5}$ mins (dB)	$L_{AF90,5}$ mins (dB)
MP1	10:35:06	45.3	51.8	46.8	43.5
MP1	10:40:06	47.8	61.6	51.0	42.9
MP1	10:45:06	46.8	67.2	48.3	44.1
MP1	10:50:06	46.3	58.2	49.3	42.0
MP1	10:55:06	45.5	56.2	47.4	43.1
MP1	11:00:06	44.5	58.7	46.0	42.5
MP2	11:10:06	47.2	60.3	49.8	43.4
MP2	11:15:06	50.4	65.6	54.7	43.4
MP2	11:20:06	47.0	62.8	48.7	42.8
MP2	11:25:06	46.4	57.4	48.8	43.7
MP2	11:30:06	49.8	70.2	53.0	44.5
MP2	11:35:06	49.0	68.5	52.3	44.2

6.2.2 Each measurement period consisted of sequential 5 minute samples.

6.2.3 The results of the noise monitoring have been assessed against the ProPG noise risk levels to determine the potential effect of noise on the proposed site without mitigation measures. The risk level has been determined based on the measured daytime noise levels at the monitoring positions.

6.2.4 The results indicate that at the monitoring positions the noise levels are within the guideline values for ProPG, however the site is a large site and there is the potential for other areas of the site to be effected to a greater extent due to noise from road and rail traffic. The monitoring was purely undertaken to obtain a guide of the levels of noise on the site. No night-time noise measurements have been undertaken to date.

Table 7: ProPG Noise Risk Level Assessment

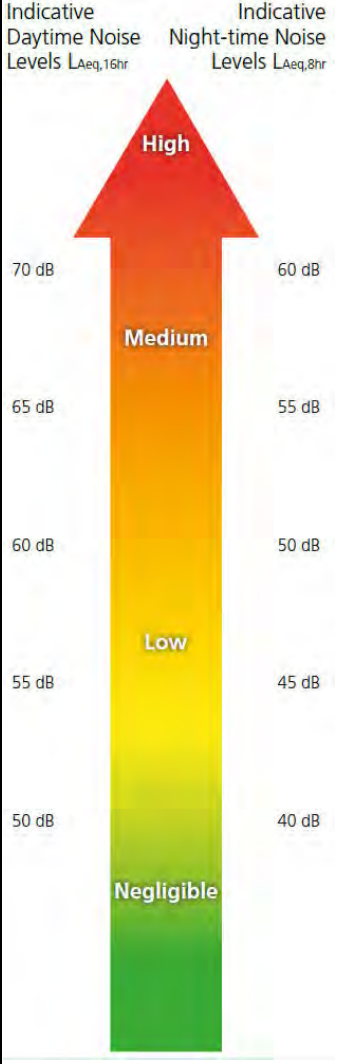
Noise Risk Assessment	Potential Effect Without Noise Mitigation	Pre Planning Application Advice
	<p>Increasing risk of adverse effect</p>	<p>High noise levels indicate that there is an increased risk that development may be refused on noise grounds. This risk may be reduced by following a good acoustic design process that is demonstrated in a detailed ADS. Applicants are strongly advised to seek expert advice.</p> <p>As noise levels increase, the site is likely to be less suitable from a noise perspective and any subsequent application may be refused unless a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised, and which clearly demonstrate that a significant adverse noise impact will be avoided in the finished development.</p> <p>At low noise levels, the site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised in the finished development.</p> <p>No Adverse effect</p> <p>These noise levels indicate that the development site is likely to be acceptable from a noise perspective, and the application need not normally be delayed on noise grounds.</p>

Table Notes:

- a. Indicative noise levels should be assessed without inclusion of the acoustic effect of any scheme specific noise mitigation measures.
- b. Indicative noise levels are the combined free-field noise level from all sources of transport noise and may also include industrial/commercial noise where this is present but is not dominant.

6.2.5 As can be seen in Table 7 above, the noise levels measured at the site indicate “no adverse effect”, however as previously stated these levels are a short-term indication of the noise levels for the site and do not include night-time levels.

6.3 Noise Mapping

6.3.1 Environmental noise mainly consists of noise from transport sources, such as road, rail and aviation. Department for Environment, Food and Rural Affairs (DEFRA) is responsible for creating noise maps and drawing up Action Plans under the Environmental Noise (England) Regulations 2006 (as amended), which requires Defra to:

- adopt noise maps which show people's exposure to environmental noise;
- adopt action plans based on the results of noise mapping
- aims to preserve environmental noise quality where it is good; and
- provides information to the public on environmental noise and its effects.

6.3.2 Noise mapping has been undertaken by Department of Environment Food and Rural Affairs (DEFRA) in 2012. Maps have been provided for main noise sources including road traffic noise and railway lines. The noise maps for the area are shown for both road traffic noise and railway noise in Appendix 3a and Appendix 3b respectively. The results show the predicted $L_{Aeq,16hour}$ results around the site, taken at a grid height of 4 m.

6.4 Road Traffic Noise

6.4.1 The main existing road traffic noise source which has the potential to impact on the site is from the A56 with further potential from the proposed strategic road link WWLR. The main parcels of land which are likely to be impacted by the road traffic noise are those located within approximately 200 m of the road. These are areas where the road traffic noise levels are predicted to exceed 55 dB $L_{Aeq,16hour}$.

6.4.2 The WWLR preferred route is proposed to run north from the A56 across the western parcel of the site. An assessment of the noise levels from this source shall be required in order to assess the impact of this noise source on any proposed housing. Notwithstanding the additional need to assess this area for noise the use of standard mitigation measures such as those outlined at 6.4.4 below will assist in bringing the noise levels in line with National Standards.

6.4.3 Bellhouse Lane to the south western boundary of the site is not expected to impact on the site in relation to noise in any significant way, due to the likely low level of transport use of this lane.

6.4.4 The road network in this area is not dissimilar to other typical areas at the edge of an urban environment. The area will require a more detailed noise assessment and noise modelling to show how National noise standards may be achieved. The assessment would include noise modelling predictions of the WWLR, and identify preferred mitigation measures to protect future residents. The standard mitigation measures which are likely to be suggested include:

- Suitable buffer zones between noise sources and proposed residential developments;
- Orientation of properties to provide the most protection to noise sensitive areas, such as bedrooms and private garden areas;
- Noise mitigation in the form of acoustic glazing and ventilation for those properties where achieving the guidance values cannot be achieved with openable windows; and
- Potentially the use of noise bunds and barriers to protect private garden areas.

6.4.5 This form of noise assessment is very common in urban areas and it is considered that suitable mitigation measures and careful design will enable guidance levels to be achieved.

6.5 Railway Noise

6.5.1 Results of the noise mapping produced on behalf of DEFRA for the railway are provided in Appendix 3b. Areas of the northern western element of the housing allocation would appear to fall within the 55 – 59dB $L_{Aeq,16hr}$, however this is without any acoustic mitigation measures provided. The aim is to achieve levels below 55 dB $L_{Aeq,16hours}$.

6.5.2 The railway line runs diagonally to the north-west boundary of the site. The railway line consists of the main West Coast Railway Line and the Crewe to Warrington Railway Line. The railway line and embankment is approximately 10 m higher than the existing site.

6.5.3 The height of the railway line is approx. 10m higher than the site. The closest proposed houses are approximately 150 m from the railway line, however the railway line mapping data (Appendix 3b) would suggest that the closest houses are within the 55 dB $L_{Aeq,16hours}$ zone. The level of noise in the external garden areas of those properties closest to the railway line would therefore need to be carefully considered at the design stage of the planning application. The following forms of noise mitigation may be required at the detailed design phase of the development.

- Orientation of private gardens away from the railway line
- Use of acoustic glazing and ventilation to reduce the noise ingress to achieve National guidance values
- Use of acoustic barriers where necessary to achieve National external noise guidance levels.

6.5.4 A detailed noise assessment is likely to be required at the full design stage to enable the noise mitigation measures to be fully assessed, however it is considered that with the mitigation measures proposed above the external noise limit values will be able to be achieved.

6.6 Industrial Noise

6.6.1 Appendix 4 provides the locations of the main industrial and commercial noise sources identified during the noise screening assessment.

6.6.2 The main industrial areas which have the potential to impact on the development site have been identified from a desktop internet search, computer modelling software, GIS and site observations during the noise monitoring and site visit. The sources identified are detailed in Table 8 below.

Table 8: Industrial Sources with Potential to Impact on the Site

Identity No.	Location	Name of Site	Type of Operation	Types of Noise Sources
1	Baronet Works, off Baronet Way	Solvay Interlox	Industrial manufacturing Process	Industrial manufacturing noise
2	Port Warrington	Port Warrington	Port	Industrial noise, movement of containers and activities within the Port.
3	Port Warrington	Proposed Extension to Port Warrington	Port	Industrial noise, movement of containers and activities within the Port.
4	Off Bellhouse Lane, Walton	Sewerage Works	Sewerage works	Unlikely to produce any significant noise sources.
5	Off Runcorn Road, Walton	P&G LGV Driver Training	Training facility	Vehicle movements
6	Mill Lane	Walton Turf	Turf production	Vehicle movements
7	Holy Hedge Lane	Holy Hedge Farm	Farm	Farm operations.

6.6.3 The onsite survey work did not identify any significant noise sources from the industrial and commercial sites identified in Table 8 above, however at the detailed design stage the sources will be assessed in more detail to determine the need for any specific mitigation measures.

6.6.4 Miller Goodall have been working on the noise impact assessment for the proposed extension of Port Warrington. Final details of this assessment are not fully complete, however the impact of the Port Extension on the proposed SWUE is minimised by the effective bund provided by the railway line and sidings, which is 10 m higher than the site, with the exception of the bridge going under the line at the northern portion of the development site. The distance from the Port is relatively large, approximately 350 m and consequently we do not consider the existing or proposed activities of the Port likely to be a significant issue for the development. The detailed design of the site will need to consider both the proposed and existing activities of the Port to include noise mitigation as necessary.

6.6.5 It is considered that the noise impact from those industrial sources identified can be mitigated against as part of the detailed design of the site. The mitigation measures may include:

- Orientation of private garden areas to provide protection from industrial noise sources;
- Use of noise bunds or barriers to minimise noise impacts and
- Acoustic glazing and ventilation strategies identified where necessary.

6.6.6 It is considered that with these mitigation measures provided as part of the full design of the site, a suitable and commensurate level of protection will be afforded to the proposed residential accommodation.

7 Impact of Noise from the Proposed Development

7.1 Transport Noise

7.1.1 New residential development and infrastructure developments of this size will result in additional vehicles on the local road network. I-Transport have completed a draft transport appraisal for the site, dated July 2018. The assessment has identified the likely increases in traffic as a result of the proposed development. The transport appraisal has considered the transport and highways implications of residential development on WBC's draft allocation at the South West Urban Extension.

7.1.2 In order to assess whether traffic increases impact on the noise environment, it is useful to determine whether there are any roads increases in traffic flow this may necessitate the requirement for a detailed noise assessment. Design Manual for Roads and Bridges (DMRB) November 2011 section A1.8 (ii) states:

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

7.1.3 The Transport Appraisal identifies Runcorn Road as a road that will be subject to increased traffic. As part of a full noise assessment at the detailed design stage, it will need to be determined if a DMRB assessment will be necessary, once more detailed traffic flows are available.

7.1.4 Although a full detailed assessment of the traffic noise has not as yet been undertaken, it is considered that the impact will be not be significant. The detailed assessment will need to consider the new infrastructure and methods to minimise any potential impacts.

7.2 Construction Noise and Vibration Impacts

- 7.2.1 It is common for the control of construction noise, vibration and dust emission to be addressed by the application of Best Practicable Means (BPM) and detailed within a Construction and Environmental Management Plan (CEMP). The impact of construction noise from a development of this size is likely to be the main noise impacting on existing noise sensitive receptors, albeit over a relatively short period of time.
- 7.2.2 Prior to commencement of works, a quantitative noise impact assessment using guidance in BS 5228¹³ on site may also be required but in our experience is usually only necessary where long term remediation of a site is required, or where large scale piling works are required in close proximity to existing sensitive receptors. It will be necessary to provide a robust CEMP which is agreed by the Local Authority.
- 7.2.3 Warrington Borough Council are likely to have their own recommended wording for planning conditions relating to the control of noise and vibration from construction works.

7.3 New Commercial and Educational developments

- 7.3.1 Any new commercial, retail and educational developments will need to be considered as part of the detailed design for the site. The likely noise sources are not considered likely to have a significant impact on the existing or future residential uses. They may include noise sources such as loading bays, plant noise and school playgrounds. It is not likely that any of the proposed noise sources will have a significant impact and the use of good acoustic design incorporated at an early stage in the development of the site will help to minimise the potential impact.

7.4 Protecting areas from increased noise.

- 7.4.1 The NPPF recommends protecting areas of tranquillity and areas prized for their recreational and amenity value. Table 9 identifies areas which it is felt meets this criteria. The identified sites are shown in Appendix 5.

Table 9: Locations where noise should be protected

Identity No.	Name of Site	Type of Operation	Reason
8	Walton Crematorium	Crematorium	Protect the use of the site
9	Higher Walton Golf Club	Golf Course	Protect the open space

- 7.4.2 The use of good acoustic design would enable the site to be developed to protect the identified tranquil areas. This would be considered as part of the noise assessment submitted to support the planning application.

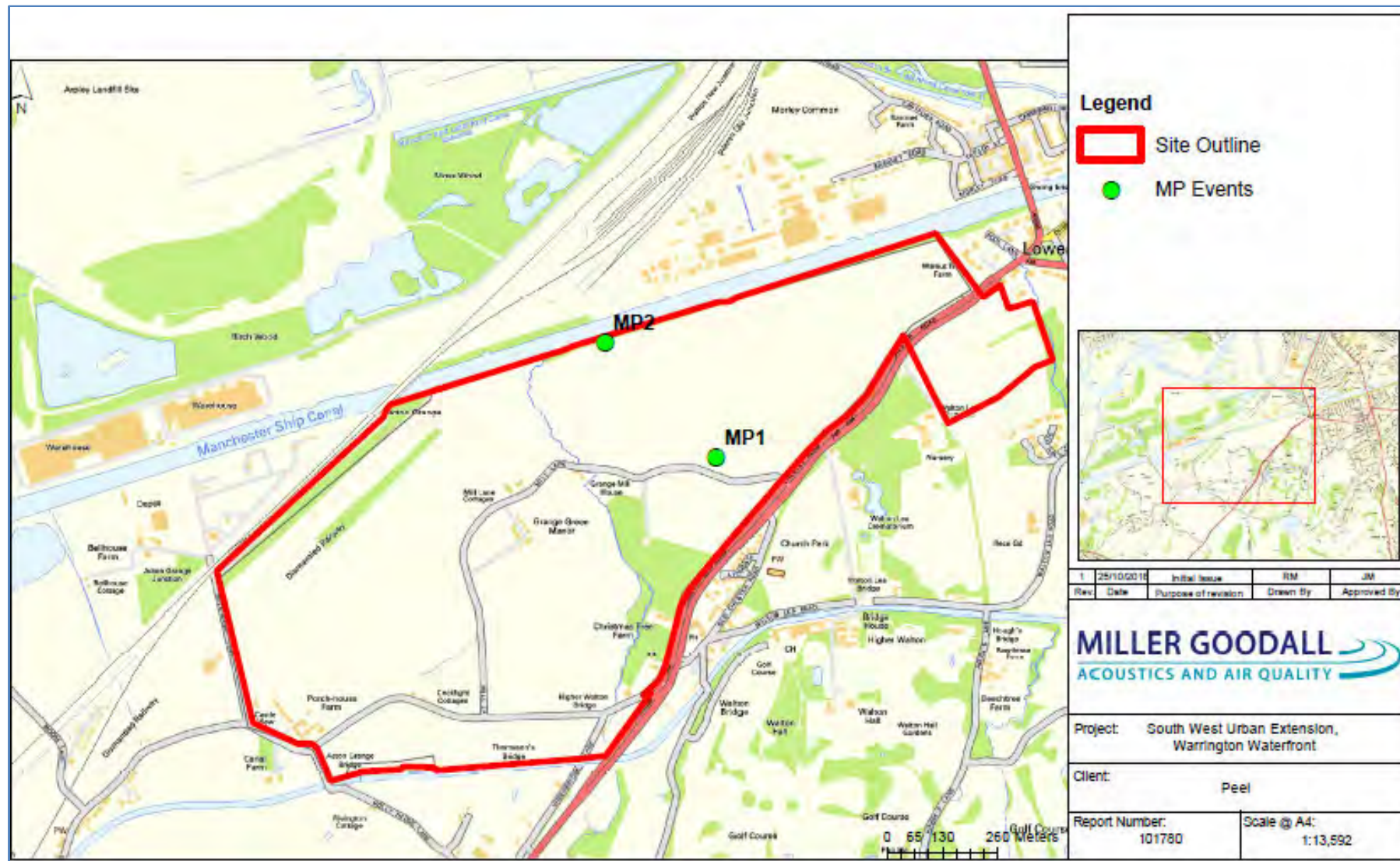
¹³ BS 5228 Noise and Vibration Control on Construction and Open Sites - Part 1: Noise: 2009+A1:2014

8 Summary and Conclusions

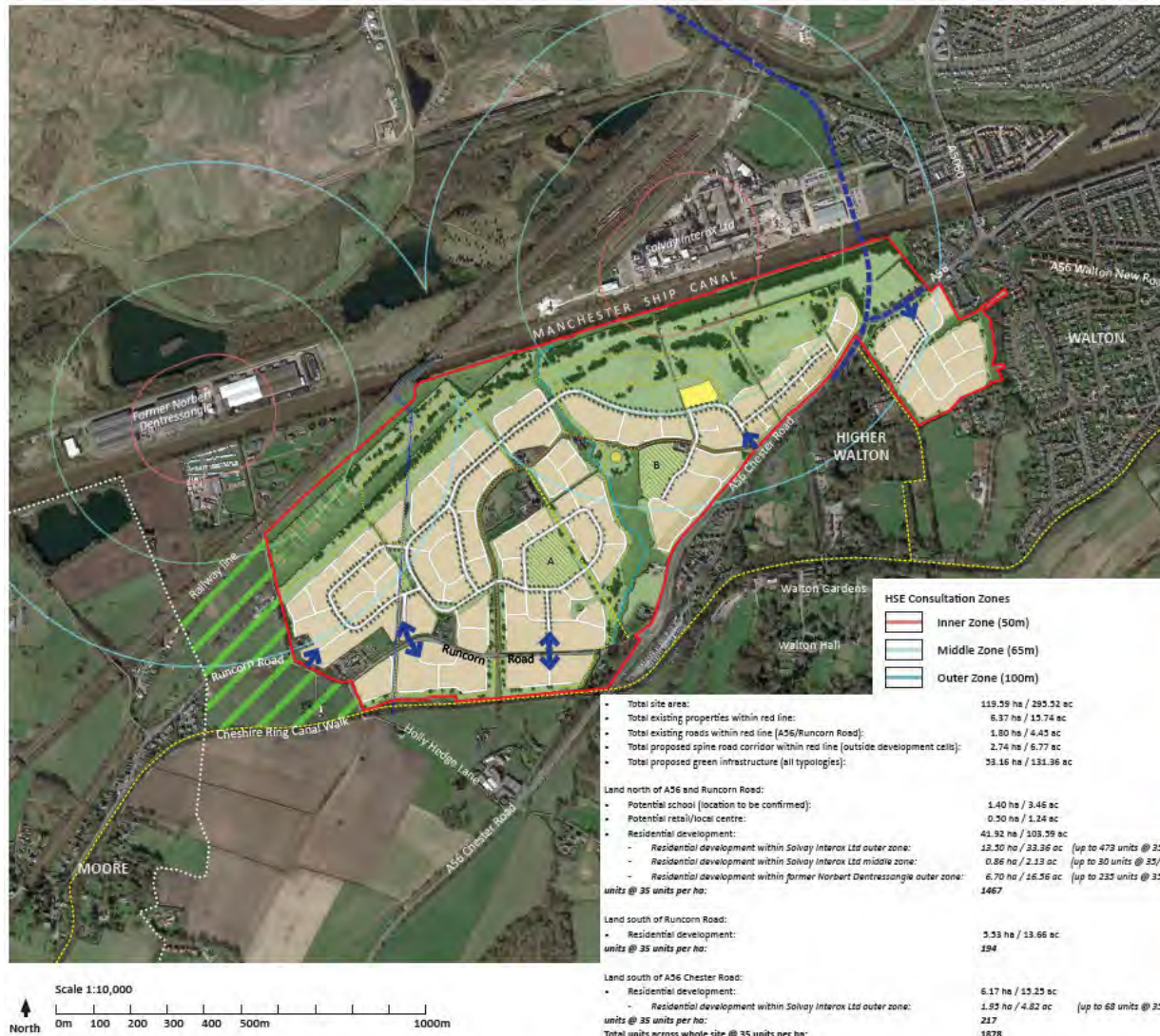
- 8.1 A noise screening assessment, site visit and preliminary noise measurements have been undertaken to identify any potential noise sources which are likely to have an impact on the development of a site for a significant housing and infrastructure development. The information indicates that the impact of noise would not be a barrier to residential development on the land which the masterplan proposes for the development.
- 8.2 The assessment has identified a number of possible noise sources which may impact on the proposed development or existing noise sensitive receptors which may be impacted by the development. However, it is not considered that any of the identified noise sources are likely to have a significant impact or likely to be a barrier to development. There are a number of recommendations in relation to noise which will assist in minimising the potential impact on both the future and existing noise sensitive receptors. With good acoustic design it is considered that National standards for noise will be achieved for the proposed Masterplan.
- 8.3 The recommendations include:
- Detailed assessment of noise from transportation sources, including road and rail transport around the site including the inclusion of noise mitigation measures as the detailed masterplan is developed for the site.
 - Detailed assessment of noise from industrial and commercial sources located around the periphery of the site and include where necessary mitigation measures and use of good acoustic design as the masterplan is developed to a full planning application.
 - There are areas within the site and located close to the site which are considered tranquil areas and careful design of the masterplan should aim to protect the noise environment at these locations.
- 8.4 It is considered that part of the detailed noise assessment will include the consideration of a number of mitigation measures for acoustics, including;
- Careful design of the site to ensure National target for noise are achieved at noise sensitive receptors;
 - Consideration of acoustic mitigation measures to control noise levels to National guidance levels, including acoustic glazing and ventilation.
- 8.5 An assessment of the impact of the development in terms of noise from; transport, new infrastructure, construction noise and commercial and retail sources will need to be undertaken as part of the planning submission for the application site. The initial screening assessment does not consider that there is likely to be a significant impact as a result of the development. Good acoustic design should be considered as the masterplan is developed to protect existing noise sensitive receptors.
- 8.6 It is considered that with good acoustic design a suitable and commensurate level of protection against noise will be provided to the occupants of the proposed accommodation. Good acoustic design will also assist in reducing the potential impacts of the development for existing noise sensitive receptors.

APPENDICES

Appendix 1: Site Outline and Monitoring Positions



Appendix 2: Illustrative Master Plan and Development Constraints



LANDSCAPE ARCHITECTURE
ENVIRONMENTAL PLANNING
MASTERPLANNING
URBAN DESIGN

**RANDALL
THORP**

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KEY:

- Site boundary
- Local Authority Boundary
- Proposed Green Belt
- Existing vegetation
- Proposed trees and woodland
- Proposed development cells
- Proposed development to be no higher than 2 storey along A56
- Potential locations for a school (A or B)
- Proposed play area
- Potential location for retail / local centre
- Proposed primary road
- Proposed secondary / tertiary roads
- Proposed public open space
- Proposed allotments
- Existing Public Right of Way
- Proposed footpath
- Proposed cycleway with existing residential access retained
- Proposed route of western link road
- Gas pipeline and easement
- Proposed vehicular access points

NB: Masterplan subject to change following detailed survey work



Warrington Local Plan Sites

South West Urban Extension

Illustrative Masterplan and development constraints

Drwg No: 630DE-13K
Drawn by: AH
Rev by: AH/YH
QM Status: Checked
Scale: 1:10,000 @ A3

Date: 11.06.2018
Checker: SR
Rev checker: SR/CW
Product Status: Issue

HSE Consultation Zones

- Inner Zone (50m)
- Middle Zone (65m)
- Outer Zone (100m)

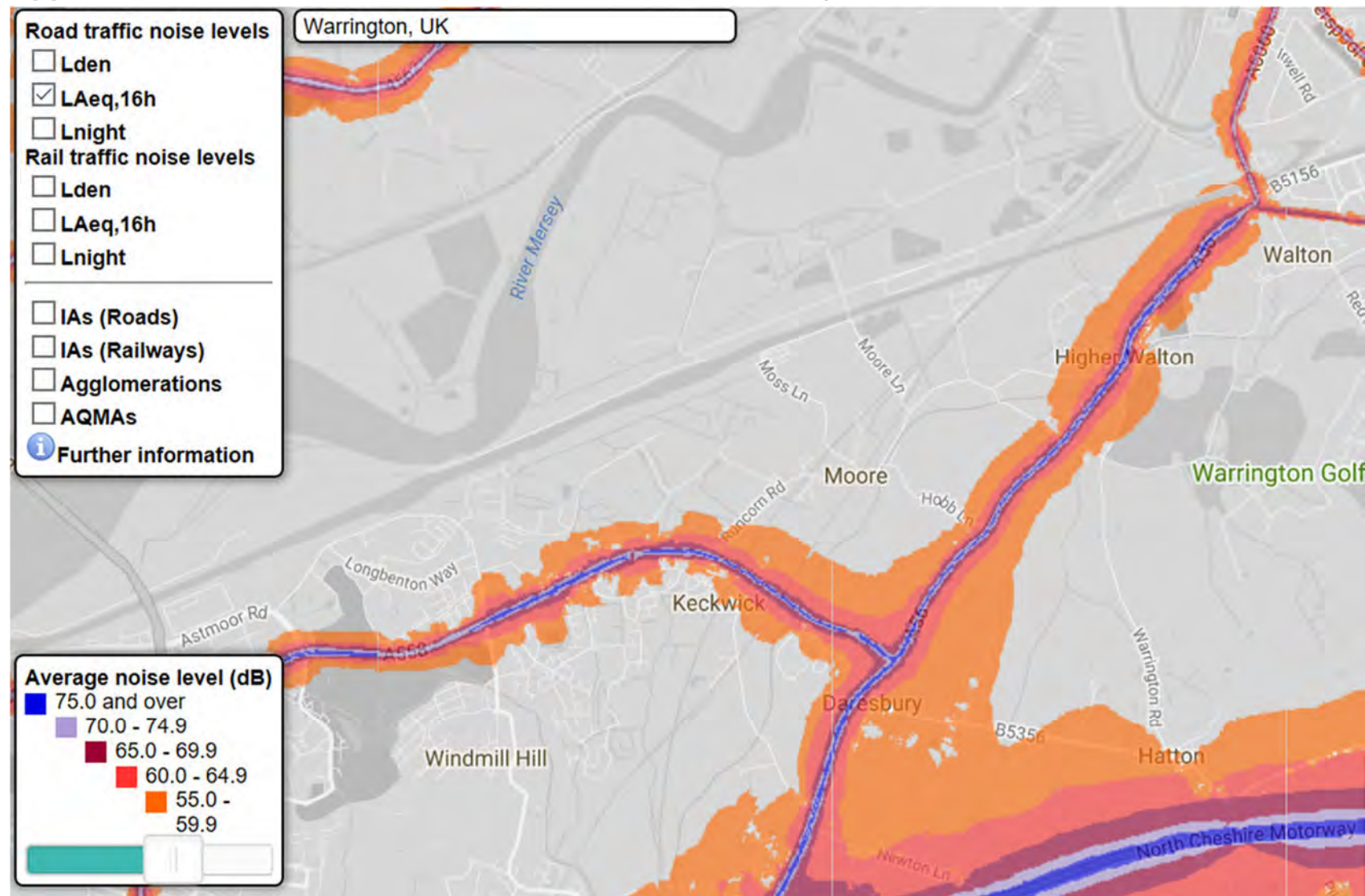
• Total site area:	119.59 ha / 295.52 ac
• Total existing properties within red line:	6.37 ha / 15.74 ac
• Total existing roads within red line (A56/Runcorn Road):	1.80 ha / 4.45 ac
• Total proposed spine road corridor within red line (outside development cells):	2.74 ha / 6.77 ac
• Total proposed green infrastructure (all typologies):	58.16 ha / 144.36 ac

Land north of A56 and Runcorn Road:	
• Potential school (location to be confirmed):	1.40 ha / 3.46 ac
• Potential retail/local centre:	0.50 ha / 1.24 ac
• Residential development:	41.92 ha / 103.59 ac
- Residential development within Solvay Interlox Ltd outer zone:	13.50 ha / 33.36 ac (up to 473 units @ 35/ha)
- Residential development within Solvay Interlox Ltd middle zone:	0.86 ha / 2.13 ac (up to 30 units @ 35/ha)
- Residential development within former Norbert Dentressangle outer zone:	6.70 ha / 16.56 ac (up to 235 units @ 35/ha)
units @ 35 units per ha:	1467

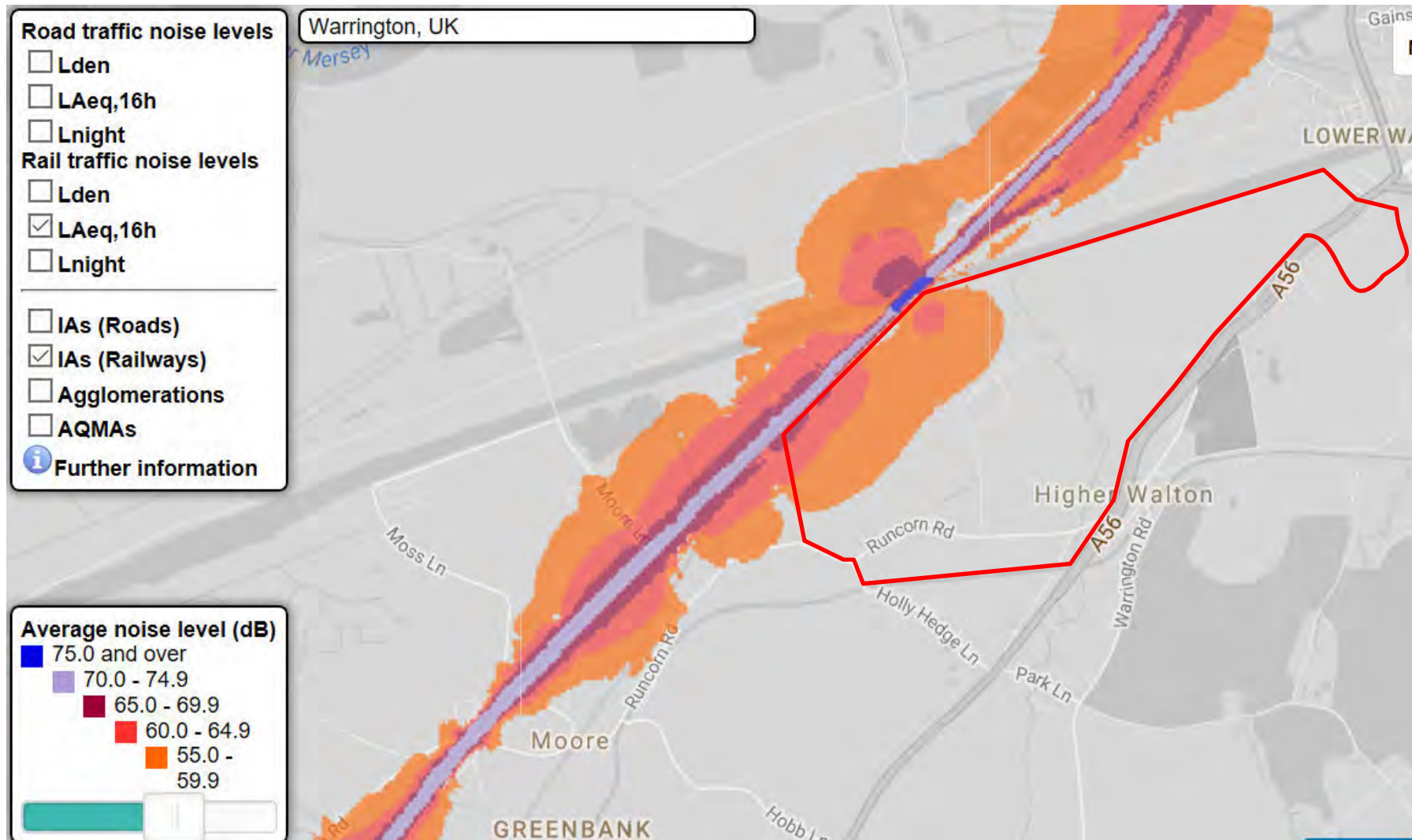
Land south of Runcorn Road:	
• Residential development:	5.33 ha / 13.66 ac
units @ 35 units per ha:	194

Land south of A56 Chester Road:	
• Residential development:	6.17 ha / 15.25 ac
- Residential development within Solvay Interlox Ltd outer zone:	1.95 ha / 4.82 ac (up to 68 units @ 35/ha)
units @ 35 units per ha:	217
Total units across whole site @ 35 units per ha:	1878

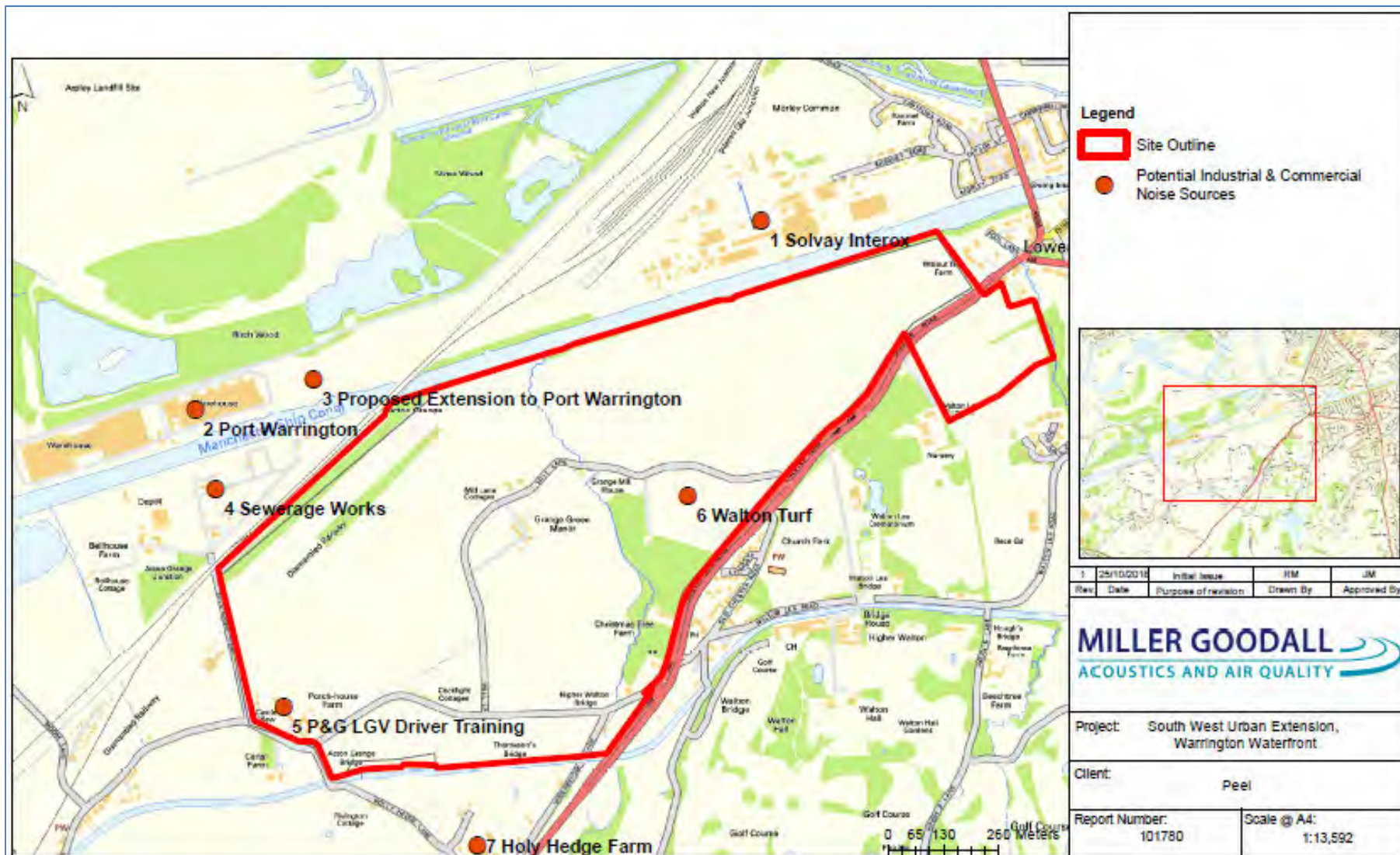
Appendix 3a: Road Traffic Predicted Noise Contours $L_{Aeq,16hour}$



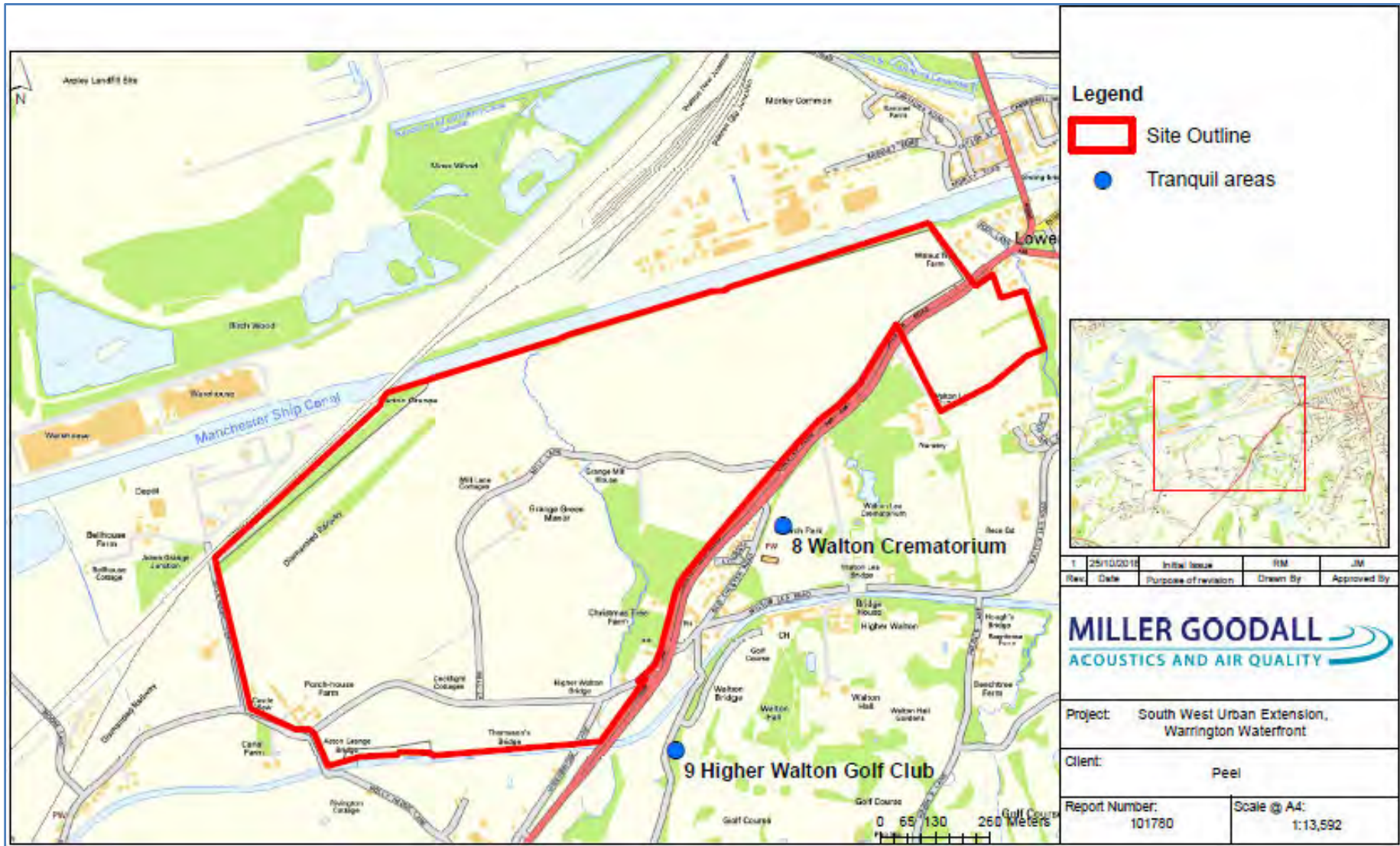
Appendix 3b: Railway Predicted Noise Contours $L_{Aeq,16hour}$.



Appendix 4: Potential Industrial and Commercial Noise Sources



Appendix 5: Tranquil Areas



Glossary of Terms

- Decibel (dB)** The unit used to quantify sound pressure levels; it is derived from the logarithm of the ratio between the value of a quantity and a reference value. It is used to describe the level of many different quantities. For sound pressure level the reference quantity is 20 μPa , the threshold of normal hearing is in the region of 0 dB, and 140 dB is the threshold of pain. A change of 1 dB is usually only perceptible under controlled conditions.
- dB L_A** Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB L_A broadly agree with an individual's assessment of loudness. A change of 3 dB L_A is the minimum perceptible under normal conditions, and a change of 10 dB L_A corresponds roughly to halving or doubling the loudness of a sound. The background noise level in a living room may be about 30 dB L_A ; normal conversation about 60 dB L_A at 1 meter; heavy road traffic about 80 dB L_A at 10 meters; the level near a pneumatic drill about 100 dB L_A .
- $L_{A90,T}$** The A weighted noise level exceeded for 90% of the specified measurement period (T). In BS 4142: 1997 it is used to define background noise level.
- $L_{Aeq,T}$** The equivalent continuous sound level. The sound level of a notionally steady sound having the same energy as a fluctuating sound over a specified measurement period (T). $L_{Aeq,T}$ is used to describe many types of noise and can be measured directly with an integrating sound level meter.
- L_{Amax}** The highest A weighted noise level recorded during the time period. It is usually used to describe the highest noise level that occurred during the event.
- NOEL** No observed effect level: the level of noise exposure below which no effect at all on health or quality of life can be detected.
- LOAEL** Lowest observed adverse effect level: the level of noise exposure above which adverse effects on health or quality of life can be detected.
- SOAEL** Significant observed adverse effect level: the level of noise exposure above which significant adverse effects on health or quality of life can be detected.

MILLER GOODALL 
ACOUSTICS AND AIR QUALITY



SOUTH WEST URBAN EXTENSION WARRINGTON



FLOOD RISK & DRAINAGE APPRAISAL

Shepherd Gilmour Infrastructure Ltd.

40 Peter Street

Manchester

M2 5GP

C1312/NM/DOR/EAJ/20180050



Report Title: South West Urban Extension - Warrington
Flood Risk & Drainage Appraisal

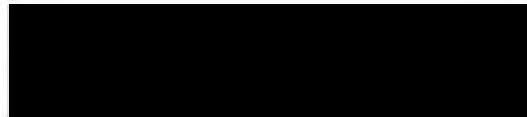
Client: Peel Holdings, Story Homes and Ashall Property

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Prepared by:



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Checked & Approved:

Dean O'Reilly BSc (Hons)

Version	Date	Initials	Comments
-		DOR	First Draft
A		DOR	Amended as requested
B	23.11.2018	NCM	Amended as per comments from Turley
C	14.06.2019	DOR	Report amended as requested



Limitations

All findings, recommendations and conclusions contained in this report are based on information provided to us during investigations. Shepherd Gilmour Infrastructure Ltd. has created the report based on the assumption that all the information is accurate and accepts no liability should additional information exist or become available.

Unless otherwise requested by the client, Shepherd Gilmour Infrastructure Ltd. is not obliged to and disclaims any obligation to update the report for events taking place after the date noted on the report.

Shepherd Gilmour Infrastructure Ltd. makes no representation whatsoever concerning the legal significance of its findings or the legal matters referred to in the report. The information presented, and conclusions drawn are for guidance purposes only. The study provides no guarantee against the flooding of the study site or elsewhere, nor of the absolute accuracy of water levels, flow rates, and associated probabilities.

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CONTENTS

Contents..... 4

List of Tables 5

List of Figures 5

List of APPENDICES 5

SECTION 1 INTRODUCTION 6

SITE DESCRIPTION..... 6

DEVELOPMENT PROPOSALS 7

TOPOGRAPHY 8

SECTION 2 FLOOD RISK ADVICE..... 9

GOV.UK PLANNING ADVICE MAPS 9

ENVIRONMENT AGENCY DATA..... 9

FLOOD ZONE GUIDANCE..... 13

FLOOD MITIGATION..... 14

FLOOD ZONE REQUIREMENTS..... 15

SECTION 3 EXISTING [REDACTED] 16

PUBLIC SEWERS 16

PRIVATE DRAINAGE..... 17

SECTION 4 FOUL WATER DRAINAGE STRATEGY 18

FOUL WATER DRAINAGE STRATEGY 18

FOUL WATER FLOWS..... 20

PRE-DEVELOPMENT ENQUIRY 20

SECTION 5 SURFACE WATER DRAINAGE STRATEGY 21

SUSTAINABLE URBAN DRAINAGE..... 21

PROPOSED RUNOFF DESTINATION..... 22

SUSTAINABLE DRAINAGE TECHNIQUES..... 23

WATER QUALITY 24

CLIMATE CHANGE 25

SURFACE WATER DRAINAGE PROPOSAL 1 27

SURFACE WATER DRAINAGE STRATEGY OPTION 2..... 29

SECTION 6 CONCLUSION 30

LIST OF TABLES

TABLE 2.1 DEVELOPMENT TYPES (ABSTRACT) 14

TABLE 2.2 FLOOD RISK CLASSIFICATION 14

TABLE 5.1 EXISTING SITE ANALYSIS 21

TABLE 5.2 WALLINGFORD PROCEDURE VOLUME 3 VARIABLES 21

TABLE 5.3 PEAK GREENFIELD RUNOFF RATES 22

TABLE 5.4 SOIL CLASSIFICATION 22

TABLE 5.5 POTENTIAL SUDS TECHNIQUES 24

TABLE 5.6 POLLUTION HAZARD INDICES FOR DIFFERENT LAND USE (TABLE 26.2 C753) 24

TABLE 5.7 SUDS MITIGATION INDICES (TABLE 26.3 C753) 25

TABLE 5.5 RECOMMEND CLIMATE CHANGE GUIDANCE (EA) 27

LIST OF FIGURES

FIGURE 1.1 APPROXIMATE RED LINE BOUNDARY (GOOGLE MAPS) 7

FIGURE 1.2 CONCEPTUAL MASTERPLAN 8

FIGURE 2.1 FLOOD MAP FOR PLANNING (GOV.UK) 9

FIGURE 2.2 DETAILED EA FLOOD RISK MAP 10

FIGURE 2.3 DETAILED EA FLOOD RISK MAP 10

FIGURE 2.4 MSC FLOODING EVIDENCE 11

FIGURE 2.6 CENTRAL ORDINARY WATERCOURSE (EA) 12

FIGURE 2.6 EASTERN ORDINARY WATERCOURSE (EA) 13

FIGURE 3.1 COMBINED UU SEWER PLAN 16

FIGURE 4.1 FOUL WATER DRAINAGE CONSTRAINTS 18

FIGURE 4.2 PRELIMINARY FOUL WATER NETWORKS 19

FIGURE 5.1 SURFACE WATER STRATEGY 27

FIGURE 5.2 PRELIMINARY SURFACE WATER NETWORKS 28

LIST OF APPENDICES

APPENDIX A SITE LOCATION PLAN
CONCEPTUAL MASTERPLAN

APPENDIX B ENVIRONMENT AGENCY FLOOD DATA

APPENDIX C LIDAR FLOOD DATA OVERLAY

APPENDIX D UNITED UTILITIES SEWER RECORDS
UNITED UTILITIES SEWER PREDEVELOPMENT ENQUIRY

APPENDIX E PRELIMINARY FOUL WATER DRAINAGE

APPENDIX F MICRODRAINAGE CALCULATIONS – GREENFIELD RUNOFF

APPENDIX G PRELIMINARY SURFACE WATER DRAINAGE



SECTION I INTRODUCTION

- 1.1. Shepherd Gilmour Infrastructure Ltd (SGI) has been engaged by a consortium of developers (Peel Holdings, Story Homes and Ashall Property) to provide a Flood Risk & Drainage Appraisal in support of the Southwest Urban Extension scheme in Warrington.
- 1.2. The report will consider the flood risk to the site and the drainage context in order to establish some initial drainage principles to inform the masterplan. This forms part of the technical reporting providing an evidence base to Warrington Borough Council that the site is viable for development for its proposed use and as such is recommended to be allocated through the Local Plan.

SITE DESCRIPTION

- 1.3. The site lies to the [REDACTED] boundary of Warrington. It is bound by the [REDACTED] the West Coast Railway to the north west. To the south east, the A56 Runcorn Road forms the boundary, with a plot of land to the south of the A56, immediately adjoining the Warrington settlement boundary, included. The Bridgewater Canal encloses the site at its southern boundary. At the eastern extent, the boundary follows Bellhouse Lane and Runcorn Road.
- 1.4. The site currently comprises a mix of agricultural land and associated buildings and property. Mill Lane runs through the site, providing access to a number of private properties and farm buildings. An area of industrial uses lies on the northern side of the Ship Canal, known as Warrington Waterfront. The route of the proposed Western Link Road lies at the eastern end of the site.
- 1.5. The site is presently designated as Green Belt land within the Warrington Unitary Development Plan (June 2005), but has been identified by the Council as a site to be released from the Green Belt and allocated for housing development through the emerging Local Plan.
 - Nearest Postcode: WA4 6TX
 - OS Coordinates: 359284E, 385383N
 - OS Grid Reference: SJ592853



Figure 1.1 Approximate Red Line Boundary (Google Maps)

DEVELOPMENT PROPOSALS

- 1.6. Land at Higher Walton will be developed as a sustainable urban extension to the main urban area of Warrington, providing up to 1,800 new homes. The urban extension will support a new community in a high-quality residential setting with ease of access to Warrington's employment, recreation and cultural facilities.
- 1.7. The new community will be supported by:
 - A new primary school
 - A local centre comprising local shops, a potential new health facility (subject to needs), and other community facilities as necessary to support the new residential community
 - Extensive areas of open space and recreation provision.
- 1.8. The development will be designed to support walking and cycling for local trips. It will benefit from the new Western Link and improved public transport to enable access to the town centre, Stockton Heath, the Waterfront development and other major employment areas, including Daresbury.
- 1.9. Development will ensure that important ecological assets within the site are preserved with opportunities to provide additional habitats and enhance biodiversity.

- I.10. The urban extension will preserve, and where possible enhance, the heritage assets within the site and will be designed to respect the setting of nearby heritage assets, including the Bridgewater Canal and its bridges and Walton Village Conservation Area.
- I.11. Development is not expected to come forward until the funding and the programme for the delivery of the Western Link, or an alternative means of achieving the transport improvements needed to accommodate the development, have been confirmed. Based on the proposed Western Link scheme, the first homes are anticipated to be completed by 2023/24, though may be delivered earlier, with the urban extension completed in full by the end of the Plan period in 2037.
- I.12. The conceptual masterplan is shown in **Figure I.2** and included in **Appendix A**.

TOPOGRAPHY

- I.13. Based on the LIDAR [redacted] falls in level from north to south i.e. from the Bridgewater Canal to the Manchester Ship Canal (MSC). The LIDAR data indicates that there is a 25m fall in level between the highest and lowest parts of the site.

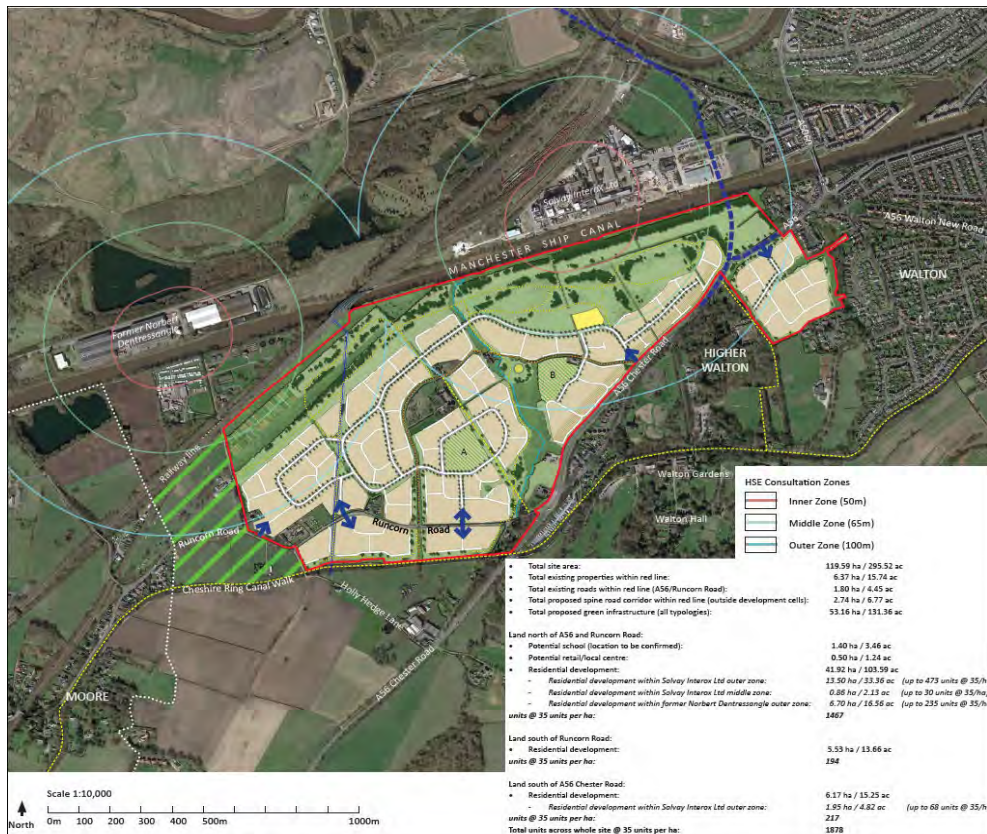


Figure I.2 Conceptual Masterplan

SECTION 2 FLOOD RISK ADVICE

GOV.UK PLANNING ADVICE MAPS

2.1. The Gov.UK online Flood Maps provide initial information on any flood zoning onsite. These maps indicate that the majority of site is located within Flood Zone 1 (low probability of river flooding) with some small areas close to the ordinary watercourses indicated as Flood Zones 2 and 3 (medium and high probability).

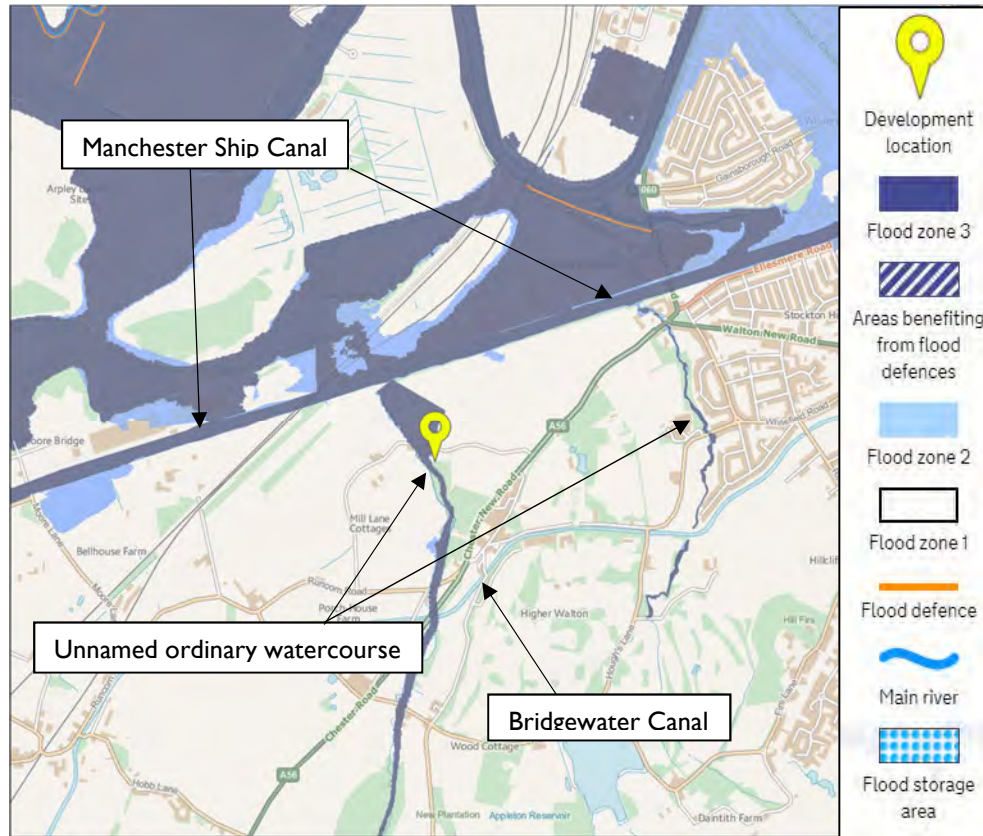


Figure 2.1 Flood Map for Planning (Gov.UK)

Flood Zone Definition

- *Flood Zone 1 (Low Probability) - land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%)*
- *Flood Zone 2 (Medium Probability) - land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year*
- *Flood Zone 3 (High Probability) - land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year*

ENVIRONMENT AGENCY DATA

2.2. The latest flood data has been received from the Environment Agency (EA) and provides estimated flood levels along the MSC and Ordinary Watercourses.

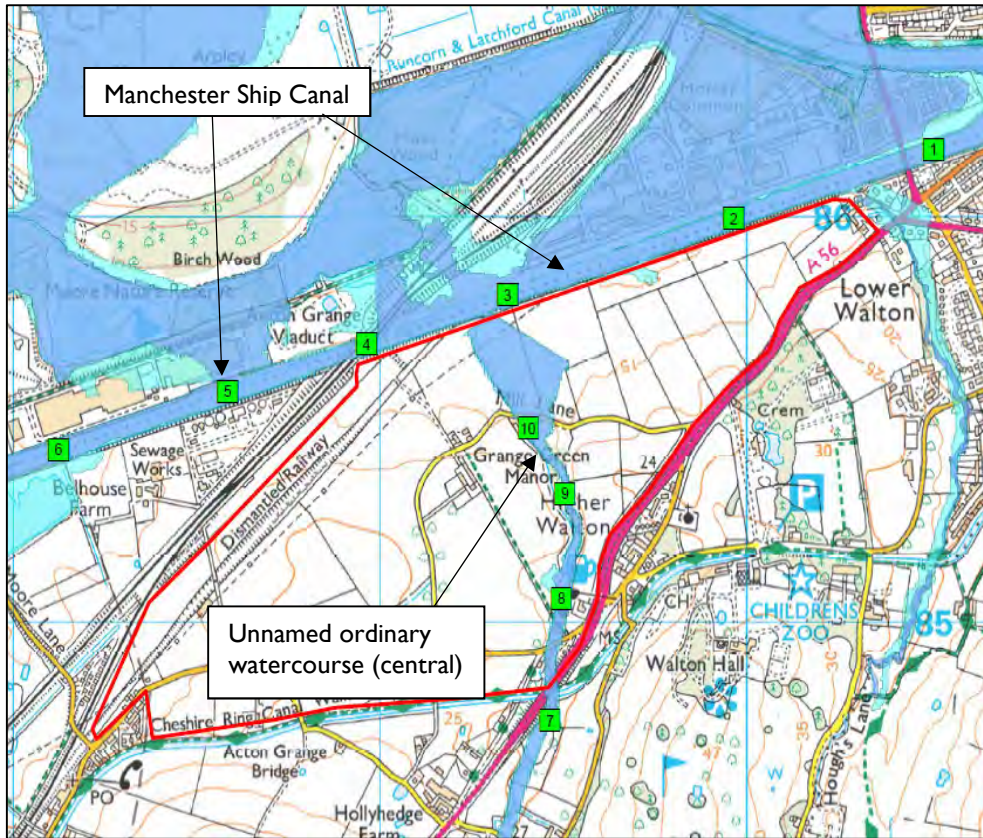


Figure 2.2 Detailed EA Flood Map I (EA)

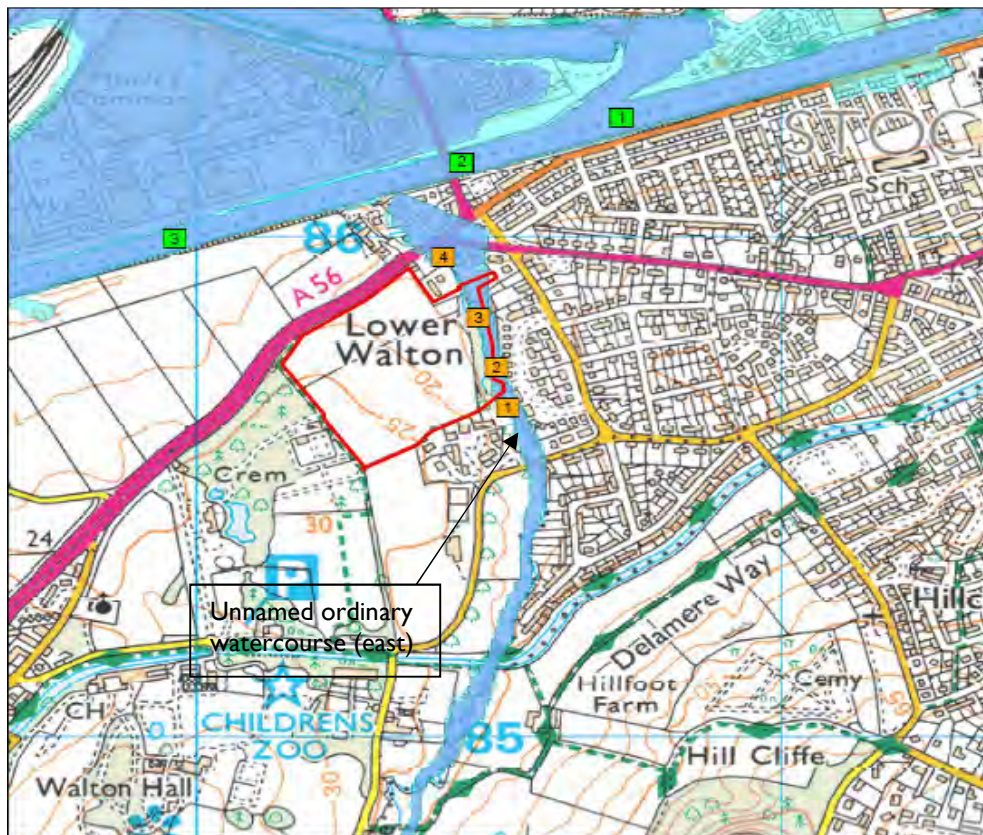


Figure 2.3 Detailed EA Flood Map 2 (EA)

Manchester Ship Canal - Flood Risk

- 2.3. The data for the MSC has been taken from the Manchester Ship Canal Study undertaken in 2010. When added to the LIDAR model the data indicates a small amount of flooding along the northern boundary during the 1 in 1000-year event.

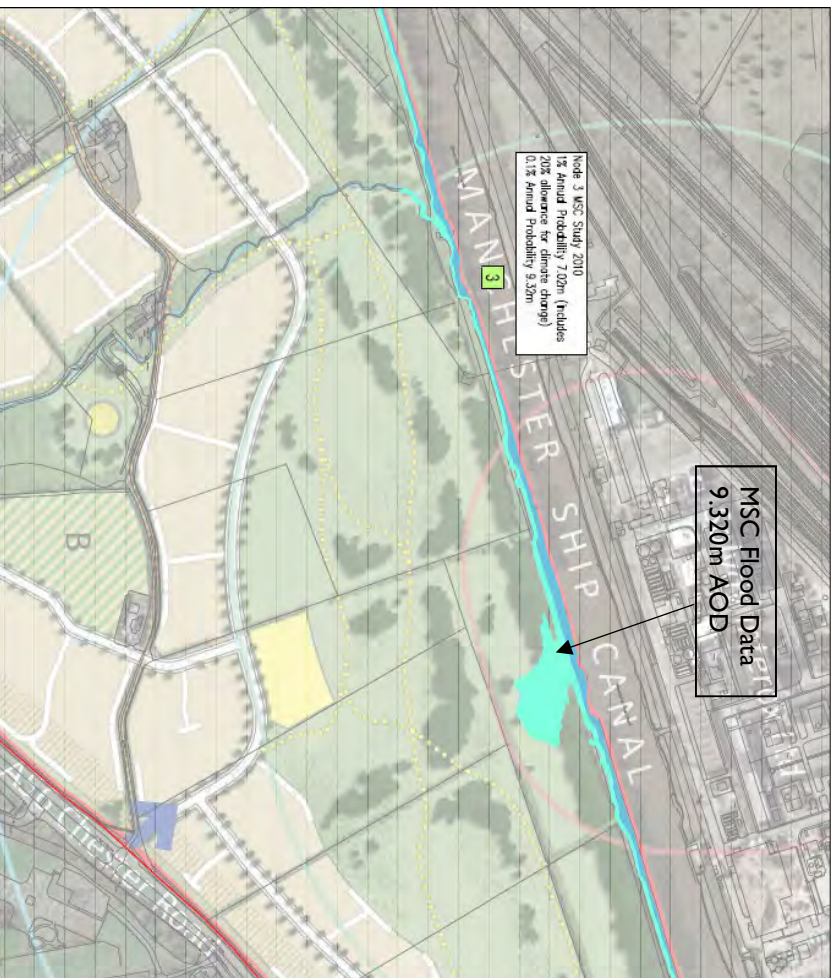


Figure 2.4 MSC Flooding Extents (EA)

- 2.4. As shown in **Figure 2.4** the risk of flooding to the PDS from this source is negligible. A copy of the EA data and LIDAR overlays are included within **Appendix B & C**.

Central Ordinary Watercourse – Flood Risk

- 2.5. The estimated flood data for the central ordinary watercourse is based on the National Generalised Modelling Study (J-Flow) 2014. J-Flow models takes little or no account of local structures and topographical features and should therefore only be used as a guide.

- 2.6. An overlay of the flood outline onto our LIDAR model shows that flooding from Node 10 would affect the site (Flood Zone 3a). The flood level at this node however, is 2m higher than the surrounding topography and is therefore unlikely to occur.

- 2.7. In the event that extreme flooding did occur. The flood water would be naturally directed towards the MSC which is 8m lower than the watercourse level at Node 10.

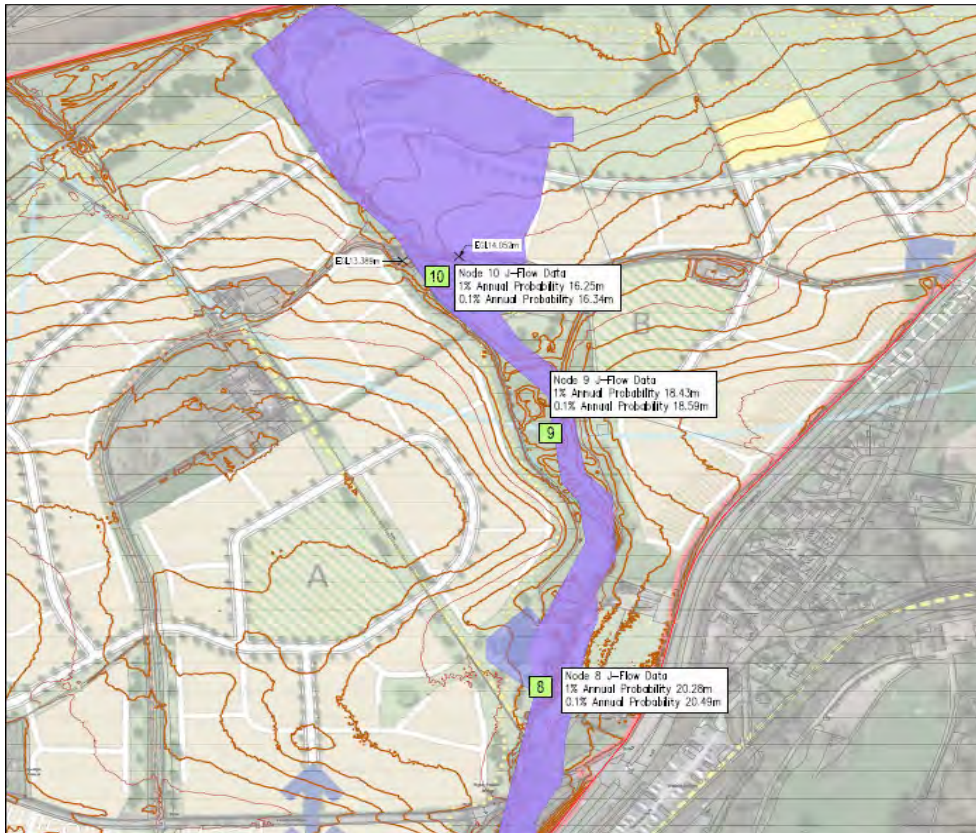


Figure 2.6 Central Ordinary Watercourse (EA)

- 2.8. We would recommend that a bespoke topographic survey and hydrological study of the watercourse is commissioned during the design stage. This will allow the flows within the watercourse to be modelled accurately and will confirm any required mitigation measures.

Eastern Ordinary Watercourse – Flood Risk

- 2.9. The estimated flood data is again based on the National Generalised Modelling Study 2014. The extent of flooding is shown to encroach onto the eastern side of the development and is estimated to be between 200-400mm deep.
- 2.10. This J-Flow data is again unlikely to be accurate and we would recommend that a bespoke topographic survey and hydrological study of this watercourse is commissioned during the detailed design stage. This will confirm any required mitigation measures.

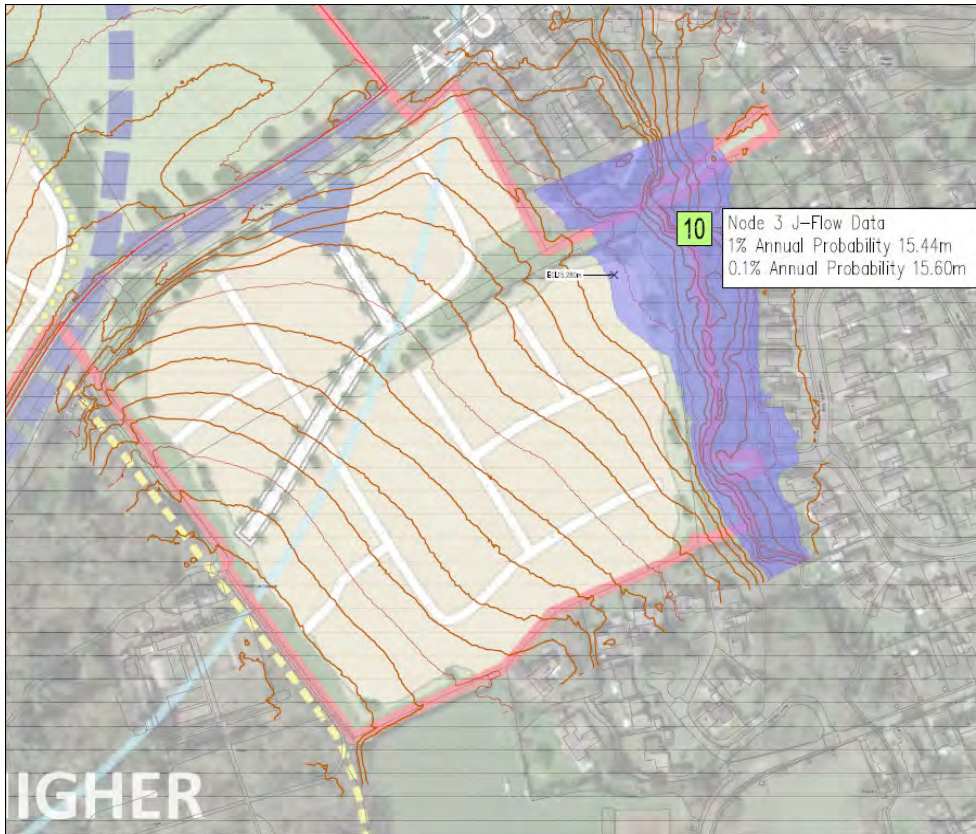


Figure 2.6 Eastern Ordinary Watercourse (EA)

FLOOD ZONE GUIDANCE

2.11. The information within **Table 2.1 & 2.2** has been taken from the Flood Risk and Coastal Change Guidance Document and specifies which development types are suitable within each Flood Zone.

Highly Vulnerable	<ul style="list-style-type: none"> • Police stations, Ambulance stations and Fire stations and Command Centres. • Basement dwellings. • Caravans, mobile homes & park homes intended for permanent residential use. • Installations requiring hazardous substances consent.
More Vulnerable	<ul style="list-style-type: none"> • Hospitals. • Residential institutions • Residential dwelling, student halls, drinking establishments/nightclubs and hotels. • Non-residential - Health services, nurseries and educational establishments. • Landfill and sites used for waste management facilities for hazardous waste.
Less Vulnerable	<ul style="list-style-type: none"> • Police, ambulance and fire stations which are not required during a flood. • Shops; financial, professional and other services; restaurants and cafes; hot food takeaways; offices; general industry; storage and distribution; non-residential institutions not included in 'more vulnerable'; and assembly and leisure. • Land and buildings used for agriculture and forestry. • Waste treatment (except landfill and hazardous waste facilities). • Minerals working and processing (except for sand and gravel working). • Water treatment works which are not required during times of flood. • Sewage treatment works.

Water Compatible	
<ul style="list-style-type: none"> • Flood control infrastructure. • Water transmission infrastructure and pumping stations. • Sewage transmission infrastructure and pumping stations. • Docks, marinas and wharves. • Navigation facilities. • MOD defence installations. • Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location. • Water-based recreation (excluding sleeping accommodation). • Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms. • Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan. 	

Table 2.1 Development Types (Abstract)

2.12. The conceptual masterplan for the PDS (**Appendix A**) indicates that the proposed land uses/development types will be:

- Residential Dwellings – More Vulnerable
- Local Park – Water Compatible
- Local Centre – More Vulnerable
- Primary School – More Vulnerable
- Open Space – Water Compatible

Flood Zone	Flood Risk Vulnerability Classification				
	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
1	✓	✓	✓	✓	✓
2	✓	Exception Test	✓	✓	✓
3a	Exception Test	x	Exception Test	✓	✓
3b	Exception Test	x	x	x	✓

Table 2.2 Flood Risk Classification

2.13. Based on the current EA data, two areas of proposed residential use are within Flood Zone 3a. More vulnerable developments are only permitted to be in this flood zone with an exemption test. As previously stated this data is unlikely to be accurate and further studies are required before this test should be undertaken.

FLOOD MITIGATION

2.14. If the event that the hydraulic modelling results mirrors the EA maps. The following mitigation measures could be implemented during the design stage to allow residential use in these areas.

- Control and direct the flood water to less sensitive areas which can hold and release the flood water at a later stage.
- Open/increase downstream structures/culvert to remove any flow restrictions (subject to downstream analysis of flood risk)
- Set the finished floor levels of the residential buildings at least 600mm higher than the 100-year event plus climate change.
- Position the proposed building footprint outside of the predicted flood extent. Gardens can remain in Flood Zone 3a.

FLOOD ZONE REQUIREMENTS

2.15. Although the PDS is at a preliminary/conceptual stage the client and design team members should be mindful of the following requirements or potential mitigation factors should any [REDACTED] 2 or 3:

- *Finished Floor Levels*
- *Flood Resistance*
- *Flood Resilience*
- *Safe Access and Egress Routes*
- *Flood Flow/ Routing*
- *Sustainable Drainage Systems*
- *Flood Warning and Evacuation Plans*

SECTION 3 EXISTING DRAINAGE INFRASTRUCTURE

PUBLIC SEWERS

- 3.1. The public sewers in the area are owned and maintained by United Utilities (UU). Their sewer records have been requested and have been included within **Appendix D** of this report.



Figure 3.1 Combined UU Sewer Plan

Surface Water Sewers

- 3.2. United Utilities records do not identify any surface water sewers on the site. But there are some sewers within Runcorn/Chester Road which discharge to the watercourse in the local watercourses.

Foul Water Sewers

- 3.3. United Utilities records do not identify any foul water sewers onsite. But there are some small sewers in the surround areas which discharge to combined sewers.

Sludge Main/Rising Main

- 3.4. United Utilities records do not identify any sludge/rising mains onsite.



Combined Water Sewers

- 3.5. United Utilities records identifies three combined water sewers onsite and some in the surround areas. The sewers onsite are;
- A 225mm diameter sewer flowing through the centre of the site in a south or north direction. Information on this sewer is limited, and its route can only be assumed due to the missing tiles, but the sewer will likely require a diversion to suit the PDS layout.
 - Two 500mm diameter sewers flow along the northern boundary/MSc in an east to west direction. Both sewers are flowing in parallel and discharge to the Waste Water Treatment Works to the west of the site. There is no additional information such as depths etc on the records.

PRIVATE DRAINAGE

- 3.6. There are no known private drainage plans/records available for the PDS.



SECTION 4 FOUL WATER DRAINAGE STRATEGY

4.1. The following foul water drainage strategy is one of several options available to the PDS. The strategy will continue to change as the PDS progressing into a more detailed design stage.

FOUL WATER DRAINAGE STRATEGY

4.2. Based on the topography and the existing site constraints (watercourse and gas main), we would recommend that the proposed foul water drainage be split into three/four networks as shown in **Figure 4.1**.

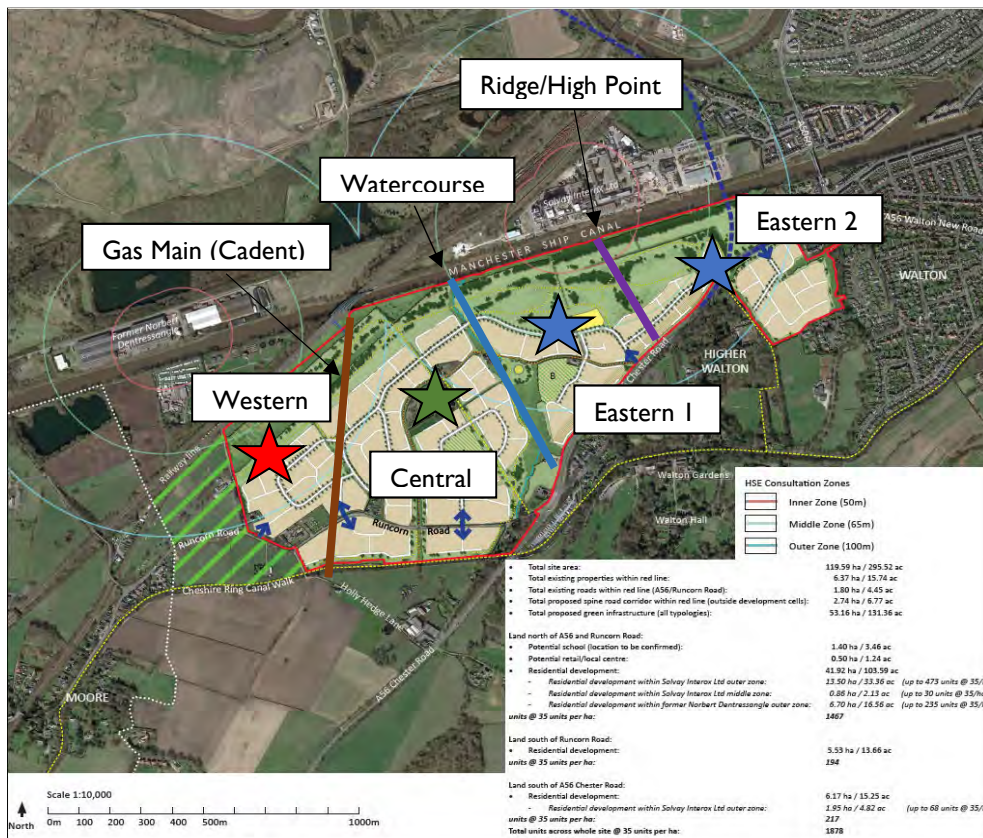


Figure 4.1 Foul Water Drainage Constraints

4.3. A copy of our preliminary foul water drainage network has been included within **Appendix E** of this report.

Foul Water - Plot Drainage

4.4. The proposed foul water drainage from each plot will connect to the stub connection(s) left from the main infrastructure. We would expect the plot drainage to be offered for adoption under a S104 agreement, but this will be up to the individual developer(s).

Foul Water – Main Infrastructure

- 4.5. Three foul water network(s) will be constructed within the highway/access road and will collect the foul flows from each plot. The main infrastructure will then transport the effluent to a connection point along the public sewerage network.
- 4.6. Based on the topography of the site, we believe that most of the PDS can connect to the public sewer (northern boundary) via gravity. For areas that cannot drain via gravity an offsite pumping station (outside the plots) will be provided to eject effluent to the public sewer directly or indirectly via the main infrastructure.
- 4.7. We would expect the main foul water infrastructure to be offered for adoption under a S104 agreement.

United Utilities Connection Point

- 4.8. The proposed connections to the [redacted] network are subject to a S106/S104 agreement.

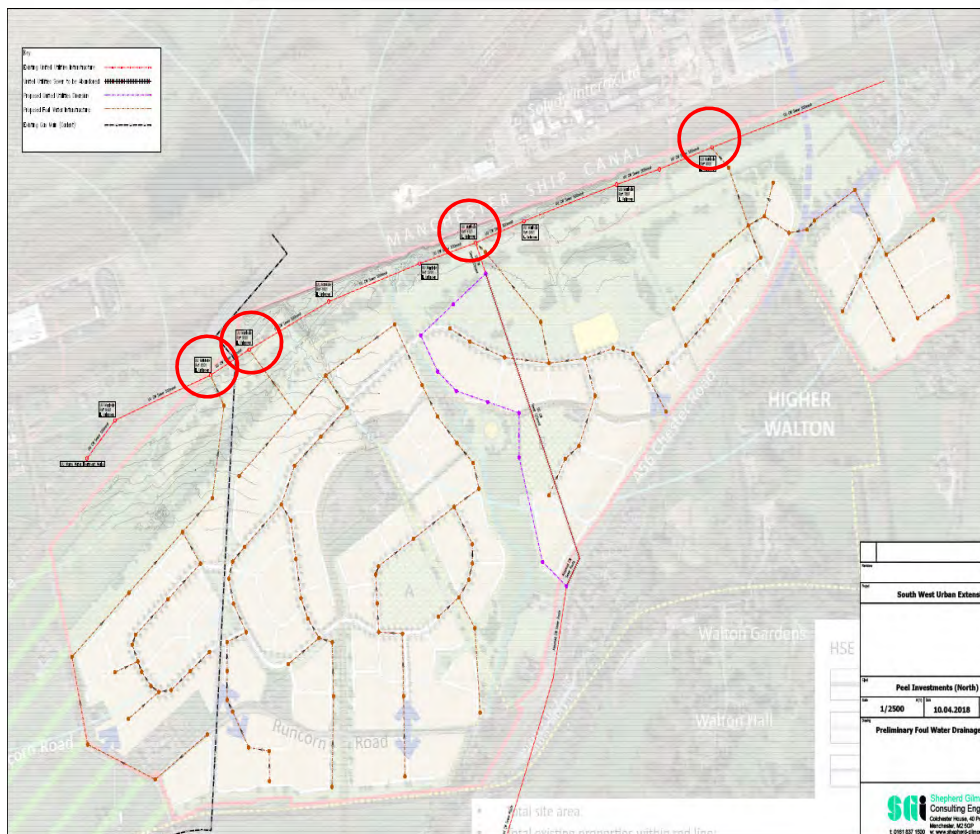


Figure 4.2 Preliminary Foul Water Networks

- 4.9. These connection points cannot be requested until planning permission has been granted. But based on the preliminary layout the following connections will be required (see **Appendix E** for full size drawing of the below):



- Western Network – United Utilities Manhole 8501
- Central Network – United Utilities Manhole 9501
- Eastern Network 1 – United Utilities Manhole 4701
- Eastern Network 2 – United Utilities Manhole 9901

FOUL WATER FLOWS

- 4.10. Sewers for Adoption & British Water recommend the following rates are used to calculate the foul flow from the PDS:

Residential Dwellings

1800 Dwellings (approximate) x 4000 litres per day = 7,200,000 litres per day

Residential Peak Flow Rate = $7,200,000 \div (24 \times 60 \times 60) = 83.3 \text{ l/s}$

Primary School

To be confirmed at a later stage

Local Centre

To be confirmed at a later stage

PRE-DEVELOPMENT ENQUIRY

- 4.11. A pre-development enquiry has been submitted to United Utilities for the PDS based on the above flows. Their response is included within **Appendix D** and states that the proposed foul water effluent will be able to drain to the public combined/foul sewerage network.

SECTION 5 SURFACE WATER DRAINAGE STRATEGY

SUSTAINABLE URBAN DRAINAGE

5.1. The general requirement set out by the NSSDS 2011 and NSTSSD 2015 technical documents is that ‘the development must not increase the risk of flooding elsewhere.’ In practical terms, this means that the proposed development runoff rate must provide a betterment or be equal to the calculated Greenfield.

Greenfield Runoff Rate

5.2. The Institute of Hydrology Report 124 Flood Estimation for Small Catchments has been used to calculate the mean annual flood flow from the catchment.

	m ²	ha
Existing Site	1195900	119.59
Estimated Developed Area		ha

Volume Wallingford Variables	Value
M5-60 minute rainfall depth	19.2mm
Ratio of M5-60 to M5-2 day rainfalls	0.40mm
Average Annual Rainfall (SAAR)	800mm
Winter Rain Acceptance Potential (SOIL)	Soil Type 4 (0.45)

Table 5.2 Wallingford Procedure Volume 3 Variables

$$QBAR_{rural} = 1.08 (AREA/100)^{0.89} \times SAAR^{1.17} \times SOIL^{2.17}$$

$$\text{Where: } AREA = 62.82 \text{ ha (to be allocated later)}$$

$$SAAR = 800\text{mm}$$

$$SOIL = \text{Type 4 (0.45)}$$

$$QBAR_{rural} = 1.08 (AREA/100)^{0.89} \times SAAR^{1.17} \times SOIL^{2.17}$$

$$= 1.08 (62.82/100)^{0.89} \times 800^{1.17} \times 0.45^{2.17}$$

$$= 314.6 (62.82\text{ha developed site})$$

Growth Curve Factor

5.3. Growth curve factors have been derived for each of the 10 hydrological regions of the UK. These are based on the work carried out by the Flood Studies research and assists in calculating multiple peak runoff rates for different events

using the estimate QBAR value. The Microdrainage calculations are attached in **Appendix F.**

Hydrological Region		10			
Estimated QBAR Value		169.8			
Growth Curve Year	1	2	5	30	100
Greenfield Peak Runoff (l/s)	273.7	293.1	374.4	533.5	654.5

Table 5.3 Peak Greenfield Runoff Rates

PROPOSED RUNOFF DESTINATION

5.4. The National Standards for Sustainable Drainage Systems (NSSDS) and National Planning Practice Guidance set out the following hierarchy of surface water runoff destinations;

- One [redacted] (ation)
- Two [redacted]
- Three Discharge to a surface water sewer
- Four Discharge to a combined sewer

Discharge into the ground

5.5. There are five bands of soil classes in England which roughly describe the infiltration potential of an area. It is derived from factors such as, soil permeability, topography and the likelihood of impermeable layers.

5.6. The soil classification for the PDS is identified to be Type 4. As a result, the use of infiltration onsite is unlikely to be suitable (Table 5.4).

Soil	WRAP	Runoff	Soil Value	Soil Characteristics
1	Very High	Very Low	0.15	Sandy, well drained
2	High	Low	0.30	Intermediate soils (sandy)
3	Moderate	Moderate	0.40	Intermediate soils (silty)
4	Low	High	0.45	Clayey, poorly drained
5	Very Low	Very High	0.50	Steep, rocky areas

Table 5.4 Soil Classification

5.7. Infiltration tests should be carried out on each plot in accordance with BRE365 to confirm the suitability of soakaways during the detailed design stage.

Discharge to a surface water body

- 5.8. The existing ground profile generally falls in level from the south to the north (the Bridgewater Canal to the Manchester Ship Canal). The LIDAR model indicates a 25m fall across the site and therefore a surface water connection from the PDS to the MSC should be feasible.

Discharge to a surface water sewer

- 5.9. Not applicable for this site.

Discharge to a combined sewer

- 5.10. Not applicable for this site.

SUSTAINABLE DRAINAGE TECHNIQUES

- 5.11. There are various SUDS techniques which are suitable for high and low-density developments (Table 5.11). These techniques should be incorporated at the detailed design stage to ensure that the development is fit for purpose. Several of the below techniques also provide water quality improvements by reducing pollution such as hydrocarbons and sediment.

SUDS Technique		Proposed Development Suitability
Porous pavements	Description	Pavements constructed with porous paving can provide storage and water treatment via the sub-base.
	Suitability	Appropriate for car parking areas and residential drives (not highways). Suitability will depend on the detailed drainage design for the PDS and ground conditions.
Filter drains	Description	Granular filled linear drains/soakaways usually with a perforated pipe installed at the base.
	Suitability	Suitable along any embankments/slopes to capture and prevent and surface water runoff leaving the site.
Swales	Description	Shallow naturally landscaped channels that convey and/or infiltrate the runoff.
	Suitability	Suitable in relatively flat areas to increase time of concentration and/or to provide attenuation.
Retention Ponds	Description	Partially filled waterbodies that can provide significant storage during critical storms.
	Suitability	Potentially suitable in the open space around the site.
Detention Basin	Description	Naturally, vegetated depressions designed to store runoff temporarily.
	Suitability	Potentially suitable in the open space around the site.

Soakaways	Description	Designed structures that can store and infiltrate runoff.
	Suitability	Infiltration depends on tests carried out during the design stage.
Green Roofs	Description	Vegetated roof areas that reduce and runoff and increase times of concentration.
	Suitability	Potentially suitable for some areas of the PDS.
Underground Storage	Description	Attenuation structures installed below ground to provide runoff storage.
	Suitability	Suitable within car park and service yard areas. Type to be confirmed during detailed design.

Table 5.5 Potential SUDS Techniques

WATER QUALITY

5.12. Surface water runoff from [REDACTED] should be treated in accordance with [REDACTED] 'Manual' (2015) before discharging into the main infrastructure. Each proprietor should undertake a Simple Index Approach to suit its intended use as shown below;

Example – Proposed Residential Plot

5.13. Surface water runoff from a residential plot would typically consist of residential dwellings (very low hazard), driveways and general access roads (low hazard). **Table**

5.6 from Ciria C753 (Table 26.2) provides the minimum required water treatment for these areas.

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydro-carbons
Residential roofs	Very Low	0.2	0.2	0.05
Other roofs (typically commercial and industrial roofs)	Low	0.3	0.2-0.8	0.05
Individual property driveways, residential car parks, low traffic roads (e.g. cul-de-sacs, home zones and general access roads) and non-residential car parking with infrequent change (e.g. schools, offices) i.e. < 300 traffic movements per day	Low	0.5	0.4	0.4
Commercial Yard and delivery areas, non-residential car parking with frequent change (e.g. hospitals, retail), all roads except low traffic roads and trunk roads/motorways	Medium	0.7	0.6	0.7

Table 5.6 Pollution Hazard Indices for different land use (Table 26.2 C753)

- 5.14. The proposed water treatment could be one or more of the following SuDS components show in in **Table 5.7** (Ciria Table 26.3). Runoff from the proposed residential roofs is a very low hazards and as such could be treated with any components.
- 5.15. The proposed driveways, and access roads, are considered a low hazard and will therefore require a SuDS component ranked 3 or above. As an alternative, the proposed plot could combine multiple lower ranked components, but this can be confirmed during the detailed design stage.

Rank	Type of SuDS Component	TSS	Metals	Hydro-carbons
1	Filter Strip	0.4	0.4	0.5
2	Filter Drain	0.4	0.4	0.4
3	Swale	0.5	0.6	0.6
4	Bio-retention	0.6	0.8	0.8
5	Permeable Paving	0.6	0.6	0.7
6	Detention Basin	0.5	0.5	0.6
7	Pond	0.7	0.7	0.5
8	Wetland	0.8	0.8	0.8

Table 5.7 SuDS Mitigation Indices (Table 26.3 C753)

SuDS Maintenance

- 5.16. The maintenance of SuDS components such as ponds/basins, permeable paving and/or underground attenuation tanks will be the responsibility of the site owner. Only oversized pipes can be offered for adoption at the time of this report.
- 5.17. A maintenance plan must be produced for the SuDS components during the detailed design stage. The management plan can then be implemented by the site owner and/or the site management company.

CLIMATE CHANGE

- 5.18. An allowance for climate change should be included to help minimize vulnerability and provide resilience to flooding. According to the Flood Risk Assessments: Climate Change Allowances **both** the “Upper End” and “Central” allowances should be applied to Rainfall Intensity.
- 5.19. The “Central” allowance should be applied to the surface water drainage network/design to assess its performance and ability to contain critical events. The



“Upper End” allowance should be applied to assess the potential flood risk implications to the site and to ensure that flooding is wholly contained onsite.

5.20. For the proposed developments, the following climate change allowances should be:

- Residential + 20% to 40% Allowance.
- Commercial + 10% to 20% Allowance (dependent upon estimated building life)



Applies across all of England	Potential Change anticipated for the 2020s	Potential Change anticipated for the 2050s	Potential Change anticipated for the 2080s
Upper End	+10%	+20%	+40%
Central	+5%	+10%	+20%

Table 5.5 Recommend Climate Change Guidance (EA)

Climate Change Recommendation

5.21. SGi would recommend that the drainage serving the PDS is designed to contain (without surface flooding) a 1 in 100 year 6-hour rainfall event with an “Upper End” allowance included (Table 5.5).

SURFACE WATER DRAINAGE PROPOSAL I

5.22. The following surface water drainage proposal is one of several options available to the PDS. The proposals will continue to change as the PDS progresses into a more detailed design stage.

5.23. We would recommend that the layout of the surface water networks follows a similar route/layout to the foul water. This will follow the topography of the PDS and avoid where possible crossings of the site constraints.

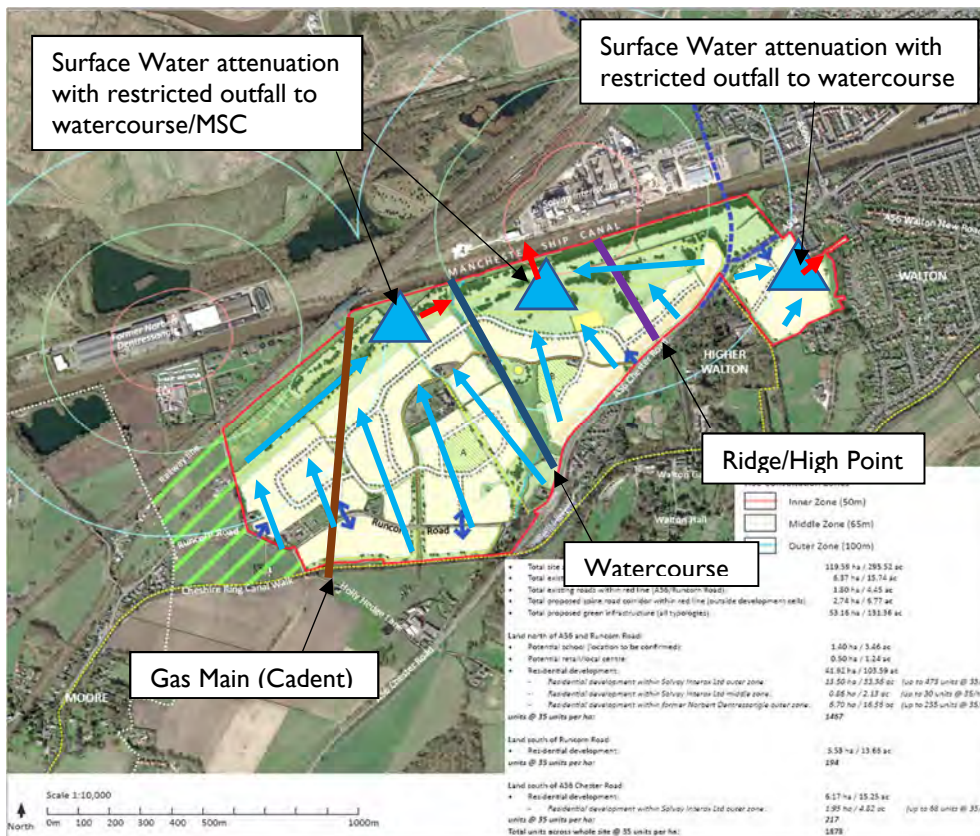


Figure 5.1 Surface Water Strategy

Plot Drainage

- 5.24. Surface water runoff from the proposed properties/dwellings will be collected and conveyed to plot specific soakaway location(s) should infiltration rates be suitable.
- 5.25. If infiltration is not feasible then the plot(s) would be permitted to discharge clean/treated runoff to main surface water infrastructure located within the highways/access road.

Main Surface Water Infrastructure

- 5.26. The main infrastructure will transport the the flows to suitably located attenuation structure(s) which will store excess flows and release the runoff at a sustainable rate to the onsite watercourse and/or MSC.

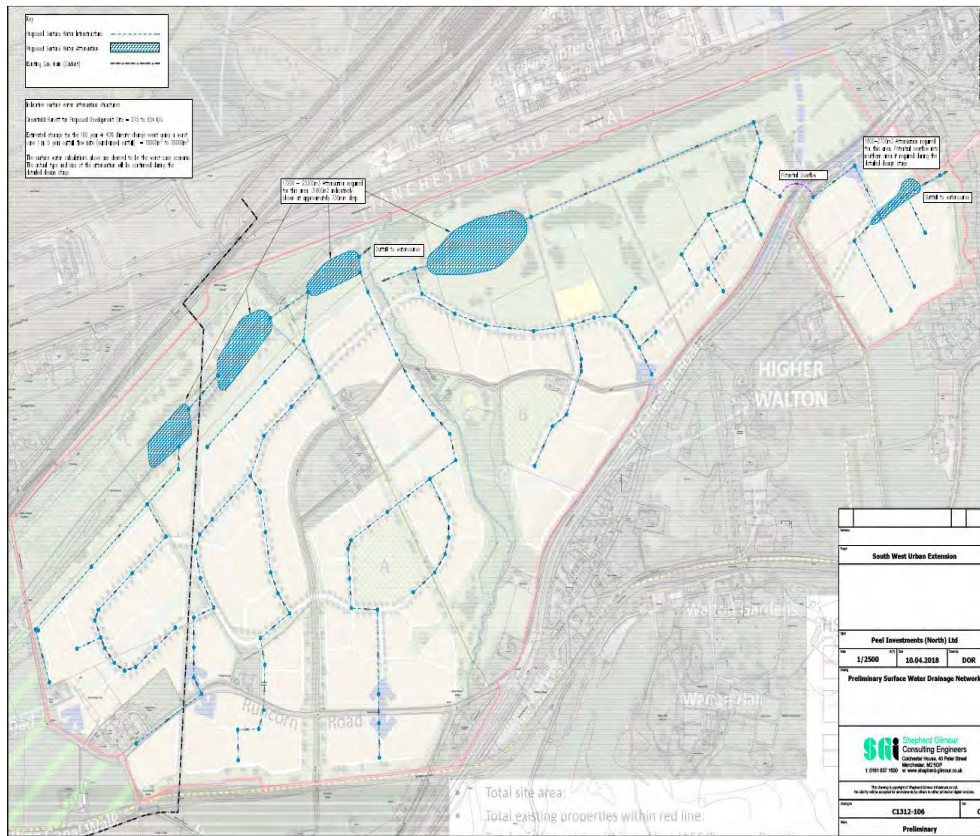


Figure 5.2 Preliminary Surface Water Networks

- 5.27. A copy of the preliminary surface water drainage network has been included in **Appendix G**.

Surface Water Attenuation

- 5.28. The proposed attenuation structure(s) will be confirmed during the detailed design stage but will likely consist of multiple SuDS components (**Table 5.5**).

5.29. We estimate at that between 19000m³ and 26000m³ of attenuation in total will be required for the 1% flood event with an additional 40% climate change. This volume is based upon 50% of the developable area (62.82ha) being impermeable and/or positively drained (31.41ha).

5.30. Note that this would be deemed the worst-case scenario and ignores any soakaway potential on the PDS.

SURFACE WATER DRAINAGE STRATEGY OPTION 2

5.31. As an alternative the runoff from each plot/parcel could be restricted to greenfield runoff. This would require each plot to attenuate at the source/plot and would drastically reduce the amount of downstream attenuation required (Option 1). But may reduce the overall developable area within the individual plot/parcel.

Example - Plot Attenua

5.32. The plot/parcel w [REDACTED] their own attenuation structures. We have estimated the following attenuation requirements per 1 hectare of residential development.

<i>Indicative Plot/Parcel Size</i>	= 10000m ²
<i>Estimated Impermeable Area</i>	= 5000m ²
<i>Allowable discharge rate</i>	= Between 4.3 l/s & 10.4 l/s
<i>Estimated Attenuation Volume</i>	= 300m ³ to 420m ³

5.33. The attenuation location, depth and type will be confirmed during the detailed design stage.

SECTION 6 CONCLUSION

- 6.1. This Flood Risk and Drainage Appraisal provides an in-depth assessment of the potential flood risk onsite and provides a foul and surface water drainage strategy for the PDS.
- 6.2. In summary, the report confirms that:
 - a) The Environment Agency's flood data for the Manchester Ship Canal positions the PDS in Flood Zone 1. In accordance with the Flood Risk and Coastal Change Guidance the proposed land uses are therefore acceptable.
 - b) The Environment Agency's flood data for the Ordinary Watercourse places small areas of the PDS in Flood Zone 2 & 3. This data however is based on broad-scale, generalised modelling and further hydraulic studies should be undertaken during the detailed design stage.
 - c) The proposed plots/developments must provide provision to dispose of surface water runoff. If the ground conditions prohibit infiltration, then the plots/parcels will be allowed to discharge clean/treated runoff into the main infrastructure within the highway.
 - d) The main surface water infrastructure will discharge clean/treated runoff into the MSC and/or onsite watercourse at the approved Greenfield Runoff Rate. Discharge locations and attenuation structure(s) to be approved during the detailed design stage.
 - e) The proposed foul flows from the plots/developments will discharge to the United Utilities combined water sewer(s) via the main foul water infrastructure within the highway. Connection point(s) to the combined water sewer are to be agreed with United Utilities during the detailed design stage.
 - f) Discussions with Cadent/National Grid are required during the detailed design stage to approve any potential infrastructure crossings such as proposed drainage and highway crossings of the LHP main.



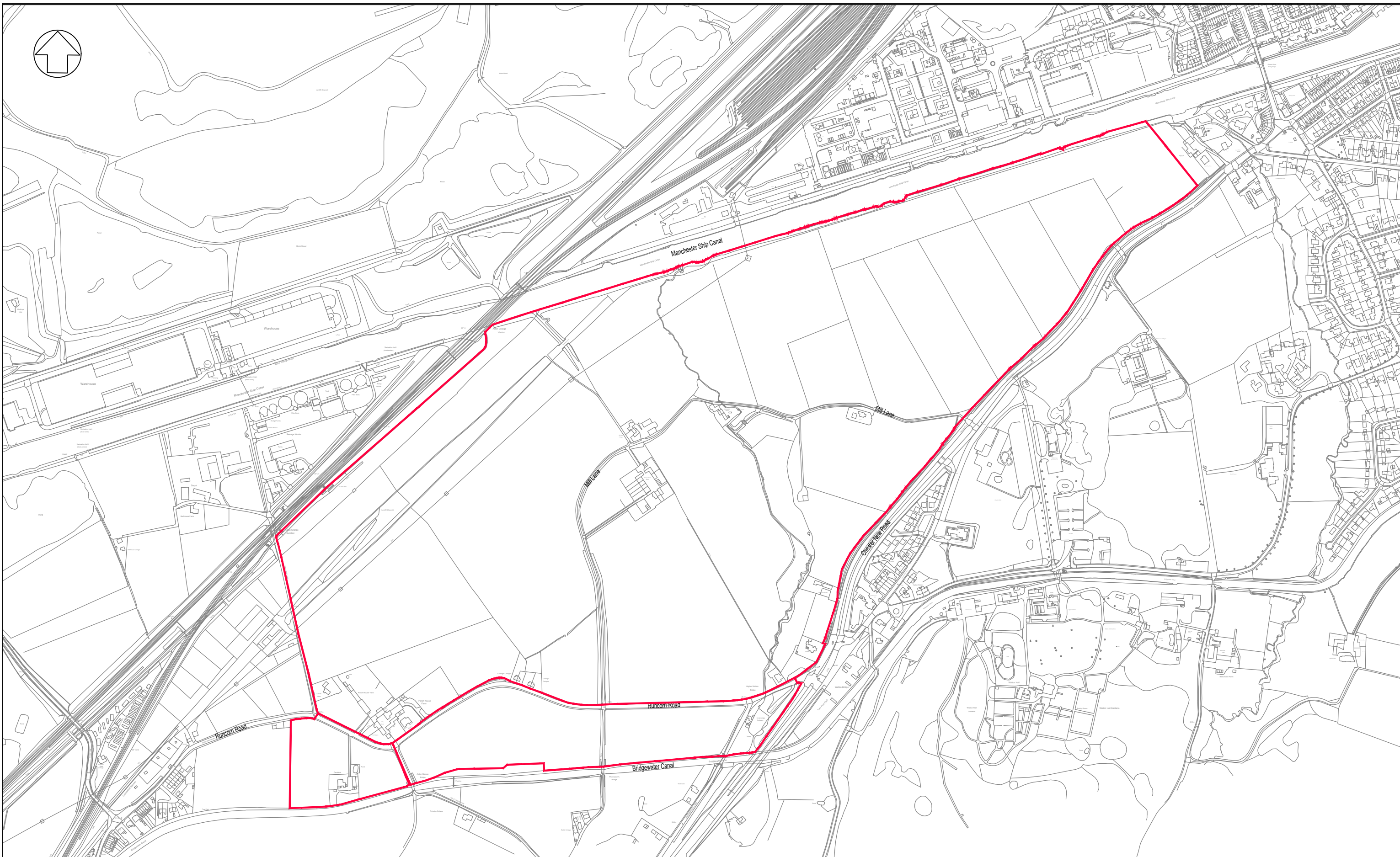
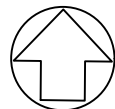
Shepherd Gilmour
Consulting Engineers

Colchester House, 40 Peter Street, Manchester M2 5GP

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AP [REDACTED] A



Site Location Plan
Nearest Postcode: WA4 6SH
Grid Reference: 359174,385365

Site Boundary: 

Client **Peel Investments (North) Ltd**

Project **Southwest Urban Extension**

Title **Site Location Plan**

Date : 04.04.2018

Scale : NTS

Drawn By : DOR

Checked :

Approved :

Paper Size : A3



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Job No / Drawing No

C1312-100

Revision

A



KEY:

- Site boundary
- Local Authority Boundary
- Proposed Green Belt
- Existing vegetation
- Proposed trees and woodland
- Proposed development cells
- Proposed development to be no higher than 2 storey along A56
- Potential locations for a school (A or B)
- Proposed play area
- Potential location for retail / local centre
- Proposed primary road
- Proposed secondary / tertiary roads
- Proposed public open space
- Proposed allotments
- Existing Public Right of Way
- Proposed footpath
- Proposed cycleway with existing residential access retained
- Proposed route of western link road
- Gas pipeline and easement
- Proposed vehicular access points

HSE Consultation Zones

- Inner Zone (50m)
- Middle Zone (65m)
- Outer Zone (100m)

- Total site area: 119.59 ha / 295.52 ac
- Total existing properties within red line: 6.37 ha / 15.74 ac
- Total existing roads within red line (A56/Runcorn Road): 1.80 ha / 4.45 ac
- Total proposed spine road corridor within red line (outside development cells): 2.74 ha / 6.77 ac
- Total proposed green infrastructure (all typologies): 53.16 ha / 131.36 ac

Land north of A56 and Runcorn Road:

- Potential school (location to be confirmed): 1.40 ha / 3.46 ac
 - Potential retail/local centre: 0.50 ha / 1.24 ac
 - Residential development: 41.92 ha / 103.59 ac
 - Residential development within Solvay Interlox Ltd outer zone: 13.50 ha / 33.36 ac (up to 473 units @ 35/ha)
 - Residential development within Solvay Interlox Ltd middle zone: 0.86 ha / 2.13 ac (up to 30 units @ 35/ha)
 - Residential development within former Norbert Dentressangle outer zone: 6.70 ha / 16.56 ac (up to 235 units @ 35/ha)
- units @ 35 units per ha: 1467**

Land south of Runcorn Road:

- Residential development: 5.53 ha / 13.66 ac
- units @ 35 units per ha: 194**

Land south of A56 Chester Road:

- Residential development: 6.17 ha / 15.25 ac
 - Residential development within Solvay Interlox Ltd outer zone: 1.95 ha / 4.82 ac (up to 68 units @ 35/ha)
- units @ 35 units per ha: 217**
- Total units across whole site @ 35 units per ha: 1878**

NB: Masterplan subject to change following detailed survey work



Warrington Local Plan Sites
South West Urban Extension
Illustrative Masterplan and
development constraints

Drwg No: 630DE-13K

Drawn by: AH

Rev by: AH/YH

QM Status: Checked

Scale: 1:10,000 @ A3

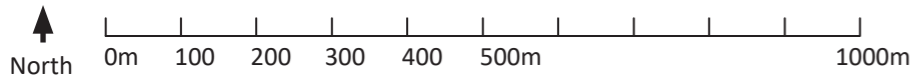
Date: 11.06.2018

Checker: SR

Rev checker: SR/CW

Product Status:
Issue

Scale 1:10,000





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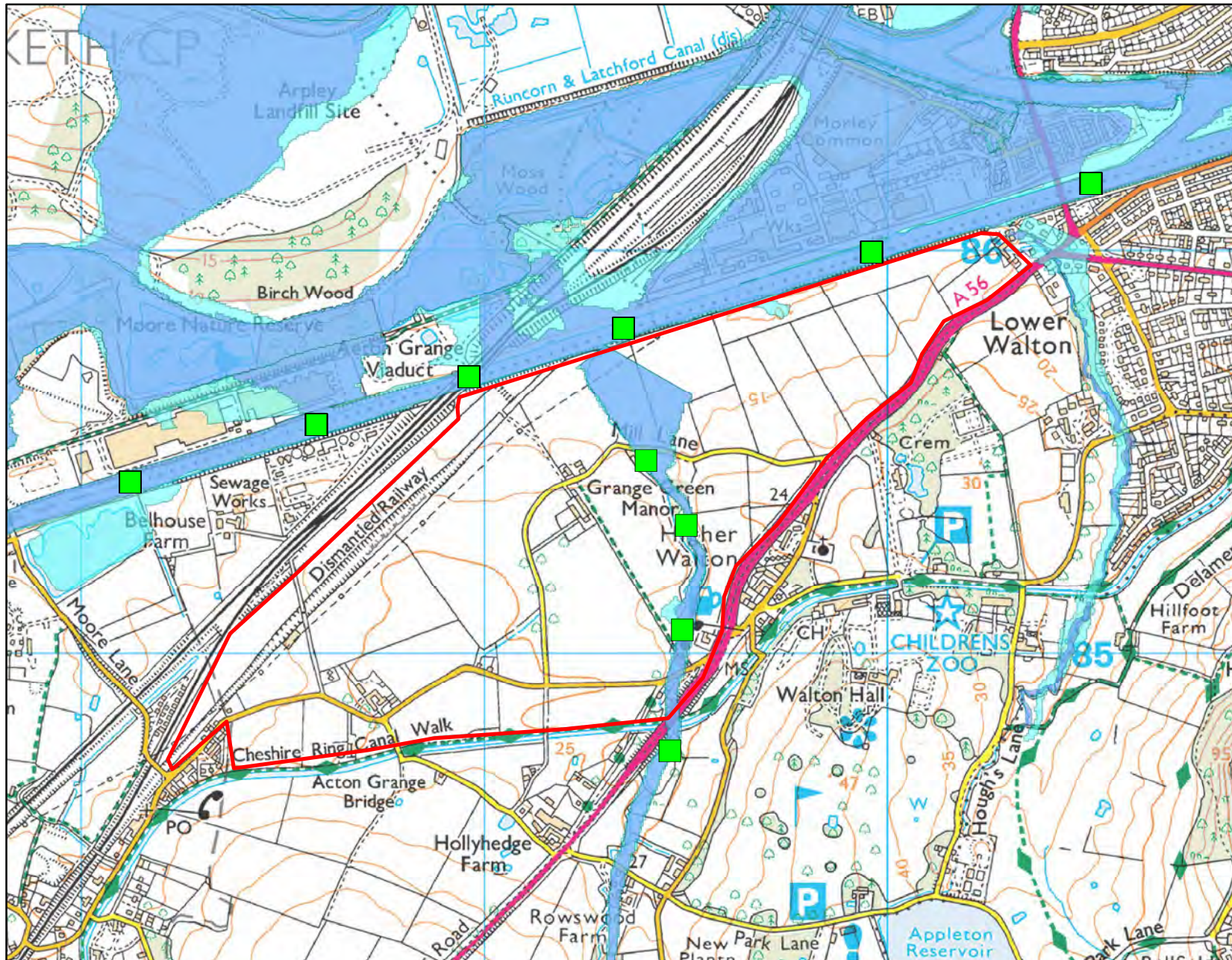
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


Detailed Flood Map centred on Higher Walton, Warrington, WA4 6SH. Created on 15/08/2017 [GMMC56748CC]



1:14,000



Legend

-  Site Location
-  Model Measurements
-  Flood Zone 2
-  Flood Zone 3

Map Reference	Model Node Reference	East ng	North ng	Data	Undeinded		Model run s representat ve of a single gate failure on every set of sluice structures. Maximum gate opening height s set to 2.4m.			Model run s representat ve of present cond tions and all gates are operat ona as per the agreed automated protoo. Maximum gate opening height s set to 2.4m. This run s the same as used n the flood map products.		
					1 % AEP (1 n 100 year)	0.1 % AEP (1 n 1000 year)	1 % AEP (1 n 100 year)	1 % AEP (1 n 100 year) + Climate Change*	0.1 % AEP (1 n 1000 year)	1 % AEP (1 n 100 year)	1 % AEP (1 n 100 year) + Climate Change*	0.1 % AEP (1 n 1000 year)
1	ea013_Model_MSCC04_223	360507	386165	Modelled Water Level (m aodN)			6.88	7.39	9.93	6.90	7.41	9.92
				Modelled Flow (cumecs)			627.47	718.74	1043.97	631.11	720.81	1041.99
2	ea013_Model_MSCC04_228	359963	385995	Modelled Water Level (m aodN)			6.69	7.14	9.44	6.71	7.15	9.44
				Modelled Flow (cumecs)			627.28	715.33	1039.57	630.98	717.71	1037.72
3	ea013_Model_MSCC04_231	359347	385806	Modelled Water Level (m aodN)			6.55	7.01	9.33	6.57	7.02	9.32
				Modelled Flow (cumecs)			626.62	712.19	1035.49	630.34	714.35	1033.79
4	ea013_Model_MSCC04_234	358963	385686	Modelled Water Level (m aodN)			6.56	7.00	9.29	6.58	7.02	9.29
				Modelled Flow (cumecs)			627.74	711.95	1035.71	631.59	714.65	1034.02
5	ea013_Model_MSCC04_236	358585	385568	Modelled Water Level (m aodN)			6.35	6.74	8.83	6.36	6.75	8.82
				Modelled Flow (cumecs)			627.31	710.28	1034.27	631.18	712.98	1032.60
6	ea013_Model_MSCC04_239	358124	385426	Modelled Water Level (m aodN)			6.25	6.65	8.77	6.26	6.67	8.77
				Modelled Flow (cumecs)			626.34	706.48	1031.85	630.28	709.17	1030.20
7	J-Flow	359462	384757	Modelled Water Level (m aodN)	24.52	24.68						
8		359493	385057	Modelled Water Level (m aodN)	20.28	20.49						
9		359502	385317	Modelled Water Level (m aodN)	18.43	18.59						
10		359402	385477	Modelled Water Level (m aodN)	16.25	16.34						

Model data taken from Manchester Ship Canal Study 2010 and National Generalised Modelling (JFLOW), 2004

AEP - Annual Exceedence Probability

m aodN - metres above ordnance datum Newlyn

cumecs - cubic metres per second

Notes:

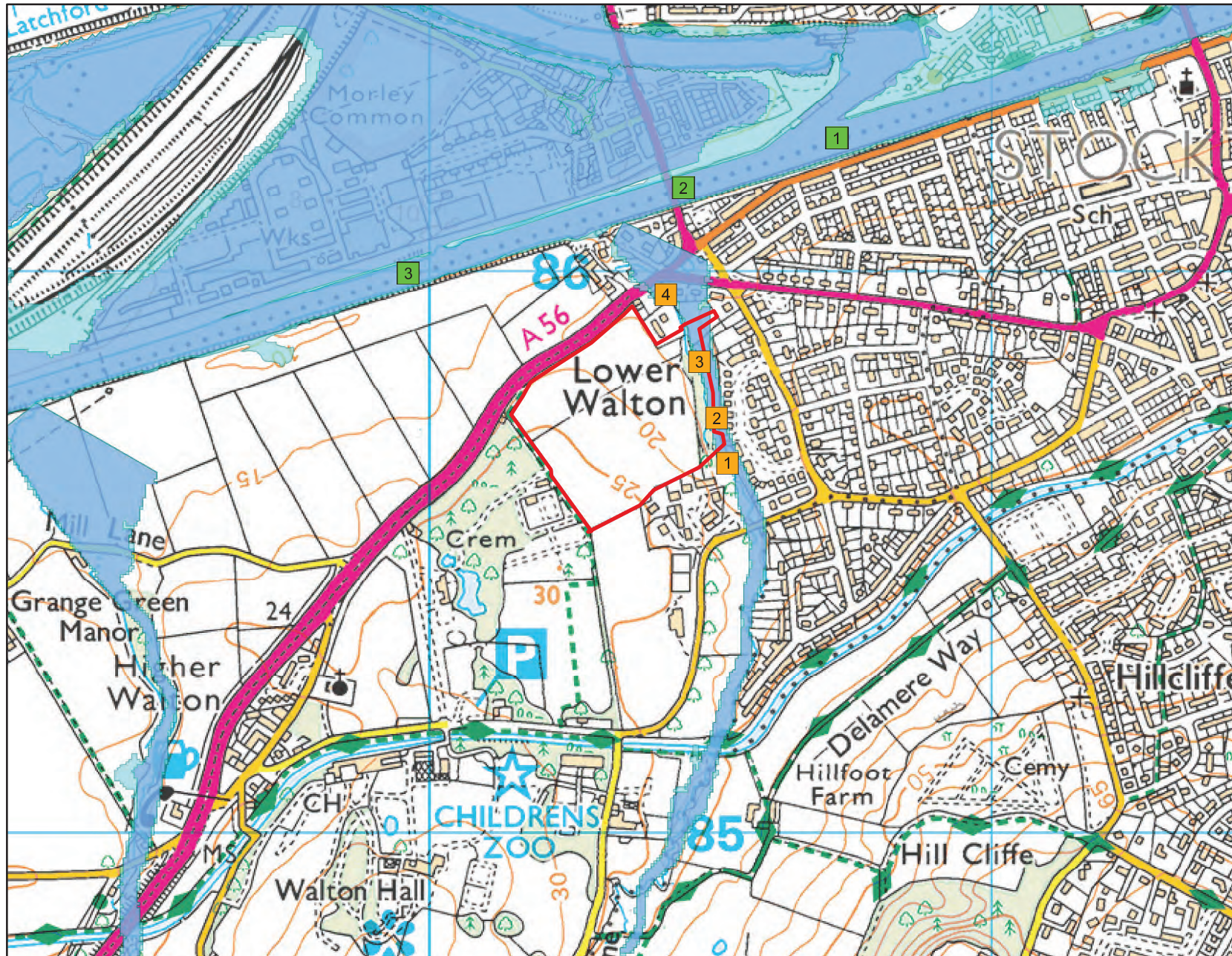
For the Manchester Ship Canal Models, we provide the following two scenarios:

1. Model run is representative of present conditions and all gates are operational as per the agreed automated protocol. Maximum gate opening height is set to 2.4m. This run is the same as used in the flood map products.
2. Model run is representative of a single gate failure on every set of sluice structures. Maximum gate opening height is set to 2.4m.

Manchester Ship Canal: Climate Change Scenario - 20% increase in flow. We only hold climate change measurements based on the previous climate change guidance. The new climate change guidance is available at <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>. The location of the site and the type (vulnerability) of development determine the climate change allowances to consider in any flood risk assessment.

For further guidance on climate change within the GMMC area please see the attachment 'Flood risk assessments: Climate change allowances'. Particularly section 3, table B which shows the Local precautionary allowances for potential climate change impacts.

J-Flow: Please note: J-Flow is broadscale National Generalised Modelling and as such is not sufficiently accurate for use in Flood Risk Assessments.



Environment Agency

N

Legend

- Site_Location
- MSC_model-Measurements
- Jflow
- Flood Zone 2
- Flood Zone 3

1	Ordinary Watercourse	3 0533	385657	Melle Water Level (m a N)	16.44	16.46
2		3 0513	385737	Melle Water Level (m a N)	16.02	16.03
3		3 04 2	385837	Melle Water Level (m a N)	15.44	15.60
4		3 0422	3 5957	Melle Water Level (m a N)	13.98	14.11

Melle data taken from National Generalised Modelling Study 2004

Notes:

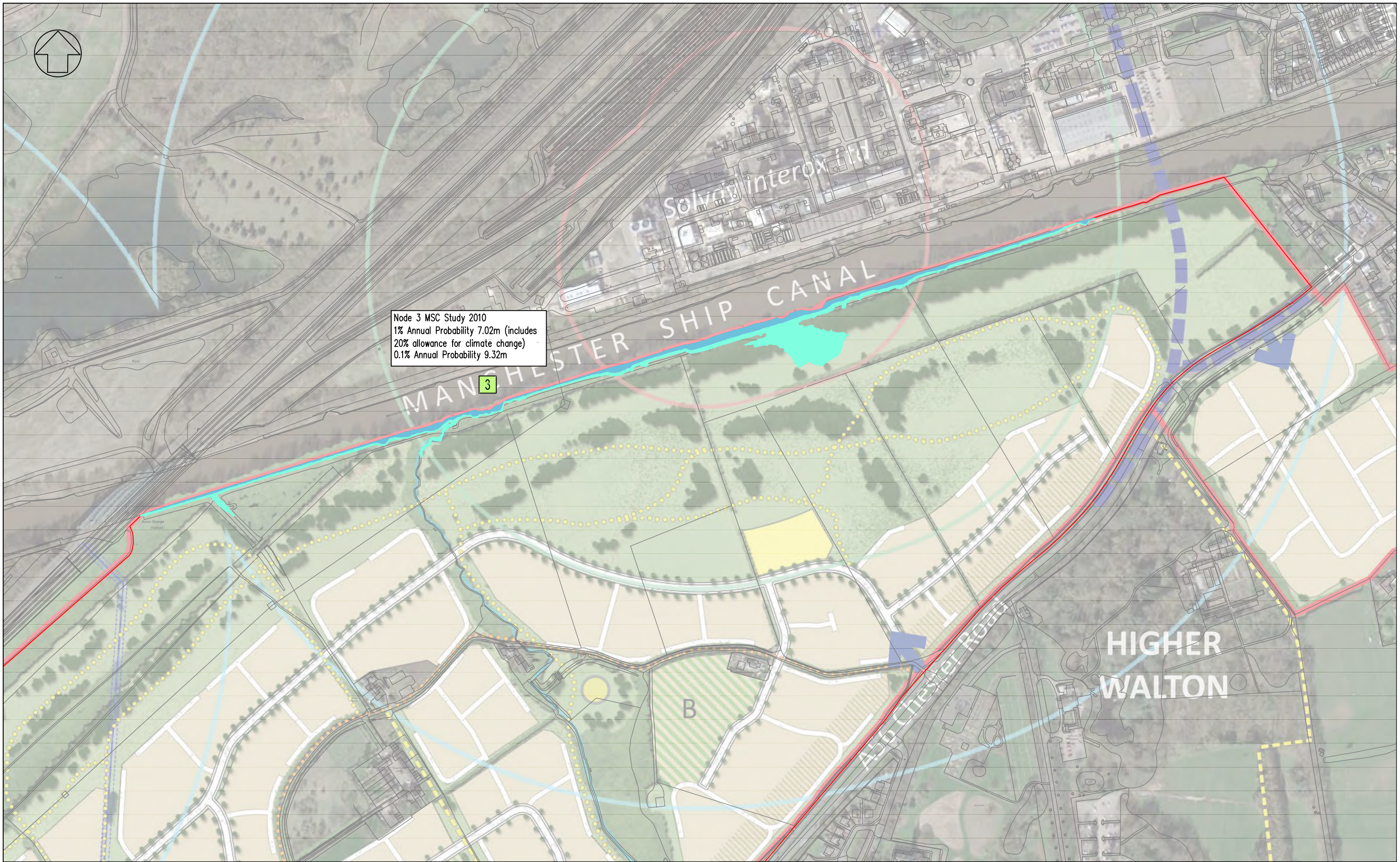
AEP - Annual Exceedance Probability

m a N - metres above Ordnance Datum Newlyn

Please note: JFlow is a scale generalised modelling analysis such is not sufficiently accurate for use in Flood Risk Assessments.



AP [REDACTED] C



Node 3 MSC Study 2010
 1% Annual Probability 7.02m (includes
 20% allowance for climate change)
 0.1% Annual Probability 9.32m

3

B

HIGHER
 WALTON

Site Location Plan
 Nearest Postcode: WA4 6SH
 Grid Reference: 359174,385365
 Site Boundary:

EA Flood Zones - MSC Study 2010
 1% Annual Probability + CC
 0.1% Annual Probability

EA Flood Zones - Overlay
 1% Annual Probability
 0.1% Annual Probability

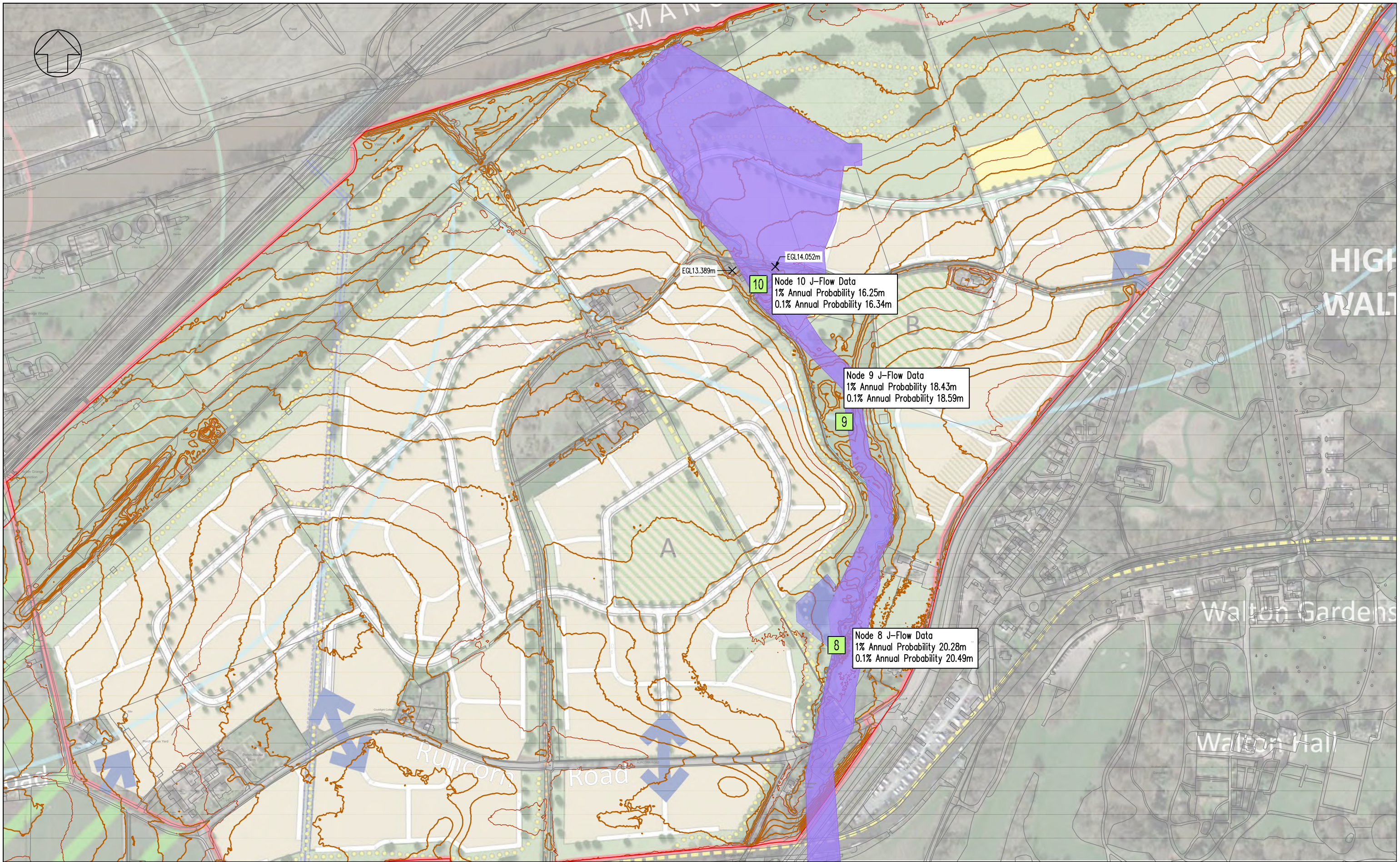
Client	Peel Investments (North) Ltd
Project	Southwest Urban Extension
Title	EA Flood Data MSC Study and J-Flow Overlay

Date :	04.04.2018
Scale :	NTS
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Approved :	
Paper Size :	A3



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C1312-105.1

B



Site Location Plan
 Nearest Postcode: WA4 6SH
 Grid Reference: 359174,385365
 Site Boundary: ———

EA Flood Zones - MSC Study 2010
 1% Annual Probability + CC ■
 0.1% Annual Probability ■

EA Flood Zones - Overlay
 1% Annual Probability ■
 0.1% Annual Probability ■

Client	Peel Investments (North) Ltd
Project	Southwest Urban Extension
Title	EA Flood Data MSC Study and J-Flow Overlay

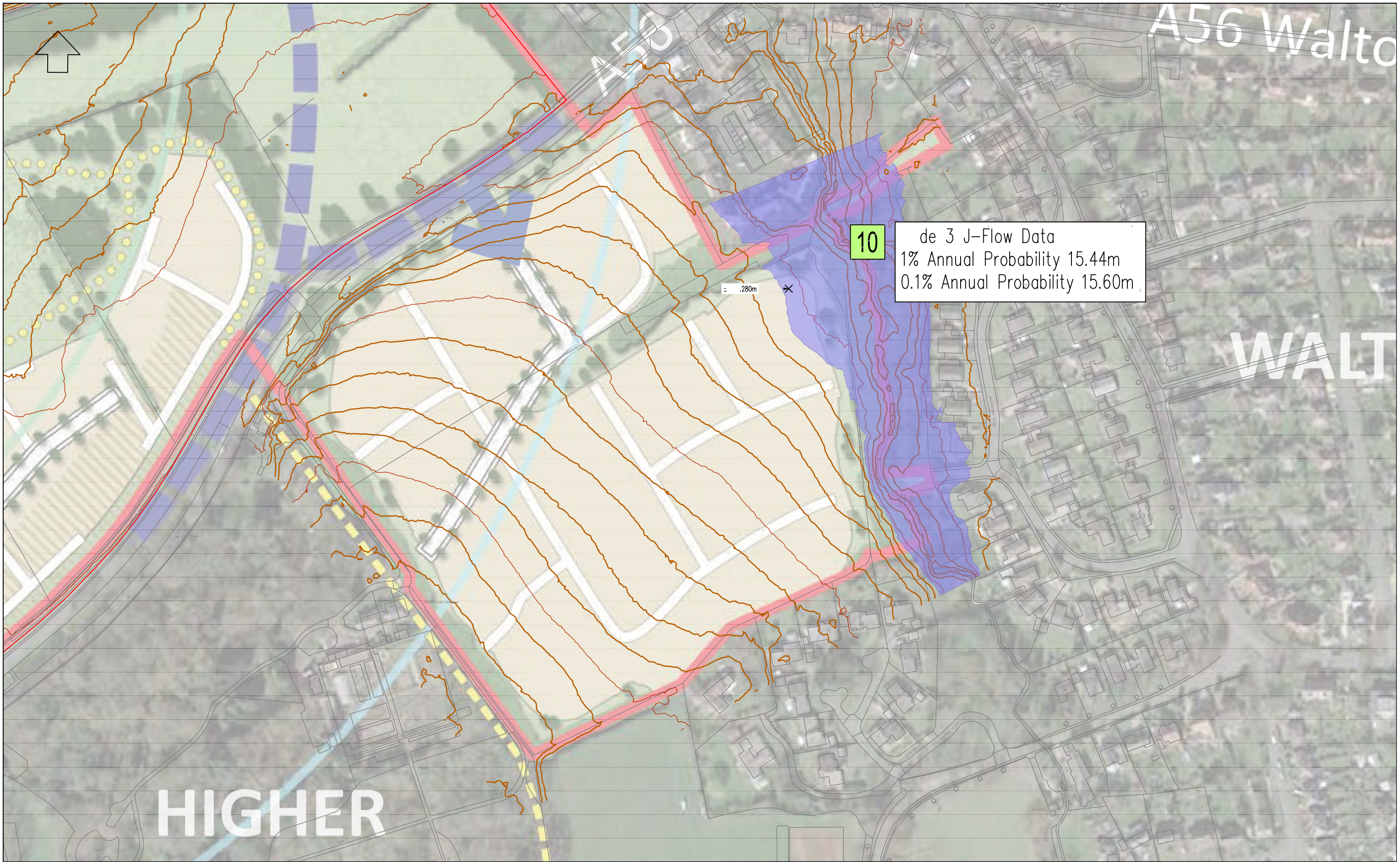
Date :	04.04.2018
Scale :	NTS
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Paper Size :	A3

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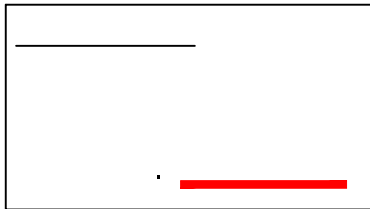
C1312-105.2

B



10
 de 3 J-Flow Data
 1% Annual Probability 15.44m
 0.1% Annual Probability 15.60m

HIGHER



EA Flood Zones - MSC Study 2010	
1% Annual Proba	

EA Flood Zones - Overlay	
1% Annual Proba	

Client	Peel Investments (North) Ltd
Project	Southwest Urban Exten
Title	

Date :	
Scale :	
Drawn By :	
Checked :	
Approved :	
Paper Size :	

t: 0161 837 1500
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AP [REDACTED] D



**Shepherd Gilmour Infrastructure
SGi Consulting Colchester House
40 Peter Street**

**Manchester
M2 5GP**

FAO: 

Dear Sirs

Location:

I acknowledge with thanks your request dated 17/08/17 for information on the location of our services.

Please find enclosed plans showing the approximate position of our apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

If you are planning works anywhere in the North West, please read our access statement before you start work to check how it will affect our network.

<http://www.unitedutilities.com/work-near-asset.aspx>

I trust the above meets with you requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please telephone us on 0370 7510101.

Yours Faithfully,



Karen McCormack
Property Searches Manager

United Utilities Water Limited

Property Searches
Ground Floor Grasmere House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP

Telephone 0370 751 0101

Property.searches@uuplc.co.uk

Your Ref: LAND AT HIGHER WALTON
Our Ref: 1319249
Date: 18/8/2017

TERMS AND CONDITIONS - WASTERWATER & WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self-construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

TERMS AND CONDITIONS:

1. This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
2. This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
3. In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only and given in accordance with the best information available. The nature of the relevant system and/or its actual position may be different from that shown on the plan and UUWL is not liable for any damage caused by incorrect information provided save as stated in section 199 of the Water Industry Act 1991. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
4. The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
5. The position and depth of UUWL apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.
6. This Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) in the vicinity of UUWL apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.
7. No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising for any damage caused to UUWL apparatus by reason of the actual position and/or depths of UUWL apparatus being different from those shown on the Map and any information supplied with it.
8. If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
9. This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.

WASTE WATER SYMBOLOGY

<table border="0"> <tr><th>Foul</th><th>Surface</th><th>Combined</th><th>Overflow</th></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> </table>	Foul	Surface	Combined	Overflow																																	<table border="0"> <tr><th>Overflow</th></tr> <tr><td></td></tr> <tr><td></td></tr> <tr><td></td></tr> </table>	Overflow				<table border="0"> <tr><th>Foul</th><th>Surface</th><th>Combined</th></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> </table>	Foul	Surface	Combined																																																																													
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MANHOLE FUNCTION		SEWER SHAPE	
FO	Foul	CI	Circular
SW	Surface Water	EG	Egg
CO	Combined	OV	Oval
OV	Overflow	FT	Flat Top
		RE	Rectangular
		SQ	Square
		TR	Trapezoidal
		AR	Arch
		BA	Barrel
		HO	HorseShoe
		UN	Unspecified

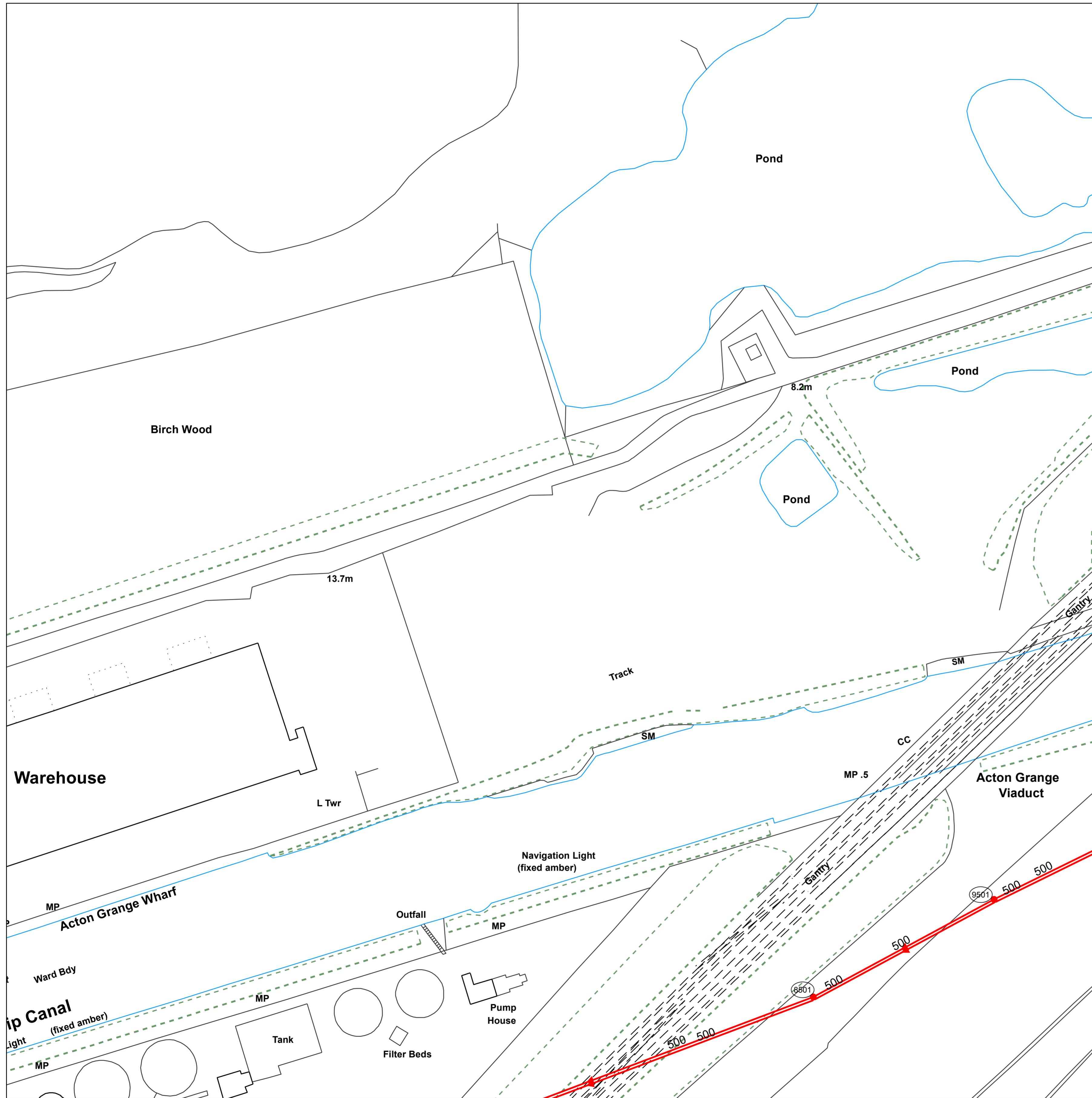
SEWER MATERIAL	
AC	Asbestos Cement
BR	Brick
CO	Concrete
CSB	Concrete Segment
CSU	Concrete Segment
CC	Concrete Box Culverted
PSC	Plastic / Steel
GR	Glass Reinforced
GRP	Glass Reinforced
PVC	Polyvinyl Chloride
PE	Polyethylene
DI	Ductile Iron
VC	Vitrified Clay
PP	Polypropylene
PF	Pitched Fibre
MA	Masonry, Coursed
MA	Masonry, Random
RP	Reinforced Plastic
CI	Cast Iron
SI	Spun Iron
ST	Steel
U	Unspecified

CLEAN WATER SYMBOLOGY

<table border="0"> <tr><th>PIPE WORK</th></tr> <tr><th>Live</th><th>Proposed</th></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </table>	PIPE WORK	Live	Proposed																							<table border="0"> <tr><th>NODES/FURNITURES</th></tr> <tr><th>Live</th><th>Proposed</th></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </table>	NODES/FURNITURES	Live	Proposed																																	<table border="0"> <tr><th>Live</th><th>Proposed</th></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </table>	Live	Proposed																														
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MATERIAL TYPES	LINING TYPES
AC	ASBESTOS CEMENT
CI	CAST IRON
CU	COPPER
CO	CONCRETE
DI	DUCTILE IRON
GI	GALVANISED IRON
GR	GREY IRON
OT	OTHERS
PB	LEAD
PV	UPVC
SI	SPUN IRON
ST	STEEL
UN	UNKNOWN
PE	POLYETHYLENE
CL	CEMENT LINING
TB	TAR OR BITUMEN
ERL	EPOXY RESIN
	INSERTION TYPES
DD	DIE DRAWN
DR	DIRECTIONAL DRILLING
MG	MOLING
PI	PIPELINE
SL	SLIP LINED



Refno	Cover	Func	Invert	Size	Size	yShape	Mat	Length	Grad	Refno	Cover	Func	Invert	Size	Size	yShape	Mat	Length	Grad	
8501		CO	0	500		CI	CO	218.97												
9501		CO	0	500		CI	CO	94.17												

WASTE WATER SYMBOLOGY

Foul	Surface	Combined	Overflow	Manhole
				Manhole, Side Entry
				Main Sewer, Public
				Main Sewer, Private
				Main Sewer, S104
				Rising Main, Public
				Rising Main, Private
				Rising Main, S104
				Highway Drain, Private

Foul	Surface	Combined	Manhole	ABANDONED PIPE
				Main Sewer
				Highway Drain
				Sludge Main
				Control Kiosk
				Unspecified

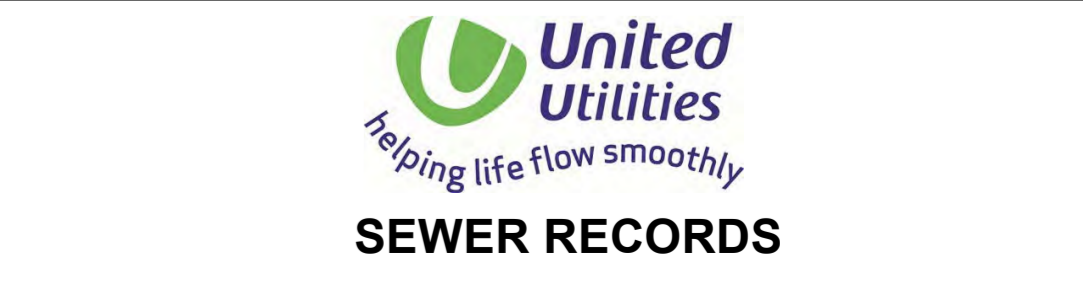
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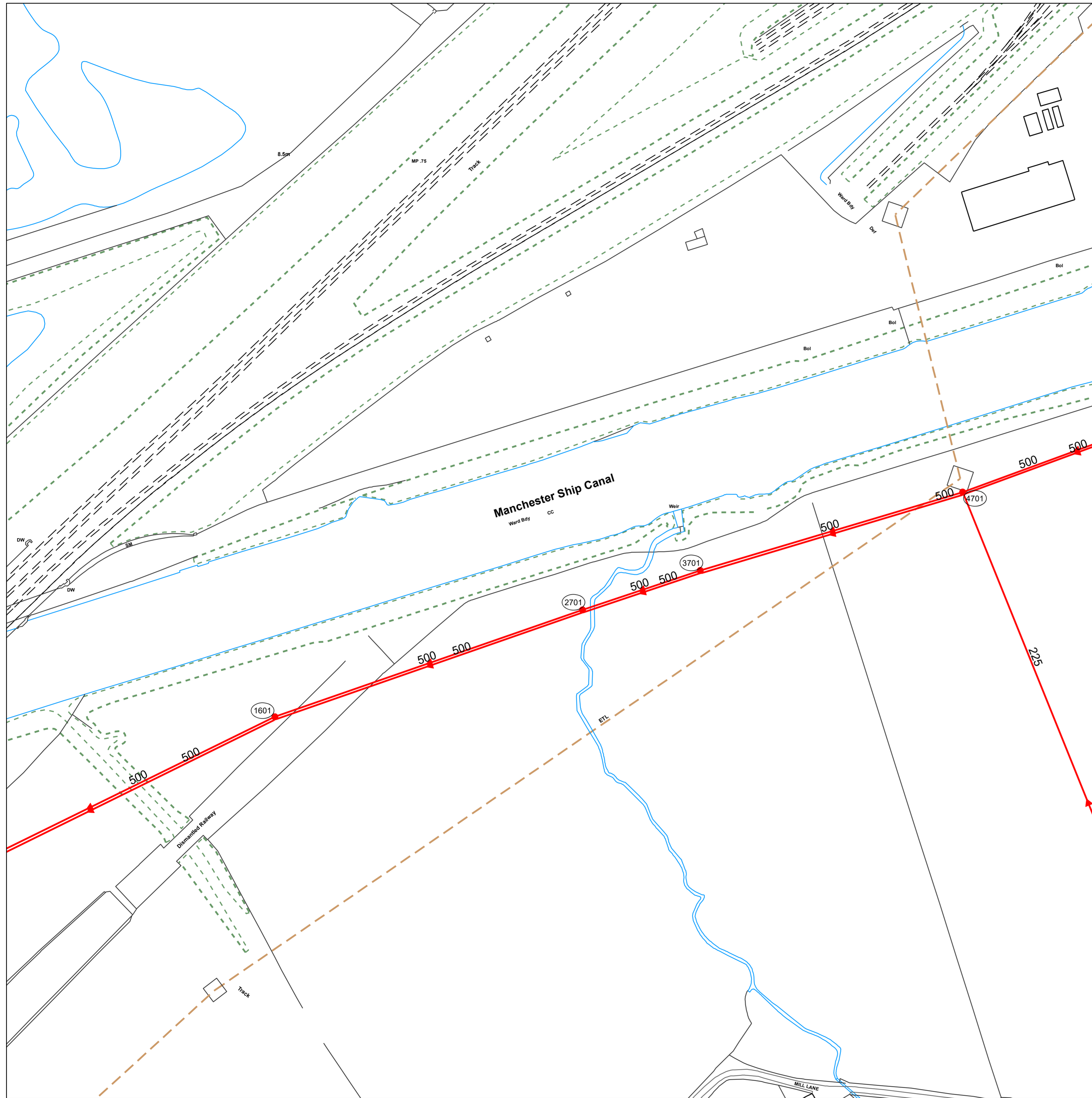
MANHOLE FUNCTION	
FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE	
CI	Circular
EG	Egg
OV	Oval
FT	Flat Top
RE	Rectangular
SQ	Square
TR	Trapezoidal
AR	Arch
BA	Barrel
HO	Horse Shoe
UN	Unspecified

SEWER MATERIAL	
AC	Asbestos Cement
BR	Brick
PE	Polyethylene
RP	Reinforced Plastic Matrix
CO	Concrete
CSB	Concrete Segment Bolted
CSU	Concrete Segment Unbolted
CC	Concrete Box Culvert
PSC	Plastic/Steel Composite
GRC	Glass Reinforced Concrete
GRP	Glass Reinforced Plastic
DI	Ductile Iron
PVC	Polyvinyl Chloride
CI	Cast Iron
SI	Spun Iron
ST	Steel
VC	Vitrified Clay
PP	Polypropylene
PF	Pitch Fibre
MAC	Masonry, Coursed
MAR	Masonry, Random
U	Unspecified

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WASTE WATER SYMOLOGY

Foul	Surface	Combined	Overflow	Manhole
				Manhole, Side Entry
				MainSewer, Public
				MainSewer, Private
				MainSewer, S104
				Rising Main, Public
				Rising Main, Private
				Rising Main, S104
				Highway Drain, Private

Foul	Surface	Combined	Overflow	Manhole

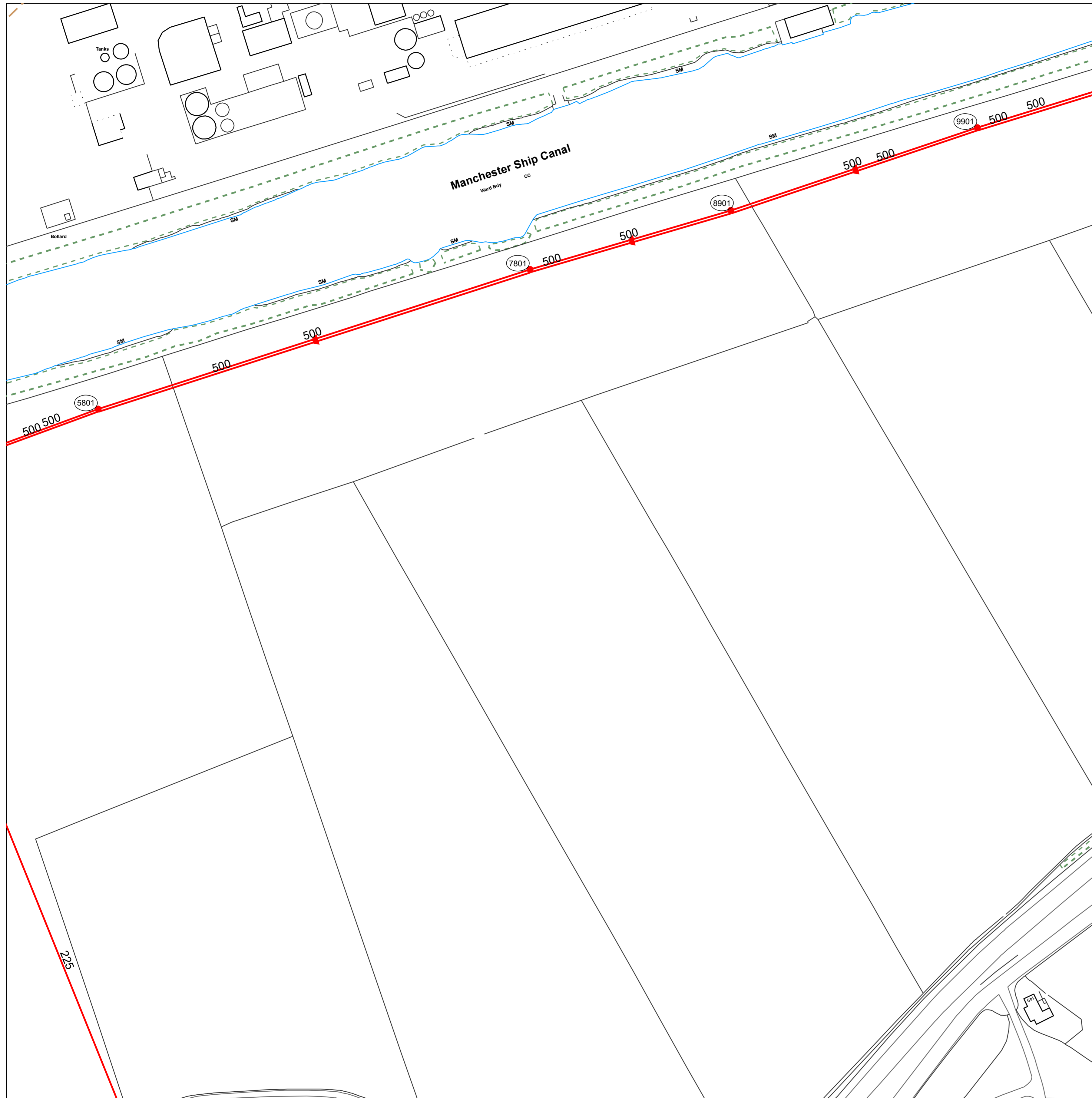
LEGEND

MANHOLE FUNCTION	
FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE	
CI	Circular
EG	Egg
OV	Oval
FT	Flat Top
RE	Rectangular
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TR	Trapezoidal
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BA	Barrel
HO	HorseShoe
UN	Unspecified

SEWER MATERIAL	
AC	Asbestos Cement
BR	Brick
PE	Polyethylene
RP	Reinforced Plastic Matrix
CO	Concrete
CSB	Concrete Segment Bolted
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PSC	Plastic/Steel Composite
GRC	Glass Reinforced Concrete
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DI	Ductile Iron
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Ratno	Cover	Func	Invert	Size	Size	yShape	Mat	Length	Grad	Ratno	Cover	Func	Invert	Size	Size	yShape	Mat	Length	Grad	
5801	CO	CO	0	500	CI	CO	110.54													
7801	CO	CO	0	500	CI	CO	97.74													
8901	CO	CO	0	500	CI	CO	119.22													

WASTE WATER SYMBOLOGY

Foul	Surface	Combined	Overflow	Manhole
[Symbol]	[Symbol]	[Symbol]	[Symbol]	Manhole, Side Entry
[Symbol]	[Symbol]	[Symbol]	[Symbol]	MainSewer, Public
[Symbol]	[Symbol]	[Symbol]	[Symbol]	MainSewer, Private
[Symbol]	[Symbol]	[Symbol]	[Symbol]	MainSewer, S104
[Symbol]	[Symbol]	[Symbol]	[Symbol]	Rising Main, Public
[Symbol]	[Symbol]	[Symbol]	[Symbol]	Rising Main, Private
[Symbol]	[Symbol]	[Symbol]	[Symbol]	Rising Main, S104
[Symbol]	[Symbol]	[Symbol]	[Symbol]	Highway Drain, Private

[Symbol]	[Symbol]	[Symbol]	WW Site Termination	[Symbol]	Sludge Main, Public
[Symbol]	[Symbol]	[Symbol]	Air Valve	[Symbol]	Sludge Main, Private
[Symbol]	[Symbol]	[Symbol]	Cascade	[Symbol]	Sludge Main, S104
[Symbol]	[Symbol]	[Symbol]	Non Return Valve		
[Symbol]	[Symbol]	[Symbol]	Extent of Survey		
[Symbol]	[Symbol]	[Symbol]	Flow Meter		
[Symbol]	[Symbol]	[Symbol]	Gully		
[Symbol]	[Symbol]	[Symbol]	Hatch Box		
[Symbol]	[Symbol]	[Symbol]	Head of System		
[Symbol]	[Symbol]	[Symbol]	Hydrobrake / Vortex		
[Symbol]	[Symbol]	[Symbol]	Inlet		
[Symbol]	[Symbol]	[Symbol]	Inspection Chamber		
[Symbol]	[Symbol]	[Symbol]	Bifurcation		
[Symbol]	[Symbol]	[Symbol]	Catchpit		
[Symbol]	[Symbol]	[Symbol]	Contaminated Surface Water		
[Symbol]	[Symbol]	[Symbol]	WW Pumping Station		
[Symbol]	[Symbol]	[Symbol]	Sludge Pumping Station		
[Symbol]	[Symbol]	[Symbol]	Sewer Overflow		
[Symbol]	[Symbol]	[Symbol]	T Junction/Saddle		
[Symbol]	[Symbol]	[Symbol]	LampHole		
[Symbol]	[Symbol]	[Symbol]	Oil Interceptor		
[Symbol]	[Symbol]	[Symbol]	PenStock		
[Symbol]	[Symbol]	[Symbol]	Pump		
[Symbol]	[Symbol]	[Symbol]	RoddingEye		
[Symbol]	[Symbol]	[Symbol]	Soakaway		
[Symbol]	[Symbol]	[Symbol]	Summit		
[Symbol]	[Symbol]	[Symbol]	Valve		
[Symbol]	[Symbol]	[Symbol]	Valve Chamber		
[Symbol]	[Symbol]	[Symbol]	Washout Chamber		
[Symbol]	[Symbol]	[Symbol]	DropShaft		
[Symbol]	[Symbol]	[Symbol]	WW Treatment Works		
[Symbol]	[Symbol]	[Symbol]	Septic Tank		
[Symbol]	[Symbol]	[Symbol]	Vent Column		
[Symbol]	[Symbol]	[Symbol]	Network Storage Tank		
[Symbol]	[Symbol]	[Symbol]	Orifice Plate		
[Symbol]	[Symbol]	[Symbol]	Vortex Chamber		
[Symbol]	[Symbol]	[Symbol]	Penstock Chamber		
[Symbol]	[Symbol]	[Symbol]	Blind Manhole		
[Symbol]	[Symbol]	[Symbol]	Screen Chamber	[Symbol]	Control Kiosk
[Symbol]	[Symbol]	[Symbol]	Discharge Point	[Symbol]	Unspecified
[Symbol]	[Symbol]	[Symbol]	Outfall		

LEGEND

MANHOLE FUNCTION	
FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE			
CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL			
AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
CSU	Concrete Segment Unbolted	PP	Polypropylene
CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

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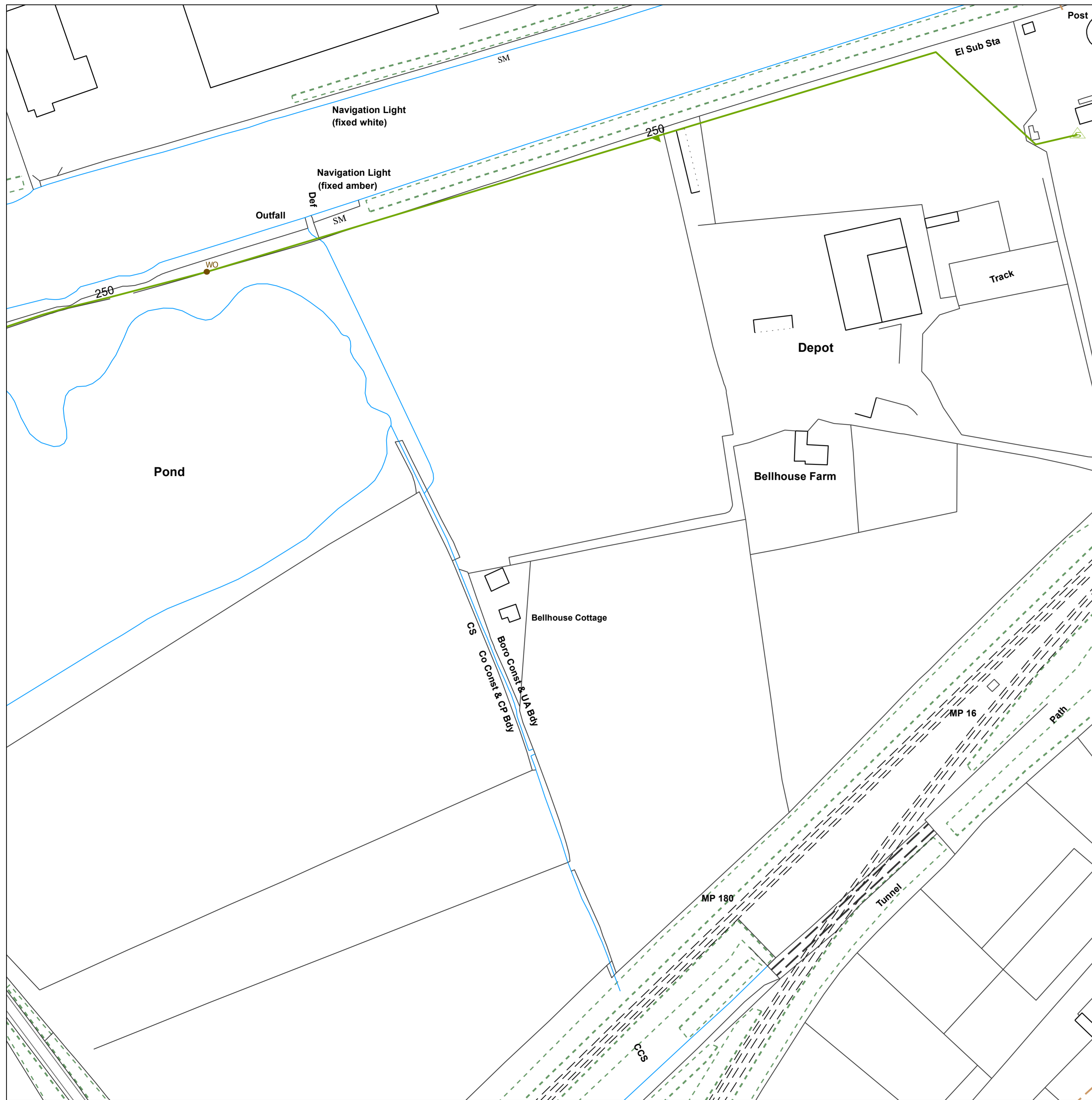
OS Sheet No: SJ5985NE
 Scale: 1:1250 Date: 18/08/2017
 4 Nodes
 Sheet 1 of 1



OS Sheet No: SJ5985NE

Scale: 1:1250 Date: 18/08/2017

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Ratio	Cover	Func	Invert	Size	Size	yShape	Mat	Length	Grad	Ratio	Cover	Func	Invert	Size	Size	yShape	Mat	Length	Grad	
4401		FO	0	250	CI	SI	430.91													

WASTE WATER SYMBOLOGY

Foul	Surface	Combined	Overflow	Manhole
				Manhole, Side Entry
				MainSewer, Public
				MainSewer, Private
				MainSewer, S104
				Rising Main, Public
				Rising Main, Private
				Rising Main, S104
				Highway Drain, Private

Foul	Surface	Combined	Overflow

ABANDONED PIPE

	MainSewer
	Rising Main
	Highway Drain
	Sludge Main

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
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PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

LEGEND

	Control Kiosk
	Unspecified

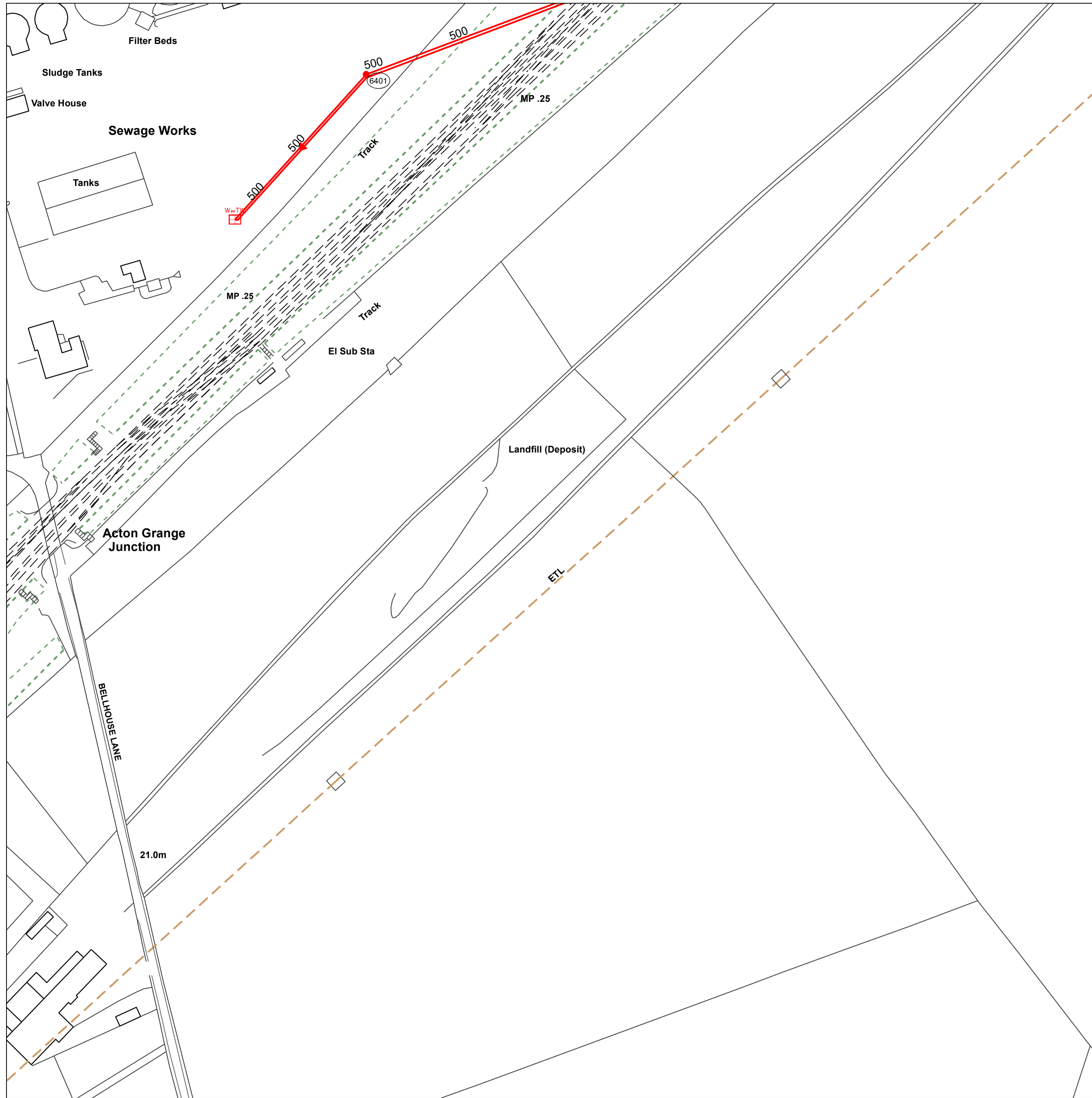
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OS Sheet No: SJ5885SW
 Scale: 1:1250 Date: 18/08/2017
 1 Nodes
 Sheet 1 of 1

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OS Sheet No: SJ5885SW
 Scale: 1:1250 Date: 18/08/2017





Ratio	Cover	Func	Invert	Size	Size	yShape	Mat	Length	Grad	Ratio	Cover	Func	Invert	Size	Size	yShape	Mat	Length	Grad
6401		CO	0	500	CI	CO	90.65			6400		CO							

WASTE WATER SYMBLOGY

Foul	Surface	Combined	Overflow	Manhole
				Manhole, Side Entry
				MainSewer, Public
				MainSewer, Private
				MainSewer, S104
				Rising Main, Public
				Rising Main, Private
				Rising Main, S104
				Highway Drain, Private

Foul	Surface	Combined	Manhole
			WWT Site Termination
			Air Valve
			Cascade
			Non Return Valve
			Extent of Survey
			Flow Meter
			Gully
			Hatch Box
			Head of System
			Hydrobrake / Vortex
			Inlet
			Inspection Chamber
			Bifurcation
			Catchpit
			Contaminated Surface Water
			WWT Pumping Station
			Sludge Pumping Station
			Sewer Overflow
			T Junction/Saddle
			LampHole
			Oil Interceptor
			PenStock
			Pump
			RoddingEye
			Soakaway
			Summit
			Valve
			Valve Chamber
			Washout Chamber
			DropShaft
			WWT Treatment Works
			Septic Tank
			Vent Column
			Network Storage Tank
			Orifice Plate
			Vortex Chamber
			Penstock Chamber
			Blind Manhole
			Screen Chamber
			Discharge Point
			Outfall

ABANDONED PIPE

	MainSewer
	Rising Main
	Highway Drain
	Sludge Main

LEGEND

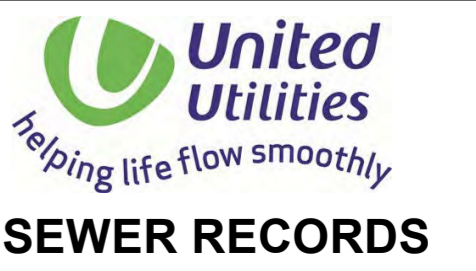
MANHOLE FUNCTION	
FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE	
CI	Circular
EG	Egg
OV	Oval
FT	Flat Top
RE	Rectangular
SQ	Square
TR	Trapezoidal
AR	Arch
BA	Barrel
HO	HorseShoe
UN	Unspecified

SEWER MATERIAL	
AC	Asbestos Cement
BR	Brick
PE	Polyethylene
RP	Reinforced Plastic Matrix
CO	Concrete
CSB	Concrete Segment Bolted
CSU	Concrete Segment Unbolted
CC	Concrete Box Culverted
PSC	Plastic/Steel Composite
GRC	Glass Reinforced Concrete
GRP	Glass Reinforced Plastic
DI	Ductile Iron
PVC	Polyvinyl Chloride
CI	Cast Iron
SI	Spun Iron
ST	Steel
VC	Vitrified Clay
PP	Polypropylene
PF	Pitch Fibre
MAC	Masonry, Coursed
MAR	Masonry, Random
U	Unspecified

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OS Sheet No: SJ5885SE
 Scale: 1:1250 Date: 18/08/2017
 2 Nodes
 Sheet 1 of 1



OS Sheet No: SJ5885SE

Scale: 1:1250 Date: 18/08/2017

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WASTE WATER SYMBOLOGY

Foul	Surface	Combined	Overflow	Manhole
				Manhole, Side Entry
				MainSewer, Public
				MainSewer, Private
				MainSewer, S104
				Rising Main, Public
				Rising Main, Private
				Rising Main, S104
				Highway Drain, Private

	WW Site Termination		Sludge Main, Public
	Air Valve		Sludge Main, Private
	Cascade		Sludge Main, S104
	Non Return Valve		
	Extent of Survey		
	Flow Meter		
	Gully		
	Hatch Box		
	Head of System		
	Hydrobrake / Vortex		
	Inlet		
	Inspection Chamber		
	Bifurcation		
	Catchpit		
	Contaminated Surface Water		
	WW Pumping Station		
	Sludge Pumping Station		
	Sewer Overflow		
	T Junction/Saddle		
	LampHole		
	Oil Interceptor		
	PenStock		
	Pump		
	RoddingEye		
	Soakaway		
	Summit		
	Valve		
	Valve Chamber		
	Washout Chamber		
	DropShaft		
	WW Treatment Works		
	Septic Tank		
	Vent Column		
	Network Storage Tank		
	Orifice Plate		
	Vortex Chamber		
	Penstock Chamber		
	Blind Manhole		
	Screen Chamber		Control Kiosk
	Discharge Point		Unspecified
	Outfall		

LEGEND

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
CSU	Concrete Segment Unbolted	PP	Polypropylene
CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

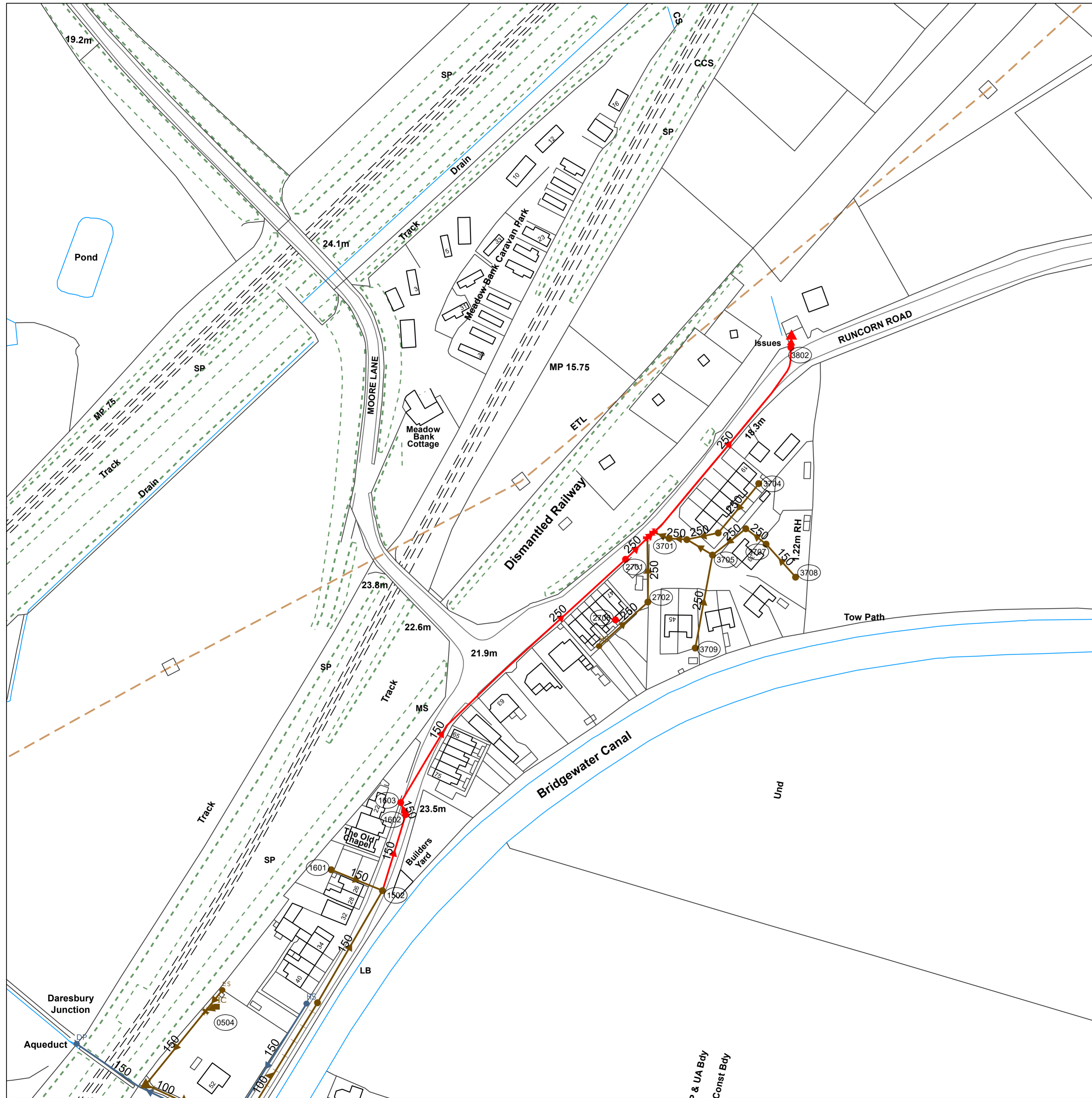
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OS Sheet No: SJ5985SW
 Scale: 1:1250 Date: 18/08/2017
 0 Nodes
 Sheet 1 of 1



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OS Sheet No: SJ5985SW
 Scale: 1:1250 Date: 18/08/2017



WASTE WATER SYMBOLOGY

Foul	Surface	Combined	Overflow	Manhole
				Manhole
				Manhole, Side Entry
				MainSewer, Public
				MainSewer, Private
				MainSewer, S104
				Rising Main, Public
				Rising Main, Private
				Rising Main, S104
				Highway Drain, Private

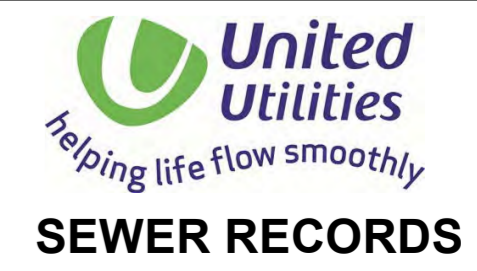
Foul	Surface	Combined	Manhole

LEGEND

MANHOLE FUNCTION	SEWER SHAPE	SEWER MATERIAL
FO Foul	CI Circular	AC Asbestos Cement
SW Surface Water	EG Egg	BR Brick
CO Combined	OV Oval	PE Polyethylene
OV Overflow	FT Flat Top	RP Reinforced Plastic Matrix
	RE Rectangular	CO Concrete
	SQ Square	CSB Concrete Segment Bolted
		CSU Concrete Segment Unbolted
		CC Concrete Box Culverted
		PSC Plastic/Steel Composite
		GRC Glass Reinforced Concrete
		GRP Glass Reinforced Plastic
	TR Trapezoidal	DI Ductile Iron
	AR Arch	PVC Polyvinyl Chloride
	BA Barrel	CI Cast Iron
	HO HorseShoe	SI Spun Iron
	UN Unspecified	ST Steel
		VC Vitrified Clay
		PP Polypropylene
		PF Pitch Fibre
		MAC Masonry, Coursed
		MAR Masonry, Random
		U Unspecified

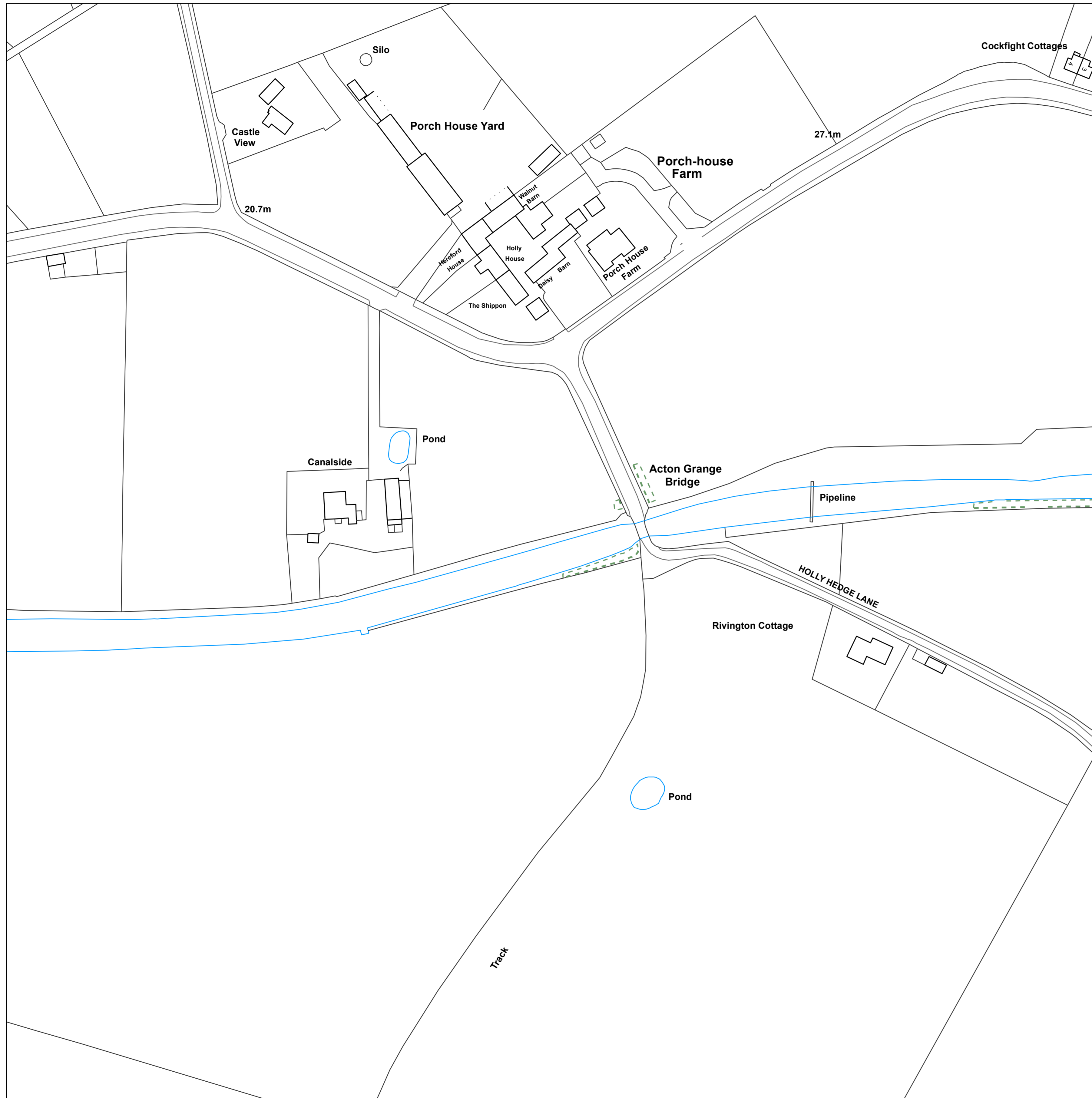
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OS Sheet No: SJ5884NW
 Scale: 1:1250 Date: 18/08/2017
 27 Nodes
 Sheet 1 of 1



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OS Sheet No: SJ5884NW
 Scale: 1:1250 Date: 18/08/2017



Reho Cover Func Invert Size x Size y Shape Mat Length Grad Reho Cover Func Invert Size x Size y Shape Mat Length Grad

WASTE WATER SYMBOLOLOGY

Foul	Surface	Combined	Overflow	Manhole
[Symbol]	[Symbol]	[Symbol]	[Symbol]	Manhole, Side Entry
[Symbol]	[Symbol]	[Symbol]	[Symbol]	MainSewer, Public
[Symbol]	[Symbol]	[Symbol]	[Symbol]	MainSewer, Private
[Symbol]	[Symbol]	[Symbol]	[Symbol]	MainSewer, S104
[Symbol]	[Symbol]	[Symbol]	[Symbol]	Rising Main, Public
[Symbol]	[Symbol]	[Symbol]	[Symbol]	Rising Main, Private
[Symbol]	[Symbol]	[Symbol]	[Symbol]	Rising Main, S104
[Symbol]	[Symbol]	[Symbol]	[Symbol]	Highway Drain, Private

Foul	Surface	Combined	Function	Material
[Symbol]	[Symbol]	[Symbol]	WW Site Termination	Sludge Main, Public
[Symbol]	[Symbol]	[Symbol]	Air Valve	Sludge Main, Private
[Symbol]	[Symbol]	[Symbol]	Cascade	Sludge Main, S104
[Symbol]	[Symbol]	[Symbol]	Non Return Valve	
[Symbol]	[Symbol]	[Symbol]	Extent of Survey	
[Symbol]	[Symbol]	[Symbol]	Flow Meter	
[Symbol]	[Symbol]	[Symbol]	Gully	
[Symbol]	[Symbol]	[Symbol]	Hatch Box	
[Symbol]	[Symbol]	[Symbol]	Head of System	
[Symbol]	[Symbol]	[Symbol]	Hydrobrake / Vortex	
[Symbol]	[Symbol]	[Symbol]	Inlet	
[Symbol]	[Symbol]	[Symbol]	Inspection Chamber	
[Symbol]	[Symbol]	[Symbol]	Bifurcation	
[Symbol]	[Symbol]	[Symbol]	Catchpit	
[Symbol]	[Symbol]	[Symbol]	Contaminated Surface Water	
[Symbol]	[Symbol]	[Symbol]	WW Pumping Station	
[Symbol]	[Symbol]	[Symbol]	Sludge Pumping Station	
[Symbol]	[Symbol]	[Symbol]	Sewer Overflow	
[Symbol]	[Symbol]	[Symbol]	T Junction/Saddle	
[Symbol]	[Symbol]	[Symbol]	LampHole	
[Symbol]	[Symbol]	[Symbol]	Oil Interceptor	
[Symbol]	[Symbol]	[Symbol]	PenStock	
[Symbol]	[Symbol]	[Symbol]	Pump	
[Symbol]	[Symbol]	[Symbol]	RoddingEye	
[Symbol]	[Symbol]	[Symbol]	Soakaway	
[Symbol]	[Symbol]	[Symbol]	Summit	
[Symbol]	[Symbol]	[Symbol]	Valve	
[Symbol]	[Symbol]	[Symbol]	Valve Chamber	
[Symbol]	[Symbol]	[Symbol]	Washout Chamber	
[Symbol]	[Symbol]	[Symbol]	DropShaft	
[Symbol]	[Symbol]	[Symbol]	WW Treatment Works	
[Symbol]	[Symbol]	[Symbol]	Septic Tank	
[Symbol]	[Symbol]	[Symbol]	Vent Column	
[Symbol]	[Symbol]	[Symbol]	Network Storage Tank	
[Symbol]	[Symbol]	[Symbol]	Orifice Plate	
[Symbol]	[Symbol]	[Symbol]	Vortex Chamber	
[Symbol]	[Symbol]	[Symbol]	Penstock Chamber	
[Symbol]	[Symbol]	[Symbol]	Blind Manhole	
[Symbol]	[Symbol]	[Symbol]	Screen Chamber	Control Kiosk
[Symbol]	[Symbol]	[Symbol]	Discharge Point	Unspecified
[Symbol]	[Symbol]	[Symbol]	Outfall	

LEGEND

MANHOLE FUNCTION

FO Foul
 SW Surface Water
 CO Combined
 OV Overflow

SEWER SHAPE

CI Circular TR Trapezoidal
 EG Egg AR Arch
 OV Oval BA Barrel
 FT Flat Top HO HorseShoe
 RE Rectangular UN Unspecified
 SQ Square

SEWER MATERIAL

AC Asbestos Cement DI Ductile Iron
 BR Brick PVC Polyvinyl Chloride
 PE Polyethylene CI Cast Iron
 RP Reinforced Plastic Matrix SI Spun Iron
 CO Concrete ST Steel
 CSB Concrete Segment Bolted VC Vitrified Clay
 CSU Concrete Segment Unbolted PP Polypropylene
 CC Concrete Box Culverted PF Pitch Fibre
 PSC Plastic/Steel Composite MAC Masonry, Coursed
 GRC Glass Reinforced Concrete MAR Masonry, Random
 GRP Glass Reinforced Plastic U Unspecified

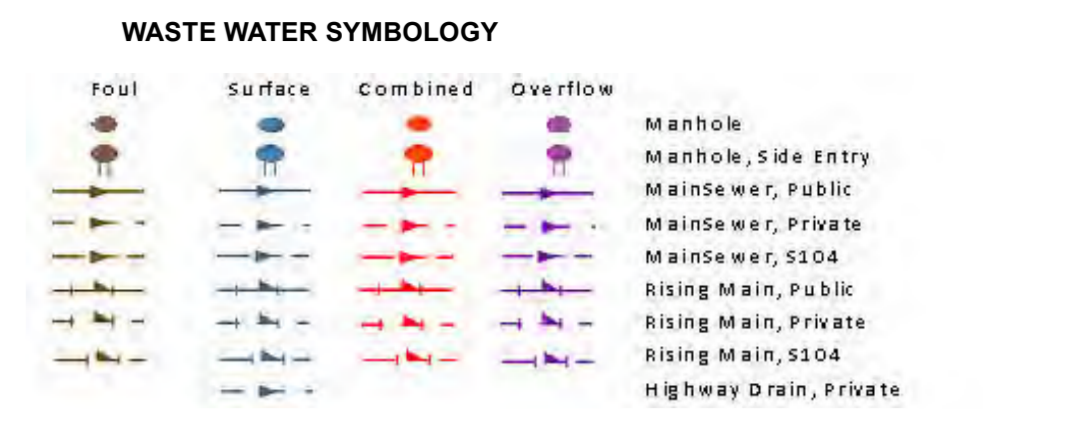
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OS Sheet No: SJ5884NE
 Scale: 1:1250 Date: 18/08/2017
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 Sheet 1 of 1



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 Scale: 1:1250 Date: 18/08/2017



LEGEND

MANHOLE FUNCTION	
FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE	
CI	Circular
EG	Egg
OV	Oval
FT	Flat Top
RE	Rectangular
SQ	Square
TR	Trapezoidal
AR	Arch
BA	Barrel
HO	HorseShoe
UN	Unspecified

SEWER MATERIAL			
AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
CSU	Concrete Segment Unbolted	PP	Polypropylene
CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

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 Scale: 1:1250 Date: 18/08/2017
 4 Nodes
 Sheet 1 of 1

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OS Sheet No: SJ5884SW

Scale: 1:1250 Date: 18/08/2017





Reho	Cover	Func	Invert	Size	Size	yShape	Matl	Length	Grad	Reho	Cover	Func	Invert	Size	Size	yShape	Matl	Length	Grad
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WASTE WATER SYMBOLOGY

Foul	Surface	Combined	Overflow	Manhole
				Manhole, Side Entry
				MainSewer, Public
				MainSewer, Private
				MainSewer, S104
				Rising Main, Public
				Rising Main, Private
				Rising Main, S104
				Highway Drain, Private

Foul	Surface	Combined	Manhole

ABANDONED PIPE

	MainSewer
	Rising Main
	Highway Drain
	Sludge Main

LEGEND

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

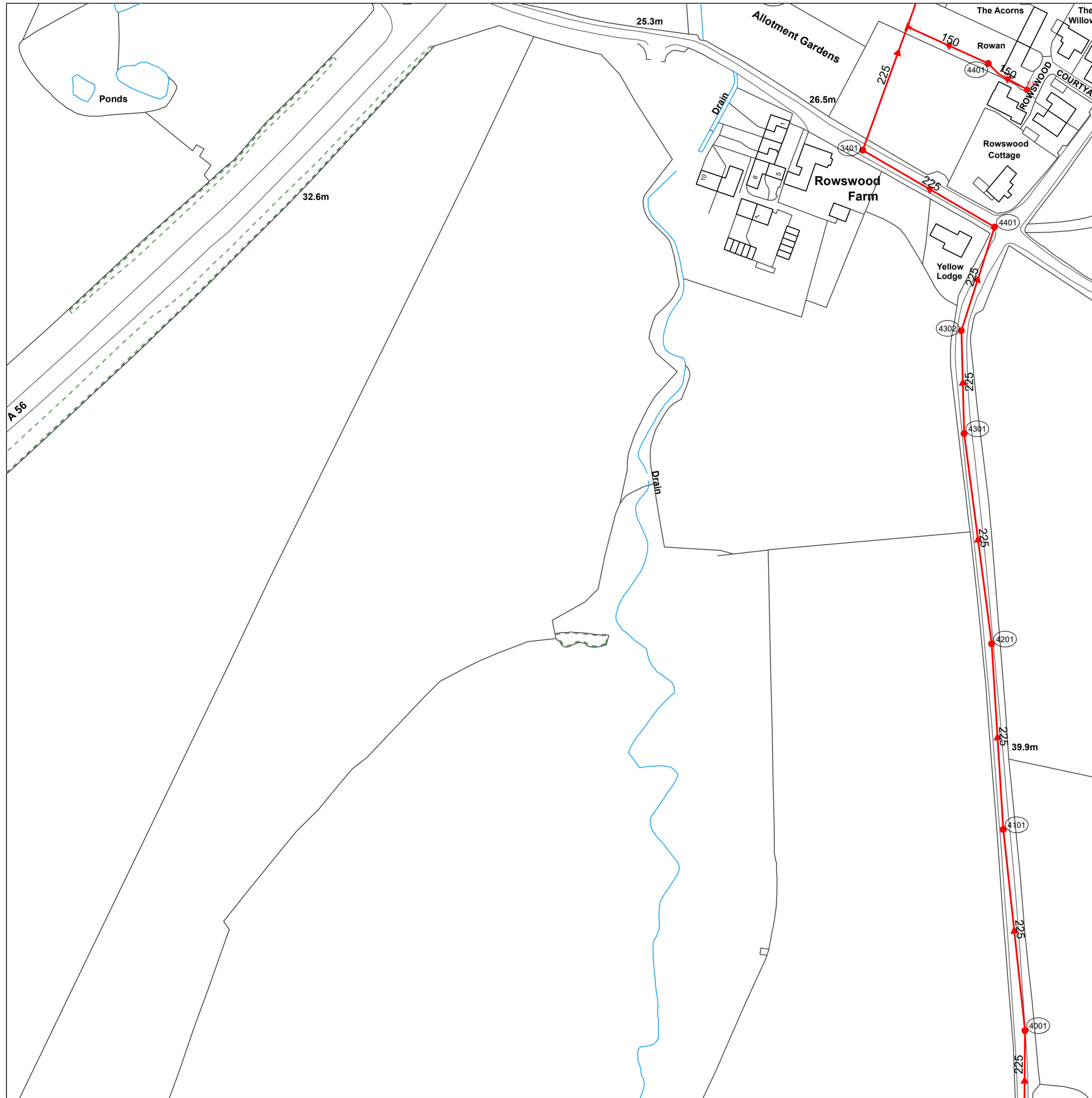
SEWER MATERIAL

AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
CSU	Concrete Segment Unbolted	PP	Polypropylene
CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

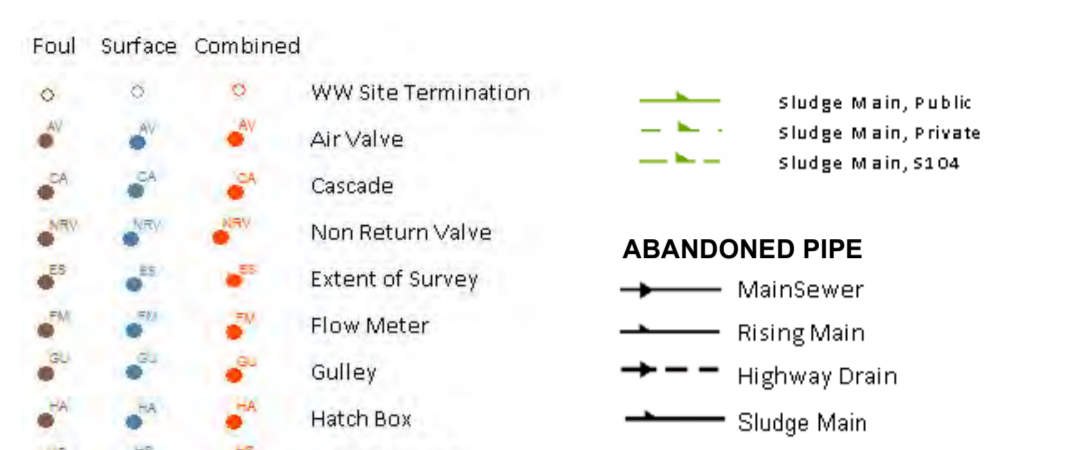
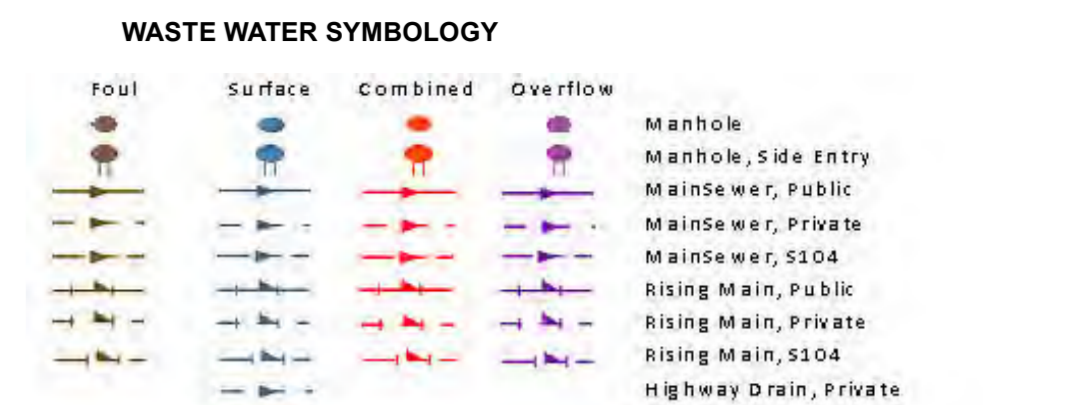
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OS Sheet No: SJ5884SE
 Scale: 1:1250 Date: 18/08/2017
 0 Nodes
 Sheet 1 of 1





Refno	Cover	Func	Invert	Size	Size	yShape	Mat	Length	Grad
3401	27.35	CO							
4001	44.19	CO	42.59	225	CI	VC	92.6	31	
4101	41.13	CO	38.53	225	CI	VC	85.26	24	
4201	37.51	CO	35.95	225	CI	VC	97.21	22	
4301	33.11	CO	31.49	225	CI	VC	47.22	19	
4302	30.8	CO							
4401	29.29	CO							
4401		CO	150		CI	PE	40.82		
4403		CO							



LEGEND

MANHOLE FUNCTION	
FO Foul	
SW Surface Water	
CO Combined	
OV Overflow	
SEWER SHAPE	
CI Circular	TR Trapezoidal
EG Egg	AR Arch
OV Oval	BA Barrel
FT Flat Top	HO HorseShoe
RE Rectangular	UN Unspecified
SQ Square	
SEWER MATERIAL	
AC Asbestos Cement	DI Ductile Iron
BR Brick	PVC Polyvinyl Chloride
PE Polyethylene	CI Cast Iron
RP Reinforced Plastic Matrix	SI Spun Iron
CO Concrete	ST Steel
CSB Concrete Segment Bolted	VC Vitrified Clay
CSU Concrete Segment Unbolted	PP Polypropylene
CC Concrete Box Culverted	PF Pitch Fibre
PSC Plastic/Steel Composite	MAC Masonry, Coursed
GRC Glass Reinforced Concrete	MAR Masonry, Random
GRP Glass Reinforced Plastic	U Unspecified

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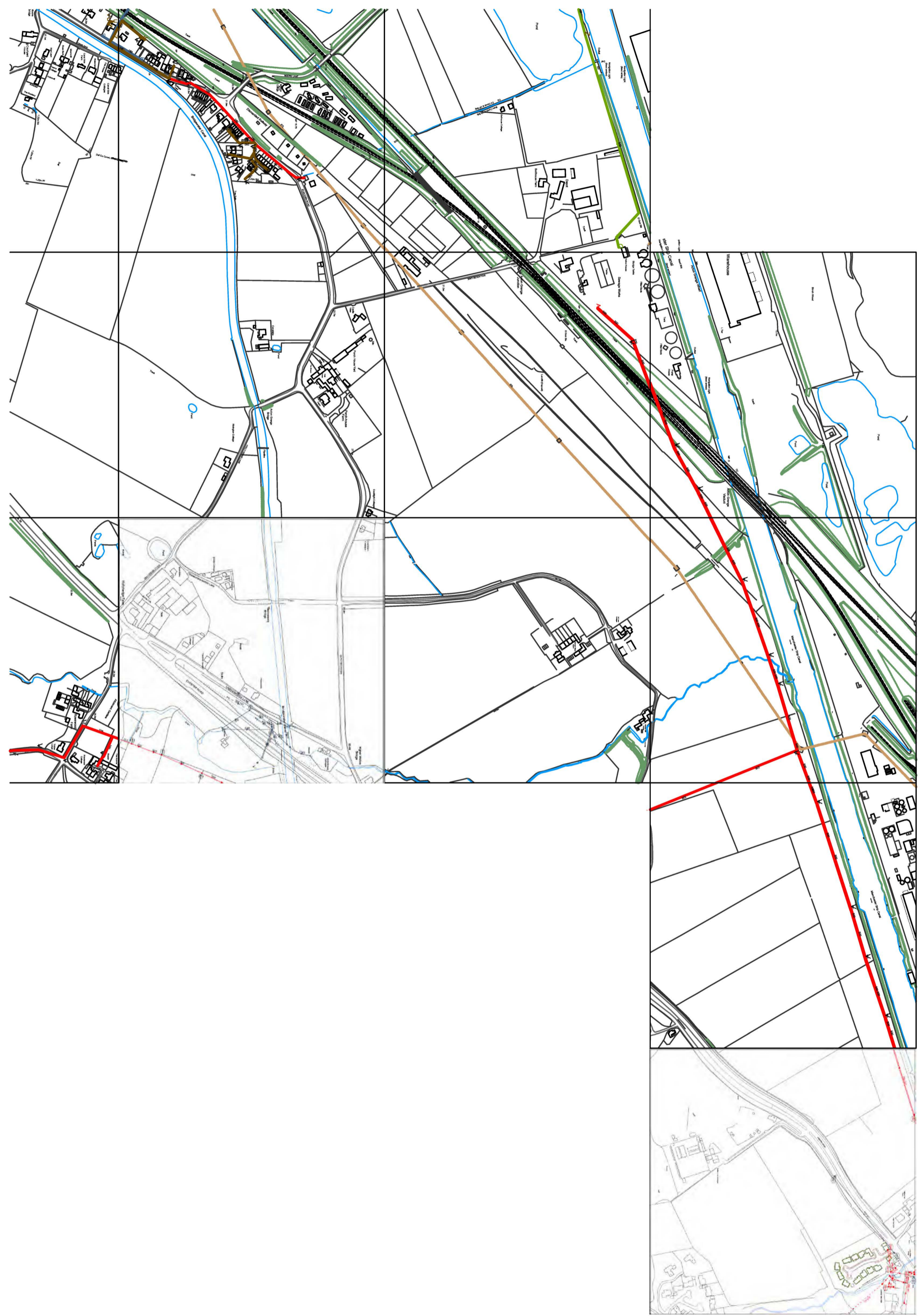
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 Scale: 1:1250 Date: 18/08/2017
 9 Nodes
 Sheet 1 of 1

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OS Sheet No: SJ5984SW

Scale: 1:1250 Date: 18/08/2017





Dean O Reilly

From: McDermott, Daniel <Daniel.McDermott@uuplc.co.uk>
Sent: 17 April 2018 10:54
To: Dean O Reilly
Cc: Wastewater Developer Services
Subject: RE: PDE 4200020451 C1312 - Predevelopment Enquiry - Southwest Urban Extension - Warrington due 18.4.18

We have carried out an assessment of your application for a wastewater pre-development enquiry which is based on the information provided. This pre-development advice will be valid for 12 months.

Foul Water

Foul water will be allowed to drain to the public combined/foul sewer network.

Surface Water

This is a greenfield site and any redevelopment proposal will constitute major development. Given the limited information that is currently available in respect of this proposed development, we would direct you to national and local planning policy and the key role of the Lead Local Flood Authority (LLFA) in the determination process. As the statutory consultee in the determination process for any planning application, the LLFA and Local Planning Authority will have the final say in any approach to surface water management and therefore we recommend early discussion with officers at the council.

Any development proposal should consider the surface water hierarchy set out in National Planning Practice Guidance and the expectation that priority will be given to the use of sustainable drainage systems. In this regard, we note your intention to only discharge foul water to the existing public sewer with surface water discharging to a more sustainable alternative.

You should discuss your approach to surface water drainage with the LLFA and local planning authority. Any direct discharge to watercourse will need to be considered with the LLFA in respect of ordinary watercourses or EA for main rivers.

In accordance with normal practice, it is likely that any planning permission granted will include conditions on the approach to surface water management.

Site Wide Infrastructure Strategy

As this is a large strategic site it will be necessary to ensure the foul and surface water drainage proposals are part of a wider, holistic strategy which coordinates the approach to drainage between phases, between developers, and over a number of years of construction. The applicant will be expected to include details of how the approach to foul and surface water drainage on a phase of development has regard to interconnecting phases within a larger site. You will be expected to liaise with United Utilities to ensure infrastructure is sized to accommodate flows from interconnecting phases and drainage strategies should ensure a proliferation of pumping stations is avoided on a phased development. We will recommend conditions to the local planning authority if a planning application is submitted which seeks to ensure a co-ordinated site wide infrastructure strategy for foul and surface water.

Please can you also provide an indication of your anticipated start date for this development.

Existing Assets Crossing the Site

There are various water and wastewater assets crossing the site. You should consult the map of public sewers and water mains to confirm exactly which assets pass through your site. It is the applicant's responsibility to demonstrate the exact relationship between any United Utilities' assets and the proposed development and we recommend you confirm the exact location of assets to inform any detailed layout. United Utilities offers a fully supported mapping service and we recommend the applicant contact our Property Searches Team at Property.Searches@uuplc.co.uk to obtain maps of the site. Due to the public sewer transfer, not all sewers are currently shown on the statutory sewer records, if a sewer is discovered during construction; please contact a Building Control Body to discuss the matter further.

From an initial review, our assets include those listed below. Please note, this list is not intended to be an exhaustive list.

- A treated water distribution main (size to be confirmed).
- Two sewers laid parallel which are 500mm and 600mm at their largest.
- A 225mm sewer.

You will need to have regard to all assets when preparing a detailed layout for the site not just those listed above. We will not permit building over the assets and we will require access and maintenance strips in accordance with our standard terms and conditions. A copy of these conditions is available on request.

As a general guide, for assets that are 300mm or greater in diameter, we would normally expect an access and maintenance strip which is 10m in width, measured as 5m from the centre line of the asset. For assets less than 300mm, we would normally expect a maintenance strip of 6m measured 3 metres from the centre line of the asset.

Deep rooted shrubs and trees should not be planted in the vicinity of our assets and overflow systems. When preparing your layout, we recommend you confirm that your layout is acceptable to us in the context of the maintenance and access strips required.

Given the strategic nature of some of the assets, we may require a construction management plan to manage the impact of development occurring in proximity to our assets. Please also note that the site includes a number of formal easements, which are additional to our statutory rights of access for inspection, repair and maintenance. Any layout you prepare should have regard to the detail of these easements.

We strongly recommend you liaise with us further on your proposed scheme so we can ensure any site layout meets our requirements.

Proximity to Wastewater Treatment Works

Your site is located immediately adjacent to Warrington South Wastewater Treatment Works (WwTW). You should carefully consider the proximity of housing to this WwTW. It is important to explain that a WwTW is key infrastructure for the borough. As a waste management facility, it is an industrial operation which can result in emissions. These emissions include odour and noise. A wastewater treatment works can also attract flies. We are pleased that your indicative layout includes a buffer between the proposed housing and wastewater treatment works. We would not wish to see the width of this buffer reduced.

Notwithstanding our above comments, please note that it may be necessary for you to prepare an odour impact assessment to support any application for planning permission at this site. If an odour impact assessment is required, this should be site specific and the scope agreed with the local planning authority in liaison with United Utilities.

Access to Wastewater Treatment Works

The wastewater treatment works is subject to vehicle movements from a range of vehicles including large tankers via the access road on Bellhouse Lane. Your current site layout indicates new residential development in close proximity to the access road. Our preference would be for a stand-off distance between the access road and any proposed residential curtilage.

We would also welcome the opportunity to discuss your proposed layout in the context of our access to Warrington South Wastewater Treatment Works to ensure that we can continue to access our wastewater treatment works as required.

Connection Application

Although we may discuss and agree discharge points and rates in principle, please be aware that you will have to apply for a formal sewer connection. This is so that we can assess the method of construction, Health & Safety requirements and to ultimately inspect the connection when it is made. Details of the application process and the form itself can be obtained from our website by following the link below. Any connection application should also have regard to the requirements of your planning permission.

<http://www.unitedutilities.com/connecting-public-sewer.aspx>

Sewer Adoption Agreement

When preparing your detailed layout for any new development site, the applicant should consider whether they wish to offer the site for adoption by the public sewerage undertaker. The detailed layout should be prepared with consideration of what is necessary to secure a development to an adoptable standard. This is important as drainage design can be a key determining factor of site levels and layout.

United Utilities currently assesses adoption applications based on Sewers for Adoption 6th Edition and for any pumping stations our company addenda document. Please refer to link below to obtain further guidance and an application pack:

<http://www.unitedutilities.com/sewer-adoption.aspx>

Water Supply Enquiry

We strongly recommend that you contact the water supply team regarding your enquiry. They can be contacted at developerserviceswater@uuplc.co.uk

Although we may discuss and agree discharge points & rates in principle, please be aware that you will have to apply for a formal sewer connection. This is so that we can assess the method of construction, Health & Safety requirements and to ultimately inspect the connection when it is made. Details of the application process and the form itself can be obtained from our website by following the link below

<http://www.unitedutilities.com/connecting-public-sewer.aspx>

public sewers cross this site and we will require unrestricted access to the sewer for maintenance purposes, we would ask that you maintain a minimum clearance of (6m refer to table 2.1 SFA) which is measured 3m from the centre line of the pipe. If you cannot achieve this then you may wish to consider diverting the public sewer.

Please refer to the link below to obtain full details of the processes involved in sewer diversion.

<http://www.unitedutilities.com/sewer-diversion.aspx>

Please be aware that on site drainage must be designed in accordance with Building Regulations, National Planning Policy, Planning Conditions and local flood authority guidelines, we would recommend that you liaise and make suitable agreements with the relevant statutory bodies.

If I can be of any further assistance please don't hesitate to contact me.

Regards

Daniel McDermott

Assistant Developer Engineer
Developer Services and Planning
Operational Services
United Utilities
T: 01925679409
Unitedutilities.com

From: Dean O Reilly [<mailto:doreilly@sgiconsulting.co.uk>]

Sent: 04 April 2018 12:02

To: Wastewater Developer Services <WastewaterDeveloperServices@uuplc.co.uk>

Cc: Natalia Marsden <nmarsden@sgiconsulting.co.uk>

Subject: C1312 - Predevelopment Enquiry - Southwest Urban Extension - Warrington

Dear Sirs,

Please find attached the predevelopment enquiry form and supporting information for the Southwest Urban Extension scheme.

If you require anything further or wish to discuss then please contact us.

Regards

Dean

Dean O'Reilly, B.Sc. (Hons)

Associate Director

(44) 0161 837 1500



www.shepherd-gilmour.co.uk | (44) 0161 837 1500
Colchester House, 40 Peter Street, Manchester, M2 5GP



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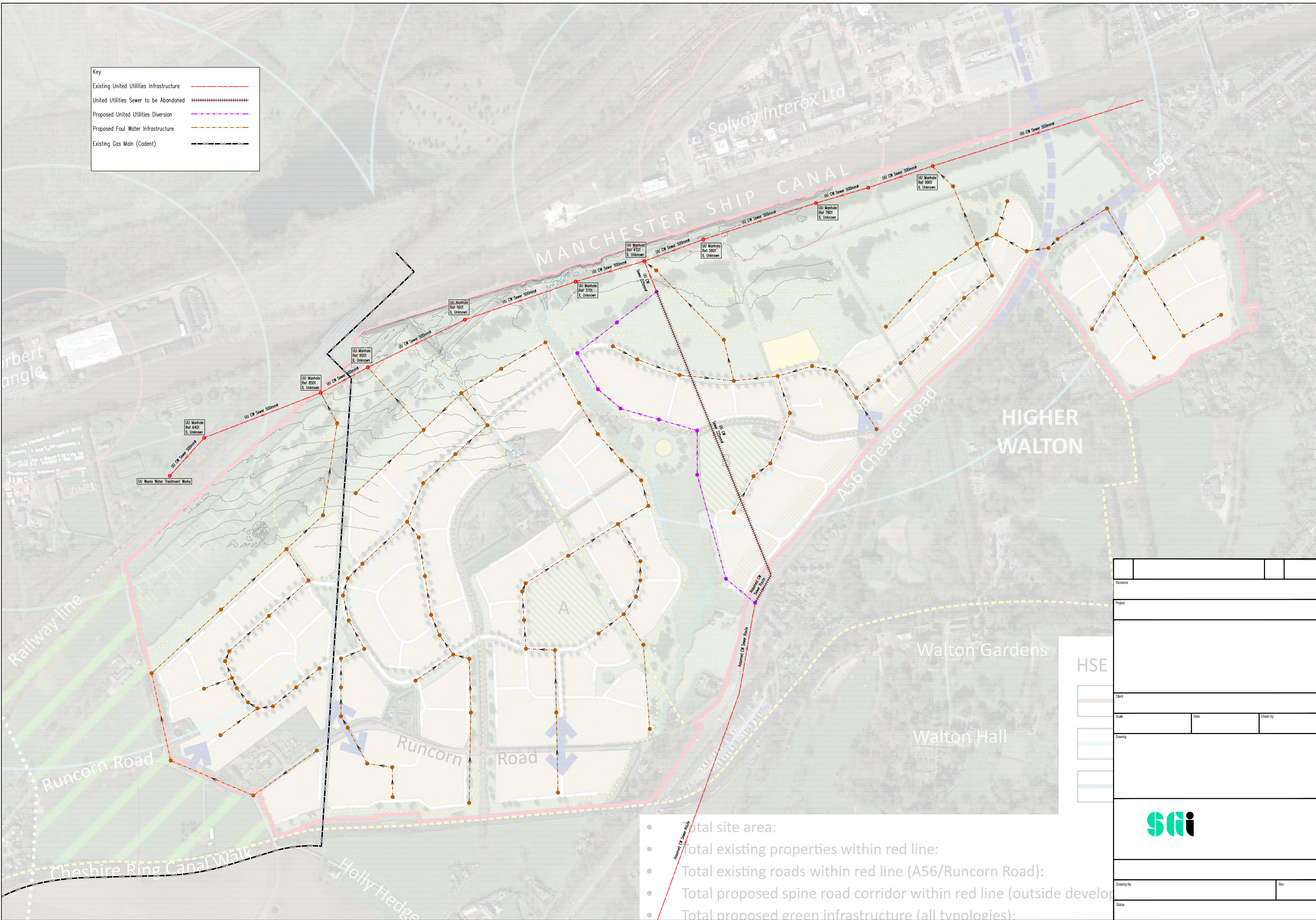
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AP ██████████ E

Key	
Existing United Utilities Infrastructure	--- (Red dashed line)
United Utilities Sewer to be Abandoned	--- (Black dashed line)
Proposed United Utilities Diversion	--- (Purple dashed line)
Proposed Foul Water Infrastructure	--- (Orange dashed line)
Existing Gas Main (Cadent)	--- (Black dashed line)



- Total site area:
- Total existing properties within red line:
- Total existing roads within red line (A56/Runcorn Road):
- Total proposed spine road corridor within red line (outside development):
- Total proposed green infrastructure (all typologies):

Revisions	
Project	
Client	
Scale	Date
Drawing	
Drawing No	Rev
Status	



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AP [REDACTED] F

4th Floor, Colchester House
40 Peter Street
Manchester, M2 5GP



Date 14/06/2019 11:34

Designed by DOREilly

File

Checked by

Micro Drainage

Source Control 2018.1

IH 124 Mean Annual Flood

Input

Return Period (years) 100 SAAR (mm) 800 Urban 0.000
Area (ha) 62.820 Soil 0.450 Region Number Region 10

Results 1/s

QBAR Rural 314.6

QBAR Urban 314.6

Q100 years 654.5

Q1 year 273.7

Q2 years 293.1

Q5 years 374.4

Q10 years 434.2

Q20 years 494.7

Q25 years 516.0

Q30 years 533.5

Q50 years 582.1

Q100 years 654.5

Q200 years 742.6

Q250 years 770.9

Q1000 years 956.5



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Key

Proposed Surface Water Infrastructure 

Proposed Surface Water Attenuation 

Existing Gas Main (Cadent) 

Indicative surface water attenuation structures

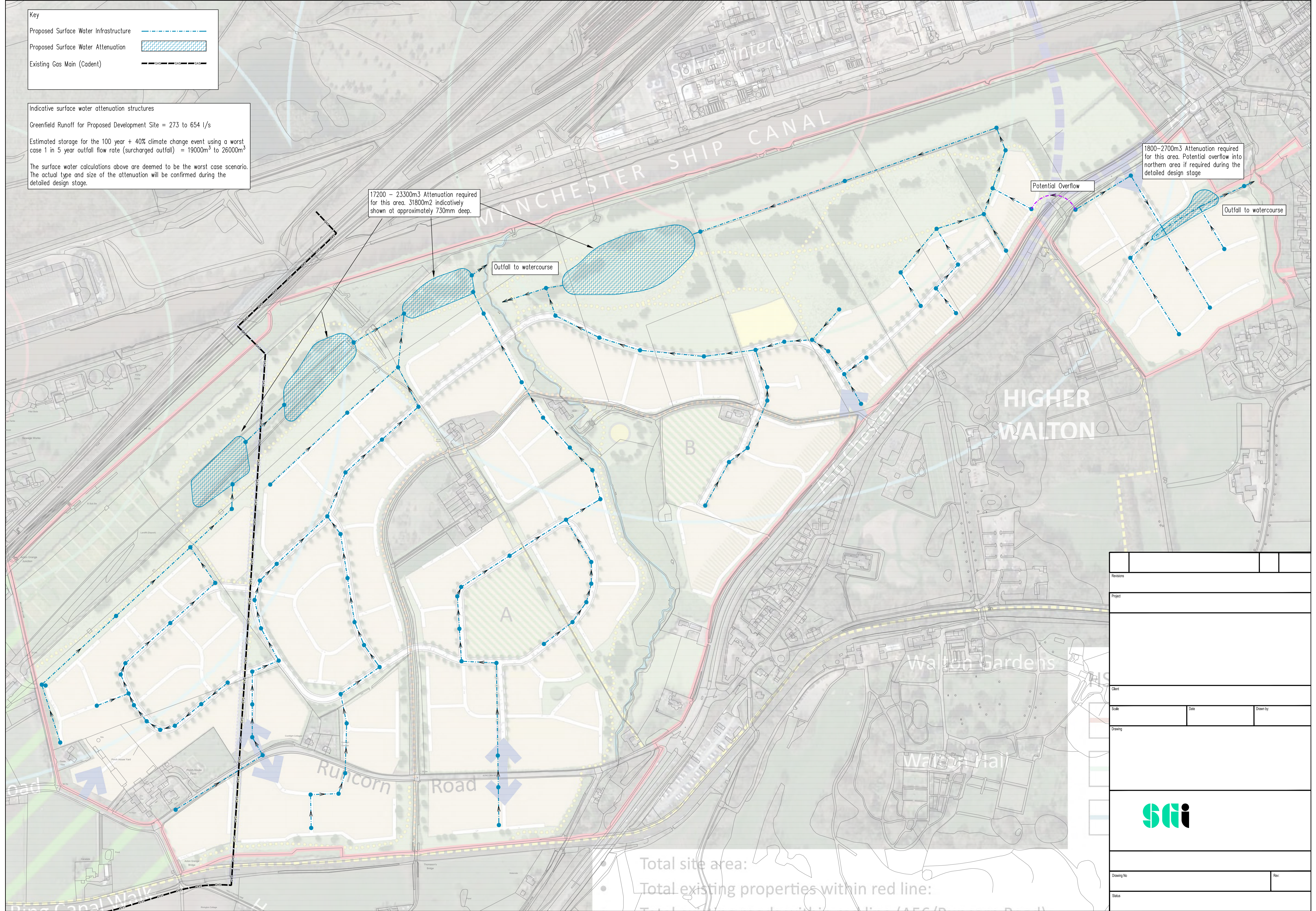
Greenfield Runoff for Proposed Development Site = 273 to 654 l/s

Estimated storage for the 100 year + 40% climate change event using a worst case 1 in 5 year outfall flow rate (surcharged outfall) = 19000m³ to 26000m³


The surface water calculations above are deemed to be the worst case scenario. The actual type and size of the attenuation will be confirmed during the detailed design stage.

17200 – 23300m³ Attenuation required for this area. 31800m² indicatively shown at approximately 730mm deep.

1800–2700m³ Attenuation required for this area. Potential overflow into northern area if required during the detailed design stage



- Total site area:
- Total existing properties within red line:

Revisions		
Project		
Client		
Scale	Date	Drawn by
Drawing		
		
Drawing No	Rev	
Status		



THE
ENVIRONMENT
PARTNERSHIP



SOUTH WEST URBAN EXTENSION WARRINGTON ARBORICULTURAL WALKOVER SURVEY AND DESKTOP ASSESSMENT JUNE 2019

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Document Title	Arboricultural Walkover Survey and Desktop Assessment
Prepared for	Peel Holdings (Land and Property) Limited
Prepared by	TEP - Warrington
Document Ref	6929.02.002

Author	Tom Popplewell
Date	June 2019
Checked	Jonathan Smith
Approved	Jonathan Smith

Amendment History					
Version	Date	Modified by	Check / Approved by	Reason(s) issue	Status
0.1	04/07/18	TDP	JGS	Checking	Draft
1.0	04/07/18	TDP	JGS	Approval	Superseded
2.0	13/11/18	TDP	JGS	Change to project description and addition of illustrative masterplan	Superseded
3.0	18/02/19	SDR	TDP	Updated report, data tables and Drawing 2 following additional survey	Superseded
4.0	21/05/19	RMG	JGS	Addition of preliminary assessment of effects	Superseded
5.0	12/06/19	RMG	JGS	Amended after client comment	Final

CONTENTS	PAGE
Executive Summary	1
1.0 Instruction and scope	2
2.0 Site and project description	3
3.0 Statutory protection, designations and guidance	5
4.0 Planning Policy.....	10
5.0 Tree Population Summary.....	15
6.0 Preliminary Assessment of Effects	17
7.0 Recommendations	21

TABLES	PAGE
Table 1 Distribution of veteran trees.....	6
Table 2 Approximate quantum of woody habitats	16
Table 3 Approximate quantum of woody habitats that would be removed	18
Table 4 Quality of surveyed compartments	19
Table 5 Approximate Quality of woody habitats that would be removed	20

APPENDICES

APPENDIX A: Tree Survey Data

DRAWINGS

Drawing 1 - Arboricultural Desktop Overview

Drawing 2 - Arboricultural Survey Overview

Drawing 3 - South West Urban Expansion Illustrative Masterplan

Executive Summary

1. TEP has been commissioned by Peel Holdings (Land and Property) Limited to conduct a walkover survey and desktop assessment of land at South West Urban Extension (SWUE) and a review of designations, policies and other instruments of relevance to arboriculture. This report presents the results of the assessment and the anticipated interaction of trees with residential development.
2. The Illustrative Masterplan comprises 58.26ha of land that could deliver up to 1,800 units with a further 53.16ha allocated for green infrastructure.
3. Approximately 26.23ha of tree cover and c. 7,847m of hedgerow was recorded on or within influencing distance of the site. Trees are predominantly concentrated towards the western half of the site. The majority are located along water courses, on field boundaries and within hedgerows parallel to public highways.
4. The desktop review and site survey identified no Tree Preservation Orders; no trees within a Conservation Area; no ancient woodland; no veteran trees; 15.25ha of Habitat of Principal Importance *Deciduous Woodland*; and c. 7,847m of Habitat of Principal Importance *Hedgerow*. The site is also within the Mersey Forest community forest.
5. The Illustrative Masterplan demonstrates it would be possible to develop the site whilst incorporating over 85% of existing trees (22.57ha). It would also provide an opportunity for substantial new planting that could increase species diversity and create habitat types not currently present on the site. On this basis mitigation for the loss of trees could be adequately delivered within the site proposals and is likely to result in a net gain in long-term canopy cover.
6. An Arboricultural Impact Assessment (AIA) will be required in support of a reserved matter/detailed application. This will identify, evaluate and possibly mitigate the impacts of developing land on the existing tree resource. The AIA should be based on a detailed tree survey undertaken according to BS5837:2012 that assess and reports on: canopy spread of existing trees and groups; a Root Protection Area (RPA) calculated in accordance with BS 5837; and tree quality category that identifies the quality and value (in a non-fiscal sense) of the existing tree stock, to allow informed decisions to be made concerning which trees should be removed or retained in the event of development occurring.

1.0 Instruction and scope

- 1.1 TEP has been commissioned by a consortium of developers (Peel Holdings (Land and Property) Limited, Story Homes and Ashall Property) to conduct a preliminary arboricultural survey and desktop assessment of land at South West Urban Extension. This report presents the results of a site walkover and desktop exercise to identify potential constraints and opportunities for future development. It also reports on the preliminary assessment effects of the nominated masterplan for the site.
- 1.2 Site visits were undertaken on 15th June 2018 and 14th February 2019 by Tom Popplewell and Sean Roberts, experienced arboriculturists with BSc (Hons) in arboriculture and urban forestry.
- 1.3 During the survey, all accessible areas of the site were visited and a visual inspection of the distribution, condition and quality of trees was made.
- 1.4 Access to some land was not possible. A remote visual inspection of some trees within these areas was made from accessible areas of the site and public spaces. This included some areas surrounding private gardens, narrow strips of woodland along the north and north-west perimeter of the site, and trees in third-party ownership along the northern and eastern edge perimeters, which could be surveyed from adjacent land. Land to the south of the A56 has not been surveyed but an assessment of the existing tree stock has been made using available desktop data.
- 1.5 The principle constraint to access was ownership (including private residential gardens) rather than terrain; most trees and most of the site is relatively level and accessible on foot. The weather during the survey was fine and visibility was good.
- 1.6 The extent of tree and hedgerow cover shown has been digitised from aerial photography and National Tree Map data and should be regarded as approximate.
- 1.7 The survey identifies broad vegetation types based on the categories used in the National Forest Inventory. It should not be regarded as a detailed assessment of tree risk or an assessment of the type and quality of each individual tree.

2.0 Site and project description

Site description

- 2.1 The approximate extents of the study area is shown in Figure 1.

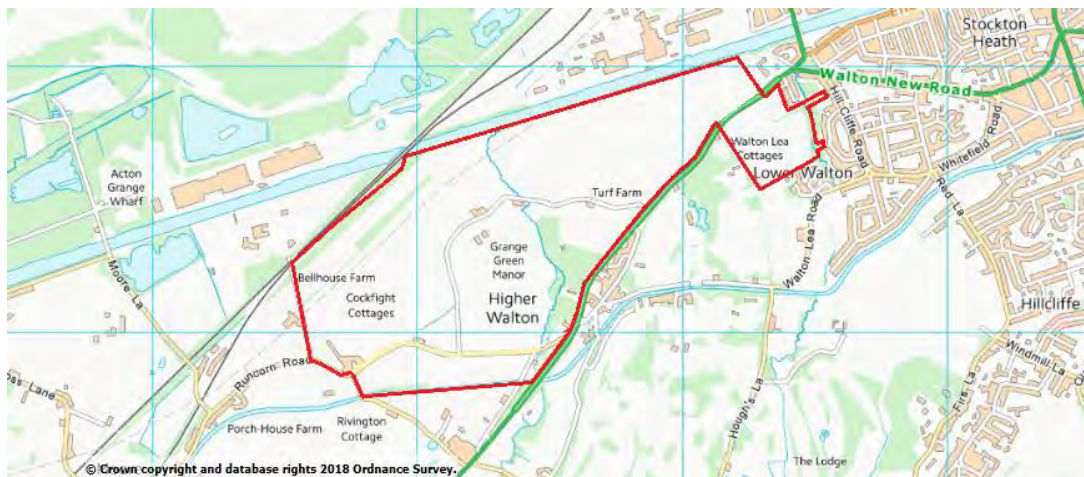


Figure 1 Site location and approximate boundary (OS VectorMap® District Resampled)

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Address/location

- 2.2 The site lies to the immediate south west of the settlement boundary of Warrington. It is bound by the Manchester Ship Canal to the north and the West Coast Railway to the north-west. To the south east the A56 Chester Road forms the boundary, with a plot of land to the south of the A56, immediately adjoining the Warrington settlement boundary. The Bridgewater Canal encloses the site at its southern boundary. At the eastern extent, the boundary follows Bellhouse Lane and Runcorn Road.

Approximate area

- 2.3 The site is approximately 119.59ha in size.

Current use

- 2.4 The site currently comprises a mix of agricultural land and associated buildings and property. Mill Lane runs through the site, providing access to a number of private properties and farm buildings. An area of industrial use lies on the northern side of the Ship Canal, known as Warrington Waterfront. The route of the proposed Western Link Road lies at the eastern end of the site.
- 2.5 The site is presently designated as Green Belt land within the Warrington Unitary Development Plan (June 2005), but has been identified by the Council as a site to be released from the Green Belt and allocated for housing development through the emerging Local Plan.

Local authority

- 2.6 The local authority is Warrington Borough Council.

- 2.7 The local authority's tree officer can be contacted by email at stwigg@warrington.gov.uk or by telephone on 01925 444 108.

Project description

- 2.8 This report forms a part of a suite of baseline assessments of the study area to inform future planning decisions. This report does not consider the effects of development in detail but the principles of development in broad accordance with the illustrative masterplan. This has been developed in consideration of the constraints outlined by this and other technical assessments and is included at Drawing 3. A brief description of the key aspects of the masterplan and proposed development strategy is given below.
- 2.9 Land across the SWUE site will be developed as a sustainable urban extension to the main urban area of Warrington, providing in the region of 1,800 new homes. The urban extension will support a new community in a high quality residential setting with ease of access to Warrington's employment, recreation and cultural facilities.
- 2.10 The new community will be supported by:
- (i) A new primary school;
 - (ii) A local centre comprising local shops, a potential new health facility, subject to needs, and other community facilities as necessary to support the new residential community; and
 - (iii) Extensive areas of open space and recreation provision.
- 2.11 The development will be designed to support walking and cycling for local trips. It will benefit from the new Western Link and improved public transport to enable access to the town centre, Stockton Heath, the Waterfront development, and other major employment areas, including Daresbury.
- 2.12 The new Green Belt boundary will ensure clear separation between Warrington and Runcorn and will provide a strategic gap between the urban extension and the village of Moore.
- 2.13 Development will ensure that important ecological assets within the site are preserved with opportunities to provide additional habitats and enhance biodiversity. The urban extension will preserve, and where possible enhance the heritage assets within the site and will be designed to respect the setting of nearby heritage assets, including the Bridgewater Canal and its bridges and the Walton Village Conservation Area and, located within the Local Authority of Halton, the Moore Conservation Area.
- 2.14 Community infrastructure will need to be phased according to the requirements of the development.

3.0 Statutory protection, designations and guidance

Tree Preservation Orders

- 3.1 Local authorities can create Tree Preservation Orders (TPO) to protect the amenity of trees, groups of trees, woodland or all the trees within a defined area¹. Cutting down, lopping (including roots), topping, uprooting, and wilful damage or destruction are prohibited by TPO unless done with the Local Authority's written consent.
- 3.2 The council's online mapping facility confirmed that there are no TPOs on or adjacent to the site.

Conservation Area

- 3.3 Trees within Conservation Areas are protected by Section 211 of The Town and Country Planning Act 1990. The local authority must be notified 6 weeks before the any tree² in a Conservation Area is removed, uprooted, lopped, topped, wilfully destroyed, or wilfully damaged. During this period the Council may consider serving a Tree Preservation Order to prevent the proposed work from being undertaken.
- 3.4 The council's online mapping facility confirmed that no part of the site is within a Conservation Area.

Ancient Woodland and Veteran Trees

- 3.5 Ancient woodland and ancient or veteran trees are irreplaceable and amongst the most valuable and sensitive habitats. Ancient woodland is any area that has been wooded since at least 1600. Individual trees of exceptional age, size, biodiversity or cultural significance are regarded as 'veterans'. Neither category has legal protection but they have strong protection in planning policy. Any works to veteran or ancient trees and woodland should be undertaken with the utmost sensitivity and under specialist advice.³
- 3.6 The Forestry Commission is a non-statutory consultee for development within 500m of an Ancient Woodland. Natural England and Forestry Commission publishes Standing Advice which reinforces the assumption in NPPF that development within an Ancient Woodland normally requires exceptional circumstances. A minimum buffer of 15m is recommended between any new development and ancient woodland.
- 3.7 Natural England's ancient woodland inventory⁴ shows no ancient woodland within or adjacent to the site. The inventory is provisional and may not show woodland smaller than 2ha. It is therefore possible that smaller or unmapped ancient woodland exists. The current and previous land use and characteristics of the site make this unlikely; only C12 and C51 (see Drawing 2) have a semi-natural woodland structure.

¹ Exemptions apply, see <https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas>

² Exemptions apply, see <https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas>

³ See <https://www.forestry.gov.uk/anwpracticeguide> for further information

⁴ <http://www.natureonthemap.naturalengland.org.uk/magicmap.aspx>

- 3.8 Veteran trees are also regarded as an irreplaceable habitat with similar provisions to ancient woodland. There is a presumption in NPPF against development that would result in loss or deterioration of a veteran tree. It is not possible to replace veteran trees and any such effects must be weighed in the planning balance against the reasons for the development.
- 3.9 There is no comprehensive register of veteran trees. The Woodland Trust maintains a verified register of ancient, veteran and notable trees on behalf of the Ancient Tree Forum, which contains no records for the site.
- 3.10 The walkover survey recorded no veteran trees within the site.
- 3.11 It is possible that the survey did not record all veteran trees because of the access restrictions in some areas, the level of survey detail afforded by a walkover, and the lack of ancient tree inventory detail. This is unlikely to adversely affect the capacity to incorporate veteran trees, if any are present, into a future layout.
- 3.12 Some compartments contain mature trees which, over time, may develop into veteran trees in the future. The trees that would best support such an objective are in Compartment 51.
- 3.13 It is not considered that access constraints have significantly impeded the mapping of character and distribution of vegetation within the areas that were surveyed. However, identification of individual trees of significance such as veteran trees should be regarded as provisional. A comprehensive survey should be undertaken to inform any planning application. This should pay particular regard to areas not previously surveyed and the compartments containing mature trees and semi-natural woodland identified in the table below. These are the most likely to contain currently unmapped veteran trees.

Table 1 Distribution of veteran trees

Compartments with identified veteran trees	Compartments most likely to contain unidentified veteran trees	Compartments with potential to develop next generation veteran trees
None	C12	C51

Felling Licences

- 3.14 It is an offence under the Forestry Act (1967) to fell trees without a licence unless an exemption applies.
- 3.15 Pruning; small scale felling; hazard and nuisance abatement; and felling in a domestic garden, orchard, churchyard or designated open space are amongst those works that may be exempt.⁵

⁵ See <https://www.forestry.gov.uk/england-fellinglicences> for details

- 3.16 There are parts of the site that should be considered exempt from felling licence jurisdiction including domestic gardens. Also, certain operations are exempt and advice should be sought when considering tree works. In the absence of a detailed planning permission, any tree works may require a felling licence.

Hedgerow Regulations

- 3.17 The Hedgerow Regulations (1997) protect hedgerows that meet certain criteria⁶. This report does not include an assessment to determine which, if any, features would be protected under the Regulations. Hedges less than 20m long, in domestic gardens, or younger than 30 years are less likely to be protected.
- 3.18 Any removal of a protected hedgerow or a section of a protected hedgerow must only be done with the written consent of the Local Authority.
- 3.19 The site contains numerous hedges along boundaries, internal roads and around residential curtilages. Hedgerow that is mapped on Drawing 2 may qualify as 'Important' hedgerow under the Regulations on the grounds of woody species and ecological criteria. It is possible that linear vegetation including scrub and trees that is not mapped as hedgerow might qualify but a full assessment has not been undertaken.
- 3.20 The distribution of hedges does not appear to be preventative to a development of a masterplan that incorporates them appropriately. The Importance or otherwise of hedges may be relevant to the priority or weight given to each within a future layout but should not, in principle, frustrate development.

Habitats of Principal Importance

- 3.21 The Natural Environment and Rural Communities Act 2006 places a duty on public bodies to show regard for biodiversity in the normal discharge of their functions. The Act requires a schedule of Habitats of Principal Importance to be maintained. This schedule (section 41 in England) is used by public bodies as a guide to the interpretation of their duty to conserve biodiversity. The list of habitats is based on the previously published list of Biodiversity Action Plan 'Priority Habitats'. For this reason, mapping tends to follow broad habitat types and requires verification in the field.
- 3.22 There are a number of habitat types that pertain to trees: *Deciduous Woodland*; *Hedgerows*; *Wood Pasture and Parkland*; and *Traditional Orchards*.
- 3.23 *Deciduous Woodland* is used to represent a range of woodland types that are not mapped individually.

⁶ See <https://www.gov.uk/guidance/countryside-hedgerows-regulation-and-management> for details

- 3.24 Mapping of *Deciduous Woodland* is based on remote digital analysis; the walkover survey was therefore used to test the publicly available deciduous woodland data. With the exception of individual trees, hedgerow, Christmas tree plantation and domestic gardens, most woody vegetation present is a type of deciduous woodland. This includes areas of plantation in the north-west which are mapped as young trees on the National Forest Inventory but which have since matured and should now be regarded as woodland. The extent of deciduous woodland that was recorded within the site and shown on Drawing 2 is approximately 15.25ha.
- 3.25 *Hedgerows* are defined as any boundary line of trees or shrubs over 20m long and less than 5m wide, and where any gaps between the trees or shrub species are less than 20m wide. It is likely that most of the hedgerows on the site would meet the criteria for inclusion in this habitat type. It is possible that other vegetation could be considered to be hedgerow which has been recorded as woodland edges, for example where vehicles pass existing trees and trim growth to a clear edge. Circa 7,847m of hedgerows are shown approximately on Drawing 1.
- 3.26 *Wood Pasture and Parkland* is a less common and easily overlooked type of woodland habitat in which trees are a principal structural component but within an open and grazed context rather than high woodland. Veteran and ancient trees are often a feature and the presence of deadwood and grazing animals create niche habitats for a range of lichens, insects, fungi and flora that occur exclusively in this habitat. None of the site is mapped as *Wood Pasture and Parkland*. The survey identified nothing to refute this.
- 3.27 *Traditional Orchard* includes most non-commercial and non-intensive orchards. There are no records of Traditional Orchards on or adjacent to the site. The survey identified nothing to refute this.
- 3.28 There is no reason in principle why Habitats of Principle Importance could not be incorporated appropriately within a detailed development layout.

Community Forest

- 3.29 The site is within the Mersey Forest community forest. It is also within the recently announced Northern Forest. These may provide a useful vehicle for coordinating, consulting on, planning, funding, or maximising benefits delivered by tree and woodland management. In view of the tree population present, it is suggested that the Mersey Forest should be consulted on proposed development and mitigation options.
- 3.30 NPPF paragraph 142 states that 'Community Forests offer valuable opportunities for improving the environment around towns and cities, by upgrading the landscape and providing for recreation and wildlife'. It also establishes that 'an approved Community Forest Plan may be a material consideration in preparing development plans and in deciding planning applications.'
- 3.31 Within the Mersey Forest Plan the site falls within the Moore Walton (W13) area. The indicative woodland cover target for this area is 30% and the relevant policy is:
- (i) Create significant woodland, planting small and medium-scale woodlands. Restore hedges and plant hedgerow trees.

Other Designations and Status

3.32 None known.

4.0 Planning Policy

- 4.1 All trees are a material consideration. All other things being equal, the removal or deterioration of a tree, woodland or hedgerow should be regarded as an adverse effect and may therefore require mitigation to achieve no net loss.
- 4.2 Mitigation in the form of new planting is unlikely to deliver equivalent functions and benefits to existing trees, particularly where these are mature. Temporal delays in delivery, higher planting ratios, or additional measures may therefore form a necessary part of any mitigation strategy.

National Planning Policy Framework (NPPF)

- 4.3 The National Planning Policy Framework (NPPF) is a material consideration in the planning process and promotes a presumption in favour of sustainable development. In terms of the natural environment, development should minimise impacts on biodiversity and provide a net gain in biodiversity where possible.
- 4.4 The application of national planning policy, particularly the assessment of net impacts on tree cover and quality, is reinforced by published guidance in the form of BS5837:2012 - Trees in relation to design, demolition and construction - Recommendations. It should be assumed that any necessary tree removal should be mitigated or offset and that any application should be supported by an assessment of residual impact by a qualified arboriculturist. It should also be assumed that all ancient woodland and veteran trees are sacrosanct and must be incorporated appropriately within any development.
- 4.5 The NPPF assumes protection of all ancient woodland and veteran trees unless there are wholly exceptional reasons and a suitable compensation strategy exists. In this respect ancient woodland is defined as an area which has been wooded continuously since at least 1600 AD and a veteran as a tree of exceptional value for wildlife, in the landscape, or culturally because of its great age, size or condition.
- 4.6 The mapping of veteran trees on Drawings 2 should be confirmed in due course by detailed ground surveys.

Local Planning Policy

- 4.7 Warrington Borough Council has a number of adopted policies pertaining to trees and nature conservation in the Core Strategy. They are reproduced hereafter.

Policy QE 3

Green Infrastructure

- 4.8 The Council will work with partners to develop and adopt an integrated approach to the provision, care and management of the borough's Green Infrastructure. Joint working and the assessment of applications will be focussed on:
 - (i) protecting existing provision and the functions this performs;

- (ii) increasing the functionality of existing and planned provision especially where this helps to mitigate the causes of and addresses the impacts of climate change;
- (iii) improving the quality of existing provision, including local networks and corridors, specifically to increase its attractiveness as a sport, leisure and recreation opportunity and its value as a habitat for biodiversity;
- (iv) protecting and improving access to and connectivity between existing and planned provision to develop a continuous right of way and greenway network and integrated ecological system;
- (v) securing new provision in order to cater for anticipated increases in demand arising from development particularly in areas where there are existing deficiencies assessed against standards set by the Council.

Policy QE 5

Biodiversity and Geodiversity

- 4.9 The Council will work with partners to protect and where possible enhance sites of recognised nature and geological value. These efforts will be guided by the principles set out in National Planning Policy and those which underpin the strategic approach to the care and management of the borough's Green Infrastructure in its widest sense.
- 4.10 Sites and areas recognised for their nature and geological value are shown on the Policies Map and include:
- (i) European Sites of International Importance
 - (ii) Sites of Special Scientific Interest
 - (iii) Regionally Important Geological Sites
 - (iv) Local Nature Reserves
 - (v) Local Wildlife Sites
 - (vi) Wildlife Corridors
- 4.11 The specific sites covered by the above designations at the time of publication are detailed in Appendix 3. [NB. This includes Moore Nature Reserve]
- 4.12 Proposals for development which may affect European Sites of International Importance will be subject to the most rigorous examination in accordance with the Habitats Directive. Development or land use change not directly connected with or necessary to the management of the site and which is likely to have significant effects on the site (either individually or in combination with other plans or projects) and which would affect the integrity of the site, will not be permitted unless the Council is satisfied that; there is no alternative solution; and there are imperative reasons of over-riding public interest for the development or land use change.

- 4.13 Proposals for development in or likely to affect Sites of Special Scientific Interest (SSSI) will be subject to special scrutiny. Where such development may have an adverse effect, directly or indirectly, on the SSSI it will not be permitted unless the reasons for the development clearly outweigh the nature conservation value of the site itself and the national policy to safeguard the national network of such sites.
- 4.14 Proposals for development likely to have an adverse effect on regionally and locally designated sites will not be permitted unless it can be clearly demonstrated that there are reasons for the development which outweigh the need to safeguard the substantive nature conservation value of the site or feature.
- 4.15 Proposals for development which may adversely affect the integrity or continuity of UK Key habitats or other habitats of local importance, or adversely affect EU Protected Species, UK Priority Species or other species of local importance, or which are the subject of Local Biodiversity Action Plans will only be permitted if it can be shown that the reasons for the development clearly outweigh the need to retain the habitats or species affected and that mitigating measures can be provided which would reinstate the habitats or provide equally viable alternative refuge sites for the species affected.
- 4.16 All development proposals affecting protected sites, wildlife corridors, key habitats or priority species (as identified in Local Biodiversity Action Plans) should be accompanied by information proportionate to their nature conservation value including;
- (i) importance; an assessment of the likely impacts of the proposed development proposals for the protection and management of features identified for retention;
 - (ii) an assessment of whether the reasons for the development clearly outweigh the nature conservation value of the site, area or species; and
 - (iii) proposals for compensating for features damaged or destroyed during the development process
- 4.17 Where development is permitted, the Council will consider the use of conditions or planning obligations to ensure the protection and enhancement of the site's nature conservation interest and/or to provide appropriate compensatory measures.

Policy QE 6

Environment and Amenity Protection

- 4.18 The Council, in consultation with other Agencies, will only support development which would not lead to an adverse impact on the environment or amenity of future occupiers or those currently occupying adjoining or nearby properties, or does not have an unacceptable impact on the surrounding area. The Council will take into consideration the following:
- (i) The integrity and continuity of tidal and fluvial flood defences;
 - (ii) The quality of water bodies, including canals, rivers, ponds and lakes;

- (iii) Groundwater resources in terms of their quantity, quality and the ecological features they support;
- (iv) Land quality;
- (v) Air quality;
- (vi) Noise and vibration levels and times when such disturbances are likely to occur;
- (vii) Levels of light pollution and impacts on the night sky;
- (viii) Levels of odours, fumes, dust, litter accumulation and refuse collection/storage.
- (ix) The need to respect the living conditions of existing neighbouring residential occupiers and future occupiers of new housing schemes in relation to overlooking/loss of privacy, outlook, sunlight, daylight, overshadowing, noise and disturbance;
- (x) The effect and timing of traffic movement to, from and within the site and car parking including impacts on highway safety;
- (xi) The ability and the effect of using permitted development rights to change use within the same Use Class (as set out in the in the Town and Country Planning (General Permitted Development Order) without the need to obtain planning consent.

- 4.19 Proposals may be required to contain detailed assessments in relation to any of the above criteria to the Council for approval.
- 4.20 Where development is permitted which may have an impact on such considerations, the Council will consider the use of conditions or planning obligations to ensure any appropriate mitigation or compensatory measures are secured.
- 4.21 Development proposals on land that is (or is suspected to be) affected by contamination or ground instability or has a sensitive end use must include an assessment of the extent of the issues and any possible risks. Development will only be permitted where the land is, or is made, suitable for the proposed use.
- 4.22 Additional guidance to support the implementation of this policy is provided in the Design and Construction and Environmental Protection Supplementary Planning Documents.
- 4.23 The Local Plan policies are currently subject to consultation.

Relevance to this site

- 4.24 The application and relevance of the above policies to any development on this site should be explored within an Arboricultural Impact Assessment. The function of woodland as habitat and in delivering ecosystem services such as stormwater interception should be evaluated in terms of policy compliance and in the context of other conservation objectives. It will be particularly beneficial on this site for ecologists and arboriculturist to work collaboratively.

5.0 Tree Population Summary

- 5.1 Trees cover a relatively small proportion of the total site area and are predominantly concentrated towards the western half of the site. The majority are located along water courses, on field boundaries and within hedgerows parallel to public highways.
- 5.2 There are two narrow bands of plantation woodland adjacent to the railway (C13) and around a small disused mineral extraction site (C16) in the north-west. Further strips of predominantly broadleaved tree cover adjoin to these at their western fringes and extend through the far western extent of the site and beyond following the railway (C27-C29).
- 5.3 The north-eastern stretch of the site is made up of a large expanse of open fields delineated by hedgerows and is the least tree populated area. There is a narrow strip of predominantly broadleaf trees running parallel to the canal along the northern boundary (C41). This connects to the narrow bands of plantation woodland to the west.
- 5.4 A connected vegetation link (C5 & C6) runs from north to south and adjoins trees along the northern boundary. The condition of this link has been diminished by the activity of adjacent residential properties, including understorey clearance and conversion to 'garden'.
- 5.5 Mature trees including open grown hedgerow poplars, oaks, horse chestnuts, limes and sycamores are a strong visual feature particularly in the south / south-west of the site along with smaller areas of broadleaved woodland; hedges are mature and tall in some areas, creating relatively enclosed rural lanes.
- 5.6 In terms of quality and particularly habitat and amenity benefits, the tree population is good but could be improved. The extant population provides good screening and contributes to visual amenity and the creation of a rural aesthetic. However, canopy cover is relatively low and connectivity would benefit from reinforcement in some areas.
- 5.7 The survey categorised woody vegetation into the broad types shown in the table below. These are based on the categories used by the National Forest Inventory remote assessment method, which are mapped on Drawing 1. The survey confirmed the actual extents of these vegetation types within accessible areas and a more accurate representation of the vegetation present is shown on Drawing 2 for comparison.
- 5.8 Reference numbers as per the table below relating to types of tree cover are used in Appendix A. Each area of tree cover that is spatially distinct or with a distinct character from surrounding vegetation was mapped as a separate 'Compartment'. Where a secondary descriptor was useful to add texture to the description and to more clearly identify the characteristics of the compartment, these were added to the survey data but are not presented graphically.

Table 2 Approximate quantum of woody habitats

Reference	Woody habitat type	Area
1	Broadleaved	15.25 ha
2	Conifer	0.66 ha
3	Coppice	0.0 ha
4	Coppice with standards	0.0 ha
5	Failed	0.0 ha
6	Felled	0.0 ha
7	Ground preparation	0.0 ha
8	Low density	0.0 ha
9	Mixed mainly broadleaved	6.18 ha
10	Mixed mainly conifer	0.55 ha
11	Shrub	0.48 ha
12	Windthrow	0.0 ha
13	Young trees	3.11 ha

- 5.9 Mature individual trees are also shown approximately on the survey plans. These identify mature trees that are not within woodland as well as trees within woodland that are notable for their size or difference from surrounding vegetation, either individually or as a collective feature. Strong linear features comprising individual trees whose primary function is as a group are recorded as groups but may be excluded from deciduous woodland area calculations.
- 5.10 A short description of each surveyed compartment is included in the survey data at Appendix A.

6.0 Preliminary Assessment of Effects

- 6.1 Wherever development occurs, there is a potential for effects on trees. This might comprise the removal of trees that would physically prevent the development but also those that are nearby and vulnerable to changes in local conditions that would arise because of construction.
- 6.2 Trees are a material consideration in the planning process. There should be a common sense ambition to limit tree loss to that which is strictly necessary to facilitate the proposal, and to ensure that the condition and safety of all remaining trees would not be compromised by the development. The quality and distribution of trees should also be considered amongst other constraints in the development of the proposed design and may not always have the highest priority.
- 6.3 The approximate extents of woody vegetation and relevant designations and status are shown on Drawing 2. This should be used as a basis for master planning and feasibility studies but should not be relied upon for detailed layout design. The following text gives an overview of the likely impact of the masterplan proposals on key metrics of existing trees where these are known or can be estimated. Actual effects will be determined at the detailed design stage. It is assumed that any future design will be broadly similar to the Masterplan (reproduced at Drawing 3) but may be influenced by the constraints and opportunities presented in this report and by other technical disciplines.

Canopy Cover

- 6.4 The proposed development area incorporates 119.59ha of mainly agricultural land across the SWUE. Of this, 58.26ha is allocated to development and associated infrastructure with a further 53.16ha for green infrastructure, including the provision for public allotments.
- 6.5 Tree cover on the site is relatively limited and mostly confined to a few key areas following water courses, the canals and railway, and public highways. Due to these areas being less suitable for development due to proximity to sensitive receptors or sources of noise, the masterplan generally respects existing tree cover. It is therefore likely that residential development in broad accordance with the sites masterplan could be delivered without necessitating significant tree removal.
- 6.6 The primary tree and hedgerow losses would occur across the west of the site where all of the young conifer trees within the nursery would be lost (C31 to C33). Further tree and hedgerow losses would be minimal and associated with new access points and internal road networks. Based on the tree cover mapped on Drawings 1 and 2 an estimated 3.66ha of tree cover and c. 615m of hedgerow would be removed.
- 6.7 Development within areas of lower quality and lower density tree cover, or tree cover of limited value (C31 to C33) would result in lower adverse effects than development in other areas.

- 6.8 The agricultural land to the south of the A56 Chester Road was not included in the walkover assessment but is known to contain a small belt of scattered trees and dense broadleaved cover adjacent the boundaries. None of the existing trees would be lost as a result of the development areas shown on the masterplan.
- 6.9 The distribution of trees parallel to the north-western site boundary demarcates a long and narrow field compartment which runs alongside the railway between C12 and C27. The masterplan shows these as retained and incorporated into new green infrastructure.
- 6.10 The woodland belt within the centre of the site (C5 and C6) is shown as retained. These trees are generally located on lower ground and it will be important to ensure that surface water does not run through these areas and cause soil erosion or pollution if adjacent areas are surfaced.
- 6.11 Open fields occupying the eastern expanse of the site contain the least tree cover of which the masterplan takes advantage of. Where other existing constraints preclude development in the form of housing, large swathes of new planting and green infrastructure are proposed. This new green infrastructure also incorporates existing tree and hedgerow cover.
- 6.12 The masterplan indicates a new spine road that severs the wooded belt across the centre of the site. The spine road cuts through this linear feature at its narrowest point (C10) with the remainder of the wider wooded belt to the south retained intact. Further detailed surveys should ascertain the presence or absence of veteran trees or others of individually high quality.
- 6.13 Existing roads are relatively narrow and many are lined by hedgerows containing mature trees. Even relatively small alterations to road layouts, such as widening of carriageways or the installation of new junctions, in areas where mature trees and hedgerows are located is likely to result in tree and hedges loss. This is anticipated adjacent to C18 and C38.
- 6.14 Given the landscaping and green infrastructure shown on the masterplan, it is also likely that development of the site would result in an increase in tree canopy cover. This point is reinforced by the relatively low extant tree cover within agricultural fields.

Table 3 Approximate quantum of woody habitats that would be removed

Woody habitat type	NFI Primary Vegetation Descriptor Ref.	Area
Broadleaved	1	0.41 ha
Mixed mainly broadleaved	9	0.14 ha
Mixed mainly conifer	10	3.11 ha
Total	-	3.66 ha

Opportunities

- 6.15 Trees are a material consideration in the planning process. All trees have some inherent value and any loss of trees should normally be mitigated by new planting. Preserving the existing quantity and proportion of tree cover is generally possible in most areas due to the sites former use and layout of the final built form as shown by the masterplan.
- 6.16 The introduction of both formal and informal green spaces presents an opportunity to significantly increase species diversity and arboreal value types not currently present across the site. New planting should look to introduce species that are resilient to disease whilst increasing the existing diversity of the current tree stock.

Tree Quality

- 6.17 A simple assessment of quality has been made as a proxy for the likely magnitude of adverse effects or requirements for, and anticipated difficulty in, providing mitigation associated with tree loss in different parts of the site.
- 6.18 Compartments of Poor Quality are those that have identified defects or shortcomings. These may be remediable.
- 6.19 Compartments of Fair Quality are those that have no noteworthy defects or shortcomings, and no particular merit beyond the basic value of all trees and their function as part of the wider treescape, which is material.
- 6.20 Compartments of Good Quality are those with significant identified and material merit. They would tend to be more diverse, mature and delivering a range of benefits and functions than those in lower categories.
- 6.21 Compartments of Excellent Quality are those with substantial material merit. They are likely to be exceptional in their characteristics or the provision of benefits and functions. They may represent mature or climax vegetation or be associated with a higher incidence of veteran trees and protected species.

Table 4 Quality of surveyed compartments

Excellent Quality	Good Quality	Fair Quality	Poor Quality
1	24	14	3

6.22 A breakdown of canopy loss estimate by quality assessment is provided in the following table.

Table 5 Approximate Quality of woody habitats that would be removed

Woody habitat type	Excellent Quality	Good Quality	Fair Quality	Poor Quality	Total
Broadleaved	0.00ha	0.41ha	0.00ha	0.0ha	0.41ha
Mixed mainly broadleaved	0.00ha	0.14ha	0.00ha	0.0ha	0.14ha
Mixed mainly conifer	0.00ha	3.11ha	0.00ha	0.0ha	3.11ha

Veteran Trees

6.23 No veteran trees were identified during the walkover assessment but it is not possible to rule out their presence in all areas. It will be necessary for any future layout to respond to the presence of veteran trees should they be identified during more detailed survey work.

7.0 Recommendations

Tree Works

7.1 Whilst the purpose of the walkover survey was not to identify tree works, the recommendations in Appendix A are based on observations that were made during the survey and should be considered to prevent future problems and risks.

7.2 All works should be undertaken by a suitably qualified, competent and insured contractor. It is recommended that at least three quotations should be sought for works

Permissions

7.3 Authority to undertake the works recommended in Appendix A or any other routine maintenance works must be sought in advance of commencement.

7.4 The permission of the owner of the land around the base of the tree must be sought. For trees on boundaries, this may be more than one party.

7.5 Any tree works that are required to deliver development that has detailed consent will not normally require additional permissions, unless they are done under licence from Natural England because they would affect a protected species.

7.6 Works affecting any tree within an area covered by an active planning permission may risk breach of that planning permission except those expressly permitted by planning consent. Further works should not be undertaken until it has been determined that they are permitted or otherwise acceptable to the relevant consenting authority.

7.7 Based on the results of the desktop survey, tree works in some areas would be subject to TPO and require an application.

7.8 Tree works may require a felling licence⁷ depending on their location; works in domestic gardens and orchards in particular may be excluded. Such licences typically include requirements to replant trees.

7.9 It is possible that works could affect protected hedgerow but many of the surveyed hedges contain few woody species and may therefore not be important under the Hedgerow Regulations 1997. It is possible that hedges may be protected for other reasons such as historical or archaeological significance. If in doubt, the Local Authority should be able to provide confirmation.

7.10 Additional consenting mechanisms may apply in certain circumstances including for works affecting protected species; close to overhead lines; in churchyards; close to airports; and for which access is required across or above land owned by third parties (including the Highways and Local Authorities).

⁷[https://www.forestry.gov.uk/pdf/FellingLicenceApplicationFormEnglandv2.doc/\\$FILE/FellingLicenceApplicationFormEnglandv2.doc](https://www.forestry.gov.uk/pdf/FellingLicenceApplicationFormEnglandv2.doc/$FILE/FellingLicenceApplicationFormEnglandv2.doc)

Detailed Tree Survey

- 7.11 A detailed tree survey undertaken according to BS5837:2012 will be required to inform a detailed design. This should record all trees, groups of trees, woodland, and hedgerow within influencing distance of the site. It should assess and report on: canopy spread of existing trees and groups; a Root Protection Area (RPA) calculated in accordance with BS 5837; and tree quality category that identifies the quality and value (in a non-fiscal sense) of the existing tree stock, to allow informed decisions to be made concerning which trees should be removed or retained in the event of development occurring.
- 7.12 The level of detail in the tree survey may vary, providing greater resolution in areas of anticipated activity. Interior trees within larger groups or in areas of minimal intervention may be subject to a more general appraisal but should still be included in the survey.

Other types of Arboricultural Assessment

- 7.13 In order to assess the functions and benefits provided by existing trees, to quantify loss, and to justify any mitigation proposals it may be useful to undertake types of assessment that look at specific outcomes rather than simply tree quality (according to BS5837). In particular, *iTree Eco* quantitative modelling of ecosystem services and a biodiversity offsetting analysis may be useful tools within the planning process.

Arboricultural Impact Assessment

- 7.14 An Arboricultural Impact Assessment (AIA) will be required in support of a reserved matter/detailed application. This will identify, evaluate and possibly mitigate the impacts of developing land on the existing tree resource.
- 7.15 One function of the AIA process will be the consideration of trees alongside other project disciplines (layout, drainage, utilities etc.) in order to minimise future conflict and avoid uncalculated expense or undesirable tree loss.
- 7.16 The AIA should include a detailed Tree Removal Plan outlining the proposed schedule of tree works. It may also include details of any tree protection measures that would be required during the construction phase. In certain circumstances it may be appropriate to set out a heads of terms for tree protection and defer the detail to a Condition of planning consent.

Mitigation Planting & Landscaping

- 7.17 The National Planning Policy Framework (NPPF) is a material consideration in the planning process and promotes a presumption in favour of sustainable development. In terms of the natural environment, development should minimise impacts on biodiversity and provide a net gain in biodiversity where possible. In respect of trees, a sustainable development will be one whereby the total number, value or function provided by trees is maintained or increased or where the long-term prospects of the existing tree stock can be substantially improved.

- 7.18 Mitigation for the loss of trees as a result of development will be delivered via the creation of new planting within proposed green infrastructure; this would include planting within an allocated area of approximately 53.16ha, mainly located along the sites' northern boundary. Further planting would be implemented along the sites' internal road networks.
- 7.19 Approximately 3.66 hectares of tree cover and c. 615m of hedgerow would be removed if the development was carried out in strict accordance with the Masterplan but this may be subject to modification at the detailed design stage. The Masterplan indicates that in general, existing tree cover and arboreal connectivity across the site would be retained. Discussion is provided on the interrelationship of key arboricultural features in Section 6.
- 7.20 Based on the estimated tree loss figures provided above, mitigation for the total loss of tree cover could be delivered within the site proposals and would greatly improve existing tree cover once established.
- 7.21 The extent of replacement tree planting required to mitigate adverse effects should be assessed as part of the AIA process. The advice of a qualified Arboricultural Consultant should be sought during planting plan preparation to ensure species and placement suitability. Any new planting should not be viewed principally as an exercise in landscape architecture and aesthetic design but should be strongly informed by conservation and habitat objectives.

Post Development Management

- 7.22 As much of the site as possible should receive long-term management. Ideally, this would be through a single management plan to allow a single and coherent approach to inform the management of most areas. The objectives for this management plan should be set following consultation with a range of local and national stakeholders and experts.
- 7.23 Areas of the site that will be open to public access should be surveyed regularly for developing hazards. Trees are dynamic living organisms whose structure is constantly changing; even those in good condition can suffer from damage or stress. There is no set approach or period for tree inspection and the best approach should be determined when the future usage, management and ownership of the site has been determined.

APPENDIX A: Tree Survey Data

APPENDIX A: Tree Survey Data



Surveyor Tom Popplewell
First survey 15th June 2018
Second survey 14th February 2019
Site Higher Walton
Town Warrington

Ref	Main woody species	Primary Vegetation Descriptor	Secondary Vegetation Descriptor	Maturity	Quality	Description	Works Recommendations
	(Common name)	NFI	NFI	Young, Middle Age, Mature, Ancient, Young to Middle Age, Middle Age to Mature, Young to Mature	Excellent, Good, Fair, Poor		

Compartments

C1	Black poplar; oak; hawthorn	1.0		Middle Age to Mature	Good	Large mature poplars within hedgerow along both sides of the road	
C2	Birch; pine; apple; oak; hawthorn; willow species	1.0	13	Young to Middle Age	Fair	Residential gardens; hedgerow and ornamental trees	
C3	Hawthorn; blackthorn; oak; English elm	1.0		Middle Age	Good	Managed hedge; short section comprising oak and elm at eastern end	
C4	Nordman fir	2.0	13	Young	Poor	Plantation of Christmas trees	
C5	Alder; hawthorn; oak; horse chestnut; beech; hazel; sycamore; Lombardy poplar; common lime; ash; grey willow; birch	1.0		Middle Age to Mature	Good	Woodland belt along stream, broadens to north; beech dominated to west of farm buildings; ponds and wet ditches; with invasive Himalayan balsam and rhododendron	Control or eradicate invasive species
C6	Oak; sycamore; copper beech; hawthorn; elder; horse chestnut; alder	1.0		Middle Age to Mature	Fair	Woodland in private ownership around pond; recent clearance of all understorey to convert to 'garden' and crown raising of all trees; mature trees retained and some good quality specimens; adjacent to residential property with rubble associated with construction; quality of woodland much diminished by poor management but boundaries still relatively intact	
C7	Hawthorn; laurel; cypress	1.0		Middle Age to Mature	Good	Managed hedge; parallel hedges on both sides of footpath	
C8	Sycamore; lime; weeping willow; eucalyptus; sumach; purple Norway maple; pear; fir	8.0		Middle Age to Mature	Good	Trees within residential gardens	
C9	Lilac; apple; hawthorn; pine; birch; cypress	9.0		Middle Age	Fair	Trees within residential gardens	
C10	Whilte willow; grey willow; sycamore; oak; hawthorn	1.0		Middle Age to Mature	Good	Wooded corridor around stream; mostly without gaps but a mix of middle aged and mature trees	

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Ref	Main woody species	Primary Vegetation Descriptor	Secondary Vegetation Descriptor	Maturity	Quality	Description	Works Recommendations
	(Common name)	NFI	NFI	Young, Middle Age, Mature, Ancient, Young to Middle Age, Middle Age to Mature, Young to Mature	Excellent, Good, Fair, Poor		
C11	Hawthorn; elder	1.0	11	Middle Age	Good	Hawthorn dominated compartment within wider woodland, growing on bridge and at field boundary	
C12	Oak; elder; hawthorn; bullace; birch; ash	1.0		Young to Mature	Excellent	Oak and birch dominated canopy; high quality woodland	
C13	Downy birch; oak; hawthorn; hazel; grey willow; rowan; blackthorn; dog rose	1.0		Middle Age	Good	Birch dominated woodland; younger at the south-western end but still with woodland character; log piles apparently created for habitat; good potential; Japanese knotweed on boundary; fox holes	Control or eradicate invasive species
C14	Hawthorn; birch; ash; oak; hazel; rowan; alder	1.0	13	Young to Middle Age	Fair	Young plantation woodland with guards still on some trees; to around 10m in height; good potential; internal footpath; log piles apparently created for habitat; some litter	
C15	Grey willow; buddleia; birch; gorse	11.0		Young to Middle Age	Poor	Natural regeneration in heavily disturbed and severe landform in area of previous landfill; abandoned machinery	
C16	Oak; hawthorn; goat willow; birch; sycamore	1.0		Middle Age to Mature	Fair	Rows of trees on boundary of disused landfill area; screening and connectivity function	
C17	Hawthorn; oak; sycamore	1.0		Middle Age to Mature	Good	Managed hedge with occasional mature specimen trees	
C18	Lime	1.0		Middle Age	Good	Row of trees on field boundary. Amenity and landscape function.	
C19	Lime, sycamore, hawthorn, oak	1.0	11	Middle Age	Good	Row of trees along field boundary. Screening, amenity and shade function to adjacent residential property.	
C20	Lime, European ash, silver birch, sycamore, hawthorn, oak, goat willow, crack willow, Japanese knotweed	1.0	11	Young to Middle Age	Good	Small unmanaged woodland copse with natural regeneration. Japanese knotweed along south-eastern boundary adjacent to Chester Road (A56).	Control or eradicate invasive species
C21	Larch, cypress, sycamore, pine, Colorado blue spruce, crack willow	10.0	11	Middle Age	Good	Mixture of trees and shrubs including ornamental species within residential garden. Amenity, shade and connectivity function.	
C22	Lime, silver birch, hawthorn	1.0	11	Middle Age	Good	Row of standard trees within roadside hedgerow. Amenity and shade function.	
C23	Oak, horse chestnut, hawthorn	1.0	11	Middle Age	Good	Rows of field boundary trees parallel to both sides of short bridleway. Screening, landscape and connectivity function.	
C24	Horse chestnut, oak, lime, hawthorn	1.0		Middle Age	Good	Row of field boundary trees adjacent to roadside. Horse chestnut bleeding canker symptoms. Amenity, shade and landscape function.	Monitor HCBC symptoms and tree condition. Some trees in poor condition posing risk to road users.

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Ref	Main woody species	Primary Vegetation Descriptor	Secondary Vegetation Descriptor	Maturity	Quality	Description	Works Recommendations
	(Common name)	NFI	NFI	Young, Middle Age, Mature, Ancient, Young to Middle Age, Middle Age to Mature, Young to Mature	Excellent, Good, Fair, Poor		
C25	Cypress, silver birch	9.0	10	Middle Age	Good	Trees and shrubs within residential garden. Amenity function.	
C26	European ash, hawthorn	1.0		Middle Age	Good	Field boundary trees and shrubs adjacent to canal.	
C27	Crack willow, sycamore, common alder, wild cherry, Norway maple, European ash, oak, European beech, silver birch, holly, hawthorn	1.0	11	Middle Age	Good	Roadside trees and shrubs with screening, amenity, shade and connectivity function. Trees flailed at roadside with some hanging branches..	
C28	Silver birch, oak, hawthorn	1.0	11	Young to Middle Age	Good	Boundary trees between railway and adjacent field. Screening and connectivity function. Broadens to north-east into narrow woodland strip.	
C29	Silver birch, oak, hawthorn	1.0		Middle Age	Good	Belt of predominantly oak within horse paddocks. Screening, shading, amenity and connectivity function.	
C30	White poplar, Leyland cypress	9.0		Middle Age	Good	Shelter belt of mixed poplar and cypress. Screening, landscape and connectivity function.	
C31	Cypress sp., European beech, Rosemary, Japanese laurel, dogwood sp., rhododendron sp.	11.0	13	Young	Good	Young nursery grown trees and shrubs	
C32	European beech, holly, bay laurel, cherry laurel, pine sp. Dogwood sp.	13.0	11	Young	Good	Young nursery grown trees and shrubs	
C33	Cypress sp. bay laurel, palm sp. pine sp. monkey puzzle, dogwood sp. European beech, cherry laurel	13.0	11	Young	Good	Young nursery grown trees and shrubs	
C34	Walnut	1.0		Middle Age	Good	Multiple walnut trees within residential garden. Amenity function.	
C35	White poplar	1.0		Young to Middle Age	Good	Screen planting between nursery compartments.	
C36	European ash, common alder, grand fir, oak, Prunus sp.	9.0		Middle Age	Good	Mixture of mostly broadleaf species surrounding residential property and along field boundaries. Screening, shade, amenity and connectivity function	

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Ref	Main woody species	Primary Vegetation Descriptor	Secondary Vegetation Descriptor	Maturity	Quality	Description	Works Recommendations
	(Common name)	NFI	NFI	Young, Middle Age, Mature, Ancient, Young to Middle Age, Middle Age to Mature, Young to Mature	Excellent, Good, Fair, Poor		
C37	European ash, wild cherry, sycamore, blackthorn, hawthorn, oak, cherry laurel, silver birch, cypress sp.	9.0	11	Young to Middle Age	Good	Roadside trees of mixed broadleaf species with some conifers. Growing from raised embankment. Screening and habitat function.	
C38	Sycamore, European ash, hawthorn, oak, rowan	1.0		Young to Middle Age	Good	Roadside / field boundary trees with natural regeneration. Some dead trees at eastern end of group.	
C39	Lime, Norway maple, sycamore	1.0	5	Middle Age	Good	Group of dead trees with multiple failed and hung up stems. Pose risk to road users and pedestrians.	Remove dead / hung up trees
C40	Sycamore, ash, Norway maple, whitebeam, oak, hawthorn	1.0		Middle Age	Good	Group of roadside / field boundary trees. Screening, shade and amenity function. One dead tree at south-western end of group posing risk to road users / pedestrians.	Remove dead tree
C41	Scots pine, downy birch, European ash, sycamore, cypress sp. Oak	9.0		Middle Age	Good	Strip of field boundary trees of mixed species. Screening, landscape, amenity and connectivity function.	
C42	Hawthorn, European ash, downy birch, small leaved lime	1.0		Middle Age	Good	Small area of broadleaf trees surrounding private property.	
C43	Sycamore, hawthorn, European ash, small leaved lime	1.0	11	Middle Age	Good	Roadside trees surrounding adjacent properties providing screening, shade and amenity function. Dead tree at northern end of group.	Remove dead tree
C44	Hawthorn	1.0		Middle Age	Good	Managed hedge growing along field boundary	
C45	Hawthorn, holly	1.0		Middle Age	Good	Managed hedge; parallel hedges on both sides of road	
C46	Hawthorn, horse chestnut, willow,	1.0		Middle Age	Good	Managed hedge parallel to road side	
C47	Hawthorn, sycamore, European ash	1.0		Middle Age	Good	Managed hedge parallel to road side	
C48	Hawthorn, cypress sp.	1.0		Middle Age	Good	Short section of managed hedge parallel to roadside and surrounding residential property.	
C49	European beech	1.0		Young to Middle Age	Good	Short section of managed hedge surrounding residential property.	
C50	Sycamore, hawthorn	1.0		Middle Age	Good	Managed hedge parallel to road with mature standard trees.	

APPENDIX A: Tree Survey Data

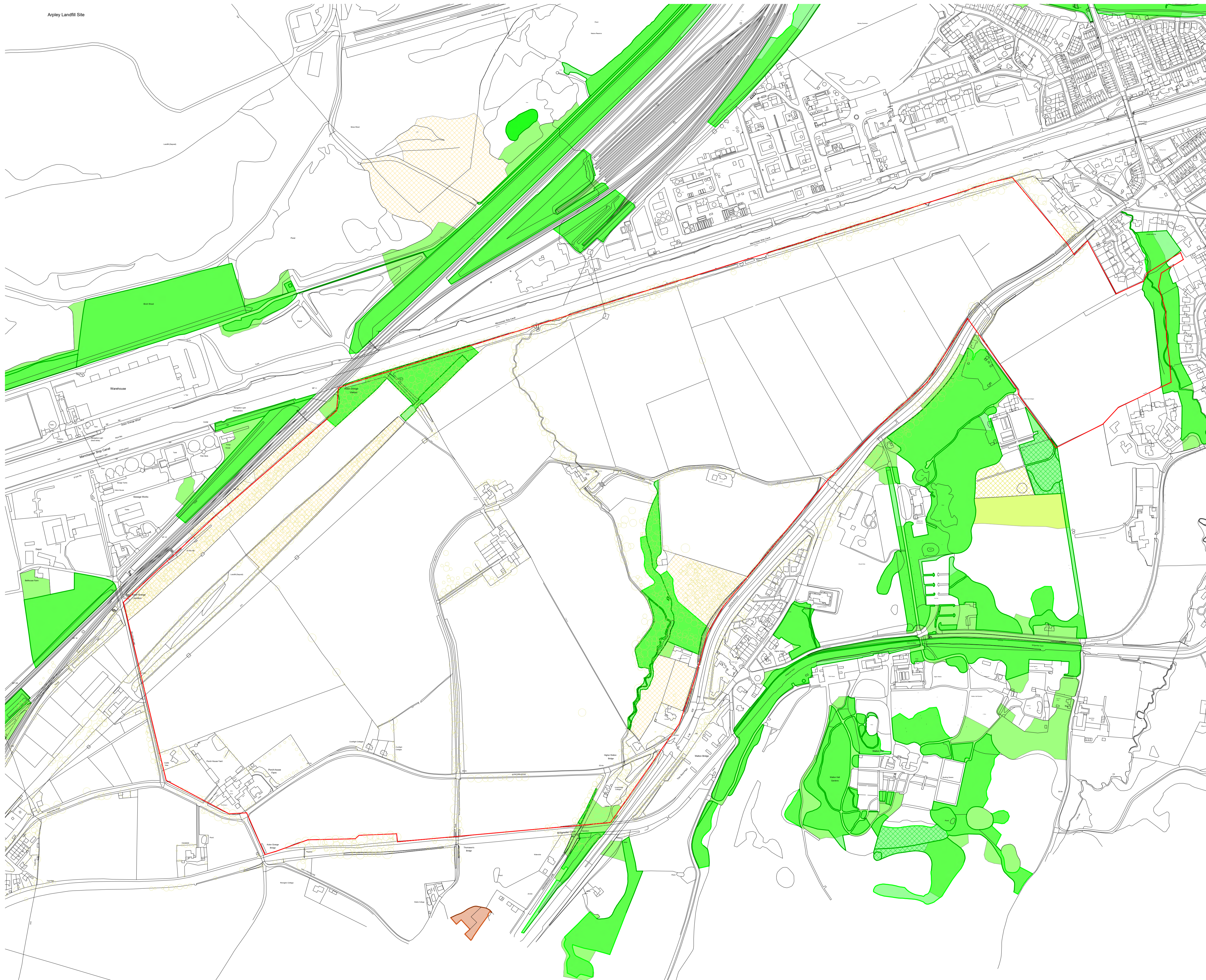
Ref	Main woody species	Primary Vegetation Descriptor	Secondary Vegetation Descriptor	Maturity	Quality	Description	Works Recommendations
	(Common name)	NFI	NFI	Young, Middle Age, Mature, Ancient, Young to Middle Age, Middle Age to Mature, Young to Mature	Excellent, Good, Fair, Poor		
C51	Sycamore, oak, common alder, holly	1.0		Middle Age	Good	Small compartment of good quality deciduous woodland adjacent to canal towpath. Numerous trees with defects including stem cavities and branch failures, with some crowns overhanging canal and towpath. BBQ facilities to west. Amenity / recreation, landscape, shade and connectivity function.	Recommend safety inspection of all trees

DRAWINGS

Drawing 1 - Arboricultural Desktop Overview

Drawing 2 - Arboricultural Survey Overview

Drawing 3 - South West Urban Expansion Illustrative Masterplan



KEY

(This drawing must be reproduced in colour)

- Site Boundary
 - National Tree Map (c.2,036 trees)
- Mapped designations and classifications**
- Ancient Woodland (with 15m buffer) (None)
 - Tree Preservation Order (Warrington Borough Council) (None)
 - Habitat of Principal Importance (NERC: Deciduous Woodland) (2.99ha)
 - Habitat of Principal Importance (NERC: Wood Pasture and Parkland) (None)
 - Habitat of Principal Importance (NERC: Traditional Orchard) (None)
 - Community Forest (Mersey Forest and Northern Forest) (All)
 - Ancient/Veteran/Notable Tree (Ancient Tree Inventory) (None)
 - Conservation Area (Warrington Borough Council) (None)

- Vegetation type (National Forest Inventory)**
- Assumed woodland (0ha)
 - Broadleaved (3.19ha)
 - Conifer (0ha)
 - Coppice (0ha)
 - Coppice with standards (0ha)
 - Failed (0ha)
 - Felled (0ha)
 - Ground preparation (0ha)
 - Low density (0ha)
 - Mixed mainly broadleaved (0ha)
 - Mixed mainly conifer (0ha)
 - Shrub (0ha)
 - Windthrow (0ha)
 - Young trees (4.75ha)

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A	Amended red line boundary (masterplan)	RMG	JGS	Date
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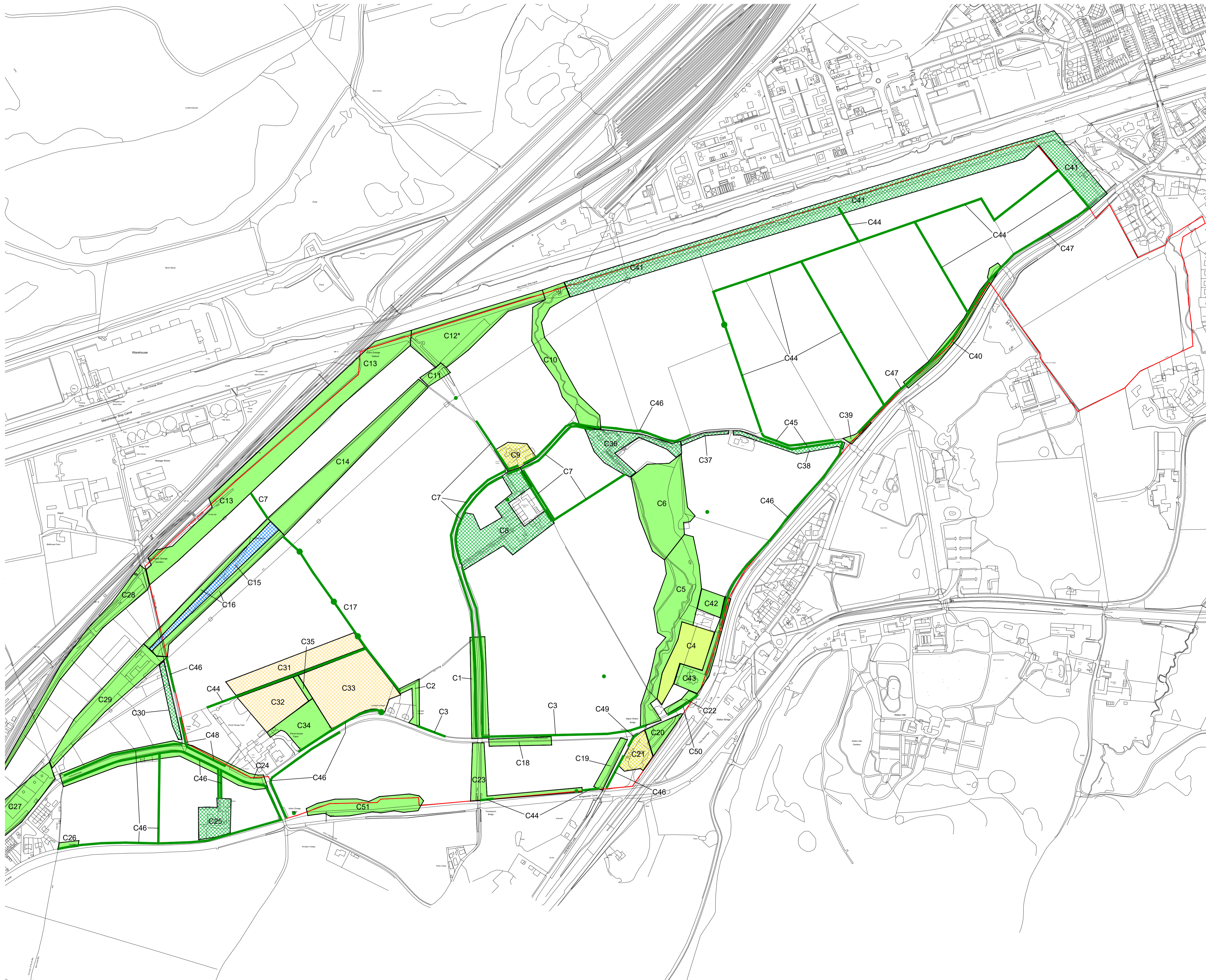
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Project
Higher Walton, Arboricultural Walkover and Desktop

Title
Arboricultural Desktop Overview

Drawing Number
D6929.02.009A

Scale	Date	
1:3,500 @ A1	11/05/2018	
Drawn	Checked	Approved
TDP	JGS	JGS



KEY
(This drawing must be reproduced in colour)

Site Boundary

Designations and classifications (ground truthed)

- Site Boundary
- Ancient Woodland (15m buffer) (None)
- Tree Preservation Order (Warrington Borough Council) (None)
- Habitat of Principal Importance (NERC: Deciduous Woodland) (15.25ha)
- Habitat of Principal Importance (NERC: Wood Pasture and Parkland) (None)
- Habitat of Principal Importance (NERC: Traditional Orchard) (None)
- Habitat of Principal Importance (NERC: Hedgerow) (7.847m)
- Community Forest (Mersey Forest and Northern Forest) (All)
- Veteran Tree 15m buffer (Compartments most likely to contain further veterans marked *) (None)
- Conservation Area (Warrington Borough Council) (None)

Vegetation type (measurements taken within the boundary)

- Mature trees (non-woodland or notable)
- Broadleaved (15.25ha)
- Conifer (0.66ha)
- Coppice (0ha)
- Coppice with standards (0ha)
- Failed (0ha)
- Felled (0ha)
- Ground preparation (0ha)
- Low density (0ha)
- Mixed mainly broadleaved (6.18ha)
- Mixed mainly conifer (0.55ha)
- Shrub (0.48ha)
- Windthrow (0ha)
- Young trees (3.11ha)

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B	Amended redline boundary (masterplan)	RMG	JGS	12/06/19
A	Increased survey area	SJR	TDP	21/05/19
Rev	Description	Drawn	Approved	Date

TEP THE ENVIRONMENT PARTNERSHIP
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Project
Higher Walton, Arboricultural Walkover and Desktop
Title
Arboricultural Walkover Overview

Drawing Number
D6929.02.010B




Scale	Date	
1:2,750 @ A1	11/05/2018	
Drawn	Checked	Approved
TDP	JGS	JGS



KEY:

-  Site boundary
-  Local Authority Boundary
-  Proposed Green Belt
-  Existing vegetation
-  Proposed trees and woodland
-  Proposed development cells
-  Proposed development to be no higher than 2 storey along A56
-  Potential locations for a school (A or B)
-  Proposed play area
-  Potential location for retail / local centre
-  Proposed primary road
-  Proposed secondary / tertiary roads
-  Proposed public open space
-  Proposed allotments
-  Existing Public Right of Way
-  Proposed footpath
-  Proposed cycleway with existing residential access retained
-  Proposed route of western link road
-  Gas pipeline and easement
-  Proposed vehicular access points

HSE Consultation Zones

-  Inner Zone (50m)
-  Middle Zone (65m)
-  Outer Zone (100m)

- Total site area: 119.59 ha / 295.52 ac
- Total existing properties within red line: 6.37 ha / 15.74 ac
- Total existing roads within red line (A56/Runcorn Road): 1.80 ha / 4.45 ac
- Total proposed spine road corridor within red line (outside development cells): 2.74 ha / 6.77 ac
- Total proposed green infrastructure (all typologies): 53.16 ha / 131.36 ac

Land north of A56 and Runcorn Road:

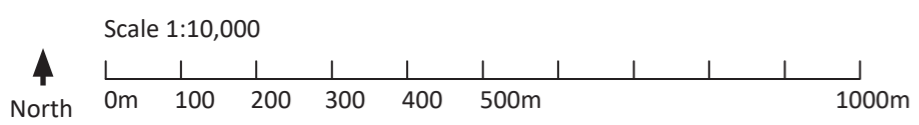
- Potential school (location to be confirmed): 1.40 ha / 3.46 ac
 - Potential retail/local centre: 0.50 ha / 1.24 ac
 - Residential development: 41.92 ha / 103.59 ac
 - Residential development within Solvay Interlox Ltd outer zone: 13.50 ha / 33.36 ac (up to 473 units @ 35/ha)
 - Residential development within Solvay Interlox Ltd middle zone: 0.86 ha / 2.13 ac (up to 30 units @ 35/ha)
 - Residential development within former Norbert Dentressangle outer zone: 6.70 ha / 16.56 ac (up to 235 units @ 35/ha)
- units @ 35 units per ha: 1467**

Land south of Runcorn Road:

- Residential development: 5.53 ha / 13.66 ac
- units @ 35 units per ha: 194**

Land south of A56 Chester Road:

- Residential development: 6.17 ha / 15.25 ac
 - Residential development within Solvay Interlox Ltd outer zone: 1.95 ha / 4.82 ac (up to 68 units @ 35/ha)
- units @ 35 units per ha: 217**
- Total units across whole site @ 35 units per ha: 1878**



NB: Masterplan subject to change following detailed survey work



Warrington Local Plan Sites
South West Urban Extension
Illustrative Masterplan and
development constraints

Drwg No: 630DE-13K Date: 11.06.2018
 Drawn by: AH Checker: SR
 Rev by: AH/YH Rev checker: SR/CW
 QM Status: Checked Product Status: Issue
 Scale: 1:10,000 @ A3



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Heritage Appraisal

Warrington Local Plan

South West Urban Extension (SWUE)

June 2019

Contents

1.	Introduction	1
2.	The Appraisal Site	2
3.	The Heritage Assets	4
4.	Assessment of Significance	7
5.	Overview of Legislation and Key National Planning Policy Considerations	19
6.	Key Heritage Considerations	21

Appendix 1: Heritage Asset Plan

Client

Peel Investments (North) Ltd and Ashall Property Ltd

Our reference

PEEM3056

11 June 2019

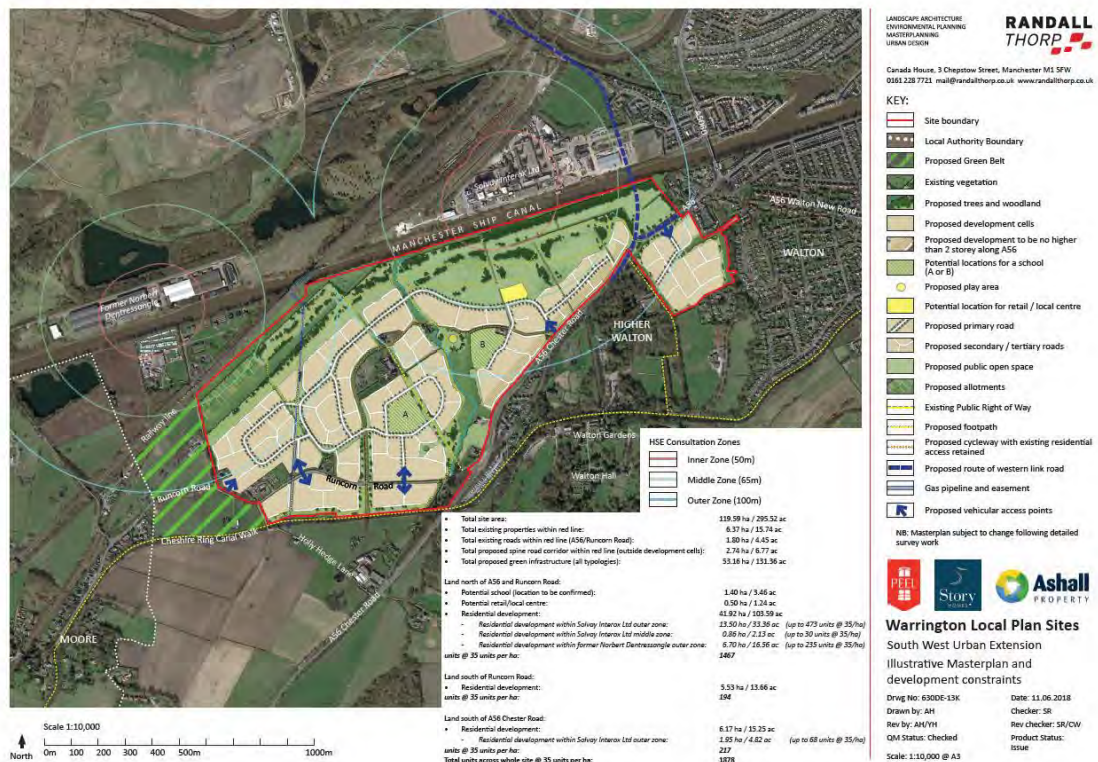
1. Introduction

- 1.1 This Heritage Appraisal has been prepared in connection with the South West Urban Extension (SWUE) (the 'Appraisal Site'). It identifies heritage assets with potential to be affected by development of the Appraisal Site and broadly describes their significance and setting for the South West Urban Extension (SWUE).
- 1.2 The Appraisal identifies whether there are heritage constraints to development and how these constraints could be resolved or mitigated. It has informed the development of an illustrative Masterplan prepared by Randall Thorp.
- 1.3 This forms one of a suite of reports commissioned to inform the development of a masterplan for the Site and to assess its deliverability. Together, these reports form part of the evidence base which underpins the proposed allocation of the Site through the emerging Local Plan.

2. The Appraisal Site

2.1 The Site lies to the immediate south west of the settlement boundary of Warrington. It is bound by the Manchester Ship Canal to the north and the West Coast Railway to the north west. To the south east the A56 Runcorn Road forms the boundary, with a plot of land to the south of the A56, immediately adjoining the Warrington settlement boundary, included. The Bridgewater Canal encloses the Site at its southern boundary. At the eastern extent, the boundary follows Bellhouse Lane and Runcorn Road.

Figure 2.1: Site boundary plan (red line indicates appraisal site boundary)



2.2 The Site currently comprises a mix of agricultural land and associated buildings and property. Mill Lane runs through the Site, providing access to a number of private properties and farm buildings. An area of industrial uses lies on the northern side of the Ship Canal, known as Warrington Waterfront. The route of the proposed Western Link Road lies at the eastern end of the Site.

2.3 The Site is presently designated as Green Belt land within the Warrington Unitary Development Plan (June 2005). It has been identified through promotion by the landowners and in the Local Plan Review but has been identified by the Council as a Site to be released from the Green Belt and allocated for housing development through the emerging Local Plan.

2.4 The topography is generally flat with individual mature trees and groups of trees spread across the Appraisal Site including a more substantial band of trees along a disused railway in the north west of the Appraisal Site. The rural character of the

Appraisal Site is experienced alongside the A56 and industrial chemical processing sites north of the Manchester Ship Canal.

- 2.5 Historic cartographic evidence suggests the Appraisal Site has changed little since the mid- 19th century. Porch-house Farm, Canal Farm and Grange Green Manor Farms, three historic farmsteads within the Appraisal Site, and Grange Flour Mill and mill pond are discernible on the 1841 Tithe Map. The Map also shows that historically the field pattern around the farms was comprised of noticeably smaller fields than at present; particularly to the east of Grange Green Farm (now Grange Green Manor). The Bridgwater Canal (opened 1761) and the Chester to Manchester Railway Line are also present on the 1841 Tithe Map.
- 2.6 The Manchester Ship Canal was constructed between 1887 and 1894, and is present on the 1896 Ordnance Survey Map. Cockfight Cottages were built in 1892-3 and are also present on the 1896 Map. At the eastern edge of the Appraisal Site, a school and a vicarage are identified on the 1896 Map (constructed between c1877 and c1896). The field pattern as seen today had largely been adopted by the end of the 19th century. The plot of land south of the A56 saw further field boundaries removed in the mid to late 20th century.
- 2.7 There was very little change during the first half of the 20th century. Mill Lane cottages to the north of Mill Lane had been constructed by the 1911 Ordnance Survey Map. By the 1937 Ordnance Survey Map the 'old railway' identified on the 1896 Map had been dismantled and Grange Mill is identified as being disused. The greatest change to the Appraisal Site and the wider area was the construction of the Chester New Road (A56) in the late 1950s/early 1960s which bounds the Appraisal Site and separates it from the village of Higher Walton. By the late 1960s Grange Mill had been rebuilt/converted to a house. The Christmas Tree farm is not present on Ordnance Survey Maps from the late 1980s and early 1990s and is therefore presumed to be more recent.

3. The Heritage Assets

3.1 The NPPF (2019) defines a heritage asset as:

“A building, monument, site, place, area, or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest”¹.

3.2 A site visit was completed on 22 May 2018 to assess the potential for designated and non-designated heritage assets to be affected by future development of the Appraisal Site for residential use. Due to the intervening distance, topography, landscape and/or development it is concluded that the significance of the following listed buildings would not be affected and they are not considered further within this Appraisal:

- Walton Hall (grade II listed) (7 on the accompanying Heritage Asset Plan, Appendix 1)
- Retaining wall, balustrades and steps between lawns east of Walton Hall (grade II listed) (8 on the Heritage Asset Plan)

3.3 In addition, there are a number of listed buildings within Walton Village Conservation Area. Having considered the significance of these assets and the contribution made by their setting, it is concluded that the significance of these assets are unlikely to be affected by development of the Site due to their orientation and intervening distance, landscaping and development. These assets are considered proportionately as part of the Heritage Appraisal but are considered as part of the Walton Village Conservation Area. In relation to Moore Conservation Area, intervisibility between the asset and the Appraisal Site is greatly limited due to:

- The distance between the asset and the Appraisal Site.
- The curvature of Runcorn Road and the Bridgewater Canal between the conservation area and the Appraisal Site.
- The intervening development along Runcorn Road.
- The proposed retention of an area of green belt between Moore Village and the Appraisal Site.
- The extent and maturity of tree belts and vegetation between the conservation area and the Appraisal Site.

3.4 There is no known associative relationship between the Appraisal Site and the conservation area. Therefore it is concluded, based on the available information, that the significance of the Moore Conservation Area is unlikely to be affected by the development of the Appraisal Site for residential use and it is not considered further within this Heritage Appraisal.

¹ DCLG (2019) National Planning Policy Framework (NPPF) – Annex 2: Glossary

3.5 The following locally listed building (non-designated heritage assets) are proximate to the Site, however the significance of these assets is unlikely to be affected by the development of the Appraisal Site, as summarised below, and accordingly these assets have not been considered further within this Heritage Appraisal:

- 34 & 35 Chester Road and The Ship PH (2 locally listed buildings) (L and M respectively on the Heritage Asset Plan): These assets are situated proximate to the north of the Site. Both are altered and experienced within a changed setting that is principally defined by the A56 and the urban context of Lower Walton including the modern residential development along Springbrook to the rear of the assets.
- 1-3 Walton Lea Cottage (3 locally listed buildings) (N on the Heritage Asset Plan): The setting of the late 19th century cottages is characterised by the enclosure provided by the surrounding woodland. The woodland to the north and east of the cottages adjacent to the Site is not as extensive as the woodland to the north, south and west. However the orientation of the cottages means they overlook the approach from the north and the walled gardens to the south (and not the Site). There are no known functional associations between the assets and the Site.

3.6 The following heritage assets were identified as having the potential to be affected by the development of the Appraisal Site and accordingly, their significance (including the contribution made by setting and the Appraisal Site) and the potential effects of development are considered in this Appraisal. The locations of the heritage assets are shown on the accompanying Heritage Asset Plan.

Ref.	Asset Name	Grade (if applicable)	Location, relative to Site
1	Aqueduct carrying the Bridgewater Canal over Chester Road (old line)	Grade II listed	On the southern boundary of the Site, over Underbridge Lane.
2	Thomasons Bridge over Bridgewater Canal	Grade II listed	On the southern boundary of the Site under Mill Lane.
3	Acton Grange Bridge (Over Bridgewater Canal)	Grade II listed	On the southern boundary of the Site at Holly Hedge Lane.
4	Walnut Tree Farmhouse	Grade II listed	Approximately 35m from the north eastern extent of the Site.
5	Walton Hall Lodge (now Lodge to Crematorium)	Grade II listed	Approximately 30m from the Site at its nearest point at the A56.

6	Gates, gatepiers and screens at Walton Hall Lodge (now Lodge to Crematorium)	Grade II listed	Approximately 30m from the Site at its nearest point at the A56.
	Walton Village Conservation Area	N/a	Approximately 20m from the west boundary of the Site at its nearest point at the A56.
A	2 Cockfight Cottages	Locally listed	Within the Appraisal Site, on Runcorn Road.
B	4 Cockfight Cottages	Locally listed	Within the Appraisal Site, on Runcorn Road.
C	Porch House Farm	Locally listed	Within the Appraisal Site, on Runcorn Road.
D	Canal Farmhouse	Locally listed	Within the Appraisal Site, on Runcorn Road.
E	Grange Green Manor	Locally listed	Within the Appraisal Site, on Mill Lane.
F	Grange Mill House	Locally listed	Within the Appraisal Site, on Mill Lane.
G	The Vicarage	Locally listed	Within the Appraisal Site, off Chester Road
H	School converted to House	Locally listed	Within the Appraisal Site, off Chester Road
I	Underbridge Cottages	Locally listed	Within the Appraisal Site, off Underbridge Lane
J	Stoneoaks Cottage	Locally listed	Approximately 185m from the southern boundary of the Site at its nearest point.
K	99 Chester Road	Locally listed	Approximately 15m from the plot of land south of the A56.

4. Assessment of Significance

Introduction

- 4.1 The NPPF defines the significance of a heritage asset as:

“The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset’s physical presence, but also from its setting.”

Listed Buildings

- 4.2 Listed buildings are defined as designated heritage assets that hold special architectural or historic interest. The Principles of Selection for Listed Buildings (2010) are published by the Department of Digital, Culture, Media and Sport and are supported by Historic England’s Listing Selection Guides for each building type.

Conservation Areas

- 4.3 Conservation areas are *“areas of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance.”*²
- 4.4 Historic England has published Good Practice Advice (GPA) on *‘Managing Significance in Decision-Taking in the Historic Environment’*³ to assist in assessing the significance of heritage assets. This guidance has informed the following assessments of significance.

Setting

- 4.5 The setting of a heritage asset is defined by the NPPF (2019) as:

*“The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.”*⁴

- 4.6 Historic England has published updated guidance in respect of the setting of heritage assets⁵, providing detail on understanding setting and the associated assessment of the impact of any changes. The guidance confirms that setting is not a heritage asset, nor a heritage designation, rather its importance lies in what it contributes to the significance of the relevant heritage asset itself.
- 4.7 Further guidance on the definition of setting and how it should be taken into account is set out in national Planning Practice Guidance. In assessing the contribution of setting to the significance of the following identified assets, the role of the Appraisal Site has been considered.

² s69(1) Planning (Listed Buildings and Conservation Areas) Act 1900

³ Historic England (2015) Managing Significance in Decision-Taking in the Historic Environment. Historic Environment Good Practice Advice in Planning: 2

⁴ DCLG (2019) National Planning Policy Framework (NPPF) – Annex 2: Glossary

⁵ Historic England (2017) The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning: 3

Aqueduct carrying the Bridgewater Canal over Chester Road, Thomasons Bridge over Bridgewater Canal and Acton Grange Bridge (all grade II listed)

Special Architectural and Historic Interest

- 4.8 These assets form a group of three listed bridges on the Bridgewater canal between the A56 and Holly Hedge Lane on the southern boundary of the Appraisal Site. All three bridges were built c1770 and were designed by James Brindley, the engineer of the Bridgewater Canal, for the Duke of Bridgewater. The two road bridges are very similar in appearance; both are constructed of brown brick with sandstone dressings and retaining walls. The aqueduct has stone dressed brickwork and a 20th century parapet to the towpath on the north bank of the canal.
- 4.9 The three bridges are principally listed due to their late 18th century date, high degree of intactness and their functional association with the Bridgewater Canal; often referred to as the first truly man-made canal.

Contribution made by Setting to Significance

Physical Surroundings

- 4.10 The bridges are situated consecutively (circa 250m to 350m apart) on the Bridgewater Canal which defines the southern boundary of the Appraisal Site. The assets do not have a designed setting. As a group they have a functional relationship which is also shared with other assets associated with the Bridgewater Canal.
- 4.11 The topography of the land surrounding the assets is relatively flat, although there is a slight embankment up to the canal from the surrounding fields (see Figures 1 and 2). Continuing along the towpath in a north easterly direction approximately 350m beyond the aqueduct is Walton Bridge (grade II listed), another c1770 bridge designed by James Brindley, and the Walton Village Conservation Area. The Moore Conservation Area is situated approximately 600m along the towpath to the south west.
- 4.12 The two road bridges are orientated roughly north-south across the canal which runs east to west. The aqueduct follows the orientation of the canal. The immediate surrounding landscape is comprised of arable fields to the north and south of the canal. The roads above and below the bridges are surfaced with modern tarmac and the towpaths have a natural surface. To the east of Acton Grange Bridge pipework bridges cross the canal in an arch (see Figure 1). There are single trees and groups of trees growing intermittently along the towpaths which, together with vegetation along the canal banks and the adjoining fields, provide a semi-rural setting experienced alongside the industrial development north of the Manchester Ship Canal and, to the west of the assets, the principal route of the A56 Chester Road.
- 4.13 Due to the slightly raised position of the canal, towpath and the road bridges there is a degree of openness; although to the east of Acton Grange Bridge the towpath feels more enclosed due to a banking of trees along the north bank of the canal (see Figure 2). Beyond the immediate setting of this part of the canal, there have been large scale changes within the wider setting of the bridges since their construction in c1770 (i.e. the construction of the Manchester Ship Canal, the Chester to Manchester Railway Line and the A56).

Figure 4.1: View looking west along the north towpath of the Bridgewater Canal towards Thomasons Bridge from near the aqueduct (left) and view looking west towards Acton Grange on the same towpath.



Experience of the Asset

- 4.14 The road bridges have a degree of dominance along the towpath due to their height and their built form. There is intervisibility between the aqueduct and Thomasons Bridge and Thomasons Bridge and the Acton Bridge due to their close proximity. This intervisibility arises from the functional requirement for the bridges to be constructed at communication points and is not a designed aspect of their setting. There is no intervisibility between the listed bridges and the Walton Bridge, Walton Village Conservation Area or Moore Conservation Area but these assets are experienced sequentially along the canal. Wider views encompassing the surrounding area are experienced from the bridges and the tow paths close to the bridges.
- 4.15 The immediate setting of the listed bridges has a picturesque quality, but the assets are not experienced in 'splendid isolation'. The noise from the A56 diminishes the sense of remoteness, as does the intermittent noise of the nearby train line. The industrial landscape to the north of the Manchester Ship Canal is also present in views from the assets and along the tow path on the northern bank of the canal. During the winter months when trees are not in leaf, there would be greater visibility of the wider setting of the bridges from the tow paths; in particular to the east of Acton Grange Bridge looking north where there is a bank of deciduous trees along the canal bank. The bridges are publically accessible with the canal and tow path used regularly for leisure purposes.
- 4.16 The significance of the bridges lies primarily in their age, former function, group value and association with the Bridgewater Canal. Whilst the immediate setting is picturesque, it is not essential to their special interest and does not contribute to their significance.

Figure 4.2: Most enclosed setting along the Canal to the east of Acton Grange Bridge (left) and view north from the canal towpath proximate to the aqueduct (right).



Contribution made by the Appraisal Site

- 4.17 The southern part of the Appraisal Site forms part of the bridges immediate setting to the north and south of the towpath. The Appraisal Site does not contribute to an understanding of the age, former function, group value and association with the Bridgewater Canal but provides a rural backdrop to the assets.

Walnut Tree Farmhouse (grade II listed)

Special Architectural and Historic Interest

- 4.18 Walnut Farmhouse is of special interest as a (mainly) early 19th century farmhouse, which is likely to incorporate earlier structures. Although altered, its vernacular architecture is of interest and contributes to an understanding of traditional farm buildings in this part of the country. Its central square brick chimney with sloped projecting courses suggests a former steeped roof which was possibly thatched.

Contribution made by Setting to Significance

Physical Surroundings

- 4.19 The farmhouse is situated on the western edge of the suburban area associated with Stockton Heath and Walton which, close to Walnut Farm, is characterised by a mixture of modern low density housing, brick terraces, former agricultural buildings and cottages of various ages. Adjacent to the farmhouse, separated by a narrow track, is a car showroom. To the west are the undeveloped fields of the Appraisal Site; at a distance of approximately 35m from its north eastern extent. The asset does not have a designed setting.
- 4.20 Walnut Farmhouse is adjacent to and orientated towards the A56. On the opposite side of the A56 is the plot of land south of the A56 which forms part of the Site and comprises open fields. The farmhouse has two large, later outshuts to the rear. The topography surrounding the farmhouse is flat. There is dense coniferous and deciduous trees and planting in the farmhouse garden along its boundary with the Appraisal Site and the A56. As a result it has a high degree of enclosure and is not easily seen from within the surrounding area.

- 4.21 The 1844 Tithe Map and apportionment details for Lower Walton indicate that Walnut Farm was owned by Ann Grime; along with the properties immediately to the north and the field to the west of the Farmhouse, which forms part of the Appraisal Site. The farmhouse and adjacent field were both occupied by James Swinton. This suggests there was historically a functional relationship between the farmhouse and at least the first field to the west.
- 4.22 Since the early 19th century, development has encroached on the farmhouse from the east and this part of its setting has become more urban in character. The greatest change to the farmhouse's setting was the construction of the A56 in the late 1950s/early 1960s. It is probable that the extensive planting of trees along the garden boundaries was a reaction to the resulting close presence of heavy vehicular traffic travelling along the road.

Experience of the Asset

- 4.23 Due to the enclosure of the garden surrounding the farmhouse there are no views of the farmhouse from the street or surrounding area. . The farmhouse is a private residential dwelling and there is no public access to the house or its surrounding garden. The very close proximity of the A56 means there is a high degree of noise and any historic rural tranquillity in which the farmhouse may historically have been experienced has been diminished. Due to the density and inclusion of coniferous species in the planting around the farmhouse, it is unlikely that anything more than glimpsed views to and from the farmhouse would be possible even during the winter months. The visual separation from the field to the west diminishes the legibility of any former historic association between the asset and that part of the Appraisal Site. For these reasons it is concluded that setting makes a very limited contribution to the significance of Walnut Tree Farmhouse.

Contribution made by the Appraisal Site

- 4.24 As previously identified, the northern extent of the Appraisal Site is adjacent to Walnut Tree Farm and the 1841 Tithe Map indicates there was a historic functional relationship between the asset and this small part of the Appraisal Site. However, today there are dense coniferous and deciduous trees and planting along its boundary with the Appraisal Site and the legibility of any historic functional relationship is greatly diminished. Part of the Appraisal Site also sits to the east of Walnut Tree Farm, separated by the A56. Although it provides a degree of rural context, the presence of the A56 and the enclosure of the farmhouse greatly limit any contribution the Site makes to the significance of the listed building. Therefore it is concluded that the Appraisal Site makes a very limited contribution to the significance of Walnut Tree Farmhouse.

Walton Hall Lodge and Gates, gatepiers and screens at Walton Hall Lodge (now lodge to the crematorium, both grade II listed)

Special Architectural and Historic Interest

- 4.25 The lodge was originally the lodge to Walton Hall and was built in 1838. It is listed for its early 19th century date, group value in its association with Walton Hall, and for the architectural interest of its Jacobean architecture. The gates, gatepiers and screens are of the same date and are listed for completeness, their architectural quality and group

value with the lodge. The lodge is constructed of brown brick with dressed sandstone and a Westmorland green slate roof. It is a single-storey cottage with a T-shaped plan. It has a stone-mullioned oriel window to the drive and a gabled porch with a stone Jacobean-arched doorway. The gatepiers and screens are sandstone with wrought iron railings and gates.

Figure 4.3: Lodge from the avenue of trees to the south (left) and looking north from the lodge across the Appraisal Site (right).



Contribution made by Setting to Significance

Physical Surroundings

- 4.26 The lodge, gates and gatepiers are situated on the A56 immediately opposite the Appraisal Site. Historically the lodge and gates formed part of the Walton Hall estate and the Hall's wider designed parkland setting. However, the lodge and gates now form part of the crematorium site. The avenue of trees along the driveway towards the Hall largely remains intact, although there is car parking for both the crematorium and Walton Hall to the east of the drive. To the west of the driveway is the crematorium burial ground.
- 4.27 The A56 and the lodge sit at a higher position than the Appraisal Site (north of the A56) at this point (see Figure 3 above). Beyond the Appraisal Site is industrial development to the north of the Manchester Ship Canal. The topography gradually rises from the lodge towards Walton Hall in the south. The grade II listed Walton Hall and its associated garden terraces (also grade II listed) are situated at some distance (approximately 600m) from the lodge. Where the driveway crosses the Bridgewater Canal, en-route to the Hall, there is a listed bridge and house (Walton Lea Bridge and Bridge House, both grade II listed). The lodge has a historic, functional relationship with these assets. The Church of St John the Evangelist (grade II* listed) is situated across the burial ground, approximately 300m to the south west and formed part of the Walton Hall estate village. The Walton Village Conservation Area has been extended to the west of the driveway to include the burial ground.
- 4.28 At this point, the A56 follows the route of an earlier road. The gate piers, gates and screens were clearly designed to address that earlier road and mark the entrance to Walton Hall and the lodge is orientated to address both the road and the driveway. In addition to the avenue of trees south of the lodge, there are belts of mature trees and vegetation along the south east side of the A56 on approach to the lodge from both

directions. The tree belt to the east of the lodge extends southwards creating an area of woodland that encloses the lodge to the east and south east. Further to the east is the plot of land south of the A56 which forms part of the site; separated from the lodge by the woodland.

Experience of the Asset

- 4.29 The lodge is experienced as part of an altered parkland setting, where key elements of the designed landscape, such as the avenue of trees, remain legible but the aesthetic effect has been somewhat diminished. The Appraisal Site formed part of the wider rural setting within which the country estate was historically situated. However, due to the topography and lower position of the Appraisal Site (north of the A56), the present agricultural character of the Site is not immediately apparent in the view from the lodge to the north. Instead, the view is dominated by the industrial development to the north of the Manchester Ship Canal. The presence of industrial development within this view, combined with the close proximity of the A56 and the associated visual and noise impact of its heavy traffic, greatly diminish the historic rural character of this part of the asset's setting. Accordingly, the view north from the lodge does not contribute to the significance of the lodge.
- 4.30 The view from the lodge looking south along the driveway to Walton Hall does provide an understanding of the lodge's historic associative relationship with the Hall and the former designed parkland setting of the lodge and Hall. Views from the lodge and along the driveway to the Church provide picturesque views and intervisibility with an important building within the Walton Hall Estate village. It is likely that these views were designed for their picturesque qualities to create architectural and landscape interest on arrival at the estate. These two views contribute to the significance of the lodge and associated gates and gatepiers.
- 4.31 Due to the density of the tree belts and woodland to the east and south east of the lodge, it is unlikely that seasonal changes would materially alter the setting of the listed building in terms of its visibility, views from the lodge or its sense of enclosure. The crematorium, Walton Hall and the Church are all publically accessible and the lodge remains prominent on arrival at the crematorium.

Contribution made by the Appraisal Site

- 4.32 The Appraisal Site (north of the A56) is separated from the lodge by the A56 and, as described above, is at a lower level relative to the lodge and gates. The plot of land to the south of the A56 is separated from the assets by an area of woodland. The Site forms part of the wider historic rural context for the assets but as identified above, due to the nearby industrial development north of the Manchester Ship Canal and the A56, this context is not readily appreciable in views north from and in close proximity to the lodge. For these reasons, the Appraisal Site does not contribute to the significance of the lodge and gates.

Walton Village Conservation Area

- 4.33 Walton Village conservation area is focused on the village of Walton, historically known as Walton Superior or Higher Walton. It is bounded by the A56 in the west and the Bridgewater Canal in the south. The conservation area extends to include the Church of

St John the Evangelist in the north east and Walton Bridge on the Bridgewater Canal to the south west. It is comprised of a small number of residential properties with a church and public house. The village is described in Pevsner as “*The most accomplished estate village was built in the late 19th century by a family of successful brewers, Greenhalls, at Walton (Warrington)*”.

- 4.34 Until the 1960s, the village was small and consisted solely of Victorian and Edwardian buildings. These buildings are unified in their Jacobethan architectural style and common palette of materials comprising brown brick, half timbering, red Runcorn sandstone, white painted render, red brick and stone dressings. The historic buildings are freely arranged and set back from the Old Chester Road, which runs through and is the primary street in the conservation area, with small gardens to the front enclosed by railings. There are a high number of mature trees within the conservation area and, together with the aforementioned gardens and trees belts along the boundaries of the conservation at the A56 and Bridgewater Canal, they provide a green and attractive character. Post 1960, a cul-de-sac development of c13 dwellings was added at the north end of the village opposite the Church (Lychgate).
- 4.35 The special character and appearance of the conservation area lies in its rural, attractive village character and the quality and consistency of the Victorian and Edwardian architecture.

Contribution made by Setting to Significance

Physical Surroundings

- 4.36 Walton Village Conservation Area is situated approximately 20m from the eastern boundary of the Appraisal Site on the opposite side of the A56. The topography within and surrounding the conservation area is relatively flat, although it rises to an escarpment to Walton Hall (grade II listed) to the east of the conservation area. To the south of the conservation area is a caravan park and golf course. The surrounding landscape to the east of the A56 can be characterised as an altered parkland estate and gardens associated with Walton Hall. To the west of the A56 the landscape is more rural in character. Both are comprised of green open spaces, areas of woodland, tree belts and sparsely spaced buildings or groups of buildings. At a greater distance to the west is industrial development to the north of the Manchester Ship Canal
- 4.37 The Victorian and Edwardian buildings within the conservation area are principally orientated inwards towards Old Chester Road and are largely separated from the conservation area’s eastern boundary with the A56 by later development and a belt of trees along the south section of the boundary to the A56. Along Old Chester Road the character of the conservation area feels very enclosed. Beyond this to the north, the aspect to the A56 is more open however this is where the modern housing within the conservation area is situated. To the north eastern boundary, the mature parkland of the Walton Hall estate encloses the conservation area (see Figure 4 below). There is a historic associative relationship between the conservation area, in particular the Church and Walton Hall.

Figure 4.4: Looking west to Lynchgate with the Appraisal Site beyond from Chester Old Road (left) and looking north from St John's Church towards the Appraisal Site (right).



Experience of the Asset

- 4.38 The conservation area's setting to the east is characterised by the altered parkland of the Walton Hall Estate and to the west, it is characterised by the A56, the arable fields of the Appraisal Site and industrial development to the north of the Manchester Ship Canal beyond.
- 4.39 Due to the enclosure along Chester Old Road, the A56 and to the north of the conservation area, there are limited views into or out of the conservation area. Those views which contribute to the character of the conservation area are:
- views along Chester Old Road where the historic rural character of the conservation area and the architecture of its historic buildings can be appreciated, and
 - views of the parkland which forms part of the conservation area and extends beyond it to the north east.
 - As previously stated, it is likely that the view from Walton Hall lodge to the church was designed and this view contributes to the architectural and historic interest of the conservation area.
- 4.40 Views to the Appraisal Site to the west are views from upper floors of (principally modern) buildings along the western edge of the conservation area and from gardens. These views are not experienced within those parts of the conservation area that are of high architectural or historic interest and as such as considered to make a very limited contribution to its significance.
- 4.41 Views from the Appraisal Site to the conservation area are limited due to the intervening hedgerows. Where there are views to the east, the spire of St John's Church is visible above the mature tree cover associated with the conservation area, however the character and appearance of the conservation area is not readily discernible due to its enclosed character. These views therefore contribute to the significance of the Church, but make a limited contribution to the significance of the conservation area.

- 4.42 These views will encounter seasonal changes and, in particular due to the limited depth of the tree belt along the A56, there will be greater visibility to and from the western edge of the conservation area during the winter months.
- 4.43 Despite background noise from the nearby A56, the enclosed character previously described means the most significant parts of the conservation area (Chester Old Road and the grounds of the Church of St John) have a sense of tranquillity and seclusion.
- 4.44 The setting of the conservation area contributes to an understanding of its historic context and development, but due to the conservation area's enclosure there is a limited visual relationship between the asset and its wider setting. For these reasons, setting is considered to make a moderate contribution to the character and appearance of the conservation area.

Contribution made by the Appraisal Site

- 4.45 As previously stated, the arable fields of the Appraisal Site form part of the setting of the conservation area to the west of the asset. However, it is separated from the conservation area by the A56 and, as set out above, intervisibility between the Appraisal Site and the asset is limited. For these reasons, the Appraisal Site is concluded to make a negligible contribution to the significance of the Walton Village Conservation Area.

Locally Listed Buildings (Non-Designated Heritage Assets) – Various

- 4.46 As set out above, there are a number of locally listed buildings within the Appraisal Site. These are set out within Appendix 4 of the Warrington Borough Council Core Strategy which was adopted in 2014.
- 4.47 A broad overview of their significance and setting is provided below, culminating in an assessment of the contribution made by the Site to their significance. For clarity, there is no clear guidance or existing assessment by Warrington Borough Council as to why these buildings or structures are formally locally listed.
- **2 Cockfight Cottages and 4 Cockfight Cottages** (2no. locally listed buildings): two semi-detached, two storey cottages dating from 1892 and 1893 built in brown stone with red brick quoins and banding, brick and sandstone window mullions, lintels and cills and gabled slate roof with a central Tudor-style chimney. Each cottage is symmetrical with two bays to the front with a gabled porch on each of the return elevations. The cottages are situated on Runcorn Road and are set within their own gardens to the north and south but have relatively open aspects over the surrounding arable fields.
 - **Porch House Farm:** a vernacular farmhouse complex of an unknown date (present on the 1841 Tithe Map). The farmhouse is a symmetrical four-bayed two-storey property with two projecting gabled wings. It is constructed from red brick above two courses of Runcorn red sandstone. The ground floor windows and first floor windows on the wings have brick hood moulds. The farmhouse provides a frontage to a complex of former agricultural buildings and modern farm buildings, principally to the west and formal gardens to the south. Its wider setting is comprised of a garden nursery and open arable fields.

- **Canal Farmhouse:** a vernacular farmhouse complex with a square plan form. On the 1841 Tithe Map it has a linear form and has therefore either been extensively extended or rebuilt. It is a two storey, red brick farmhouse with attached outbuilding to the east and a large detached barn. It is situated within fields, proximate to and facing towards the Bridgewater Canal.
- **Grange Green Manor:** Grange Green Manor (formerly Grange Green Farm) is a substantial late 19th century three-storey farmhouse red brick farmhouse set on an H-plan. Former agricultural buildings, set around a formal courtyard immediately to the north of the farmhouse have been converted to residential use. The farmhouse overlooks an open arable fields to the south across which there is a footpath linking to the Runcorn Road, which would provide views of its principal southern elevation.
- **Grange Mill House:** Grange Mill is a former flour mill present on the 1841 Tithe Map but became disused by the 1930s after which it was converted or rebuilt as Grange Mill House. It is situated on a bend on Mill Lane at a stream. The former mill pond to the south has been drained, reducing the legibility of the building's former use. There is woodland along the stream and the house overlooks an open arable field to the west.
- **The Vicarage:** The Vicarage was constructed between c1877 and c1896 and is the former vicarage associated with St John's Church in Higher Walton. It is a large detached, three-storey brick-built house with a multi-gabled roof and tall brick chimneys. The house sits within grounds that are enclosed from by a high boundary wall, gates and planting which limit visibility of the building from Chester Road. The Christmas Tree Farm wraps around the grounds of the house from Chester Road in the north east to the former school and public footpath in the south west which provide further enclosure. Beyond this is a tree belt separating the Christmas Tree Farm from agricultural land to the west. There is no visual connection between St John's Church and the Vicarage due to the intervening village (Higher Walton). The former relationship between the buildings has been further eroded by the construction of the A56 and the loss of its historic function as a vicarage.
- **School converted to House:** The former school was built between c1877 and c1896. It has a picturesque architectural character with a low form, large gables and what may have been a small belfry or ventilation tower topped by a weather vane. The school hall is lit by a large gothic window which faces Runcorn Road. The former school has an open aspect to the street and a public footpath running along its north eastern boundary. Whilst there is some planting to the north and west, there are views across the fields to the north west.
- **Underbridge Cottages:** A small row of altered cottages, dating from around the early 19th century. They are surrounded by gardens and a mature tree belt along the A56 to the rear and overlook fields to the east and north; separated by Underbridge Lane and Runcorn Road.

4.48 The following locally listed buildings are located outside, but proximate to the Appraisal Site:

- **Stoneoaks Cottage:** A cottage dating from around the early 19th century and forming part of a cluster of buildings of varied age on Thomasons Bridge Lane. The property overlooks fields to the east, south of the Bridgewater Canal, which the 1845 Tithe Map and apportionment indicate were in the same occupation as the cottage. Although the cottage and parts of the Site were both in the ownership of Sir Richard Brooke at this time, they were in separate occupation and formed a small part of Sir Richard's substantial land holdings in the area.
- **99 Chester Road:** A late 19th century former lodge associated with Walton Lea, a mansion house (now demolished) which was located to the south. It is situated on the A56 with gardens to the rear, woodland to the south and a band of trees to the north. The Site sits to the east, separated by an access road and deciduous and evergreen planting.

Contribution made by the Appraisal Site

- 4.49 As described earlier, the Appraisal Site comprises open fields largely used for arable crops with a series of farms, small holdings and cottages. To varying degrees the Appraisal Site forms part of their rural context. In the case of the farms the Appraisal Site forms part of their historic functional setting which, along with their vernacular architecture, provides an understanding of their former use.

5. Overview of Legislation and Key National Planning Policy Considerations

Statutory Duty (1990 Act)

- 5.1 Section 66 of the Planning (Listed Buildings and Conservation Areas) Act 1990 states that:

“In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.”

- 5.2 The concept of ‘preserve’ has been interpreted through case law to mean ‘to cause no harm’.

The National Planning Policy Framework, revised 2019

- 5.3 Conservation areas are 'designated heritage assets' within the meaning of the NPPF. Paragraph 185 of the NPPF states that local planning authorities should set out in their Local Plan a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. In developing this strategy, local planning authorities should take into account of:

- The desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
- The wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;
- The desirability of new development making a positive contribution to local character and distinctiveness; and
- Opportunities to draw on the contribution made by the historic environment to the character of a place.

- 5.4 Paragraph 190 sets out the principles guiding the determination of applications affecting designated and non-designated heritage assets, and states that:

'Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal . . . They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset’s conservation and any aspect of the proposal.'

- 5.5 Paragraph 192 elaborates that local planning authorities should take account of the desirability of sustaining and enhancing the significance of heritage assets, putting them into viable uses consistent with their conservation, as well as the desirability of new development making a positive contribution to local character and distinctiveness.
- 5.6 Paragraph 193 requires when considering the impact of a Proposed Development on the significance of a designated heritage asset, that great weight should be given to the asset's conservation and the more important the asset, the greater that weight should be. Paragraph 194 confirms that significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting and any harm or loss requires clear and convincing justification.
- 5.7 In the event that harm is perceived to arise from proposals, the NPPF provides a policy framework at paragraphs 195 and 196 within which such harm can then be weighed against public benefits (196) or substantial public benefits (195) bearing in mind the considerable importance and weight that should be attached to the statutory duty of the Act.
- 5.8 Paragraph 197 requires that the effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.
- 5.9 Paragraph 200 requires local planning authorities look for opportunities for new development within the setting of heritage assets to better reveal their significance. With respect to setting, the policy notes that proposals that preserve those elements of setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably.
- 5.10 The setting of a conservation area is not enshrined in legislation and does not attract the weight of statutory protection.⁶ It is however a consideration as set out in the NPPF and has therefore been addressed in this Appraisal.

⁶ APP/H1705/A/14/2219070 & APP/U3935/V/14/2216792

6. Key Heritage Considerations

- 6.1 The development of the Appraisal Site would result in the partial loss of arable fields to the north and south of The Aqueduct carrying the Bridgewater Canal, Thomasons Bridge and Acton Grange Bridge (all grade II listed). However this aspect of setting is not essential to their special interest, which primarily lies in their age, former function, group value and association with the Bridgewater Canal. The significance of these assets would therefore be sustained.
- 6.2 Due to the enclosure and visual separation of Walnut Tree Farm (grade II listed) from the Appraisal Site, which has also diminished the legibility of any former historic association between the asset and the north east part of the Appraisal Site, the sensitivity of the asset to the development of the Appraisal Site is limited.
- 6.3 The Appraisal Site forms part of the wider rural context for Walton Hall Lodge (grade II listed), the Gates, gatepiers and screens at Walton Hall Lodge (grade II listed), and 99 Chester Road (locally listed). Due to the lower position of the Appraisal Site (excluding the plot of land to the south of the A56), relative to the assets, the visual impact of the development of this part of the Appraisal Site will be minimised. Due to the intervening distance and woodland between the lodge, gates, gatepiers and screens and the plot of land to the south of the A56, no visual impact is anticipated in relation to this part of the Appraisal Site and these assets. 99 Chester Road is closer to this part of the Appraisal Site (c15m) however the proposed landscape buffer will minimise visual impact on this asset. There is no known historic or functional relationship between these assets and the Appraisal Site.
- 6.4 As previously identified, there are limited views into and out from the Walton Village Conservation Area to the Appraisal Site. Where there is intervisibility, this is from the upper floors of mainly modern houses in the west of the Conservation Area. Whilst the development of the Appraisal Site will result in the reduction of the village's wider rural setting, the extent to which this will affect the character and appearance of the conservation area is negligible; and impact on the significance of the conservation area can be mitigated through the location and treatment of access roads, landscaping and the height of development.
- 6.5 The development of the Appraisal Site will result in the loss or partial loss of the historic rural setting of the identified locally listed buildings which are situated within the Appraisal Site and Stoneoaks Cottage. In particular this will affect the setting of Porch House Farm, Canal Farmhouse and Grange Green Manor which, as agricultural buildings, have a functional association with their surrounding landscape which contributes to the legibility of their former use. In preparing the Masterplan, consideration has been given to retaining some open land around these assets to maintain a degree of legibility of their former rural setting and agricultural use. In relation to the Vicarage, the effect would be minor due to the high degree of enclosure previously described which limits intervisibility between the asset and the Appraisal Site.

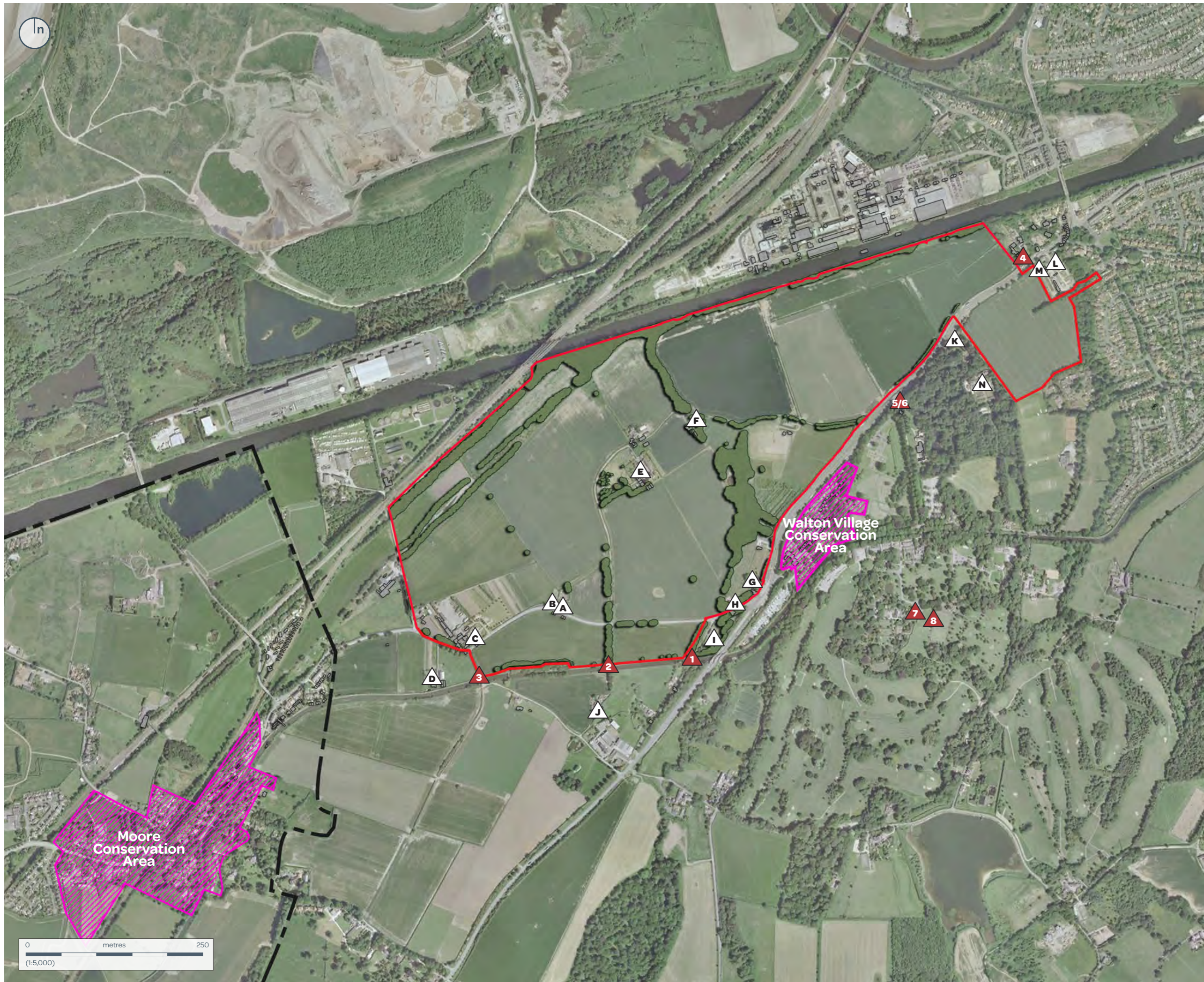
- 6.6 There is an opportunity to enhance the appreciation of Grange Mill House (locally listed) through interpretation of the former mill pond and its surroundings and of Grange Green Manor by utilising the historic footpath that connected the farm with Runcorn Road.
- 6.7 In accordance with Historic England guidance, we would recommend that the following measures are considered:
- Where possible, retain hedgerows across the Appraisal Site to maintain a sense of its former rural character. Retain and bolster the hedgerow along the A56, proximate to the Walton Village Conservation Area and Walton Hall Lodge and associated gates.
 - It is recommended that opposite Walton Lodge the height of development is restricted to a maximum of two storeys to avoid visual intrusion in views north from and proximate to the Lodge.
 - Look to retain locally listed buildings within the Appraisal Site.
 - Where possible development to the south of Grange Green Manor should be sited to maintain views of it from the south/south east.
 - There is an opportunity to enhance legibility of the former mill and mill pond within the retained open space around Grange Mill House.
- 6.8 If the following measures are implemented, as shown on the illustrative masterplan, it is considered that the urban extension will sustain the significance of the following designated heritage assets, in accordance with NPPF Paragraphs 192 and 193:
- Aqueduct carrying the Bridgewater Canal over Chester Road (old line)(grade II listed)
 - Thomasons Bridge over Bridgewater Canal (grade II listed)
 - Acton Grange Bridge (Over Bridgewater Canal) (grade II listed)
 - Walnut Tree Farmhouse (grade II listed)
 - Walton Hall Lodge (now Lodge to Crematorium) (grade II listed)
 - Gates, gatepiers and screens at Walton Hall Lodge (now Lodge to Crematorium) (grade II listed)
 - Walton Village Conservation Area (grade II listed).
- 6.9 In determining future planning applications for the site, it is concluded that the requirement of s66(1) of the Planning (Listed Buildings and Conservation Areas) Act can be satisfied, subject to a considered design approach.

6.10 As previously identified, the development of the Appraisal Site will result in the partial loss of the rural setting of the following locally listed buildings (non-designated heritage assets):

- 2 Cockfight Cottages.
- 4 Cockfight Cottages.
- Porch House Farm.
- Canal Farmhouse.
- Grange Green Manor.
- Grange Mill House.
- The Vicarage.
- School converted to Home.
- Underbridge Cottages.
- Stoneoaks Cottage.
- 99 Chester Road.

6.11 In accordance with NPPF Paragraph 197, in weighing future applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

Appendix 1: Heritage Asset Plan



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- Site boundary
- Warrington Borough boundary
- Conservation areas
- Locally listed buildings
- Statutory listed buildings

Listed Buildings (all grade II listed):

- 1 Aqueduct carrying the Bridgewater Canal over Chester Road (old line)
- 2 Thomasons Bridge over Bridgewater Canal
- 3 Acton Grange Bridge (Over Bridgewater Canal)
- 4 Walnut Tree Farmhouse
- 5 Walton Hall Lodge (now Lodge to Crematorium)
- 6 Gates, gatepiers and screens at Walton Hall Lodge (now Lodge to Crematorium)
- 7 Walton Hall
- 8 Retaining wall, balustrades and steps between lawns east of Walton Hall

Locally Listed Buildings (non-designated Heritage Assets):

- | | |
|------------------------------------|-------------------------------|
| A 2 Cockfight Cottages | I Underbridge Cottage |
| B 4 Cockfight Cottages | J Stoneoaks Cottage |
| C Porch House Farm | K 99 Chester Road |
| D Canal Farmhouse | L 34 & 35 Chester Road |
| E Grange Green Manor | M The Ship PH |
| F Grange Mill House | N 1-3 Walton Cottages |
| G The Vicarage | |
| H School converted to House | |

CLIENT:

PEEL

PROJECT:

Warrington Local Plan – South West Urban Extension

DRAWING:

Heritage Assets

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Warrington Borough Council Local Plan
South West Urban Extension

Transport Appraisal

Client: Peel Holdings (Management) Ltd, Story Homes and Ashall
Property

i-Transport Ref: SEE/dc/ITM13243-002F R

Date: 14 June 2019

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ITM13243-002 B R	Final Draft	2 November 2018	S Eggleston	S Eggleston
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Contents

SECTION 1	Introduction	1
1.1	Warrington Local Plan Review	1
1.2	Consortium's Land Interests	1
1.3	Report Structure	2
1.4	Conclusions	2
SECTION 2	Background	4
2.1	Overview	4
2.2	Transport Policy Context	4
2.3	Policy MD3 South West Urban Extension	10
2.4	Warrington Western Link	13
SECTION 3	Development Proposals	15
3.1	Site Location	15
3.2	PSLP Illustrative Concept Plan	15
3.3	Consortium Masterplan	16
SECTION 4	Sustainability and Accessibility	18
4.1	Overview	18
4.2	Walk/Cycle Strategy	19
4.3	Public Transport Strategy	20
4.4	Promoting Sustainable Travel Choices	22
4.5	Accessibility of the Site	27
SECTION 5	Site Access Arrangements	33
5.1	Overview	33
5.2	Access Proposals	33
5.3	Capacity of the Site Accesses	34
SECTION 6	Traffic Impacts	38
6.1	Overview	38
6.2	Baseline Traffic Flows	38
6.3	Development Traffic Flows	40
6.4	Potential Traffic Impacts	42
SECTION 7	Conclusions	44

Appendices

APPENDIX A.	Warrington Western Link
APPENDIX B.	Site Location Plan
APPENDIX C.	SWUE Masterplan
APPENDIX D.	Existing Bus Routes
APPENDIX E.	Location of Key Facilities and Services
APPENDIX F.	Potential Site Accesses off A56 Chester Road
APPENDIX G.	Potential Site Accesses off Runcorn Road
APPENDIX H.	2017 Observed Traffic Flows
APPENDIX I.	Future Baseline Traffic Flows
APPENDIX J.	Development Trip Distribution and Assignment
APPENDIX K.	Development Traffic Flows – 1,800 Dwellings
APPENDIX L.	Development Traffic Flows on the Wider Highway Network – 1,800 Dwellings

SECTION 1 Introduction

1.1 Warrington Local Plan Review

- 1.1.1 Warrington Borough Council (WBC) is currently consulting on its Proposed Submission Local Plan (PSLP) which will guide development in the Borough to 2037.
- 1.1.2 WBC's consultation document of March 2019 sets out how the PSLP was developed, including the work undertaken to develop its Preferred Development Option (PDO) which was subject to consultation in 2017. The PDO and the PSLP identify four main areas of growth: the city centre; the Waterfront; a Garden City Suburb in the south east quadrant of the town; and **a south west urban extension**. Further development is planned throughout the urban area and within Warrington's outlying settlements.
- 1.1.3 The Local Plan Key Diagram, identifying the main areas proposed for development, is included as Figure 3.1 of the PSLP.
- 1.1.4 Policy MD3 of the PSLP proposes the allocation of the South West Urban Extension (SWUE) noting this will deliver a new residential community of around 1,600 new homes as well as a primary school and mixed-use local centre. The PSLP goes on to note that the SWUE performed well against the objectives of the Local Plan, the requirements of the NPPF and the Local Plan's Sustainability Appraisal.
- 1.1.5 The Council is also proposing to deliver a major new road scheme, the Warrington Western Link (WWL), and funding for this has been approved recently by the Department for Transport (DfT). The WWL will provide a new road connection to the south-west of Warrington town centre, linking the A56/A5060 Chester Road with the A57 at Great Sankey. The scheme is designed to achieve several objectives that include providing congestion relief to the town centre and enabling the development of land that is currently poorly served by road infrastructure. Further details of the WWL are set out in Section 2.0.

1.2 Consortium's Land Interests

- 1.2.1 The SWUE consortium comprises Peel Holdings (Management) Ltd, Story Homes and Ashall Property. Peel is a major North West based investor and development company with a successful track-record in delivering growth and major projects including the Trafford Centre and Media

City UK. Peel owns c.1.2million sqm of property and 15,000 hectares of land and water. Story Homes is a housing developer with schemes in Cumbria, North West and North East England and Southern Scotland. Ashall Property is a private property investment company, head quartered at Preston Brook in Cheshire.

- 1.2.2 The Consortium has specific interests at the South West Urban Extension (SWUE) and controls large parts of the site. Masterplanning identifies that this is capable of delivering around 1,800 new residential dwellings as well as supporting and complementary uses including a primary school and mixed-use local centre.

1.3 Report Structure

- 1.3.1 This transport appraisal considers the transport and highways related aspects of the development proposals at the SWUE, demonstrating that these are sustainable and deliverable.

- 1.3.2 The background to the consideration of the site by WBC and the overall policy position, focussing on transport, is set out in Section 2.0. This includes consideration of the PSLP and a summary of the proposed Western Link Road. Section 3.0 explains the development proposals. The key transport related 'tests' set out in paragraphs 108 and 109 of the National Planning Policy Framework (NPPF) are then considered: Section 4.0 shows that the site will be accessible and sustainable and that the opportunities for using sustainable transport modes will be taken up; Section 5.0 demonstrates how safe and suitable access will be provided to the site; and Section 6.0 outlines matters related to the off-site traffic impacts of the proposals.

- 1.3.3 This forms one of a suite of reports commissioned to inform the development of a masterplan for the site and to assess its deliverability. Together, these reports form part of the evidence base which underpins the proposed allocation of the site through the emerging Local Plan.

1.4 Conclusions

- 1.4.1 A summary of the overall conclusions is presented at Section 7.0. The key conclusions of this appraisal are:

- i The site will include a mix of uses, enabling local active travel, and is close to a comprehensive range of facilities and services at Stockton Heath and Warrington town centre. The proposed allocation will therefore support and promote sustainable

development and sustainable travel patterns with residents able to meet day-to-day needs locally. This confirms its suitability as a location for development.

- ii The site will meet the transport related objectives of the Council's PSLP; it will meet objective W4 of the Local Plan and, considering the five specific accessibility criteria defined by the Council, it will result in strong positive effects by meeting three of these and positive effects by meeting one.
- iii The development of the site will therefore fully accord with the NPPF objective related to sustainable travel, with many opportunities for such modes to be taken up.
- iv Access to the site is proposed off Chester Road and Runcorn Road and feasibility level designs of the principal accesses have been produced and the capacity of these considered. The access arrangements will operate satisfactorily. Access to the site is deliverable and achievable. It is therefore also concluded that satisfactory access can be provided in accordance with the NPPF.
- v The proposed Western Link will provide significant additional capacity in the central Warrington Road network and will assist in facilitating the full SWUE development proposals. WBC has undertaken traffic modelling to demonstrate that the traffic flows generated by dwellings on the SWUE, as well as the remainder of the PSLP development, can be accommodated on the surrounding highway network.
- vi The traffic flows associated with any development delivered in advance of the Western Link will form only a small proportion of existing traffic flows, well within daily variations in traffic, and it is concluded that development can be released in advance of the opening of the WWL.
- vii The residual cumulative traffic impacts of development on the site will not be severe and therefore, in accordance with the NPPF, development should not be prevented on transport grounds.

1.4.2 Overall, it is therefore concluded that this assessment confirms that the South West Urban Extension is suitable for allocation in the Council's Local Plan and will form a sustainable development that can provide much needed housing.

SECTION 2 Background

2.1 Overview

2.1.1 This section provides background to the consideration of the development proposals at the SWUE including:-

- The transport policy context;
- The PSLP Policy regarding the site; and
- The Western Link Road.

2.2 Transport Policy Context

2.2.1 This section considers both national and local policy related to transport and, in particular, how this frames the consideration of development proposals.

National Planning Policy Framework (NPPF)

2.2.2 Paragraph 11 of the NPPF sets out the presumption in favour of sustainable development noting that plan-making should positively seek opportunities to meet the development needs of an area.

2.2.3 The specific transport policies of the Framework are contained within its Part 9. Paragraph 108 sets out the key 'tests' for the consideration of the transport aspects of development proposals, stating that:

"In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

- ***appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;***
- ***safe and suitable access to the site can be achieved for all people; and***
- ***any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."***

2.2.4 Paragraph 109 goes on to confirm:

“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.”

2.2.5 Details of the sustainability of the site, access and traffic impacts are set out in Sections 4.0, 5.0 and 6.0 respectively.

2.2.6 Paragraph 102 sets out the principal transport matters that should be considered during the preparation of Local Plans:-

“Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:

- a ***the potential impacts of development on transport networks can be addressed;***
- b ***opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;***
- c ***opportunities to promote walking, cycling and public transport use are identified and pursued;***
- d ***the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and***
- e ***patterns of movement, streets, parking and other transport consideration are integral to the design of schemes, and contribute to making high quality places.”***

2.2.7 Paragraph 103 goes on to note:

“The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision making.”

2.2.8 Paragraph 104 notes that planning policies should, amongst others:

“a. support an appropriate mix of uses across an area, and within larger scale sites, to minimise the number and length of journeys needed for employment, shopping, leisure, education and other activities;

b. be prepared with the active involvement of local highways authorities, other transport infrastructure providers and operators and neighbouring councils, so that strategies and investments for supporting sustainable transport development patterns are aligned;

c. identify and protect, where there is robust evidence, sites and routes which could be critical in developing infrastructure to widen transport choice and realise opportunities for large scale development;

d. provide for high quality walking and cycling networks and supporting facilities such as cycle parking (drawing on Local Cycling and Walking Infrastructure Plans);"

2.2.9 The mix of uses are explained in Section 3.0 below, with these along with improvements to walking and cycling infrastructure contributing to sustainable travel patterns as set out at Section 4.0. The relationship of the SWUE to the WWL is considered throughout this appraisal.

2.2.10 Planning Practice Guidance (PPG) sets out further guidance on how the policies in the Framework should be applied and this has been considered in the preparation of this transport appraisal.

Warrington Proposed Submission Local Plan (PSLP)

2.2.11 Warrington's Local Plan will provide statutory planning framework for the Borough for the period 2017 to 2037. The Local Plan will replace the 2014 Local Plan Core Strategy.

2.2.12 The PSLP has a series of objectives that include:

"W4. To provide new infrastructure and services to support Warrington's growth; address congestion; promote safer and more sustainable travel; and encourage active and healthy lifestyles."

2.2.13 Section 7 of the PSLP sets out policies related to objective W4 and these include:

"Policy INF1 – Sustainable Travel and Transport

To deliver the Council objectives of improving the safety and efficiency of the transport network, tackling congestion and improving air quality, promoting sustainable transport options, reducing the need to travel by private car and encouraging healthy lifestyles, the Council will expect development to:

1 General Transport Principles:

a Be located in sustainable and accessible locations, or in locations that can be made sustainable and accessible;

b Ensure priority is given to walking, cycling and public transport within its design, and reducing the need to travel by private car;

- c *Provide infrastructure for the charging of plug-in and other ultra-low emission vehicles, in line with the Council's Parking Standards SPD (2015);*
- d *Support proposals that reduce the level of trips made by single occupancy cars;*
- e *Consider demand management measures including the effective allocation of road space in favour of public transport, pedestrians and cyclists;*
- f *Mitigate its impact(s) or improve the performance of Warrington's Transport Network, including the Strategic Road Network, by delivering site specific infrastructure which will support the proposed level of development;*
- g *Ensure traffic generated by development is appropriate to the type and nature of the routes available and that there is no adverse impact on the local community;*
- i *Consider the impacts of the wider region's Strategic Road Network and work with adjoining Local Planning Authorities and wider stakeholders to assess the impacts of the transport initiatives outside the Borough, where impacts have been identified and need to be mitigated; and*
- j *Consider how development can be futureproofed, through the provision of measures to support new and emerging technologies, such as Autonomous Vehicles.*

2 Improve Walking and Cycling Facilities (Active Travel) including:

- a *Give a high priority to the needs and safety of pedestrians and cyclists in new developments, through the provision of high quality cycling and walking networks that seamlessly integrate with existing networks;*
- b *Improve way finding (including route signage);*
- c *Enhance and develop integrated networks of continuous, attractive and safe networks for walking and cycling including well designed and improved roads, Rights of Way and the Greenway Network (as shown on the adopted Policies Map). This should include appropriate segregation of users and high priority should be given to users at junctions. Where appropriate, the Council will consider the use of planning conditions or planning obligations to secure the required improvements;*
- d *Increase accessibility for all members' of society through improvements and the provision of new infrastructure to make the most of potential environmental, social and health benefits;*
- e *Give priority to routes linking residential areas (especially those in recognised areas of deprivation) with employment areas, transport interchanges and hubs, schools, Warrington Hospital and other local services and facilities; and*
- f *Provide high quality secure and conveniently located bicycle parking facilities at new developments, at transport interchanges and hubs, the town centre and community facilities.*

3 Improve Public Transport Including:

- a *Secure improvements to public transport infrastructure and services (to include bus, rail, taxi and private hire) in partnership, where appropriate with operators and delivery partners;*
- b *Be located in areas with easy access to high quality regular public transport services, to ensure public transport is a viable and attractive option by integrating the development with existing public transport infrastructure and services;*
- c *Providing additional public transport infrastructure and services that are related in scale to the proposed development where existing facilities are not available or are in need of improvement or an appropriate subsidy to help mitigate the impacts of the proposed development;*
- d *Consider options to enhance Bus Priority at junctions and the provision of dedicated Bus lanes;*
- e *Support proposals for new public transport networks and services, such as future Mass Transit systems;*
- f *Support proposals for rail infrastructure and services and the provision of rail facilities appropriate;*

7 Transport Assessments and Travel Plans

All major development proposals that are likely to generate significant movements will be accompanied by a Transport Assessment and a Travel Plan in line with Council guidance which will address the following requirements:

- a *That the proposed development will not result in an unacceptable impact on safety;*
- b *That trips generated by the development can adequately be served by Warrington's Transport Network, including the Strategic Road Network;*
- c *Identify where there are any significant effects on Warrington's Transport Network and/or the environment and ensure that appropriate mitigation measures including the required infrastructure are identified and in place before the development is brought into use;*
- d *Show how the Transport Assessment and associated Travel Plan have demonstrated how the proposed development will link into and enhance walking, cycling or public transport infrastructure;*
- e *Propose how measures to facilitate and encourage the use of sustainable travel alternatives (such as walking, cycling or public transport use), have been incorporated into development; and*
- f *Major developments will be required to monitor the effectiveness of the travel plan and the traffic generated by that development and share this data with the Local Authority, on an agreed annual basis."*

2.2.14 The various aspects of this policy are considered throughout this appraisal and are referenced, where appropriate, in Sections 4.0 – 6.0.

Warrington Local Transport Plan

2.2.15 This document sets out the Local Transport Plan (LTP) strategy for the period 2011 – 2030. The objectives of the plan include:-

“To build and manage a transport network that:

- ***Is integrated and customer focused and reduces the need to travel by car.***
- ***Enables the regeneration of the Borough and supports economic growth.***
- ***Maintains the highway, minimises congestion for all modes of travel and enables Warrington’s ‘smart growth’.***
- ***Improves everyone’s access to health, employment, education, culture, leisure and the natural environment.***
- ***Improves everyone’s access to the town centre by all modes of travel.***
- ***Enhances accessibility for those in disadvantaged communities or groups.***
- ***Improves neighbourhoods and residential areas.***
- ***Improves safety and security for all modes of travel.***
- ***Reduces the impact of traffic on air quality in Warrington and helps to reduce carbon emissions and tackle climate change.***
- ***Makes Warrington safer, sustainable and healthier.***
- ***Integrates with transport networks outside Warrington to enhance the sustainability of cross boundary travel.”***

2.2.16 The plan includes seven themes related to different aspects of transport and these are considered in this report: Active Travel, Public Transport and Smarter Choices (Section 4.0 – Sustainability and Accessibility); Safety and Security (Section 5.0 – Access); and Managing Motorised Travel (Section 6.0 – Traffic Impacts).

2.2.17 The Council is consulting on its LTP4 alongside the PSLP. This sets out Warrington’s transport challenges and the Council’s vision and objectives:-

“Vision

Warrington will be a thriving, attractive and well-connected place with popular, high quality walking, cycling, and public transport networks”

And

“Objectives-through LTP4 we will:

- ***Provide people with a choice about how they travel for each journey***
- ***Encourage a culture change that reduces the need for people to travel by car***
- ***Improve access to the town centre for all sustainable modes***
- ***Develop a resilient and efficient transport network that supports the town’s growth***
- ***Reduce traffic congestion***
- ***Reduce emissions from transport***
- ***Maintain and improve all transport infrastructure***
- ***Encourage healthier lifestyles by increasing day-to-day activity***
- ***Improve safety for all highway users***
- ***Make Warrington a more disabled friendly place.”***

2.3 Policy MD3 South West Urban Extension

2.3.1 The supporting text to draft allocation MD3 notes that land to the north of the A56 at Higher Walton will be developed as a sustainable urban extension to the main urban area of Warrington. The illustrative concept plan, Figure 10.3 of the PSLP, also shows residential development to the south of A56.

2.3.2 The PSLP notes the SWUE could provide around 1,600 new homes albeit masterplanning by the consortium identifies that around 1,800 dwellings could be provided across the site. The supporting text notes that the new community will be supported by a new primary school, a local centre including local shops and a health facility and extensive areas of open space and recreation provision.

2.3.3 The PSLP states that the development will be designed to support walking and cycling for local trips and that it will benefit from the WWL and improved public transport to enable access to

the town centre, Stockton Heath, the Waterfront development and other major employment areas including Daresbury. Regarding the WWL, the PSLP notes:

“Development cannot come forward until the funding and the programme for the delivery of the Western Link have been confirmed. This means the first homes are anticipated to be completed in 2023/24, with the urban extension completed in full by the end of the Plan period in 2037.”

2.3.4 Policy MD3 includes details of key land use and infrastructure requirements (MD3.1), delivery and phasing (MD3.2) and detailed site specific requirements (MD3.3).

2.3.5 Part MD3.1 includes:-

“2. The allocation will deliver a new residential community of around 1,600 homes, supported by the following range of infrastructure:

g. A comprehensive package of transport improvements.

j. A contribution towards strategic transport infrastructure.”

2.3.6 In terms of delivery and phasing, Part MD3.2 includes:-

“3. The Council will require the preparation of a masterplan for the urban extension together with a delivery strategy and phasing plan in order to ensure comprehensive and coordinated development.

4. The masterplan must confirm to the requirements of this policy and be subject to consultation with statutory consultees and the local community.

5. The masterplan must be informed by a.....Transport Assessment.

6. The masterplan will provide the basis for subsequent planning applications for individual phases of development.

7. No development will be permitted until funding has been secured and a programme of delivery has been confirmed for the Western Link.

8. Full details of the programme and funding for delivery of the primary school, health centre, Local Park and other necessary infrastructure will need to be agreed by the Council before the first phase of the development is permitted to come forward.”

2.3.7 Appendix 1 of the PSLP sets out the Council's housing trajectory for the site (and others):

Table 2.1 SWUE Housing Trajectory

Plan Years	No. Of Units in Period	Cumulative Units
0 – 5	0	0
6 – 10	467	467
11 – 15	582	1,049
16 – 20	582	1,631
Total	1,631	1,631

2.3.8 The SWUE Consortium has made representations to the Council that make the case for the delivery of the first dwellings on the site in 2021/22.

2.3.9 Part MD3.3 of the policy includes detailed site-specific requirements with respect to transport and accessibility:

Transport and Accessibility

33. A comprehensive package of transport improvements will be required to support the urban extension. Required improvements will include:

a. Ensuring appropriate access arrangements for the site as a whole and for individual phases of development.

b. Improved cycling and walking routes well related to the green infrastructure network; connecting to the enhanced country park on the Waterfront; the Walton Hall Estate; Stockton Heath; and Warrington Town Centre.

c. Providing public transport enhancements to connect the new community with Stockton Heath; Warrington Town Centre; the Waterfront Development. The new Garden Suburb; and other major employment areas, including Daresbury.

d. Other necessary network improvements as identified by an appropriate Transport Assessment.

34. The development will be expected to make a proportionate contribution towards the delivery of the Western Link Road.

35. The layout of the urban extension should maximise the potential for walkable neighbourhoods, with legible hierarchy of routes, providing new footpaths and cycleways that link to existing networks beyond the site.

36. Good accessibility to public transport services should be provided by ensuring that the bus routes and bus stops within the site are accessible by pedestrians and cyclists via effective footpaths and cycle routes.

37. The development should contribute to the Council's wider aspiration of enhancing the Bridgewater Canal as a recreational, tourism, heritage and environmental resource and for the Canal's tow path to provide a cycle and pedestrian link across the borough."

2.3.10 These detailed site specific matters are considered throughout the remainder of this report.

2.4 Warrington Western Link

2.4.1 The WWL is proposed to run to the south and west of Warrington town centre between A56 Chester Road and A57 Sankey Way. The preferred route of the scheme is included in Appendix

A. The scheme includes (starting from its southern end):-

- A large traffic signal controlled junction with A56 Chester Road.
- A high-level crossing of the Manchester Ship Canal.
- A road under the West Coast Mainline railway and Walton Viaduct.
- A large roundabout junction providing connections to the north and south for development at Warrington Waterfront.
- A bridge over the River Mersey, adjacent to the existing crossing at Forrest Way.
- Bridges over the Fiddler's Ferry railway line, Sankey Brook, Liverpool Road and the St Helens Canal.
- A large traffic signal controlled cross-roads junction with A57 Sankey Way and Cromwell Avenue.

2.4.2 The WWL is proposed as a single carriageway route with no at-grade junctions between A56 and A57 other than the proposed junction to serve Warrington Waterfront. The Council note that the road is anticipated to carry c.27,000 vehicles per day and c.31,000 vehicles per day at 2026 and 2036 respectively.

2.4.3 The Council submitted an Outline Business Case (OBC) to the Department for Transport in December 2017 as a bid for construction funding via the DfT's Large Local Major Schemes programme. The bid document identifies a total cost of c.£213 million with a 33% local authority contribution. The OBC identifies that the scheme has a Benefit Cost Ratio (BCR) of 2.24, indicating that the scheme represents high value for money. DfT funding for the WWL was confirmed in April 2019.

- 2.4.4 The OBC documentation includes an indicative timeline for the delivery of the scheme based on the DfT granting Programme Entry in May 2018:

Table 2.2 Western Link Indicative Delivery Programme

Milestone	Date
Submission of planning application	May 2019
Planning decision	August 2019
Publication of Orders (including CPO)	November 2020
Full Business Case submission	December 2020
Start of construction	February 2021
Scheme open to public	January 2024

- 2.4.5 As noted earlier, the supporting text to policy MD3 notes that the first homes are anticipated to be completed in 2023/24 based on the WWL delivery timescales..
- 2.4.6 The SWUE consortium supports the principle of the delivery of the Western Link but suggests that any policy wording related to the SWUE should allow for both the planning of the site in advance of the WWL and the provision of alternative transport infrastructure should this be necessary and to facilitate the delivery of development in advance of the WWL if the delivery of the scheme is delayed.

SECTION 3 Development Proposals

3.1 Site Location

3.1.1 The site lies to the immediate south west of the settlement boundary of Warrington. It is bound by the Manchester Ship Canal to the north and the West Coast Railway to the north west. To the south east, the A56 Runcorn Road forms the boundary, with a plot of land to the south of the A56, immediately adjoining the Warrington settlement boundary, included. The Bridgewater Canal encloses the site at its southern boundary. At the eastern extent, the boundary follows Bellhouse Lane and Runcorn Road. The location of the site is shown on Appendix B.

3.1.2 The site currently comprises a mix of agricultural land and associated buildings and property. Mill Lane runs through the site, providing access to a number of private properties and farm buildings. An area of industrial uses lies on the northern side of the Ship Canal, known as Warrington Waterfront. The route of the proposed Western Link Road lies at the eastern end of the site.

3.1.3 The site is presently designated as Green Belt land within the Warrington Unitary Development Plan (June 2005), but has been identified by the Council as a site to be released from the Green Belt and allocated for housing development through the emerging Local Plan as set out in the PSLP.

3.2 PSLP Illustrative Concept Plan

3.2.1 The supporting text to Policy MD3 notes:

“The urban extension is of a sufficient scale to provide a range of services to support a new residential community in this part of Warrington, including a local centre, primary school, health facility and a network of open spaces. Its location will also ensure good access to Stockton Heath District Centre, Warrington Town Centre, the major development at Warrington Waterfront and other major existing and proposed employment areas, including Daresbury.”

3.2.2 The illustrative concept plan for the SWUE is shown on Figure 10.3 of the PSLP, incorporating residential development, an area for the local centre and open space.

3.3 Consortium Masterplan

3.3.1 Land at Higher Walton will be developed as a sustainable urban extension to the main urban area of Warrington, providing around 1,800 new homes. The urban extension will support a new community in a high quality residential setting with ease of access to Warrington's employment, recreation and cultural facilities. Policy MD3 requires the preparation of a masterplan for the urban extension; the emerging masterplan for the SWUE is included in Appendix C.

3.3.2 The new community will be supported by:

- a new primary school
- a local centre comprising local shops, a potential new health facility (subject to needs) and other community facilities as necessary to support the new residential community.
- extensive areas of open space and recreation provision.

3.3.3 The development will be designed to support walking and cycling for local trips. It will benefit from the new Western Link and improved public transport to enable access to the town centre, Stockton Heath, the Waterfront development, and other major employment areas, including Daresbury.

3.3.4 Development will ensure that important ecological assets within the site are preserved with opportunities to provide additional habitats and enhance biodiversity. The urban extension will preserve, and where possible enhance the heritage assets within the site and will be designed to respect the setting of nearby heritage assets, including the Bridgewater Canal and its bridges and the Walton Village Conservation Area.

3.3.5 Development is not expected to come forward until the funding and the programme for the delivery of the Western Link, or an alternative means of achieving any transport improvements needed to accommodate the development, have been confirmed. The Council note that based on the proposed Western Link scheme the first homes are anticipated to be completed by 2023/24, though the consortium considers these may be delivered earlier, with the urban extension completed in full by the end of the Plan period in 2037.

3.3.6 Community infrastructure will need to be phased according to the requirements of the development.

3.3.7 The masterplan prepared by the consortium has evolved as the route of the WWL has been confirmed. This crosses the site at its eastern end as indicated on the masterplan and as shown on the WWL plan included at Appendix A. The masterplan has therefore made provision for the WWL but access is to be provided off the existing highway network such that development can progress in advance of the delivery of the new road. This is considered further in Section 6.0.

3.3.8 Access to the site is considered in detail in Section 5.0 below but five highways access points are proposed:-

- i** Off A56 Chester Road at the location where Mill Lane joins the main road.
- ii** Off Runcorn Road located approximately half-way between its junctions with Mill Lane and Underbridge Lane.
- iii** An access off A56 Chester Road serving the parcel of residential development located to the south of Chester Road.
- iv** Off Runcorn Road to the west of Cockfight Cottages.
- v** Off Runcorn Road to the east of Bellhouse Lane.

3.3.9 The design and layout of transport corridors within the site and the connections off it will focus on creating places and high quality connections between the mixed uses on the site. Street and place design will start with pedestrians and cyclists having priority with managed car access. Street design will follow the principles of Manual for Streets, 'Living Streets' and modern design guidance such as the Handbook for Cycle Friendly Design; this will result in streets that are destinations worth visiting. Shared surfaces within the site will be encouraged and the footpaths to the primary school will follow 'Safe Routes to School' principles. Speed limits will be low with an appropriate street hierarchy developed, making it the norm to travel slowly within the site. The site will be designed for the mobility impaired with account taken of 'Inclusive Mobility' requirements.

3.3.10 Thus the design philosophy of the masterplan will encourage local trip making and the use of sustainable travel modes, contributing to the site forming sustainable development in the context of the NPPF.

SECTION 4 Sustainability and Accessibility

4.1 Overview

4.1.1 The proposed development site is located close to the built area of Warrington, including the town centre and Stockton Heath, and close to existing transport networks. The Council confirm in the PSLP that the site's location will ensure good access to Stockton Heath district centre, the town centre, the major development area at Warrington Waterfront and other major existing and proposed employment areas, including Daresbury.

4.1.2 The transport strategy for the site will therefore focus on promoting sustainable travel modes and reducing car use, particularly that for single occupancy travel. Within this context, the travel and transport strategy for the site is to:

- i Take advantage of the site's existing locational characteristics close to key destinations including Warrington town centre and Stockton Heath;
- ii Maximise opportunities for walking and cycling trips, particularly over shorter distances, and taking account of the facilities to be provided on the site;
- iii Encourage external trips to/from the site to be made on foot, by bike, by public transport or through shared transport (e.g. a Car Club);
- iv Encourage commuting trips to Warrington and Daresbury to be made by bus; and
- v Where absolutely necessary, mitigate the impacts of residual car borne trips by the introduction of highways mitigation improvements.

4.1.3 As well as achieving modal shift, the travel strategy for the site will assist in creating a coherent new community and will reduce the vehicular traffic flows generated by the development. The site will provide a range of benefits with specific sustainable transport benefits of the proposals including:-

- Everyday facilities located close to the development in walkable neighbourhoods, thus putting place first, enhancing inclusion, promoting sustainable lifestyle choices and behavioural change.
- Viable bus services and high quality bus infrastructure connecting the site with key destinations.

- Specific and targeted travel plan measures again designed to promote sustainable travel modes.
- Provision of on-plot and on-street electric vehicle charging points and an electric vehicle car club to encourage some vehicular journeys to be made by low emission vehicles.

4.1.4 Outline strategies for encouraging walking/cycling, public transport and the Travel Plan are included below. The accessibility of the site is then considered.

4.2 Walk/Cycle Strategy

4.2.1 The site lies south of the existing built development within Warrington and close to the town centre and Stockton Heath. The site will connect with existing footways.

4.2.2 A footway/cycleway runs along the Chester Road site frontage, connecting with footways running to and from Warrington town centre. Opposite the site, an on-carriageway cycleway runs along Chester Road separated from car traffic by hatching, with this continuing to Old Chester Road. Footpath 4 runs along the northern side of the Bridgewater Canal through the site with this connecting with lightly trafficked streets to the east of Chester Road, these providing access on foot to Stockton Heath as well as to Walton Hall and Gardens. The route along the canal will largely provide for leisure and recreational walking trips.

4.2.3 Improvements to the pedestrian/cyclist environment will be investigated further and, where appropriate, implemented in line with the development coming forward. At this stage it is envisaged these could include:-

- a Improvements to the PRow that run across the site and their connections to the external street network. Such improvements could include widening, better surfacing / drainage, signing and lighting.
- b High quality pedestrian and cycle routes from the site to Warrington town centre and Stockton Heath.
- c Provision of widened footways along the Chester Road and Runcorn Road site frontage.
- d Provision of appropriate contributions to the Council's wider aspirations of enhancing the Bridgewater Canal including the use of the tow-paths as a walking and cycling route.

4.2.4 The above will be complemented by measures included in the Travel Plan for the site. The location of the site, proximity to many every-day facilities and the short-distances involved

affords a real opportunity to focus movement on slow/active modes of travel and thereby reduce car use.

4.3 Public Transport Strategy

4.3.1 Existing bus routes run along the Chester Road site frontage and through the site along Runcorn Road as shown on Appendix D. The bus services are summarised in the table below.

Table 4.1: Existing Bus Routes and Services

Service No.	Route	Frequency (Mins)					
		Monday – Friday		Saturday		Sunday	
		Daytime	Evening	Daytime	Evening	Daytime	Evening
62	Warrington – Stockton Heath – Sci-Tech Daresbury - Runcorn – Widnes – Halebank (via Runcorn Road)	30 mins	-	60 mins	-	60 mins	-
62A	Warrington – Runcorn – Widnes – Halebank (via A56)	3-5/day	-	-	-	-	-
X30	Warrington – Daresbury – Frodsham – Chester	60 mins	-	60 mins	-	-	-

4.3.2 The 62 bus service runs through the site along Runcorn Road, providing half-hourly frequency services to and from a range of destinations including Warrington Interchange, Warrington town centre, Stockton Heath, Sci-Tech Daresbury, Runcorn East station, Runcorn High Street and shopping centre and Widnes. The 62A provides three and five additional daytime services in the westbound and eastbound directions respectively with these running via Chester Road. The X30 runs between Chester and Warrington at an hourly frequency during the day, also calling at Daresbury, Palace Fields Halton Hospital and Frodsham.

4.3.3 Both the 62 and X30 run to Warrington Interchange where there are connections to a range of other bus services in Warrington and the nearby Warrington Central station provides national rail services.

4.3.4 The existing bus routes provide a good level of service and the dwellings and other uses on the site will be within walking distance of existing bus services. The size of the site is such that it can, if necessary and subject to detailed evaluation, support improved bus services, providing enhanced connectivity. The development could provide a 'pump-priming' subsidy to cover any initial short-fall between additional bus operating costs and the revenues generated along the new/improved routes, the latter from both the dwellings on the site and increased 'background' patronage and revenues. It is expected the full development will support additional bus services in due course, provided commercially by bus operators and with revenues off-setting operating costs.

4.3.5 There are several options available to improve bus provision which could be developed as the proposals are progressed, housing delivery rates are established and travel patterns are monitored. These could include:-

- i Increasing the frequency of existing bus service 62 between the site and Warrington and potentially Daresbury in the peak periods.
- ii Extending the operating hours of the 62 to provide evening services between the site and Warrington town centre and Interchange.
- iii As an alternative to i) and ii), developing a bespoke new bus service from the site to Stockton Heath and Warrington town centre/Interchange.
- iv Diversions of the existing 62 service through the site but with consideration of existing use of this service from Higher Walton.
- v Providing a bus service to secondary schools to cater for peak period school travel.

4.3.6 In practice bus provision will be phased and be responsive to both development completions and actual bus usage, the latter monitored by the bus operator(s) and the Travel Plan Co-ordinator (see below). A package of funded bus improvements can, if necessary, be agreed with WBC and subject to the viability of the site.

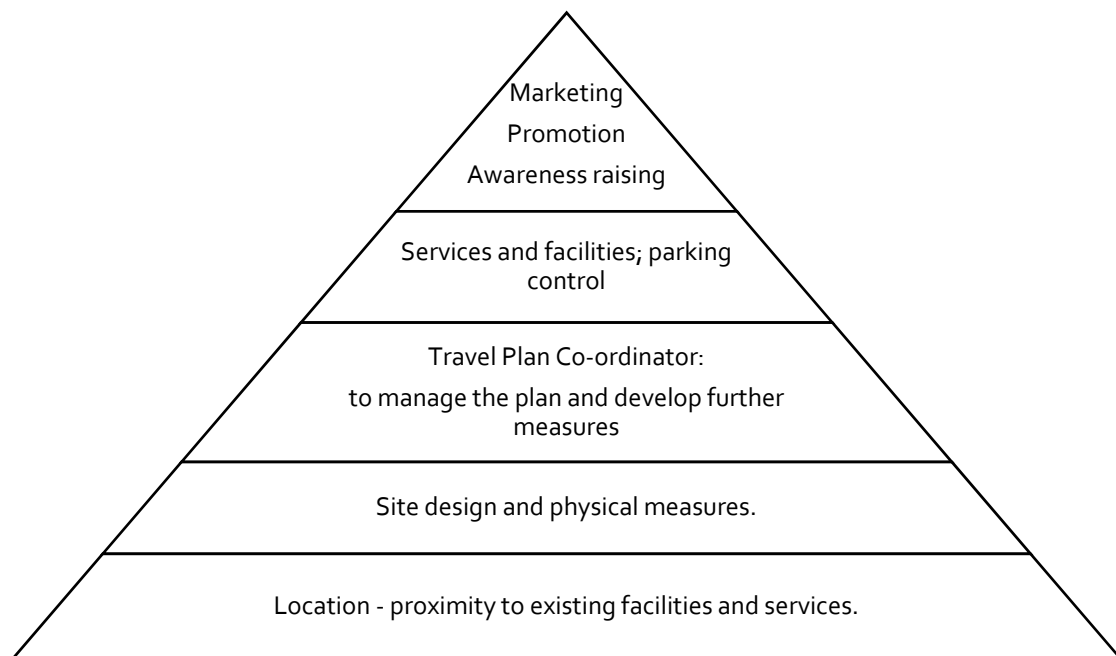
4.3.7 Given the draft allocation of the site and timescales over which development will be phased, then the delivery of specific proposals need not be identified in detail at this stage. However, it is considered that it will be possible to deliver viable improved bus services bringing benefits to the site.

- 4.3.8** It is therefore proposed that, subject to the confirmation of an allocation in the Local Plan, further liaison is undertaken with the Council with the aim of establishing a framework for the provision of bus services and a mechanism to fund such services.
- 4.3.9** The 'framework' (effectively a service specification) will include details of destinations to be served, operating times (first and last buses by day of the week), service frequencies/headways (again by day of the week and time of the day), size and quality (e.g. age) of the buses to be used along the routes.
- 4.3.10** The 'mechanism' will include details of the costs of bus services, how fare revenues will be collected and allocated to the site, how background revenues will be identified and allocated to the services and how any revenues in excess of costs will be apportioned, noting that whilst some 'pump-priming' subsidy may be needed in the short-term, with the full development then it is anticipated that revenues will exceed costs. The mechanism will need to determine (through liaison with the Council and potentially 'Warrington's Own Buses' and Halton Transport) whether bus services are provided solely by the developer(s) or whether funds are paid by the developer to an appropriate collecting authority who will provide and deliver the bus services. The latter will allow better co-ordination and potentially economies of scale.
- 4.3.11** As well as bus routes and services, other measures can be implemented to encourage and promote bus use. These will include high quality bus stops and shelters located within and/or close to the site, timetable information and ticketing promotions which can be identified in the service framework set out above.
- 4.3.12** Further measures to promote bus (and rail) use can be delivered as part of the Travel Plan. In conclusion, the size of the site is such that it could support new or enhanced existing bus services ensuring the site is accessible by bus and is sustainable, in line with the NPPF and Local Policy aspirations.

4.4 Promoting Sustainable Travel Choices

- 4.4.1** As well as the physical measures to promote walking, cycling and public transport set out above, the development of the site will include the production of a comprehensive travel plan to support the proposals. This will primarily identify the delivery of 'soft' measures to encourage the use of sustainable modes, to complement the physical measures, mix of uses and high quality design approach.

- 4.4.2 The DfT document 'Making residential travel plans work: guidelines for new development' notes that the travel plan can be viewed as a pyramid of measures and actions and this approach will be adopted for the Travel Plan at the SWUE:



- 4.4.3 At the base of the pyramid is the location of the site. The proposals will include a primary school and local centre incorporating a range of retail, health and community facilities. There is a range of other facilities and services available close to the site and at Stockton Heath including health, retail and leisure uses. The location of the site itself will therefore encourage active travel.
- 4.4.4 The DfT note that the next stage should include the fundamental characteristics that need to be incorporated into the design of the site to support the use of sustainable modes. The design approach will focus on creating a sense of place, integrating the site with the existing community and promoting sustainable travel making, particularly active travel within the site.
- 4.4.5 The next tier is the Travel Plan Co-ordinator who will develop and manage the travel plan process, be responsible for the delivery of the plan and liaison with the Council, organise monitoring and reviews of the plan and ensure that travel plan targets are achieved.
- 4.4.6 The next level is the services and facilities that will be delivered at the site such as the range of measures outlined below.

- 4.4.7 The final top tier is the promotion and marketing of the travel plan and services, raising awareness of the plan through various information initiatives and delivered by the travel plan co-ordinator.
- 4.4.8 The detailed objectives and targets for the travel plan will be discussed and agreed with the Council and other key stakeholders, at the appropriate time. Broad objectives can include:
- i Bring together the design of the site and travel plan measures such that the need to travel is reduced.
 - ii Provide measures and initiatives that are inclusive, promote cohesion and provide alternatives for all residents and other users on the site.
 - iii Promote 'hard' and 'soft' measures such that sustainable modes are the first mode(s) of choice, rather than the car.
 - iv Minimise the traffic generated by the development proposals.
 - v Assist in developing a sense of place within the site.
 - vi Promote healthy lifestyle choices through the use of non-car modes with emphasis on active travel.
- 4.4.9 Specific SMART targets will be developed for the Travel Plan focusing on two key aspects:
- First, meeting modal share targets and a maximum proportion of car driver trips; and
 - Secondly, ensuring that the actual traffic flows generated by the site are consistent with those adopted in future transport assessments, such that there is no severe impact from additional car trips.
- 4.4.10 Formal monitoring arrangements can be agreed with WBC to assess the achievement of objectives and targets on an on-going basis.
- 4.4.11 Detailed assessment and evaluation will be undertaken to establish the most appropriate measures for the site when its allocation is confirmed. The size of the site is such that a comprehensive package of initiatives could be implemented to achieve objectives and targets. There will be general measures to be applied across the site and all modes, specific measures to promote walking and cycling and public transport, measures to reduce residual vehicular trips and information/awareness raising that can be rolled out across the whole site. The measures are summarised below.

Generic Measures

4.4.12 These will include:

- Travel Plan Co-ordinator: responsible for the overall delivery of the travel plan including liaison with WBC. They will monitor the plan against objectives and targets and identify measures to promote sustainable travel.
- Personalised travel planning: the TPC will liaise with individual householders to plan specific journeys and show how these can be undertaken by sustainable modes.
- Welcome Packs: these will be provided to every new household and will set out the benefits of travel plan measures, details of sustainable travel modes (e.g. bus maps), the initiatives available on the site and contact details for any further information.
- Broadband: all homes will be equipped with broadband, enabling working from home etc.

Measures to Promote Walking and Cycling

4.4.13 Measures to promote the use of active travel modes will include:

- Bicycle user group: the TPC will investigate the potential for a BUG to be established at the site to encourage residents to meet and exchange tips on cycle routes and maintenance. If possible, the TPC will forge links with cycle shops to arrange discounts on purchases and repairs.
- Travel voucher: a voucher could be offered to each new household (on first occupation) which can be used to purchase equipment or part purchase a bicycle, subject to viability considerations.
- Safe routes to school and walking bus: the main pedestrian routes on the site towards the primary school will be designed and audited using 'Safe Routes to School' principles with funding for the advertising of walking bus schemes and the provision of fluorescent vests for children and walking bus 'drivers'.

Measures to Promote Public Transport

4.4.14 Measures to promote the use of buses will include:

- Travel vouchers/travel cards/bus tickets: a monthly bus pass could be supplied to each household on first occupation. The TPC will seek to obtain discounts from bus operators for these tickets or tickets for extended periods, subject to viability considerations.
- Bus buddying: this is used in other towns where trained volunteers provide one-to-one support to older people, learning disabled people, people with physical and sensory impairments etc. to aid their understanding of using public transport and to help them gain confidence.

Reducing Car Use

- 4.4.15** Residents will make some journeys by car but car sharing will be promoted from first occupation of the dwellings by the TPC. A bespoke car sharing scheme can be developed or existing car sharing initiatives can be used.
- 4.4.16** The proposed development may be of a sufficient size to sustain a viable Car Club. Car clubs provide their members with convenient access to newer, cleaner (low emission) vehicles without the expense of ownership. Car clubs also enable communities to share assets and can improve accessibility and support sustainable travel initiatives.

Information and Awareness

- 4.4.17** Raising awareness of the measures and initiatives that will be available at the site is important and therefore information will be provided as follows:-
- Site specific travel guide: a foldable map, setting out the details of bus services and walk and cycle routes, will be developed. It will be included in sales literature and updated regularly for distribution by the TPC. A digital alternative will be considered.
 - Website: a Travel Plan website will be developed for the site giving residents access to up-to-date travel information.
 - Notice boards: these will be located within sales offices and at points around the development, displaying up-to-date information on sustainable modes and setting out the benefits of these and other travel plan measures.
 - Campaigns: the TPC will hold events and campaigns related to national and local initiatives such as 'Bike to Work' day and local organised cycle rides.

- 4.4.18** The TPC and travel plan measures will be funded by the developer and/or their successors in title.

4.4.19 The Travel Plan measures will thus encourage both active travel and the use of public transport, consistent with the NPPF and the transport related objectives and policies of the PSLP.

4.5 Accessibility of the Site

Overview

4.5.1 There are many facilities and services available close to the site and the site itself will include a primary school and a range of uses in the local centre. These on-site facilities will enhance the sustainability of the site, with the facilities providing for many day-to-day needs and allowing residents to make local and sustainable travel choices.

4.5.2 As a starting point for the consideration of the accessibility of the site, the TEMPRO database has been used to estimate the proportions of trips made by residents on the site for different journey purposes by all modes of travel. Data from MSOA25 has been used.

Table 4.2: TEMPRO Journey Purposes – SWUE

Journey Purpose	Proportion of All Trips ¹
Education	13.1%
Shopping	20.4%
Personal Business	9.0%
Recreation / Social	14.9%
Visiting Friends & Relatives	13.0%
Holiday / Day Trips	2.9%
Work	23.6%
Employer's Business	3.1%

¹Average weekday all modes

4.5.3 Thus trips are made for a variety of journey purposes, many associated with meeting day-to-day needs such as travel to school (c.13%), shopping (c.20%), personal business (c.9%), recreation and social (c.15%) and visiting friends and relatives (c.13%).

4.5.4 It is important to consider the trips likely to be made for each journey purpose with the availability of local facilities and services; this demonstrates that the site is sustainable and a suitable location for new development where trips can be made locally by sustainable travel modes.

4.5.5 Local facilities and services within the vicinity of the site are shown on Appendix E and the distance from the closest of the potential site accesses to the key destinations in the local area are set out in the table below:

Table 4.3 Distance to Key Facilities and Services

Use	Name	Distance
Primary Education	Primary School on-site	-
	Stockton Heath Primary School	1.7km
	Moore Primary School	1.9km
	St Thomas C of E Primary School	2.4km
	St Monica's Catholic Primary School	2.7km
	The Cobbs Infant School	2.9km
	Broomsfield Junior School	3.0km
Secondary Education	Bridgwater High School – Upper	2.6km
	Bridgewater High School – Lower	3.2km
	Priestley College	2.8km
Health	Local Centre on-site	-
	Stockton Heath Medical Centre	1.9km
	Causeway Medical Centre	2.7km
	Walton Road Dental Health	1.7km
	Jones Dental Care	1.8km
	Stockton Heath Dental Practice	2.0km
	Lloyds Pharmacy	1.9km
	Stockton Heath Pharmacy	1.9km
	Thomas Brown Pharmacy	2.0km
	Warrington A&E Hospital	4.9km
Retail & Leisure	Local centre on-site	-
	Stockton Heath Post Office	1.7km
	One Stop Ellesmere Road	0.9km
	Aldi Stockton Heath	1.8km
	M&S Simply Food Stockton Heath	1.9km
	Sainsbury's Local Stockton Heath	2.0km
	Morrisons	2.0km
	Warrington town centre	3.5km
	Stockton Heath Library	2.2km
	Warrington Library	3.1km
	Appleton Cricket Club	3.1km

Use	Name	Distance
	Walton Hall & Gardens	0.6km
	Walton Golf Course	1.0km
	Warrington Hockey Club	1.2km
	Warrington Golf Club	3.2km
	Broomsfield Leisure Centre	2.6km
Employment	Warrington town centre	3.5km
	Stockton Heath centre	2.0km
	Centre Park Warrington	2.6km
	Daresbury Park/Centre	2.8km
	Blackheath Lane Distribution Park	3.6km

Accessibility to Education

4.5.6 Around 13% of daily trips will be for education. A primary school will be located on the site and will be within an easy walk of all the residential dwellings. There are primary schools within Stockton Heath within walking distance of the site. There are secondary schools c.2.5 – 3.0km distant, at the edge of walking distance. Given the size of the site there is an opportunity to provide school buses.

4.5.7 The location of the site in relation to the schools means that many trips can be made on foot. The IHT's document 'Providing for Journeys on Foot' suggests a walking distance to school of up to 2km. The distances between the residential areas and the schools varies (depending on the school) but the short distances facilitate easy trip making and data from the National Travel Survey (NTS) confirms there is a very good prospect of school trips being made locally or on the site. Information from the NTS demonstrates that trips to local schools are predominantly made on foot:-

Table 4.4 NTS Modal Split of Trips to School

Main Mode	Aged 5 – 10 Years			Aged 11 – 16 Years		
	Under 1 mile (1.6km)	1 to Under 2 Miles	All lengths	Under 1 mile (1.6km)	1 to Under 2 Miles	All lengths
Walk	78%	26%	44%	87%	57%	37%
Bicycle	2%	1%	1%	3%	5%	2%
Car/Van	20%	65%	48%	8%	26%	26%
Bus	-	6%	6%	2%	11%	29%
Other	-	1%	1%	-	1%	5%
Total	100%	100%	100%	100%	100%	100%

Accessibility to Health Facilities

- 4.5.8** There is a medical centre at Stockton Heath within walking distance of the site and there is potential to include a GP facility within the local centre. There are three dental practices and three pharmacies within Stockton Heath, all within walking distance. Thus there is a very good prospect that trips to these locations will be made by active travel.
- 4.5.9** The main A & E hospital at Warrington is located at Lovely Lane, just north of the town centre. Residents on the site will be able to access this by bus to Warrington Interchange and then by either walking or using one of the frequent 16 group of bus services from the Interchange.

Accessibility to Retail and Leisure Facilities

- 4.5.10** As well as the retail uses at the local centre, there is a range of retail and leisure facilities within Stockton Heath, including a Post Office, food and non-food shops and library. These are all within walking distance. Warrington town centre has higher-order facilities and whilst these are outside walking distance, they can be accessed by bus. There are several sporting clubs at nearby Walton.
- 4.5.11** Thus a range of facilities will be available locally, encouraging active travel. The accessibility of the site to these facilities is concluded to be excellent.
- 4.5.12** Considering the national and local policies set out earlier in this report:

- Development at the site will facilitate the use of sustainable modes of transport, given the short-distances involved to many of the facilities and services and the availability of buses, existing and new – meeting the objectives of the Framework and PSLP Policy INF1.
- The need to travel can be minimised and use of sustainable modes can be maximised – meeting NPPF Para 108.
- Day-to-day activities and key facilities such as primary schools and local shops will be located within walking distance of properties – meeting NPPF Para 103 and PSLP Policy INF1.

4.5.13 The Council’s Sustainability Appraisal Accessibility Objective includes criteria as follows, with a commentary given on how development at the SWUE meets each objective:

- ACC1: How accessible is the site to the nearest primary school on foot – school to be provided on the site and therefore located within a short walk. Therefore significant positive effects likely.
- ACC2: How accessible is the site to the nearest Secondary School – site within 3km of Bridgewater High School and Priestley College. Therefore positive effects likely.
- ACC3: How well served is the site by a bus service – existing bus services run through the site and along the site frontage. Using WBC’s definition, these are low frequency but there is the potential to improve these as set out above. Therefore significant positive effects likely.
- ACC4: How accessible is the site to the nearest train station – the stations at Warrington Bank Quay and Warrington Central are c.3.5km and 3.7km distance from the site respectively albeit the latter is connected by bus. Therefore negative effects likely if WBC’s definition is used. (See 4.5.14 below).
- ACC5: What is the overall distance to a GP service or health centre –GP practice located within walking distance in Stockton Heath with the potential to locate a facility on the site in the local centre. Therefore significant positive/positive effects likely.

4.5.14 Regarding ACC4 and the accessibility to the nearest train station, WBC’s criteria is simply distance based and the rationale for this appears to be based on walking distances. Any site more than 3km from a railway station is scored as ‘negative’ using WBC’s criteria. Whilst the railway stations in Warrington are outside the walking distance assumed by WBC, there are

regular bus services between the site and Warrington Central (Table 4.1) with the opportunity to improve these as a result of the scale of the development. The site is therefore well connected to the railway network and it is concluded that the accessibility of the site to train services is good, irrespective of WBC's walking distance based criteria.

4.5.15 In conclusion, a range of facilities and services will be available locally within walking and/or cycling distance. These include: primary and secondary schools, health facilities including doctors, dentist and pharmacy in Stockton Heath and shops and leisure facilities in Stockton Heath centre. Buses already travel through the site and along the site's Chester Road frontage. The bus strategy can provide enhanced connections to various destinations.

4.5.16 It is therefore concluded that there will be opportunities for modal shift and the site is sustainable and accessible via a range of travel modes. Development on the site will therefore be in accordance with the NPPF and WBC's local policies and objectives for the Local Plan.

SECTION 5 Site Access Arrangements

5.1 Overview

5.1.1 The site has a c.1.4km long frontage with A56 Chester Road. Runcorn Road runs in a broadly east-west direction through the site near its southern end, joining A56 at a traffic signal controlled junction. The Runcorn Road frontage through the site is also c.1.4km in length. Connections to the existing highway network are therefore readily achievable.

5.1.2 Access to the site will therefore be provided off both A56 Chester Road and Runcorn Road, with the phased delivery of the access arrangements determined as the phasing of land-uses across the site is finalised. It is, however, envisaged that development will start at both ends of the site, each served by a separate access. For the major part of the site north/west of A56, at this stage it is envisaged that a single access will be provided off Chester Road with three accesses off Runcorn Road, two roundabouts and a priority junction. The smaller parcel of land to the south/east of A56 will be served by a priority junction. The access solutions shown below are indicative at this stage and the final designs / locations will be output from more detailed masterplanning. As such, the access proposals may change but the below confirms that access is deliverable and are a reasonable basis on which to assess the proposals.

5.2 Access Proposals

A56 Chester Road Accesses

5.2.1 A traffic signal controlled access junction to serve the land north/west of A56 has been designed in outline and is shown in Appendix F (drawing number ITM13243-GA-002). The access is located at Mill Lane but there is potential to vary the access location given the length of the site frontage. Mill Lane could be diverted to connect with the development access road.

5.2.2 The access proposal shows two ahead lanes on A56 and a right-turn lane from A56 north to the site. Separate left and right turning lanes are shown on the development access road. Facilities for pedestrians and cyclists are shown at the junction with the southbound on-carriageway cycle lane on Chester Road maintained.

5.2.3 A priority controlled 'T' junction is proposed to serve the parcel of land located south/east of A56 and an outline design is shown on Croft drawing 2404-F01 also included in Appendix F. A

right-turn lane into the site is shown, utilising the existing central reserve. Visibility splays of 2.4m x 120m, commensurate with the prevailing 40mph speed limit, are shown.

Runcorn Road Accesses

- 5.2.4 A compact roundabout access off Runcorn Road is shown in Appendix G (drawing number ITM13243-GA-003). The junction is located approximately mid-way between Underbridge Lane and Mill Lane with the final position to be determined following topographical survey if the draft allocation is confirmed and proposals are agreed. The roundabout proposal could be amended to provide a fourth arm into the land south of Runcorn Road providing access to this parcel or alternatively the land south of Runcorn Road could be accessed via a priority 'T' junction located elsewhere along the site frontage.
- 5.2.5 Footway provision is shown along both sides of Runcorn Road with the tie-in to existing footways to be determined, taking account of the movement framework developed for the masterplan including through site, rather than along-road, connections towards Chester Road.
- 5.2.6 Additional accesses can be located on Runcorn Road to serve parcels of development at the western end of the site. Access options between Cockfight Cottages and Perch House Farm and between Perch House Farm and Bellhouse Lane are shown on the Curtins' drawings 75002-P01 and 75003-P01 respectively, also included in Appendix G.
- 5.2.7 The access junctions can be delivered independently with these responding to the phasing of the development. At an agreed point the junctions will be connected by an on-site 'spine-road' with development parcels served off this.
- 5.2.8 At the appropriate time, all access junctions will be subject to independent road safety audit.
- 5.2.9 Construction access will be provided off A56 Chester Road and Runcorn Road, depending upon phasing. Existing weight limits through Moore village and along Holly Hedge Lane will prevent inappropriate use by large construction vehicles but this will be reinforced by a Construction Management Plan.

5.3 Capacity of the Site Accesses

- 5.3.1 Traffic surveys have been undertaken to obtain traffic flow data to assess the capacity of the proposed access arrangements. Details of the surveys are given in Section 6.0. Peak hour traffic

flows have been derived and converted to Passenger Car Units (PCU) for use in traffic capacity assessment. The peak hours are 07:45 – 08:45 and 16:00 – 17:00. The peak hour traffic flows on A56 Chester Road and Runcorn Road west of A56 are as follows:-

Table 5.1 Existing Peak Hour Traffic Flows

Location	AM Peak Hour			PM Peak Hour		
	Eastbound / Northbound	Westbound/ Southbound	Two-Way	Eastbound / Northbound	Westbound/ Southbound	Two-Way
A56 Chester Road	1,135	1,413	2,548	1,205	1,137	2,342
Runcorn Road	131	102	233	114	127	241

5.3.2 Traffic flows at the end of the plan period at 2037 have been derived using background traffic growth factors of c.8% derived from TEMPRO. The derivation of development generated traffic flows is summarised in Section 6.0. At this stage the access junctions have been assessed with 900 units off each of the site accesses at Runcorn Road and Chester Road north of A56.

5.3.3 The capacity of the potential site access junctions has been assessed with LINSIG (A56 Chester Road) and ARCADY (Runcorn Road). The capacity of the A56/Runcorn Road/Old Chester Road traffic signal junction has also been assessed (with LINSIG) as this provides access from the main road network to Runcorn Road.

5.3.4 The LINSIG results for the A56 Chester Road/site access junction are summarised in the table below:

Table 5.2 A56 Chester Road Site Access Capacity Assessment

Movement	AM Peak Hour		PM Peak Hour	
	DoS	MMQ	DoS	MMQ
A56 North Ahead	77.4%	8	66.3%	6
A56 North Right	23.3%	1	55.7%	3
A56 South Ahead & Left	61.0%	9	62.7%	9
A56 South Ahead	61.1%	10	61.4%	10
Site Access	37.6%	3	16.5%	1

DoS = Degree of Saturation MMQ = Mean Maximum Queue

5.3.5 The analysis demonstrates that the junction will operate satisfactorily and within capacity.

5.3.6 Pedestrian crossing provision is provided at the site access. The need for facilities for pedestrians to cross Chester Road will be assessed as the masterplan is developed, including its movement framework. It may be appropriate to provide stand-alone crossings remote from the junction.

5.3.7 The ARCADY results for the Runcorn Road site access roundabout are summarised in the table below:

Table 5.3 Runcorn Road Site Access Capacity Assessment Results

Arm	AM Peak Hour		PM Peak Hour	
	Max RFC	Max Queue	Max RFC	Max Queue
Runcorn Road East	0.17	0	0.30	0
Runcorn Road West	0.13	0	0.13	0
Site Access	0.26	0	0.11	0

RFC = Ratio of Flow to Capacity Max Q = maximum average queue

5.3.8 The junction is predicted to operate significantly below capacity with no significant queuing.

5.3.9 The results of the analysis of the A56/Runcorn Road/Old Chester Road traffic signals are set out in the table below. There are currently no controlled crossing facilities at the junction and the need for these to be provided as a result of the development will be assessed as the movement strategy for the masterplan is developed. It may be more appropriate to provide facilities remote from the junction. The modelling does not include pedestrian crossing provision at this stage.

Table 5.4 A56/Runcorn Road/ Old Chester Road Junction Capacity Assessment Results

Movement	AM Peak Hour		PM Peak Hour	
	DoS	MMQ	DoS	MMQ
A56 North Left & Ahead	64.5%	12	48.3%	7
A56 North Ahead	66.1%	13	50.7%	8
Old Chester Road	28.5%	1	29.4%	1
A56 South Left & Ahead	53.1%	8	61.3%	10
A56 South Ahead	54.6%	9	63.7%	12
Runcorn Road	65.0%	7	44.4%	3
A56 Internal Southbound Ahead	57.8%	13	40.7%	7
A56 Internal Southbound Ahead & Right	57.1%	14	61.9%	12
A56 Internal Northbound Ahead	49.7%	5	35.1%	0
A56 Internal Northbound Ahead & Right	45.9%	9	54.7%	11

DoS = Degree of Saturation MMQ = Mean Maximum Queue

- 5.3.10 The junction operates within capacity and can accommodate the traffic generated by the proposed development.
- 5.3.11 Traffic capacity assessments have not been conducted for all of the access points but the assumptions adopted, taking account of 900 units off each access tested and the application of traffic growth, show that all access junctions can be expected to operate satisfactorily.
- 5.3.12 All junctions are therefore predicted to operate satisfactorily and comfortably within capacity. It is therefore concluded that satisfactory access to the site is achievable and can be delivered, in conformity with paragraph 108 of the NPPF.

SECTION 6 Traffic Impacts

6.1 Overview

6.1.1 The WWL will deliver significantly enhanced highway capacity in Warrington town centre, with this relieving existing congestion, providing access to development sites at Warrington Waterfront and freeing-up capacity to accommodate traffic flows generated by developments in the PDO.

6.1.2 The Council has conducted traffic modelling to demonstrate that the development levels envisaged in the PSLP, including the SWUE, can be accommodated on the surrounding highway network also taking account of a comprehensive package of infrastructure improvements, including the WWL.

6.1.3 The delivery timescales for the WWL indicate scheme opening in early 2024 (with possibly some slippage given the funding announcement in April 2019) subject to satisfactory progression through the order making and planning processes and subsequent final confirmation of funding by DfT. Given the lead-in times for the delivery of the WWL, as well as the need to deliver housing, the consortium considers that some development at the SWUE can be released in advance of the delivery of the scheme, noting that certainty on the delivery of the scheme will be confirmed much earlier than 2024.

6.1.4 This section therefore sets out, the derivation of background and development generated traffic flows to provide an overview of the potential traffic impacts of the development.

6.2 Baseline Traffic Flows

6.2.1 Existing traffic flows have been derived from a comprehensive series of traffic surveys conducted in October 2017. These comprised turning count observations, queue length surveys and automatic traffic counters.

6.2.2 Turning flow and queue surveys were conducted at the following junctions on Thursday 17 October 2017:

- A56 Chester Road / Runcorn Road / Old Chester Road
- A56 Chester Road / A5060 / Walton New Road

- A5060 Chester Road / Ellesmere Road
- A49 London Road / A56 Walton Road
- A49 London Road / Ellesmere Road
- A49 London Road / West Avenue
- A56 Walton New Road / Walton Heath Road
- A49 Wilderspool Causeway / A5060
- Runcorn Road / Keckwick Lane
- A56 Chester Road / A558 Daresbury Expressway
- M56 Junction 11.

6.2.3 The vehicular traffic flow data has been converted to PCU equivalents and the peak hours across the network local to the development identified; the peak hours are 07:45 – 08:45 in the morning and 16:00 – 17:00 in the evening. The resultant 2017 observed traffic flows are given in Appendix H.

6.2.4 Automatic traffic counter surveys were also conducted on A56 Chester Road and Runcorn Road. These have been used to confirm that the survey day for the junction turning counts is representative.

6.2.5 Existing traffic flows have been growthed to future assessment years. For the consideration of the full development of around 1,800 dwellings then the end of plan period at 2037 has been adopted. Any development to be delivered in advance of the WWL will be determined via a subsequent detailed transport assessment. Growth factors have been derived from TEMPRO to 2037 with land-use growth excluded. The resultant growth factors are:-

Table 6.1 Traffic Growth Factors

Peak Hour	Traffic Growth Factor 2017 to 2037
AM Peak Hour	1.0834
PM Peak Hour	1.0776

6.2.6 The future baseline traffic flows for 2037 are given in Appendix I.

6.3 Development Traffic Flows

Trip Generation

6.3.1 Trip generation rates for the proposed development have been derived from the TRICS database using the 'Houses Privately Owned' category for sites with at least 100 dwellings with a reduction of 20% to reflect:-

- The availability of a school and other facilities on the site resulting in reduced external trip making. School travel accounts for a significant proportion of peak hour trips and with schools within walking distance then travel by car is expected to be minimised. Similarly the other facilities on the site will reduce external trip making.
- The impacts of the bus strategy and travel plan, aimed at reducing car travel. Increased bus provision will offer a high quality alternative to car travel for many trips within the urban area. Studies of the impacts of Travel Plans indicate that these can reduce car travel by up to 10-15%, depending on the scale of measures introduced.
- Reductions in trip rates over time to reflect changes in demographics (e.g. reductions in household size) with this evidenced by both NTS and TRICS trip rates reducing over time; and
- The possible presence of affordable housing which has lower trip rates. Analysis of TRICS data indicates that peak hour trip rates for affordable housing are lower than for private housing.

6.3.2 The TRICS trip generation rates and the resultant generated traffic flows are shown in the table below for the morning and evening peak hours.

Table 6.2 SWUE – Trip Generation

Peak Hour	Direction	Trip Rate (per unit)	No. Trips
			1,800 units
AM Peak	Arrival	0.127	183
	Departure	0.377	543
	Total	0.504	726
PM Peak	Arrival	0.309	445
	Departure	0.164	236
	Total	0.473	681

6.3.3 Thus the full development could generate up to 680 - 730 vehicular trips in each of the peak hours.

6.3.4 TEMPRO has then been used to identify the potential journey purposes travelled by residents. Data has been used for Warrington MSOAs 023, 024 and 025 (broadly south of the ship canal, north of M56 and west of M6). The TEMPRO three hour peak period proportions have been adjusted to reflect the peak hours. The resultant journey purpose split is as follows:-

Table 6.3 SWUE – Journey Purposes of Car Travel

Trip Purpose	Proportion of Trips	
	AM Peak Hour	PM Peak Hour
Work	58%	43%
Employer's business	7%	6%
Education	20%	4%
Shopping	6%	16%
Personal business	4%	8%
Recreation/Social	2%	9%
Visiting friends/relatives	1%	10%
Holiday/day trips	2%	4%

6.3.5 Considering the above, there is clearly potential for some of the peak hour trips to be made locally and by active travel modes rather than by car e.g. to the primary school on the site or to the schools nearby and to the facilities and services within Stockton Heath. In the AM and PM peak hours, 35% and 51% of trips respectively are made for reasons other than journeys to work or on employer's business.

Trip Distribution and Assignment

6.3.6 The total generated trips (Table 6.2) have then been disaggregated by journey purpose (using Table 6.3) and the distribution of these considered as follows with details set out in Appendix J:-

- Work: using journey to work census data.
- Employer's business: distributed to the main towns and cities (e.g. 50% of trips are distributed to Warrington town centre).
- Education: distributed to primary and secondary schools within Warrington and Halton, with the schools nearest the site having the highest proportion of trips.

- Shopping: split 50/50 food and non-food (based on NTS) and then distributed to nearby supermarkets / shopping areas.
- Other purposes: distributed to the main towns and cities.

6.3.7 The traffic flows on the network local to the site generated by the development, including their disaggregation by journey purpose, are given in Appendix K for the full development.

6.3.8 Appendix L shows the development traffic across the wider highway network in and around Warrington. This identifies that traffic is spread around the highway network, reflecting the many destinations available. The traffic flows indicate the following overall distribution and assignment of traffic:-

- c.35 – 40% to the south along A56 towards Daresbury and M56.
- c.35 – 45% to the north towards Warrington town centre and beyond.
- c.15 – 20% to the east towards Stockton Heath and beyond.
- c.2 – 5% of trips made locally closer to the site.

6.4 Potential Traffic Impacts

6.4.1 The Council has conducted traffic modelling of the PSLP and supporting infrastructure to demonstrate that the traffic flows generated by the draft allocations in the PSLP can be accommodated on the surrounding highway network.

6.4.2 To provide an initial indication of the scale of impacts of the SWUE, development generated traffic flows derived at 6.3 above have been compared with 2037 baseline traffic flows from 6.2. The resultant traffic flows at key junctions on the local road network close to the site are given in the table below:

Table 6.4: Proportional Traffic Impacts

Junction	AM Peak Hour			PM Peak Hour		
	2037 Base Flow	Development Flow	Proportional Impact	2037 Base Flow	Development Flow	Proportional Impact
A56 Chester Road / Runcorn Road	2,940	467	15.9%	2,514	458	18.2%
A56 Chester Road / A5060	2,873	444	15.4%	2,701	406	15.0%
A5060 / Ellesmere Road	2,545	297	11.7%	2,516	331	13.2%

Junction	AM Peak Hour			PM Peak Hour		
	2037 Base Flow	Development Flow	Proportional Impact	2037 Base Flow	Development Flow	Proportional Impact
A49 London Road / Walton Road	1,837	86	4.7%	1,669	55	3.3%
A49 / Ellesmere Road	1,717	17	1.0%	1,571	9	0.5%
A49 Wilderspool Causeway / A5060	4,182	271	6.5%	3,697	305	8.3%
Runcorn Road / Keckwick Lane	397	29	7.3%	336	20	6.0%
A56 Chester Road / A558	4,461	239	5.4%	3,987	251	6.3%
M56 Junction 11	4,455	170	3.8%	4,136	156	3.8%

6.4.3 The Guidelines for the Environmental Assessment of Road Traffic (GEART) state that the day-to-day variation of traffic on a road is frequently at least some + or – 10%. The above table demonstrates that the development generated traffic flows will be well within typical daily variations at most junctions on the road network surrounding the site. Impacts at these location are therefore unlikely to be discernible and the GEART notes that it should be assumed that projected changes in traffic of less than 10% create no discernible environmental impact.

6.4.4 Increases in traffic at the junctions closest to the site are greater than 10%. Those to the north will be relieved by the WLR and both background and development generated traffic flows will reduce at these locations as a result of the delivery of the WLR. The detailed impacts of traffic flows generated by the SWUE will be assessed in a comprehensive transport assessment when planning applications are progressed.

6.4.5 Overall it is concluded that the traffic impacts of the draft allocation will not be severe.

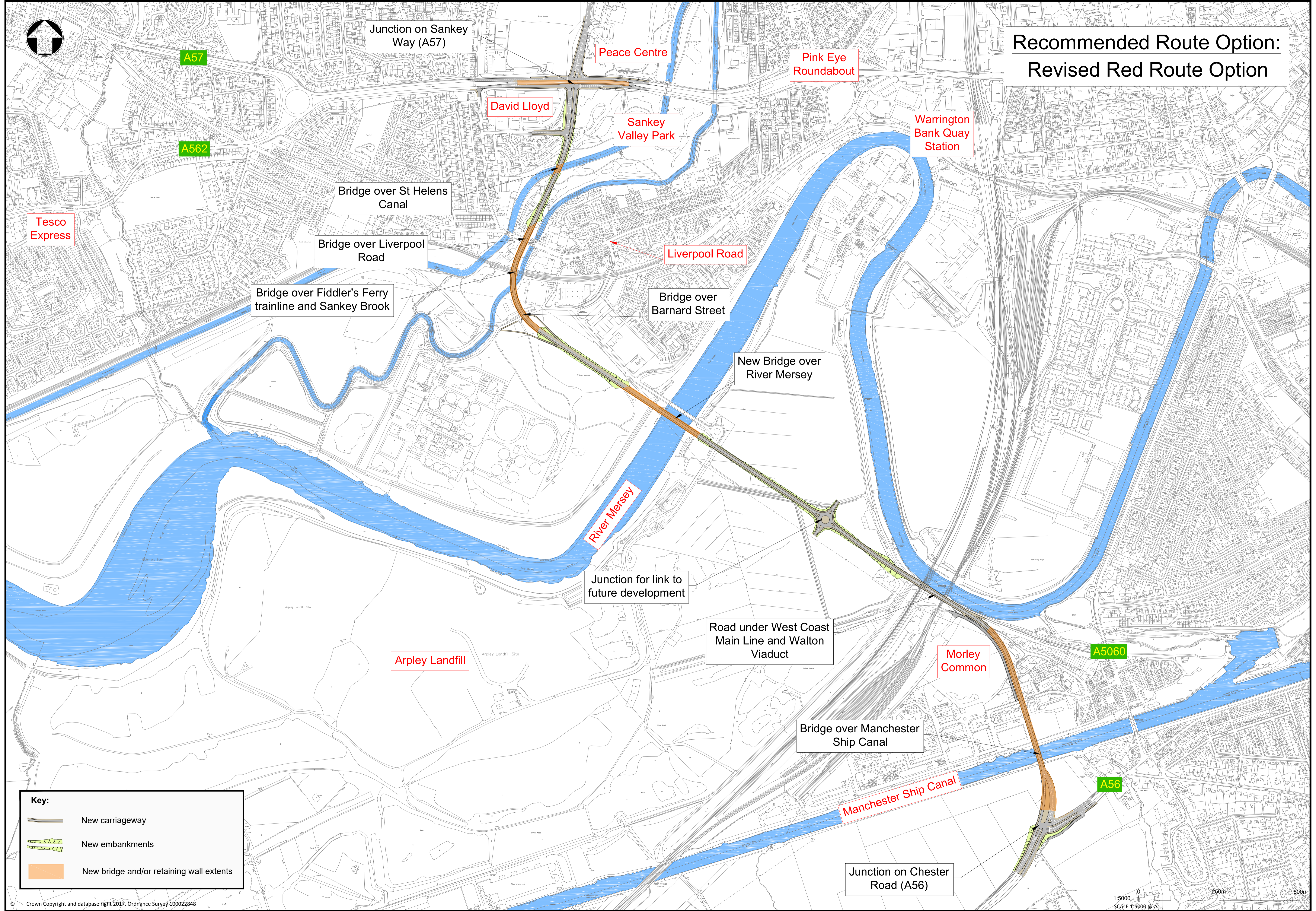
SECTION 7 Conclusions

- 7.1.1** This report has considered the transport and highways implications of residential development on WBC's draft allocation at the South West Urban Extension. This is capable of accommodating around c.1,800 residential dwellings with complementary supporting facilities.
- 7.1.2** The site will include a mix of uses, enabling local active travel, and is close to a comprehensive range of facilities and services at Stockton Heath and Warrington town centre. The draft allocation will therefore support and promote sustainable development and sustainable travel patterns with residents able to meet day-to-day needs locally. This confirms its suitability as a location for development. The site will meet the transport related objectives and policies of the Council's PSLP. Specifically it will meet objective W4 of the Local Plan and, considering the five accessibility criteria defined by the Council, it will result in positive effects.
- 7.1.3** The development of the site will therefore fully accord with the NPPF objective related to sustainable travel, with many opportunities for such modes to be taken up.
- 7.1.4** Access to the site is proposed off Chester Road and Runcorn Road and feasibility level designs have been produced for the accesses and the capacity of these considered. The access arrangements will operate satisfactorily. Access to the site is deliverable and achievable. It is therefore also concluded that satisfactory access can be provided in accordance with the NPPF.
- 7.1.5** The Warrington Western Link is to be delivered by the Council, with DfT funding. The consortium considers that some development can be delivered in advance of the Western Link. At this stage it is concluded that the wording of policy MD3 should be amended such that the early delivery of housing is not restricted.
- 7.1.6** The Warrington Western Link will provide significant additional capacity in the central Warrington Road network and will assist in facilitating the full SWUE development proposals. The Council has conducted traffic assessments using its traffic model to demonstrate that the traffic flows generated by the full PSLP development, including 1,800 dwellings on the SWUE, can be accommodated on the surrounding highway network with a complementary package of infrastructure including WWL.

- 7.1.7 The residual cumulative traffic impacts of development on the site will not be severe and therefore, in accordance with the NPPF, development should not be prevented on transport grounds.
- 7.1.8 Overall, it is therefore concluded that this assessment confirms that the South West Urban Extension is suitable for allocation in the Council's Local Plan and will form a sustainable development that can provide much needed housing.

APPENDIX A. Warrington Western Link

Recommended Route Option: Revised Red Route Option



Junction on Sankey Way (A57)

Peace Centre

Pink Eye Roundabout

A57

David Lloyd

Sankey Valley Park

Warrington Bank Quay Station

A562

Bridge over St Helens Canal

Tesco Express

Bridge over Liverpool Road

Liverpool Road

Bridge over Fiddler's Ferry trainline and Sankey Brook

Bridge over Barnard Street

New Bridge over River Mersey

River Mersey

Junction for link to future development

Road under West Coast Main Line and Walton Viaduct

Arpley Landfill

Morley Common

A5060


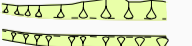

Bridge over Manchester Ship Canal

Manchester Ship Canal

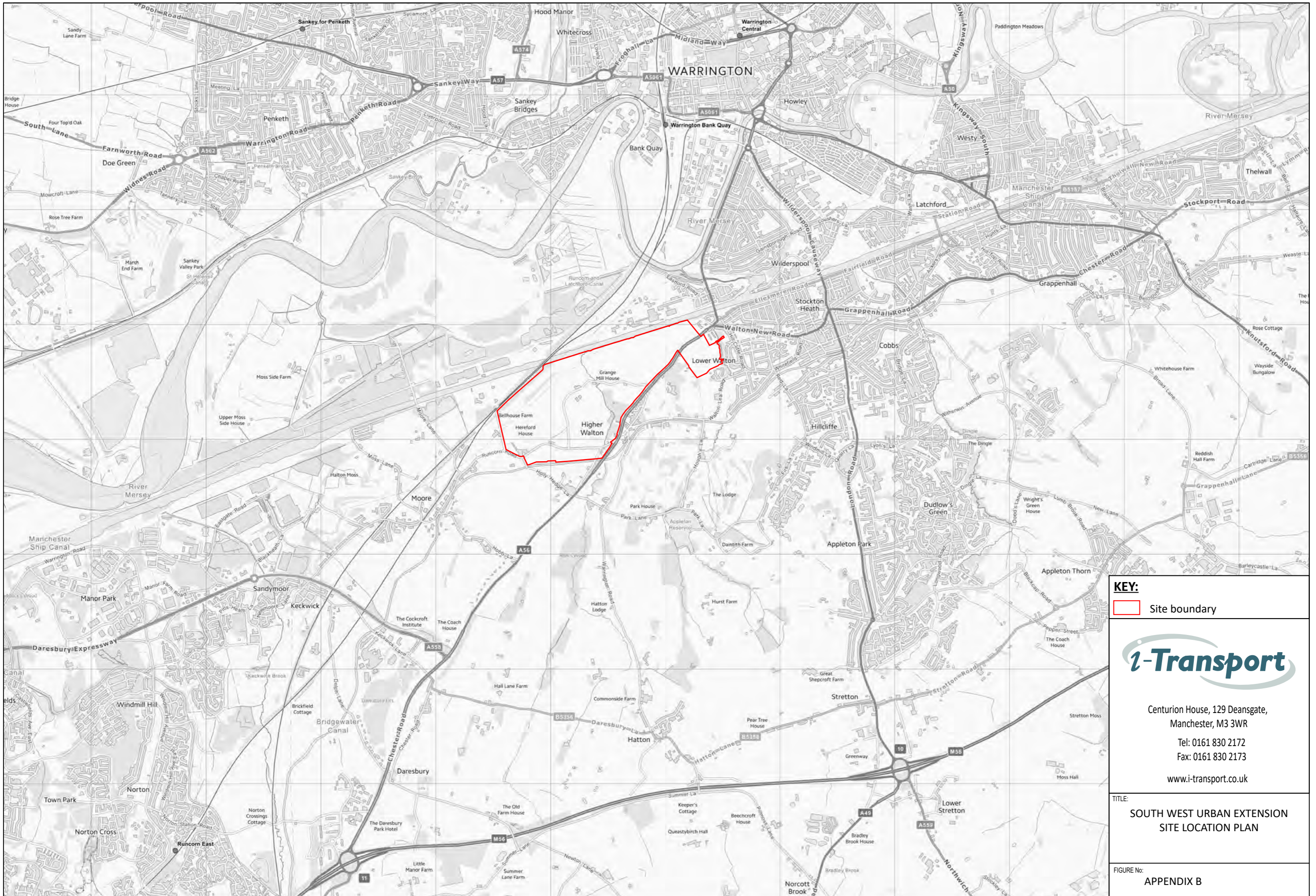
A56

Junction on Chester Road (A56)

Key:

-  New carriageway
-  New embankments
-  New bridge and/or retaining wall extents

APPENDIX B. Site Location Plan



KEY:
 Site boundary

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TITLE:
**SOUTH WEST URBAN EXTENSION
 SITE LOCATION PLAN**

FIGURE No:
APPENDIX B

APPENDIX C. SWUE Masterplan

KEY:

-  Site boundary
-  Local Authority Boundary
-  Proposed Green Belt
-  Existing vegetation
-  Proposed trees and woodland
-  Proposed development cells
-  Proposed development to be no higher than 2 storey along A56
-  Potential locations for a school (A or B)
-  Proposed play area
-  Potential location for retail / local centre
-  Proposed primary road
-  Proposed secondary / tertiary roads
-  Proposed public open space
-  Proposed allotments
-  Existing Public Right of Way
-  Proposed footpath
-  Proposed cycleway with existing residential access retained
-  Proposed route of western link road
-  Gas pipeline and easement
-  Proposed vehicular access points

NB: Masterplan subject to change following detailed survey work






Warrington Local Plan Sites
South West Urban Extension
Illustrative Masterplan and
development constraints

Drwg No: 630DE-13K Date: 11.06.2018
 Drawn by: AH Checker: SR
 Rev by: AH/YH Rev checker: SR/CW
 QM Status: Checked Product Status: Issue
 Scale: 1:10,000 @ A3

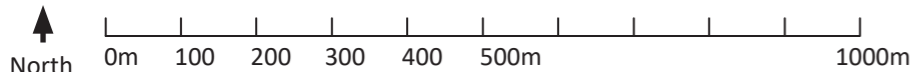


HSE Consultation Zones

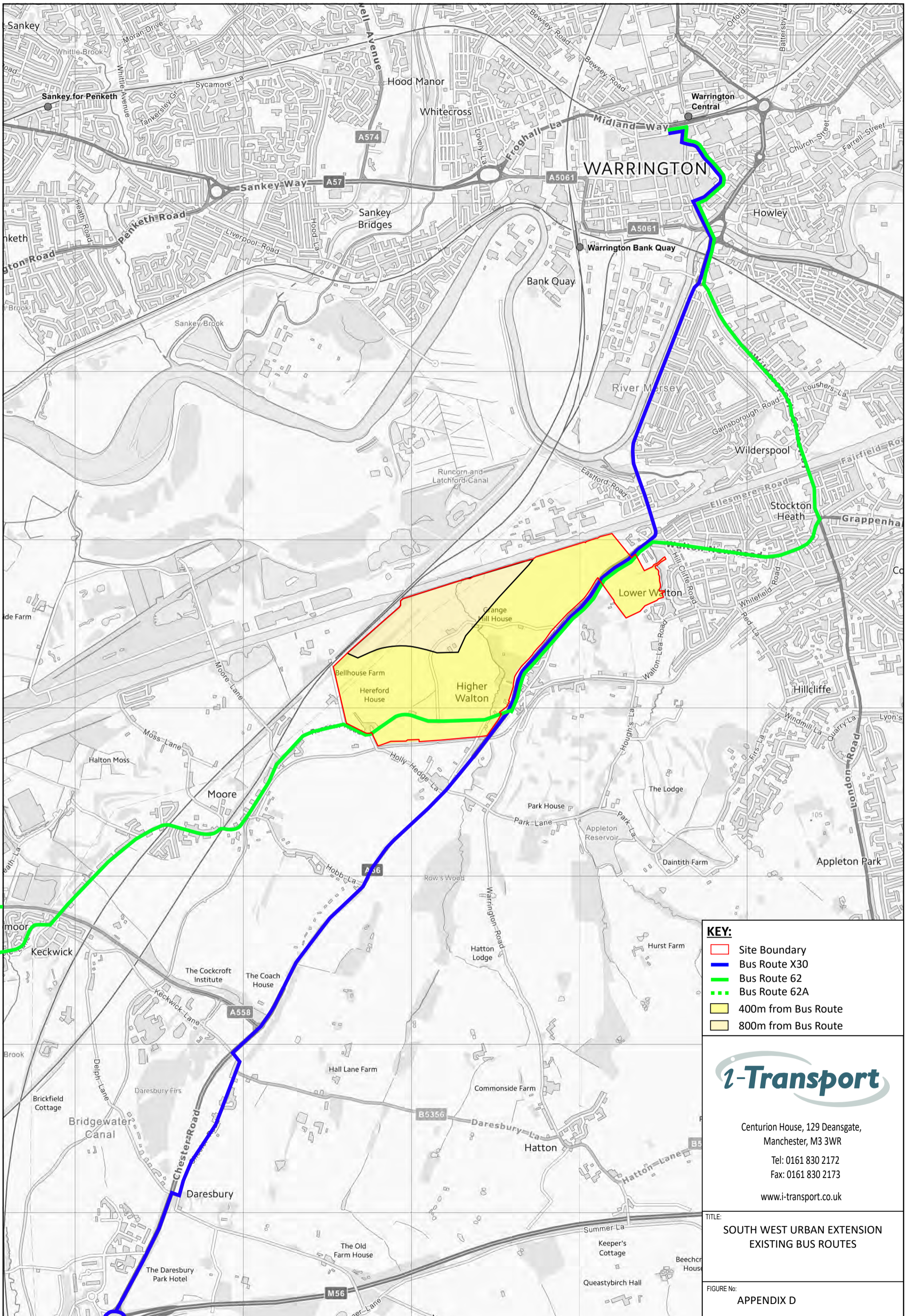
-  Inner Zone (50m)
-  Middle Zone (65m)
-  Outer Zone (100m)

• Total site area:	119.59 ha / 295.52 ac
• Total existing properties within red line:	6.37 ha / 15.74 ac
• Total existing roads within red line (A56/Runcorn Road):	1.80 ha / 4.45 ac
• Total proposed spine road corridor within red line (outside development cells):	2.74 ha / 6.77 ac
• Total proposed green infrastructure (all typologies):	53.16 ha / 131.36 ac
Land north of A56 and Runcorn Road:	
• Potential school (location to be confirmed):	1.40 ha / 3.46 ac
• Potential retail/local centre:	0.50 ha / 1.24 ac
• Residential development:	41.92 ha / 103.59 ac
- Residential development within Solvay Interlox Ltd outer zone:	13.50 ha / 33.36 ac (up to 473 units @ 35/ha)
- Residential development within Solvay Interlox Ltd middle zone:	0.86 ha / 2.13 ac (up to 30 units @ 35/ha)
- Residential development within former Norbert Dentressangle outer zone:	6.70 ha / 16.56 ac (up to 235 units @ 35/ha)
units @ 35 units per ha:	1467
Land south of Runcorn Road:	
• Residential development:	5.53 ha / 13.66 ac
units @ 35 units per ha:	194
Land south of A56 Chester Road:	
• Residential development:	6.17 ha / 15.25 ac
- Residential development within Solvay Interlox Ltd outer zone:	1.95 ha / 4.82 ac (up to 68 units @ 35/ha)
units @ 35 units per ha:	217
Total units across whole site @ 35 units per ha:	1878

Scale 1:10,000



APPENDIX D.Existing Bus Routes



KEY:

- Site Boundary
- Bus Route X30
- Bus Route 62
- Bus Route 62A
- 400m from Bus Route
- 800m from Bus Route

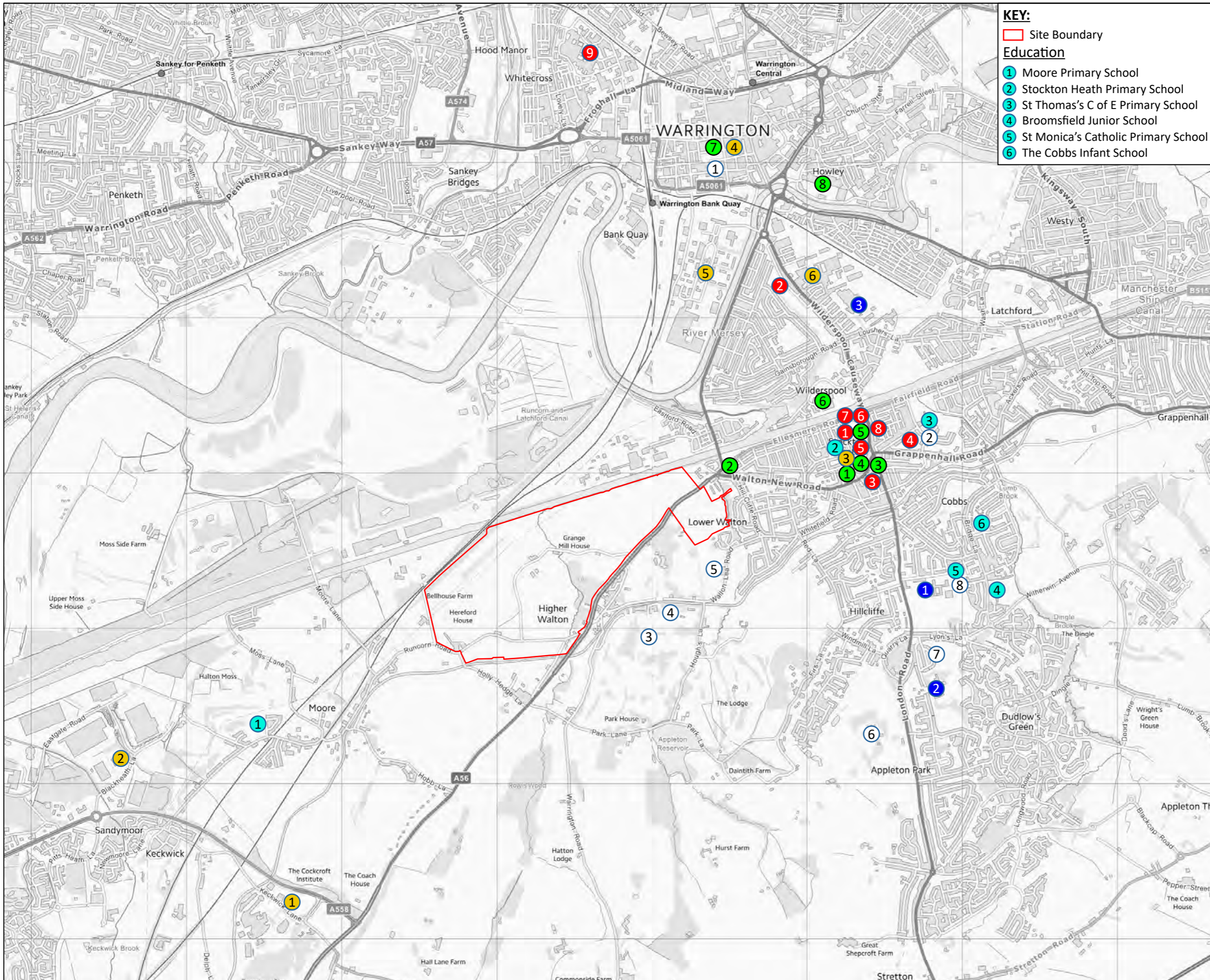


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TITLE:
**SOUTH WEST URBAN EXTENSION
 EXISTING BUS ROUTES**

FIGURE No:
APPENDIX D

APPENDIX E. Location of Key Facilities and Services



KEY:

Site Boundary

Education

- 1 Moore Primary School
- 2 Stockton Heath Primary School
- 3 St Thomas's C of E Primary School
- 4 Broomsfield Junior School
- 5 St Monica's Catholic Primary School
- 6 The Cobbs Infant School

- 1 Bridgewater High School - Upper
- 2 Bridgewater High School - Lower
- 3 Priestley College

Health

- 1 Stockton Heath Medical Centre
- 2 Causeway Medical Centre
- 3 Walton Road Dental Health
- 4 Stockton Heath Dental Practice
- 5 Jones Dental Care
- 6 Lloyds Pharmacy
- 7 Stockton Heath Pharmacy
- 8 Thomas Brown Pharmacy
- 9 Warrington and Halton Hospitals NHS Foundation Trust

Retail

- 1 Stockton Heath Post Office
- 2 One Stop Convenience Store
- 3 Sainsbury's Local
- 4 ALDI
- 5 M&S Simply Food
- 6 Morrisons
- 7 Warrington Town Centre
- 8 Riverside Retail Park

Leisure

- 1 Warrington Library
- 2 Stockton Heath Library
- 3 Walton Golf Course
- 4 Walton Hall & Gardens
- 5 Warrington Hockey Club
- 6 Warrington Golf Club
- 7 Appleton Cricket Club
- 8 Broomfield Leisure Centre

Employment

- 1 Daresbury Science & Innovation Centre
- 2 Distribution Park off Blackheath Lane
- 3 Stockton Heath Centre
- 4 Warrington Town Centre
- 5 Centre Park Warrington
- 6 Causeway Park

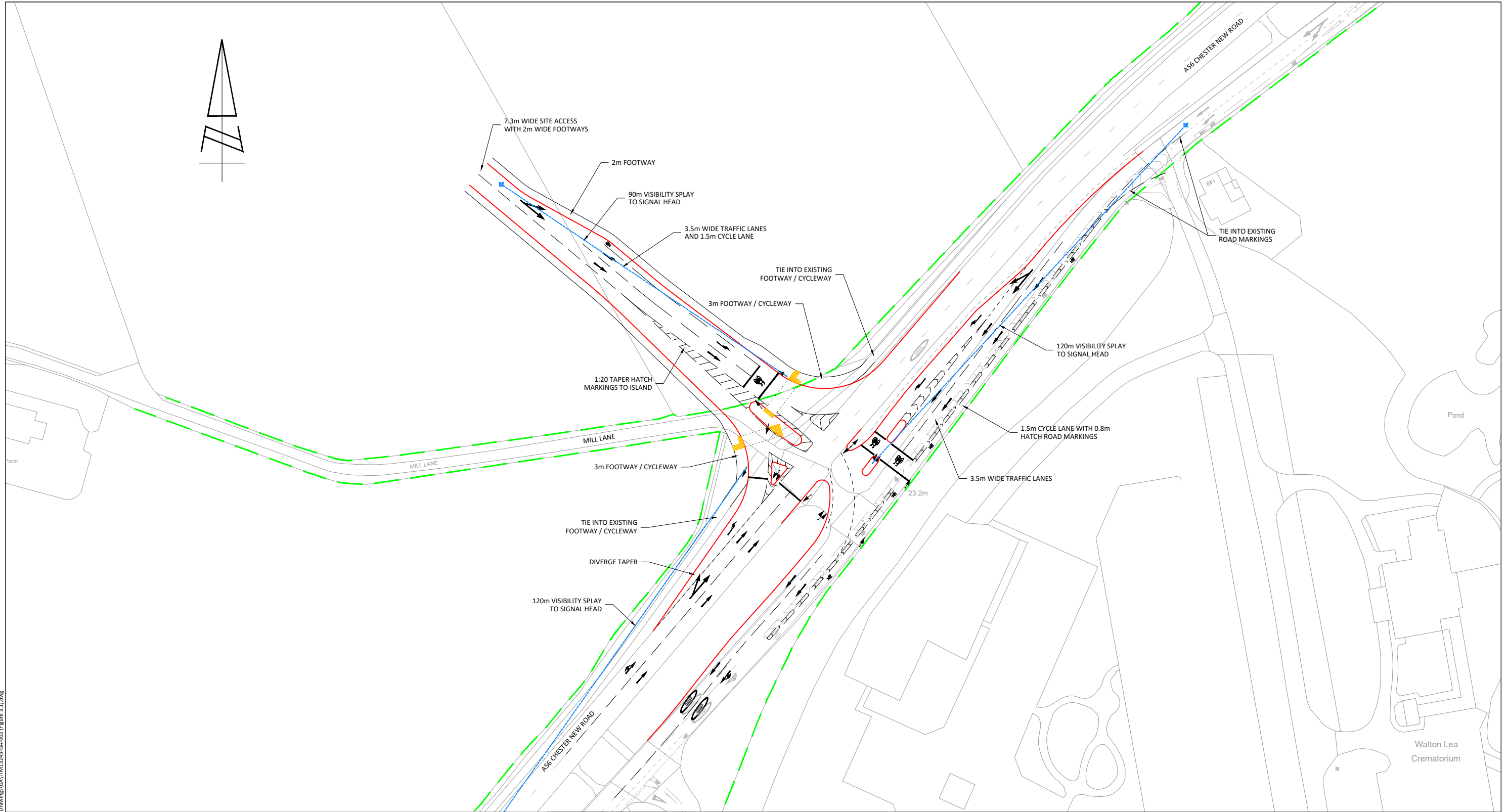


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TITLE:
**SOUTH WEST URBAN EXTENSION
EXISTING KEY FACILITIES AND SERVICES**

FIGURE No:
APPENDIX E

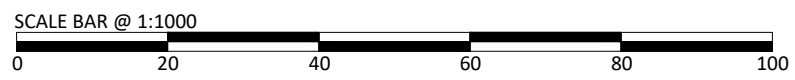
APPENDIX F. Potential Site Accesses off A56 Chester Road



Z:\Projects\13243\ITM Land at Higher Walton\Tech\Acad\Transport Drawings\GA\ITM13243-GA-002\Figure 3.1.dwg

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— HIGHWAY BOUNDARY



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REV	DATE	BY	DESCRIPTION	CHK	APD
STATUS: DRAFT					

TITLE: POTENTIAL SITE ACCESS FROM A56 CHESTER ROAD	
PROJECT: SOUTH WEST URBAN EXTENSION	CLIENT: PEEL INVESTMENTS (NORTH) LIMITED

SCALE @ A3: 1:1000	CHECKED: SEE	APPROVED: SEE
FILE REF: ITM13243-GA	DRAWN: PH	DATE: 07.09.2017
DRAWING No: APPENDIX E (ITM13243 - GA - 002)		
PROJECT No: ITM13243	REV: -	



NORTH SOUTH AERIAL VIEW



NOTES

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SITE LAYOUT NTS

REV	DETAILS	DRAWN	CHECKED	DATE

CLIENT:
LANE END

PROJECT:
SOUTH-WEST WARRINGTON

DRAWING TITLE:
POTENTIAL SITE ACCESS ARRANGEMENT OFF A56 CHESTER ROAD

SCALES:
1:1000 @ A3

DRAWN: JC	CHECKED: PJW	DATE: FEB 19
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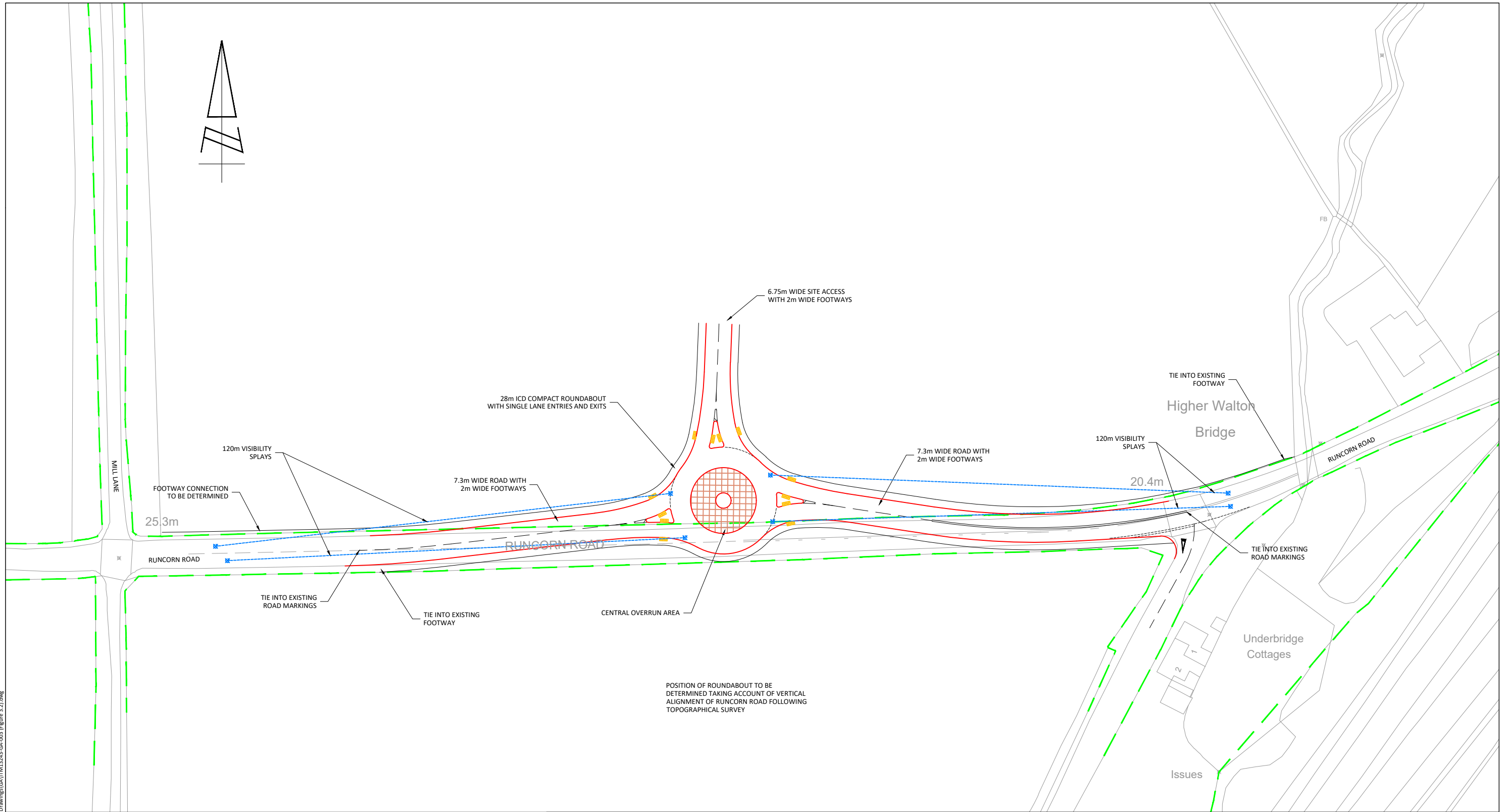
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Hill Quays
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M15 4PY

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APPENDIX G.Potential Site Accesses off Runcorn Road



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SCALE BAR @ 1:1000



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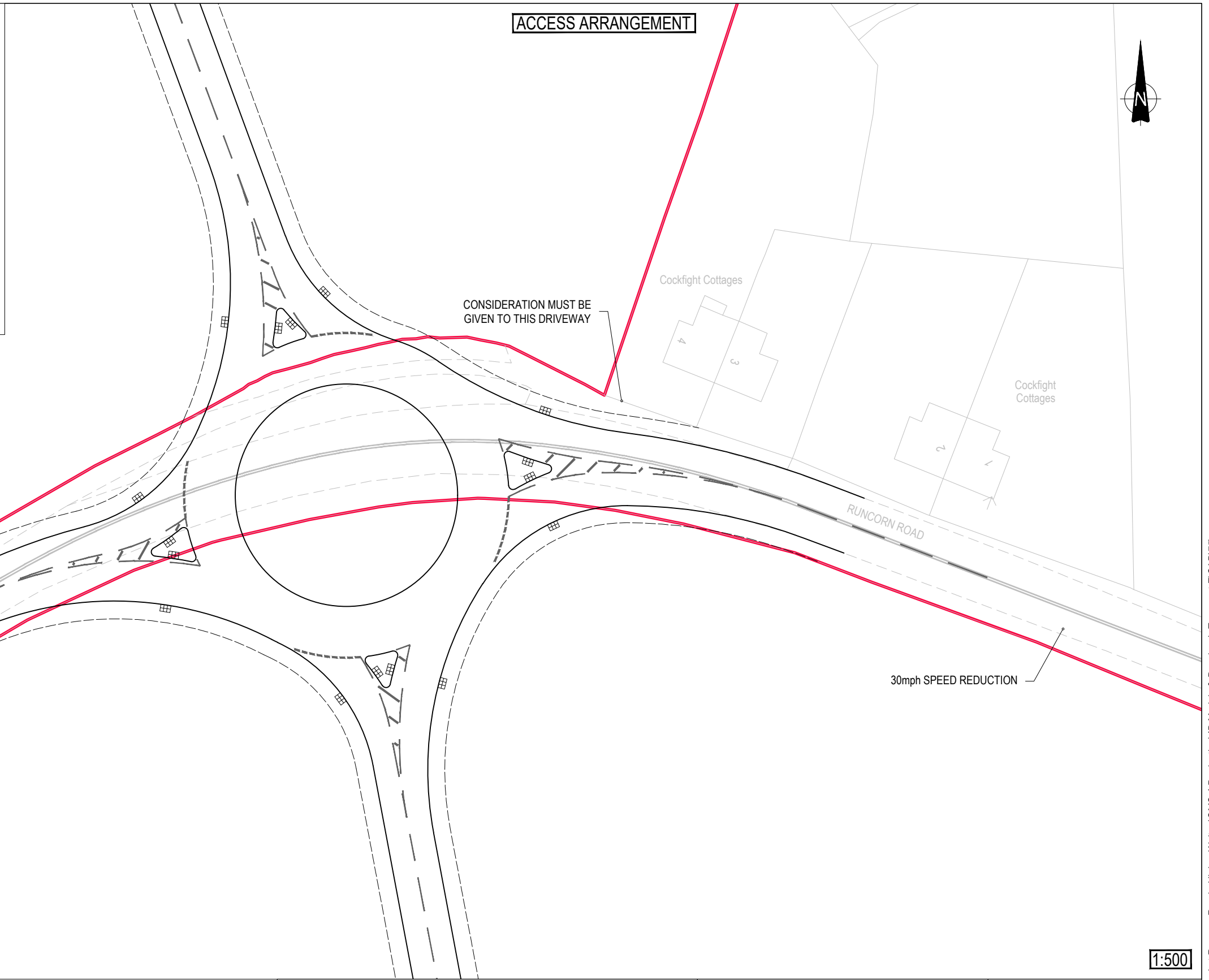
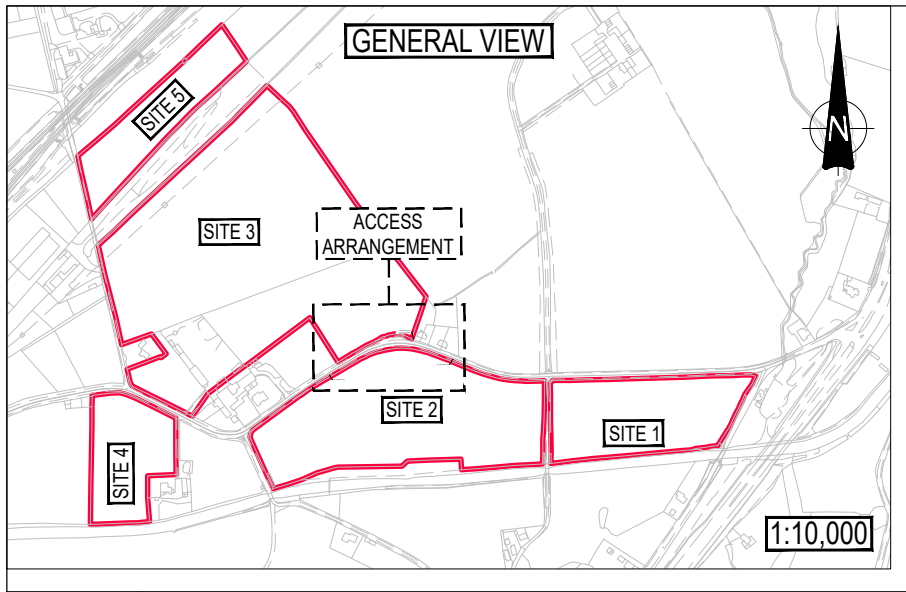
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PROJECT: SOUTH WEST URBAN EXTENSION
CLIENT: PEEL INVESTMENTS (NORTH) LIMITED

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FILE REF: ITM13243-GA	DRAWN: PH	DATE: 01.09.2017

DRAWING No: APPENDIX F (ITM13243 - GA - 003)
PROJECT No: ITM13243
REV: -

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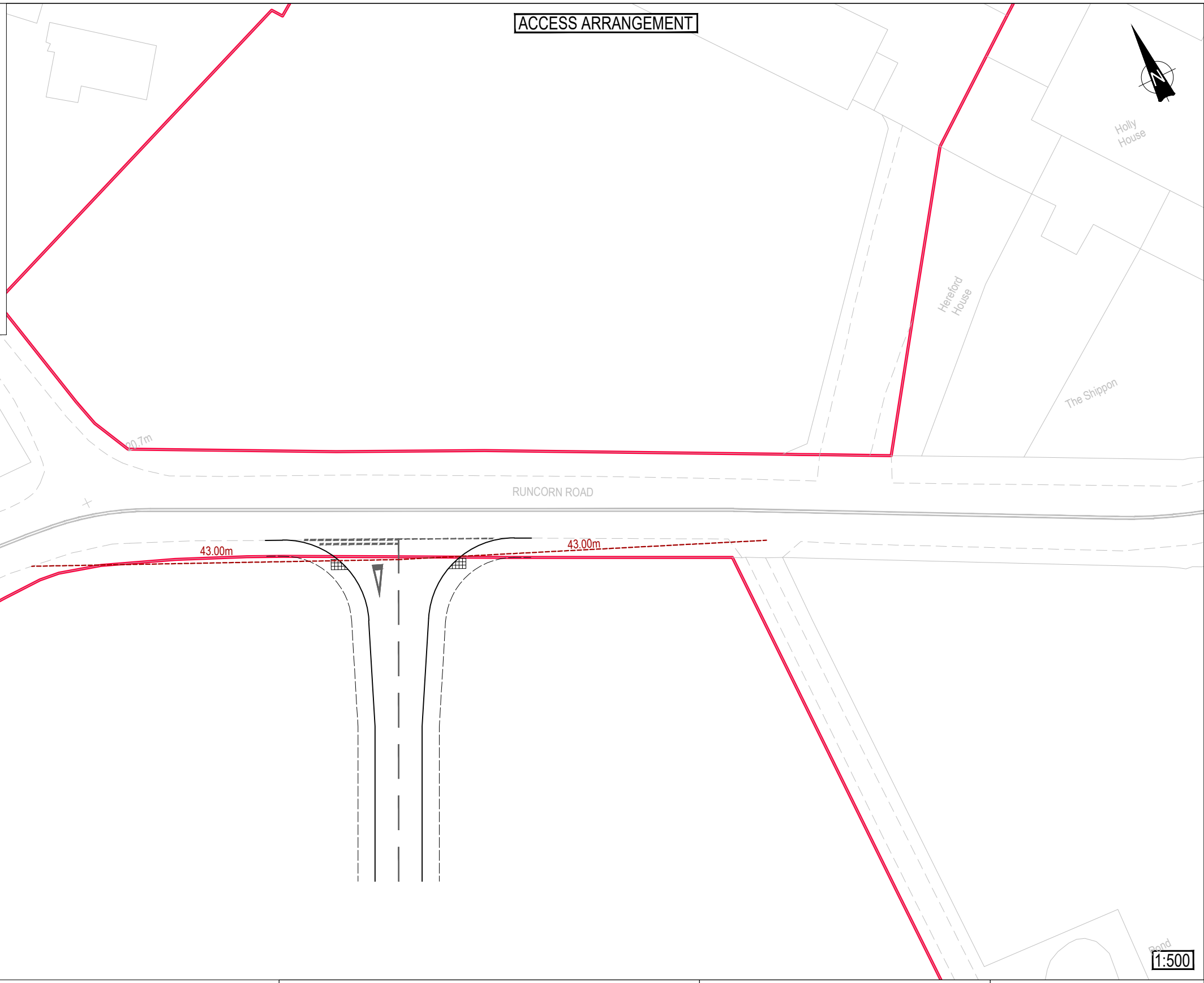
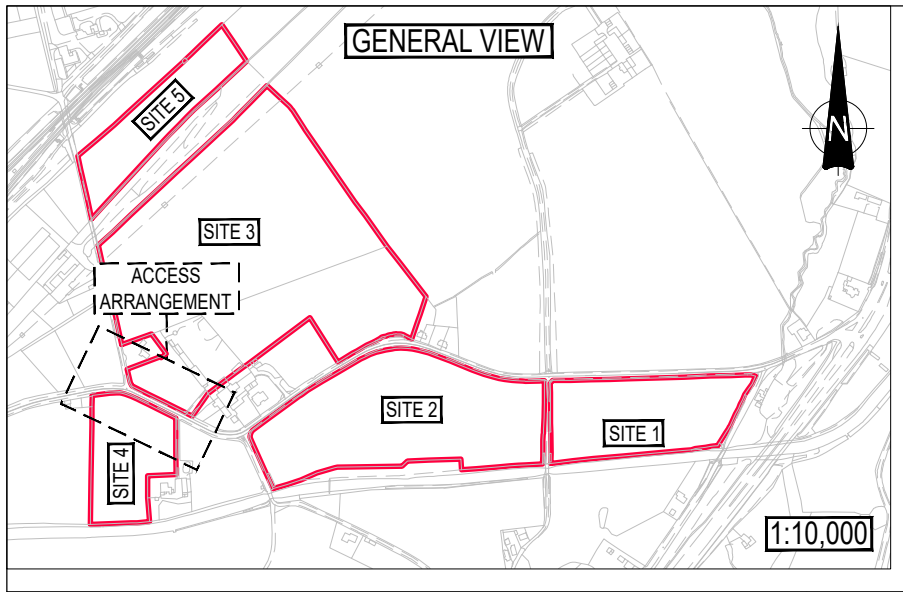
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		PROPOSED KERB LINE
		PROPOSED FOOTPATH
		PROPOSED ROAD MARKINGS
GENERAL NOTES:		

Rev:	Description:	Date:	By:


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Project: LAND AT RUNCORN ROAD - WARRINGTON		Status: PRELIMINARY	
Drg Title: POTENTIAL ACCESS ARRANGEMENT SITES 2 & 3		Drawn By: DD	Checked By: AV
		Designed By: DD	Date: 20/11/17
Scale: AS INDICATED			
Project No:	Originator:	Zone:	Level:
66923	CUR	00	XX
Type:	Discipline:	Category / Number:	Rev:
DR	TP	75002	-P01



KEY:		INDICATIVE RED LINE
		PROPOSED KERB LINE
		PROPOSED FOOTPATH
		PROPOSED ROAD MARKINGS
		PROPOSED VISIBILITY SPLAYS AT 30mph

GENERAL NOTES:	Rev:	Description:	Date:	By:
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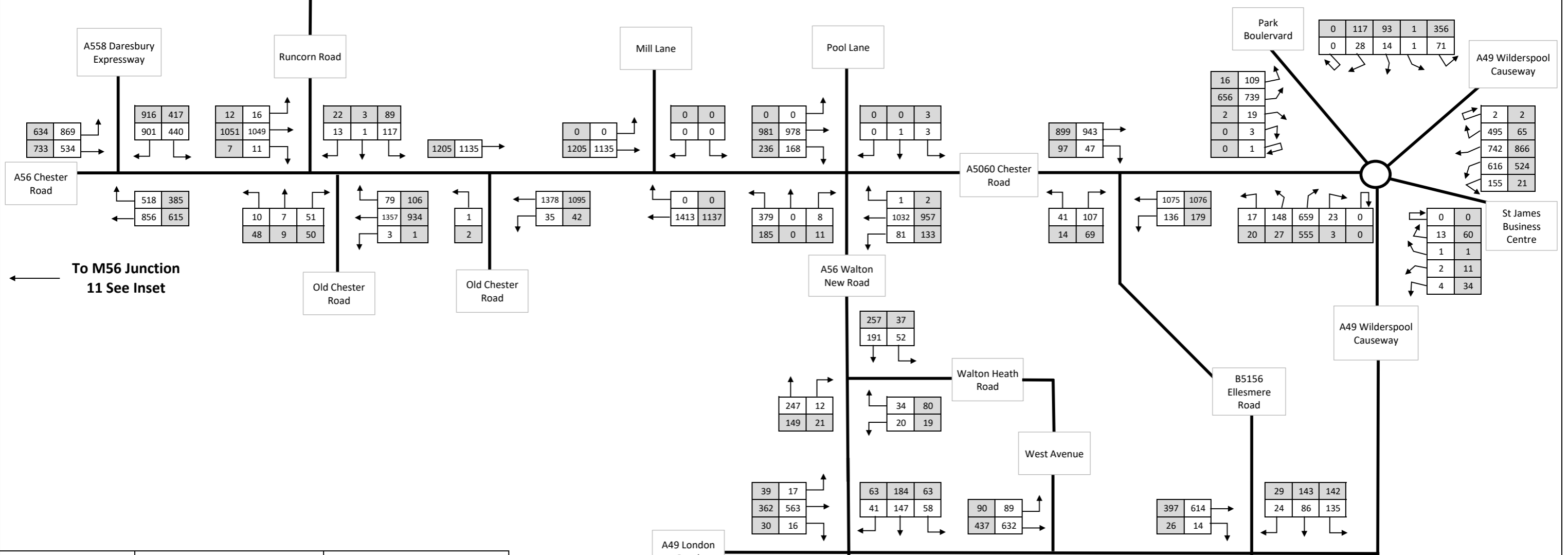
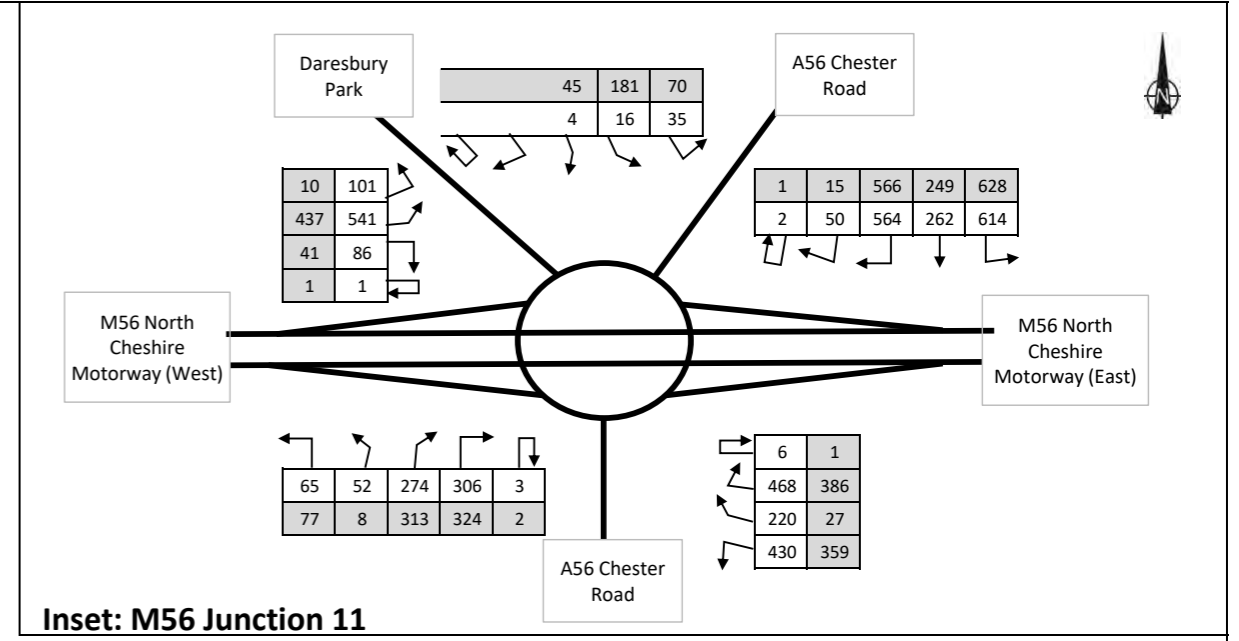
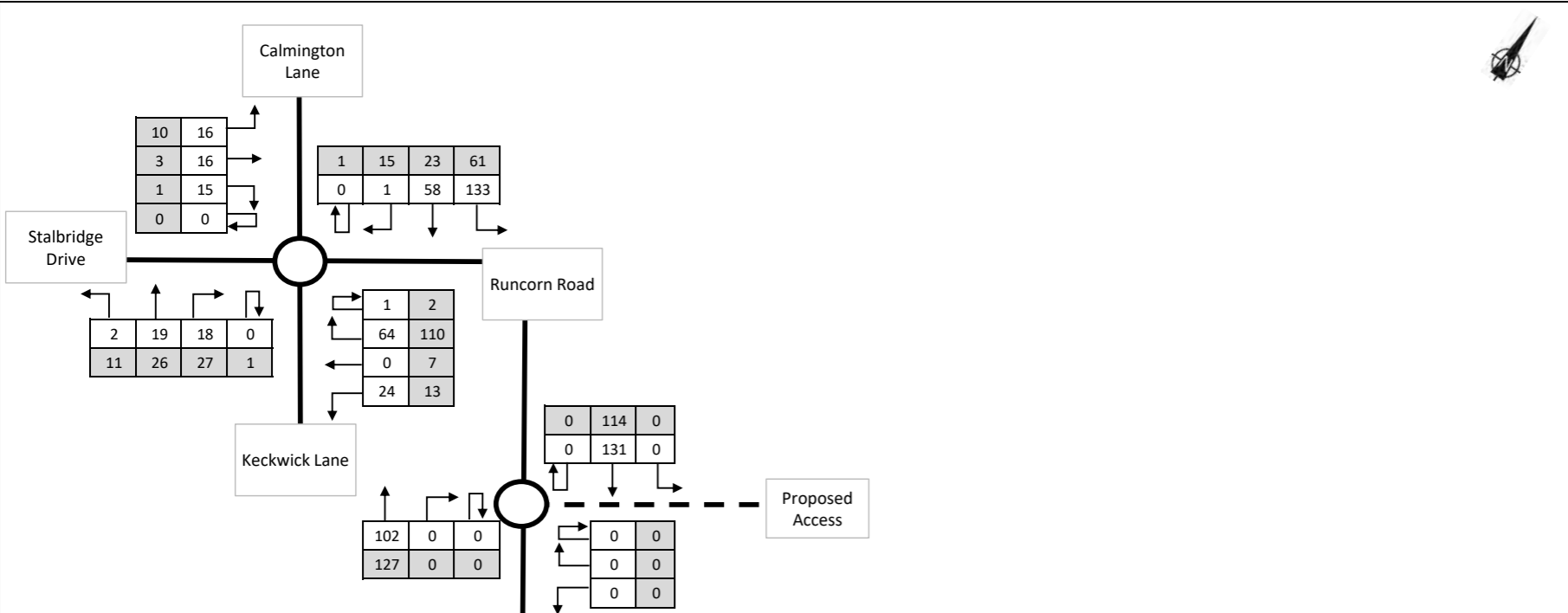
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Project:	LAND AT RUNCORN ROAD - WARRINGTON
Drg Title:	POTENTIAL ACCESS ARRANGEMENT SITE 4
Project No:	66923 - CUR - 00 - XX - DR - TP - 75003 -P01

Status:	PRELIMINARY	
Drawn By:	DD	Checked By: AV
Designed By:	DD	Date: 20/11/17
Scale:	AS INDICATED	

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APPENDIX H.2017 Observed Traffic Flows



KEY

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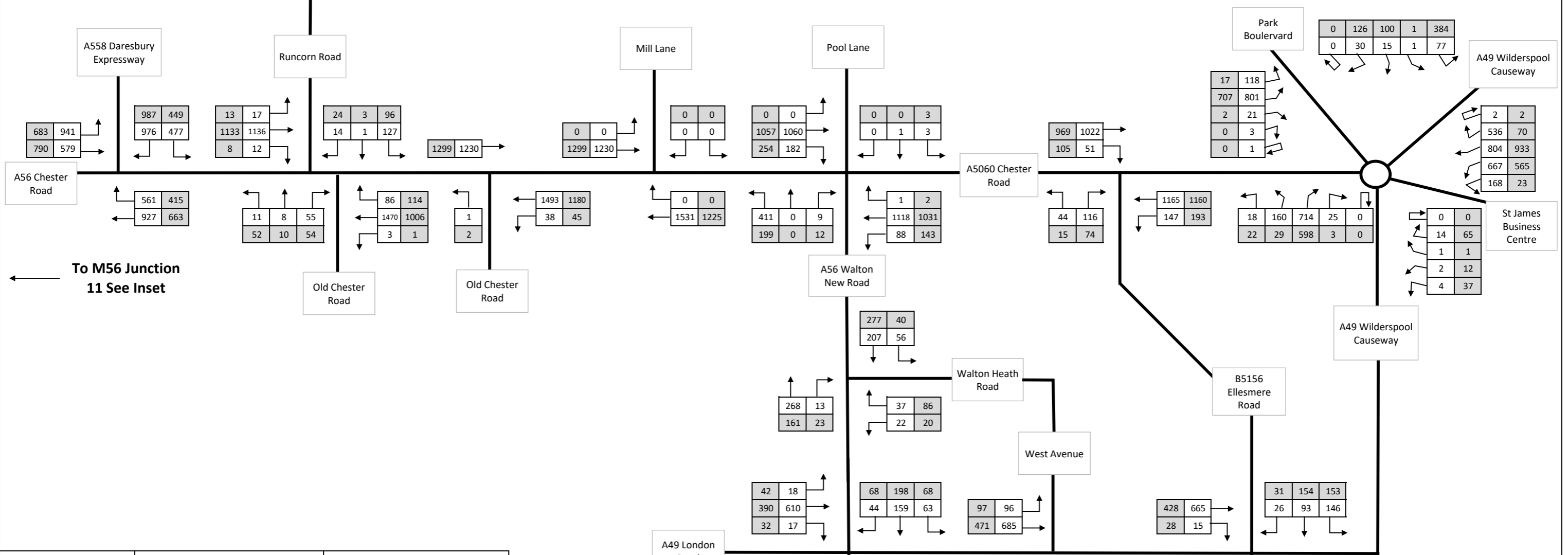
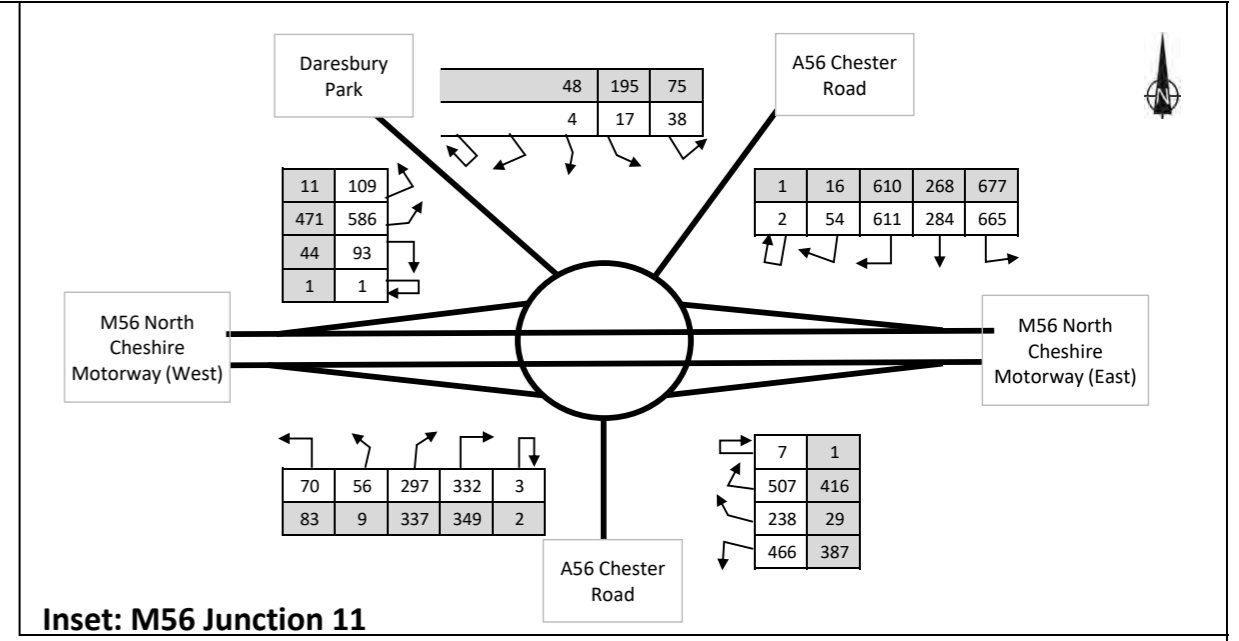
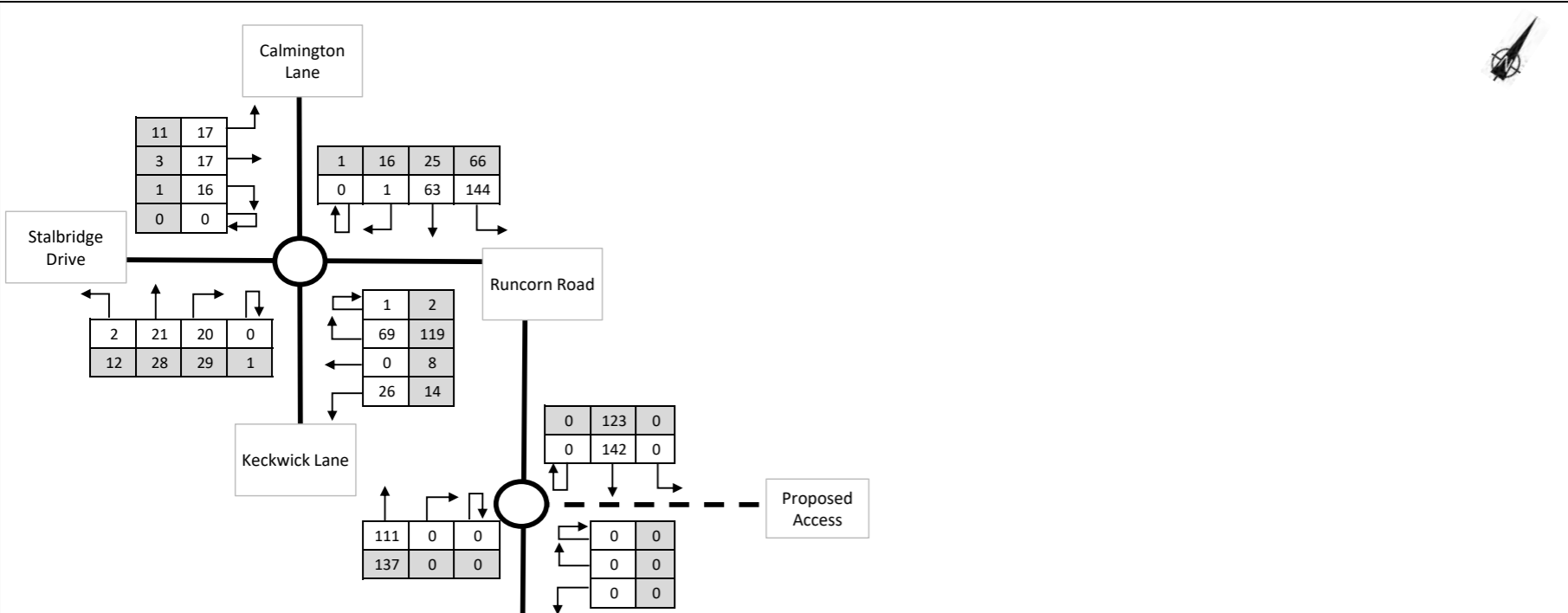
SOUTH WEST URBAN EXTENSION

Appendix H

2017 Observed

Notes:
AM Peak - 07:45-08:45
PM Peak - 16:00-17:00

APPENDIX I. Future Baseline Traffic Flows



KEY

500 = PCUs AM Peak Hour

500 = PCUs PM Peak Hour

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SOUTH WEST URBAN EXTENSION

Appendix I2

2037 Base Traffic Flows

Notes:

Growth Factors:
AM Peak = 1.0834
PM Peak = 1.0776

APPENDIX J. Development Trip Distribution and Assignment

Trip Generation by Trip PurposeDevelopment Quantum

1800 Dwellings

100% Houses Privately Owned
0% Affordable HousingTrip Rates (TRICS 7.4.4) and Generation

80% trip generation assumed based on internalisation at full development

Time Period	Houses Privately Owned					
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
AM Peak	0.127	0.377	0.504	183	543	726
PM Peak	0.309	0.164	0.473	445	236	681

Time Period	Affordable Housing					
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
AM Peak	0.153	0.279	0.432	0	0	0
PM Peak	0.301	0.187	0.488	0	0	0

Time Period	Total Development		
	Arrival	Departure	Two-Way
AM Peak	183	543	726
PM Peak	445	236	681

Trip Purpose Proportions (TEMPro) - Car Driver

Trip Purpose	AM Peak					PM Peak			
	Origin	Destination	O+D	%	% Adjusted	Origin	Destination	O+D	%
Work	3,370	3,279	6,649	58%	58%	2,590	2,684	5,274	43%
Employers Business	426	399	825	7%	7%	355	372	727	6%
Education	704	558	1,262	11%	20%	242	298	540	4%
Shopping	749	517	1,266	11%	6%	902	1,024	1,926	16%
Personal Business	372	286	658	6%	4%	455	496	951	8%
Recreation/Social	207	132	339	3%	2%	526	518	1,044	9%
Visiting	87	75	162	1%	1%	622	651	1,273	10%
Holiday/Day Trip	139	147	286	2%	2%	257	249	506	4%

*(Based on MSOA - Warrington023, 024 and 025)**Adjustment to AM Peak hour proportions from AM Peak period in TEMPro*Trip Generation by Purpose

Trip Purpose	AM Peak			PM Peak		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Work	106	315	421	192	102	293
Employers Business	13	38	51	26	14	40
Education	37	109	145	20	10	30
Shopping	11	33	44	70	37	107
Personal Business	7	22	29	35	18	53
Recreation/Social	4	11	15	38	20	58
Visiting	2	5	7	46	25	71
Holiday/Day Trip	4	11	15	18	10	28
Total	183	543	726	445	236	681

Trip Generation for Distribution Splits

Education 67% Primary 33% Secondary
 Shopping 50% Food 50% Non-Food
 Personal/Recreation/Visiting/Holiday all combined

Trip Purpose	AM Peak			PM Peak		
	Arrival	Departure	Two-Way	Arrival	Departure	Two-Way
Work	106	315	421	192	102	293
Employers Business	13	38	51	26	14	40
Education - Primary	25	73	97	13	7	20
Education - Secondary	12	36	48	6	3	10
Shopping - Food	5	16	22	35	19	54
Shopping - Non Food	5	16	22	35	19	54
Personal Business						
Recreation/Social						
Visiting						
Holiday/Day Trip						
Total	183	543	726	445	236	681

Journey to Work

Routing			AM Peak			PM Peak		
			Arrival	Departure	2-Way	Arrival	Departure	2-Way
A	A588 Daresbury Expressway	6.2%	7	19	26	12	6	18
B	M56 (West)	5.1%	5	16	21	10	5	15
C	A56 Chester Road	1.0%	1	3	4	2	1	3
D	A49 Tarporley Road	0.3%	0	1	1	0	0	1
E	A559 Northwich Road	2.5%	3	8	10	5	3	7
F	M6 (South)	4.9%	5	15	21	9	5	14
G	A50 (South)	1.2%	1	4	5	2	1	4
H	M56 (East)	13.4%	14	42	57	26	14	39
I	B5158 Cherry Lane	0.0%	0	0	0	0	0	0
J	Warrington Road	3.1%	3	10	13	6	3	9
K	A57 Manchester Road	0.3%	0	1	1	1	0	1
L	M6 (North)	0.0%	0	0	0	0	0	0
M	Birchwood Way	12.0%	13	38	51	23	12	35
N	A49 Winwick Road	11.1%	12	35	47	21	11	33
O	M62 (West)	5.4%	6	17	23	10	6	16
P	A57 Liverpool Road	2.5%	3	8	10	5	3	7
Q	A582 Widens Road	0.7%	1	2	3	1	1	2

E02002597 : Warrington 008	0.4%	0	1	2	1	0	1
E02002599 : Warrington 010	0.3%	0	1	1	1	0	1
E02002600 : Warrington 011	1.2%	1	4	5	2	1	3
E02002601 : Warrington 012	0.8%	1	2	3	1	1	2
E02002603 : Warrington 014	1.7%	2	5	7	3	2	5
E02002605 : Warrington 016	0.2%	0	1	1	0	0	1
E02002606 : Warrington 017	2.6%	3	8	11	5	3	8
E02002607 : Warrington 018	8.9%	9	28	38	17	9	26
E02002609 : Warrington 020	1.2%	1	4	5	2	1	4
E02002611 : Warrington 022	1.0%	1	3	4	2	1	3
E02002612 : Warrington 023	5.1%	5	16	22	10	5	15
E02002613 : Warrington 024	5.4%	6	17	23	10	5	16
E02002614 : Warrington 025	1.3%	1	4	6	3	1	4

100.0%

106

315

421

192

102

293

Employer Business

Routing			AM Peak			PM Peak		
			Arrival	Departure	2-Way	Arrival	Departure	2-Way
1	Warrington	50.0%	6	19	25	13	7	20
2	Runcorn	10.0%	1	4	5	3	1	4
3	Widnes	10.0%	1	4	5	3	1	4
4	Manchester	20.0%	3	8	10	5	3	8
5	Liverpool	10.0%	1	4	5	3	1	4
100.0%			13	38	51	26	14	40

Primary School

Routing			AM Peak			PM Peak		
			Arrival	Departure	2-Way	Arrival	Departure	2-Way
1	Stockton Heath	20.0%	5	15	19	3	1	4
2	St. Thomas's C of E	12.5%	3	9	12	2	1	3
3	St. Monica's Catholic	10.0%	2	7	10	1	1	2
4	Our Lady's Catholic	5.0%	1	4	5	1	0	1
5	Alderman Bolton Community	5.0%	1	4	5	1	0	1
6	St. Matthew's C of E	5.0%	1	4	5	1	0	1
7	Evelyn Street	5.0%	1	4	5	1	0	1
8	Sankey Valley St James	5.0%	1	4	5	1	0	1
9	Penketh Community	0.0%	0	0	0	0	0	0
10	St. Joseph's Catholic	0.0%	0	0	0	0	0	0
11	Beaumont Community	0.0%	0	0	0	0	0	0
12	St. Benedict's Catholic	0.0%	0	0	0	0	0	0
13	Moore	12.5%	3	9	12	2	1	3
14	Daresbury County	10.0%	2	7	10	1	1	2
15	Windmill Hill	5.0%	1	4	5	1	0	1
16	St. Bertelines C of E	5.0%	1	4	5	1	0	1
17	On Site	-						
100.0%			25	73	97	13	7	20

Secondary School

Routing			AM Peak			PM Peak		
			Arrival	Departure	2-Way	Arrival	Departure	2-Way
1	County High School	30.0%	4	11	14	2	1	3
2	Bridgewater (Upper)	15.0%	2	5	7	1	1	1
3	Bridgewater (Lower)	15.0%	2	5	7	1	1	1
4	St Thomas Boteler C of E	15.0%	2	5	7	1	1	1
5	Saint Gregory's Catholic	5.0%	1	2	2	0	0	0
6	Penkith	5.0%	1	2	2	0	0	0
7	Sandymoor	15.0%	2	5	7	1	1	1
8	On Site	-						
100.0%			12	36	48	6	3	10

Shopping - Food

Routing			AM Peak			PM Peak		
			Arrival	Departure	2-Way	Arrival	Departure	2-Way
1	Morrisons (Warrington)	30.0%	2	5	7	11	6	16
2	Sainsbury's (Chapelford)	0.0%	0	0	0	0	0	0
3	Sainsbury's (Warrington)	10.0%	1	2	2	4	2	5
4	Asda (Warrington)	10.0%	1	2	2	4	2	5
5	Asda (Westbrook)	0.0%	0	0	0	0	0	0
6	Tesco(Warrington)	10.0%	1	2	2	4	2	5
7	Aldi (Stockton Heath)	15.0%	1	2	3	5	3	8
8	Aldi (Warrington)	0.0%	0	0	0	0	0	0
9	Lidl - Liverpool Street	5.0%	0	1	1	2	1	3
10	Lidl - Fennel Street	5.0%	0	1	1	2	1	3
11	Lidl - Thelwall Lane	5.0%	0	1	1	2	1	3
12	Asda (Runcorn)	10.0%	1	2	2	4	2	5
13	On Site	-						
100.0%			5	16	22	35	19	54

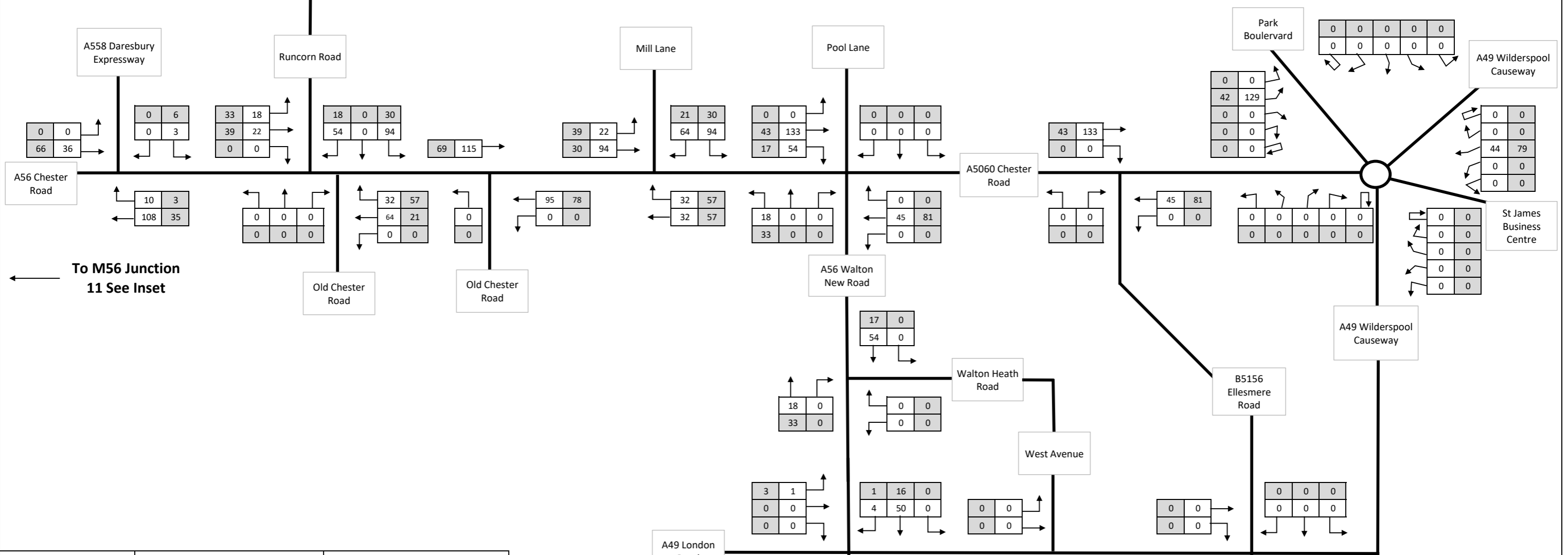
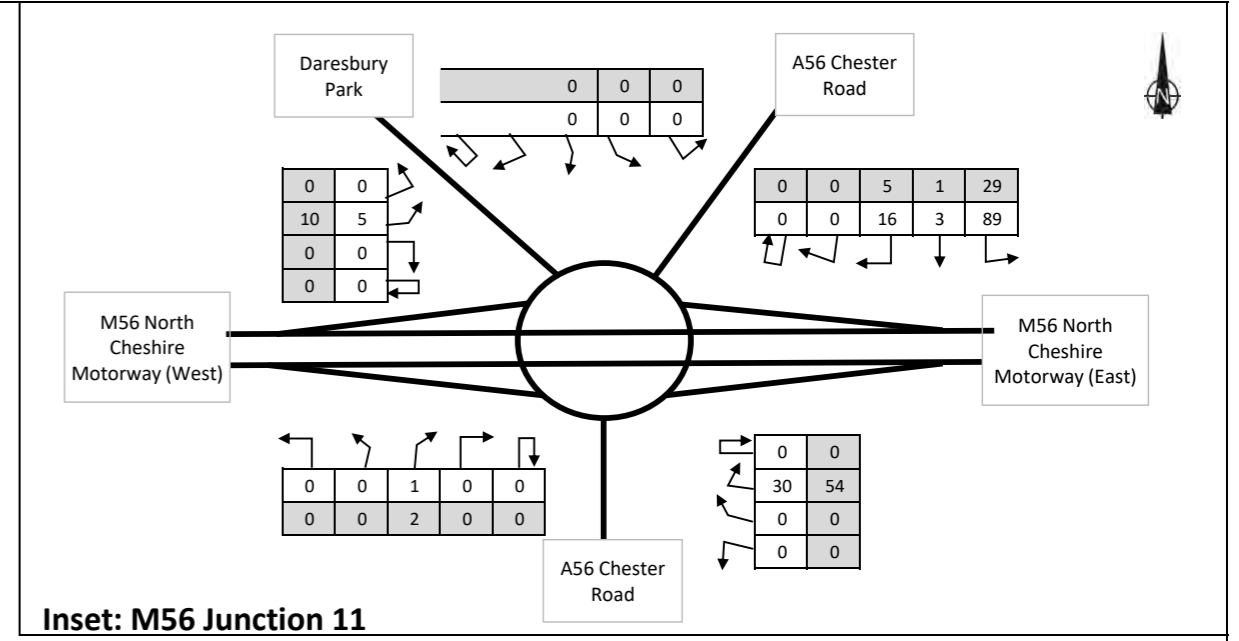
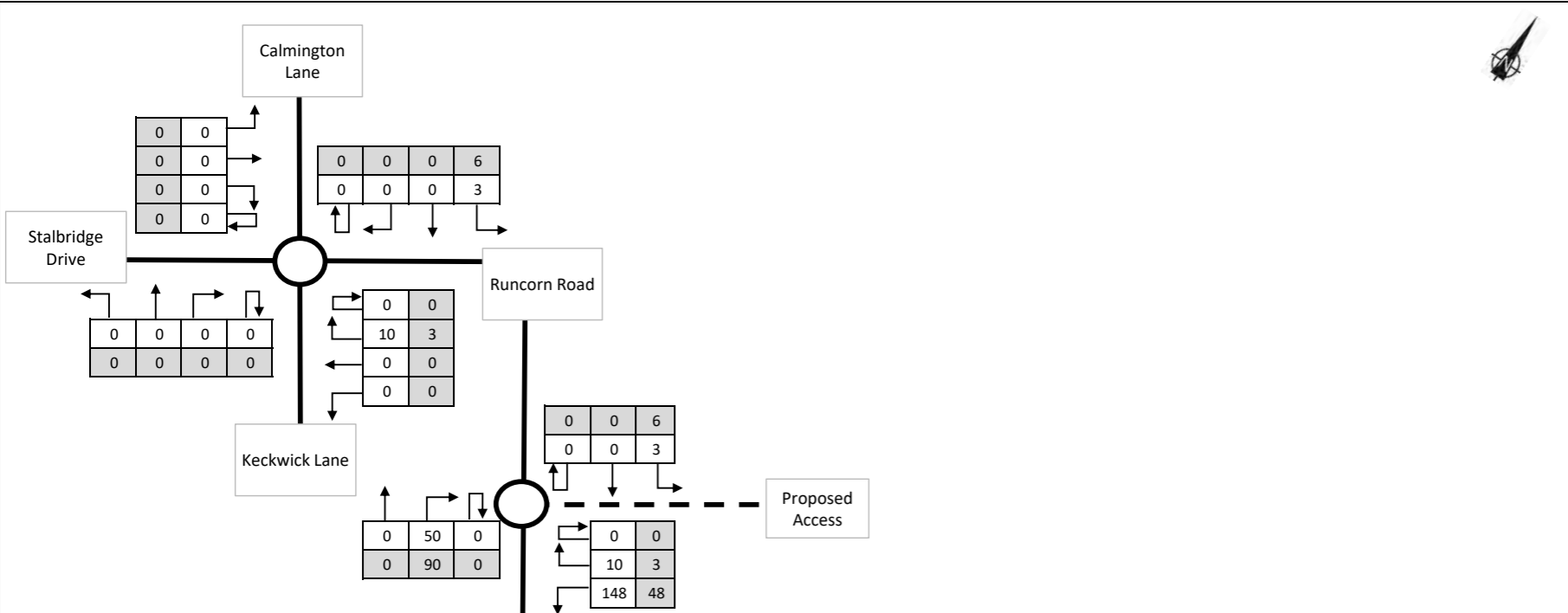
Shopping - Non-Food

Routing			AM Peak			PM Peak		
			Arrival	Departure	2-Way	Arrival	Departure	2-Way
1	Warrington Town Centre	40.0%	2	7	9	14	7	21
2	Riverside Retail Park	15.0%	1	2	3	5	3	8
3	Piners Brow Retail Park	5.0%	0	1	1	2	1	3
4	Trident Retail Park	5.0%	0	1	1	2	1	3
5	Stockton Heath High Street	5.0%	0	1	1	2	1	3
6	Runcorn Town Centre	15.0%	1	2	3	5	3	8
7	Gemini	5.0%	0	1	1	2	1	3
8	Manchester/Trafford Centre	10.0%	1	2	2	4	2	5
9	On Site	-						
100.0%			5	16	22	35	19	54

Personal Business / Recreation/Social / Visiting / Holiday/Day Trip

Routing			AM Peak			PM Peak		
			Arrival	Departure	2-Way	Arrival	Departure	2-Way
1	Warrington	50.0%	8	24	33	69	36	105
2	Runcorn	10.0%	2	5	7	14	7	21
3	Widnes	10.0%	2	5	7	14	7	21
4	Manchester	20.0%	3	10	13	27	15	42
5	Liverpool	10.0%	2	5	7	14	7	21
100.0%			16	49	65	137	73	210

APPENDIX K. Development Traffic Flows – 1,800 Dwellings



KEY

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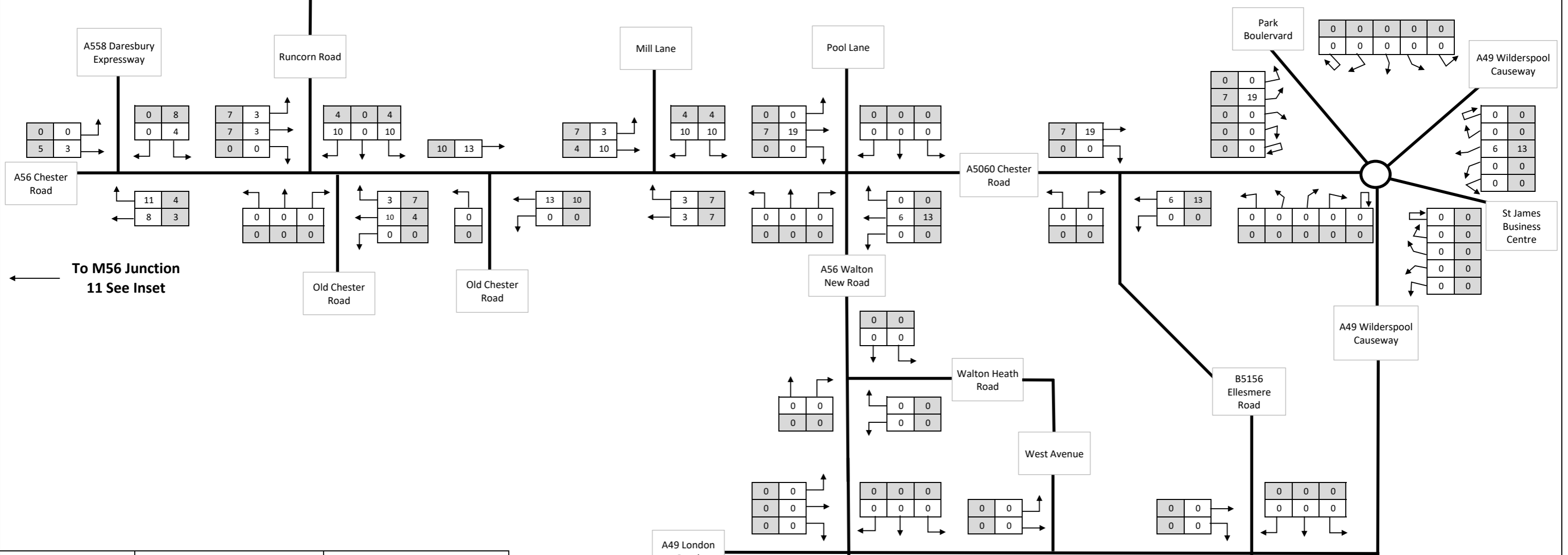
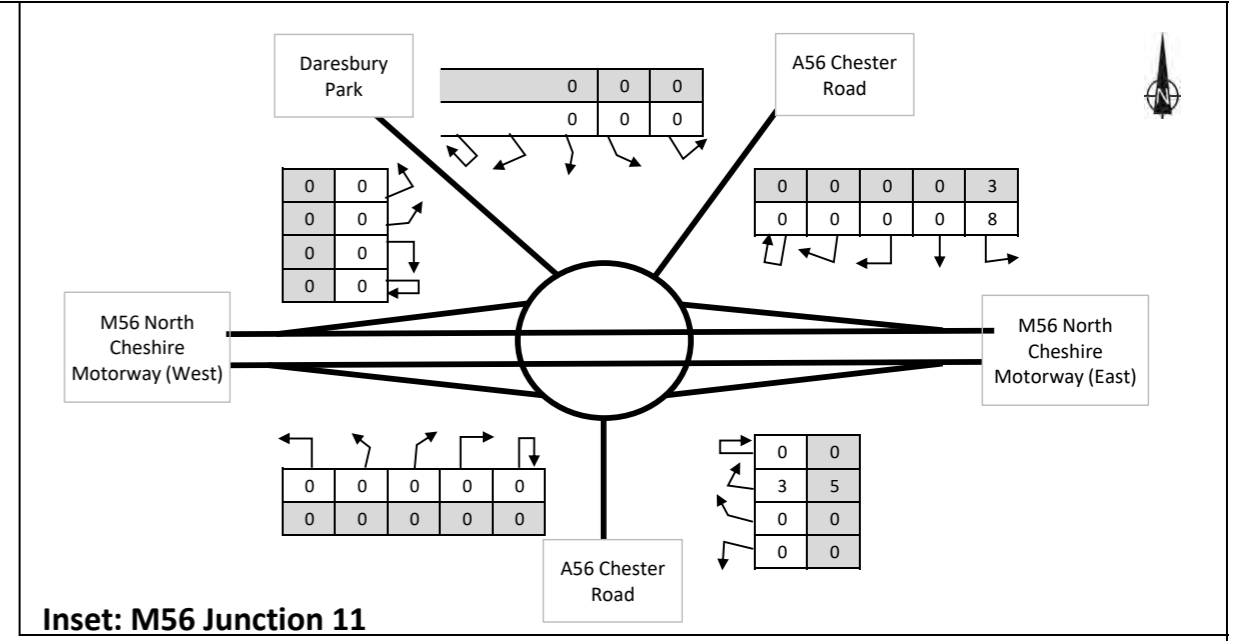
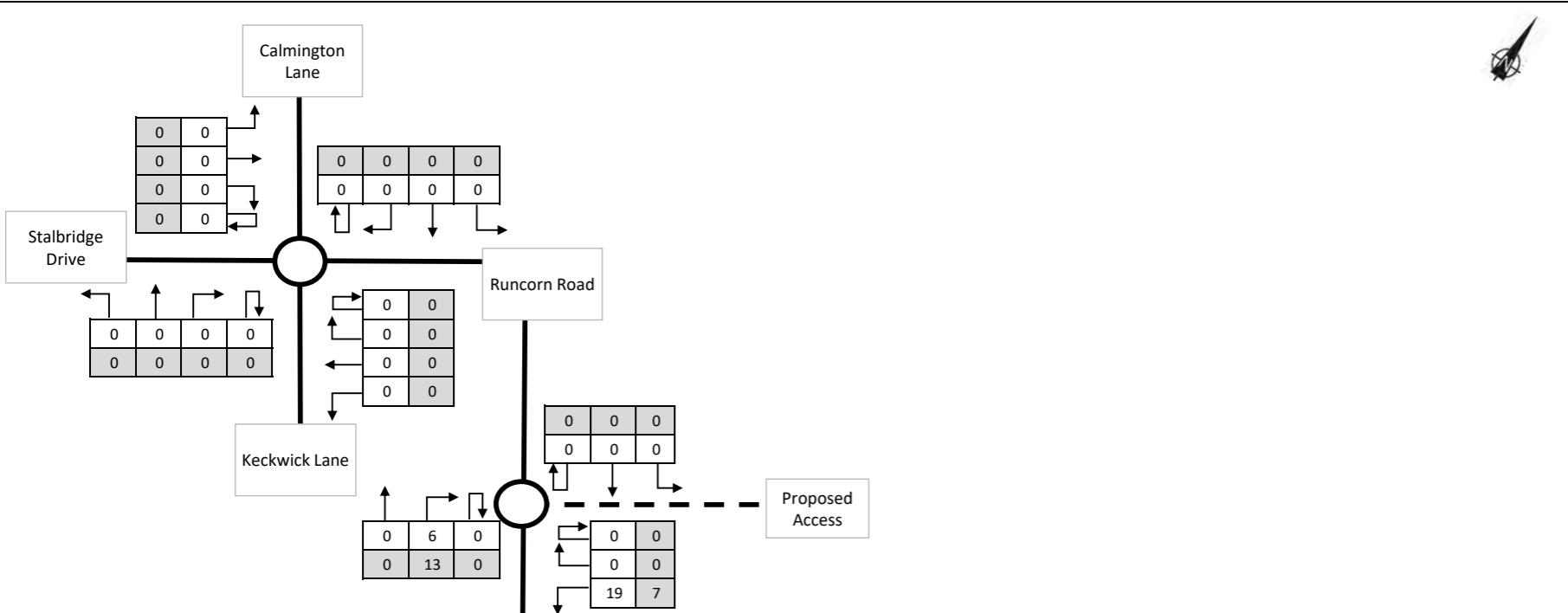
SOUTH WEST URBAN EXTENSION

Appendix K1

SWUE (1,800 dwellings) Journey to Work - Total Trips

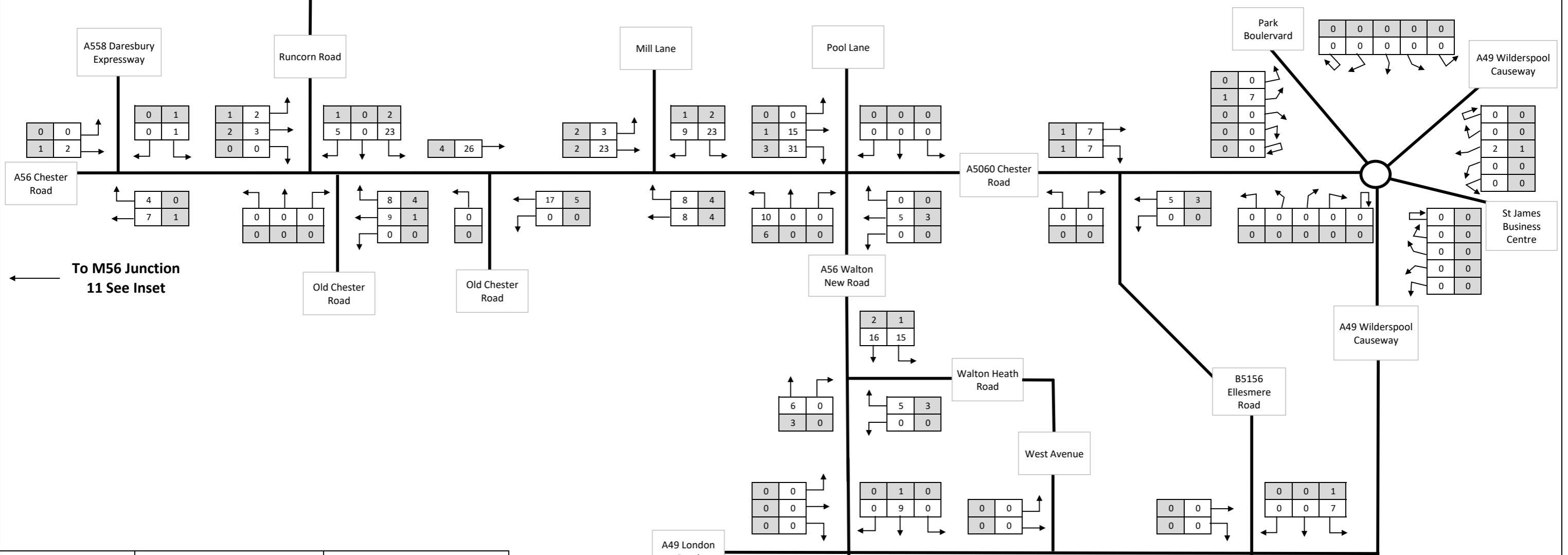
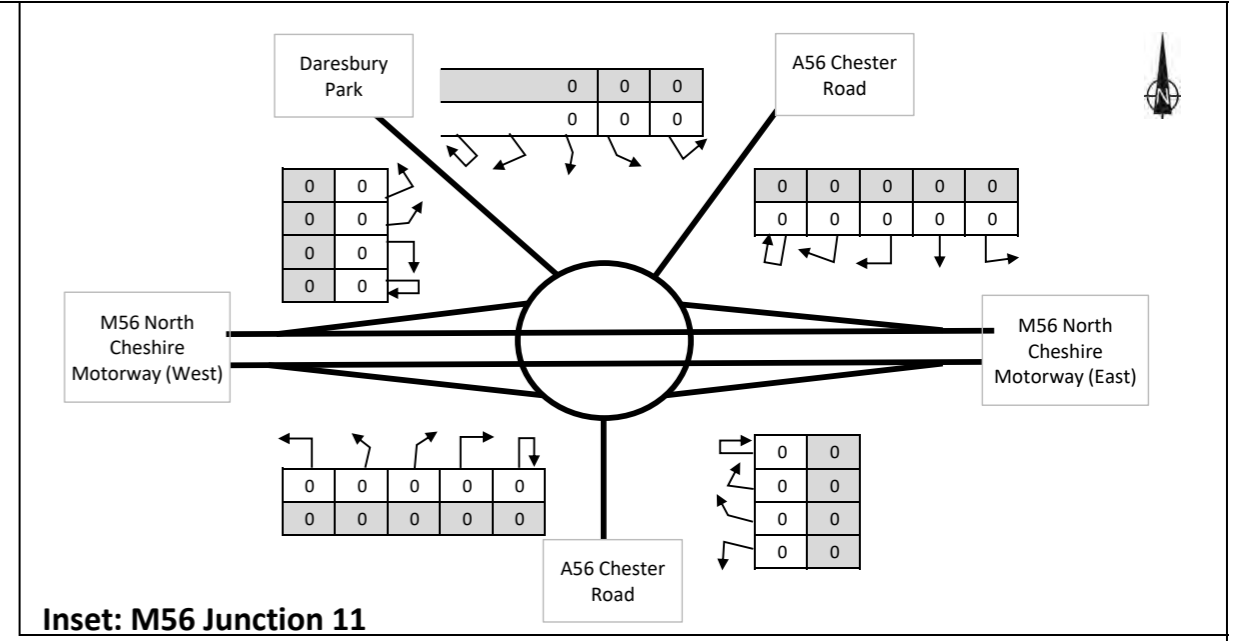
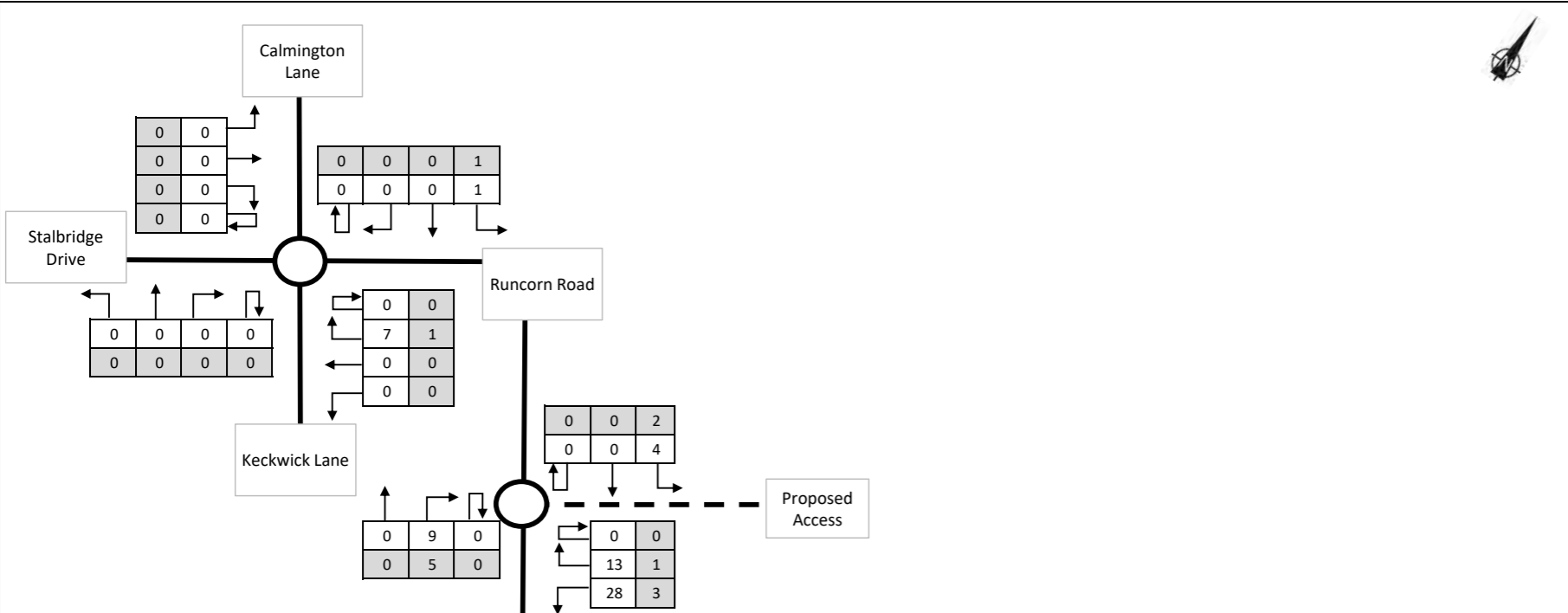
Notes:

Notes:



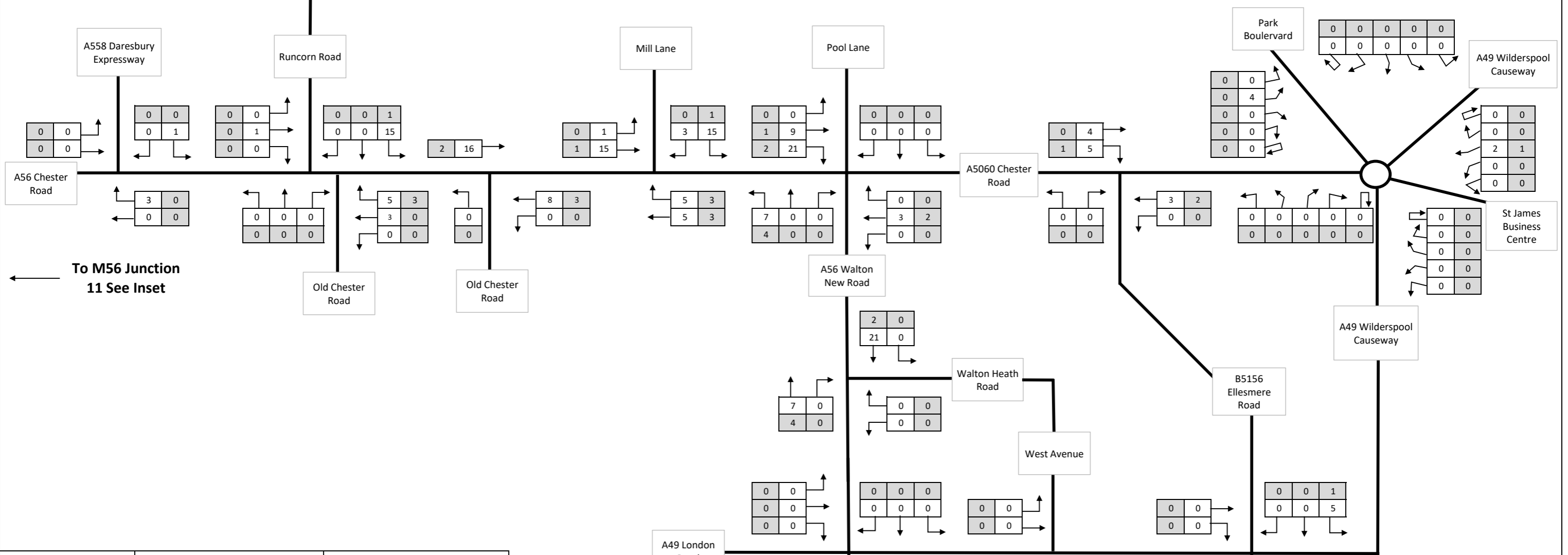
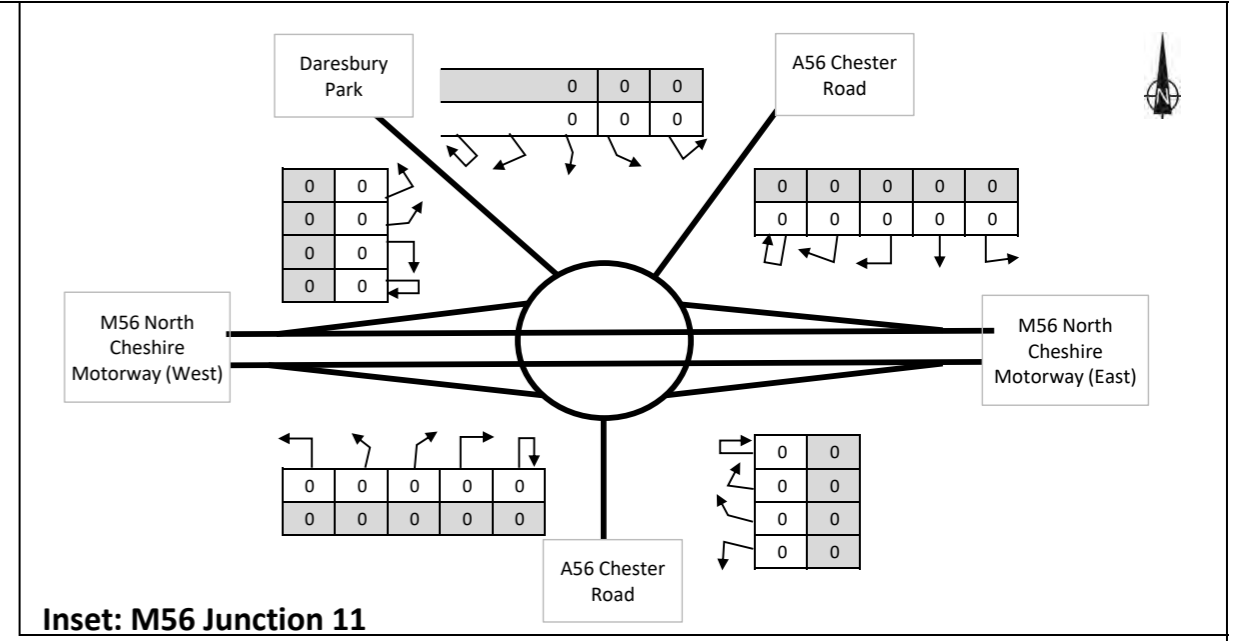
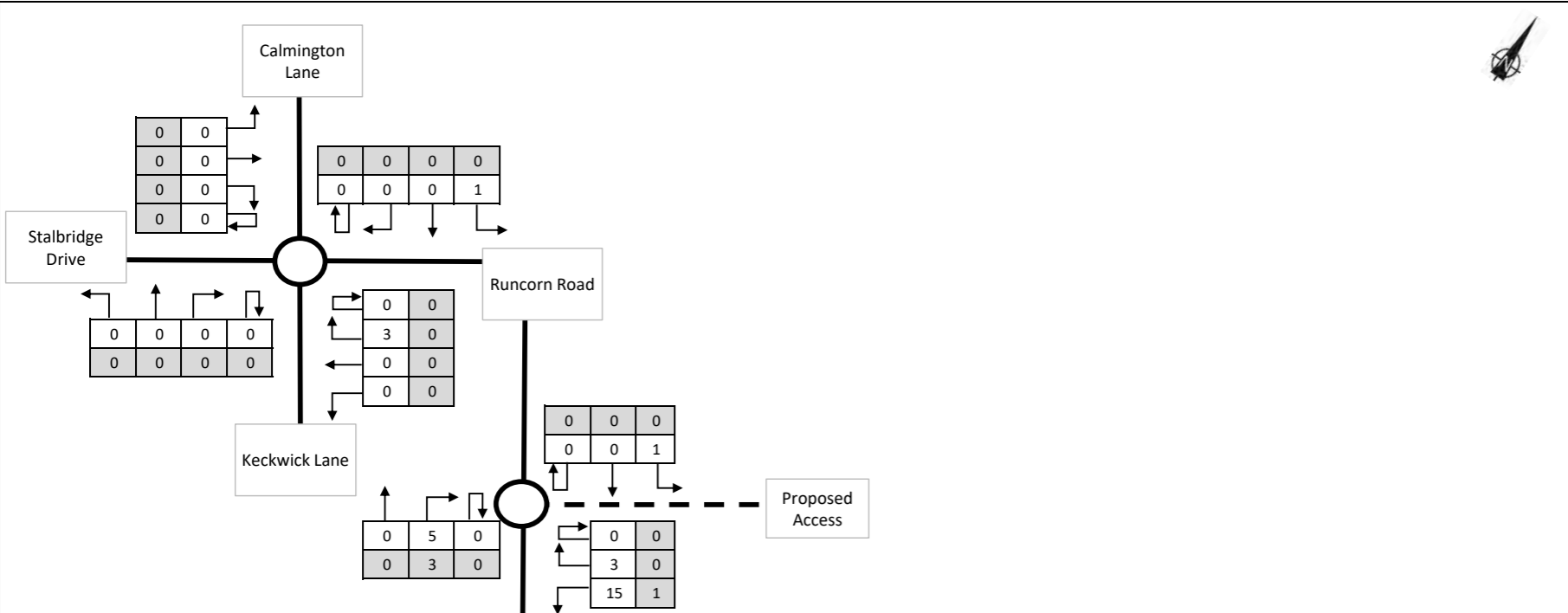
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	<p>SOUTH WEST URBAN EXTENSION</p>	
	<p>Appendix K2</p>	
	<p>SWUE (1,800 dwellings) Employer Business - Total Trips</p>	

Notes:



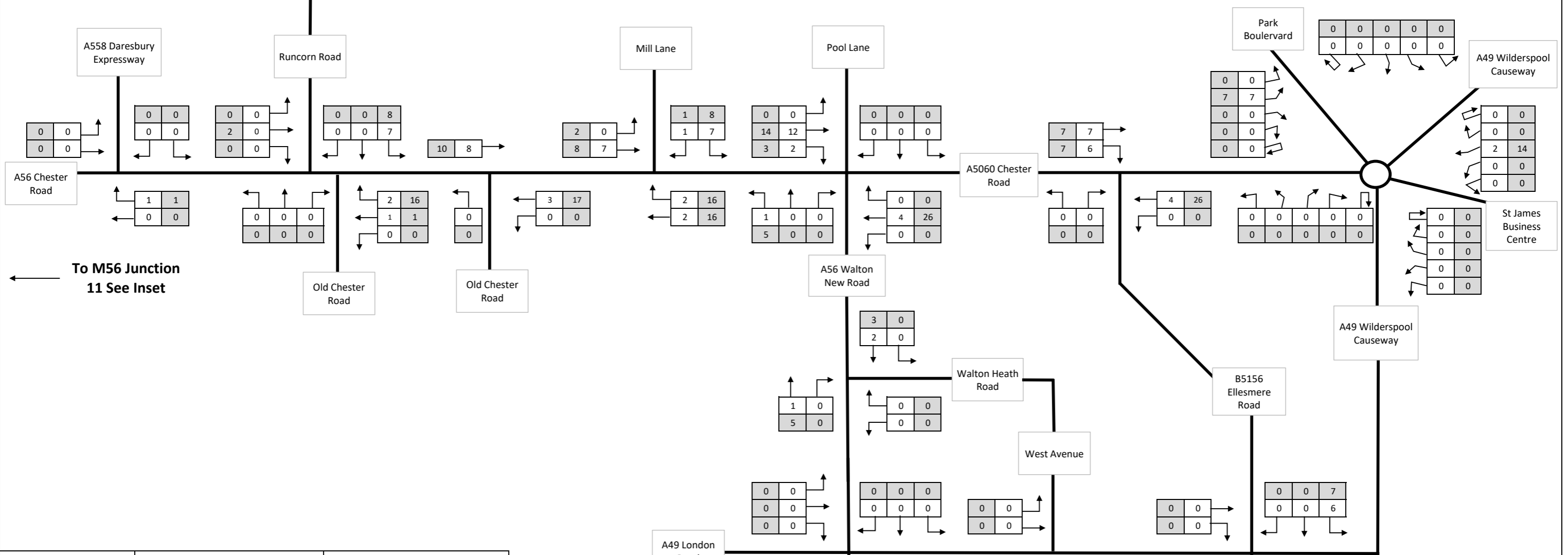
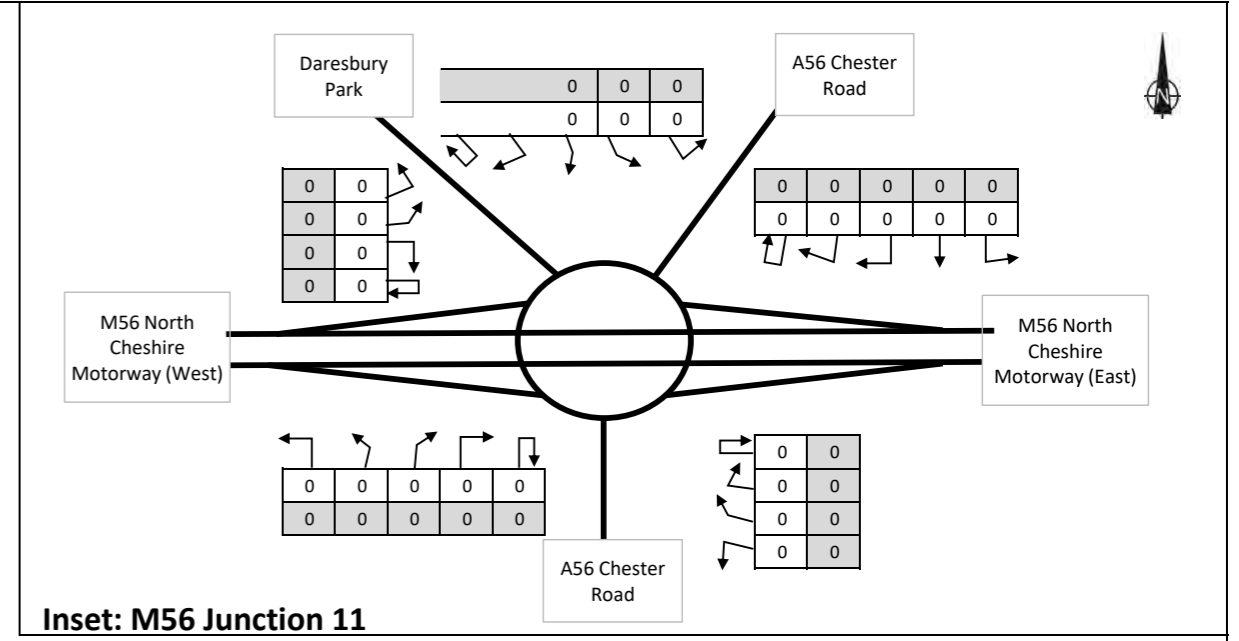
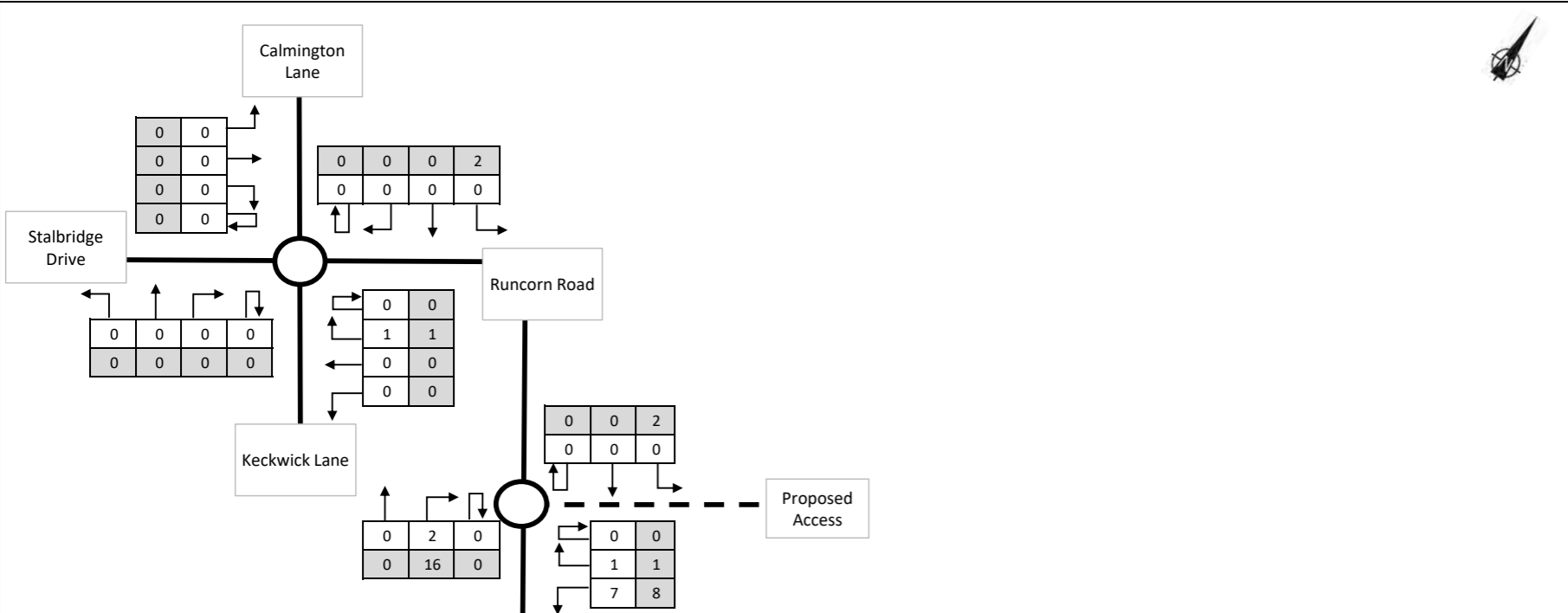
To M56 Junction 11 See Inset

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	<p>SOUTH WEST URBAN EXTENSION</p>		
	<p>Appendix K3</p>		
	<p>SWUE (1,800 dwellings) Education (Primary) - Total Trips</p>		



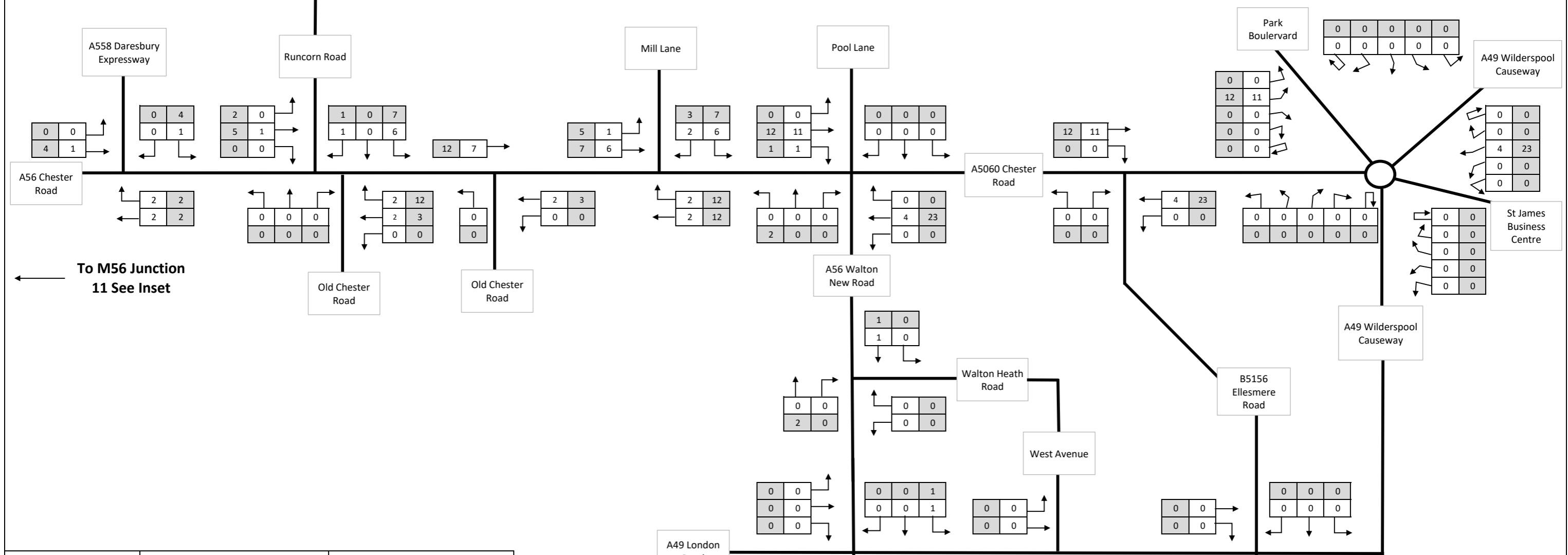
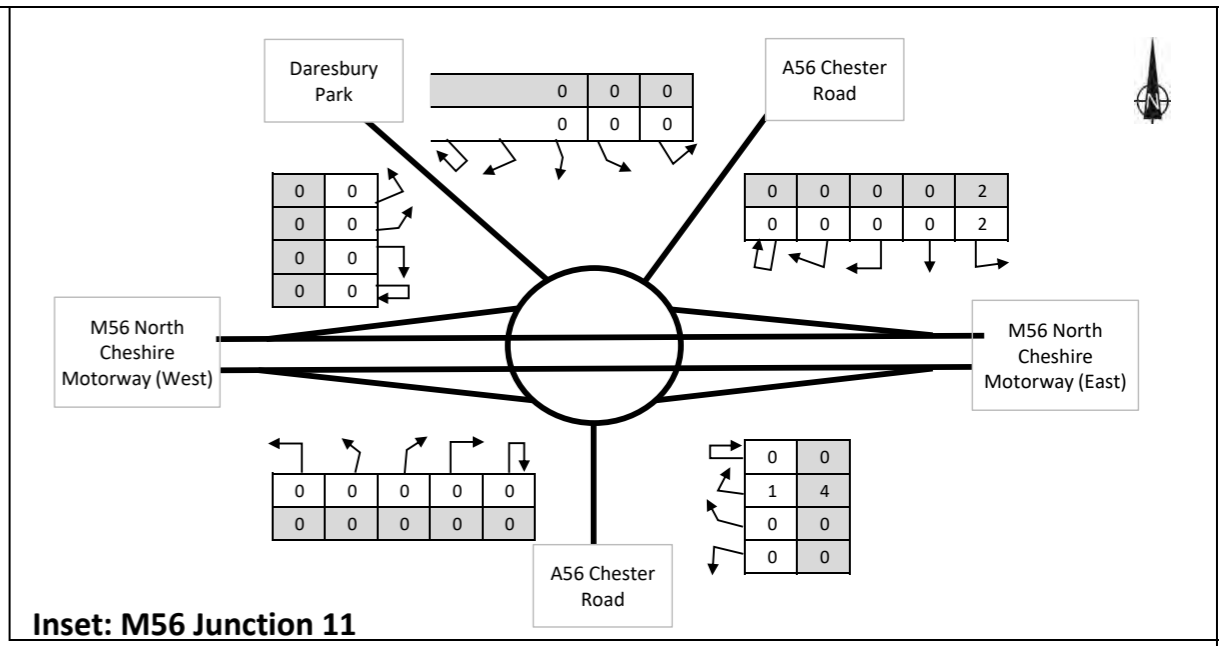
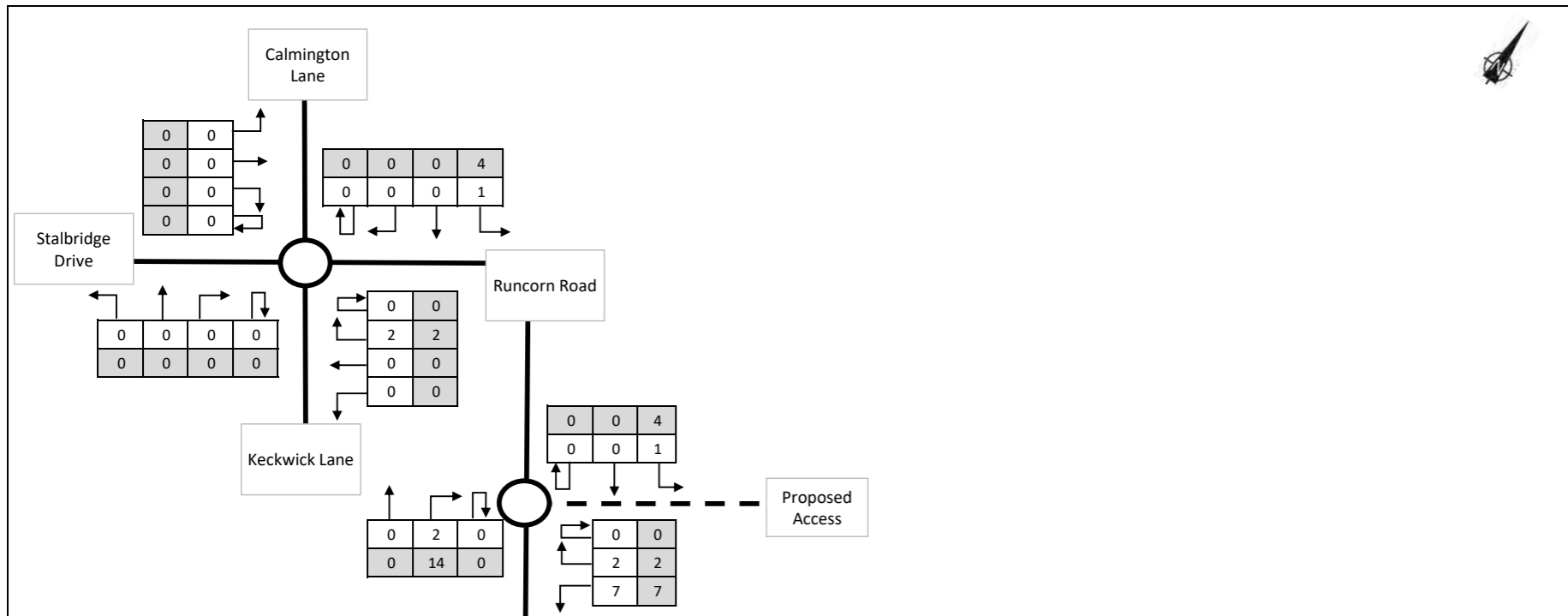
To M56 Junction 11 See Inset

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	<p>SOUTH WEST URBAN EXTENSION</p>		
	<p>Appendix K4</p>		
	<p>SWUE (1,800 dwellings) Education (Secondary) - Total Trips</p>		



KEY 500 = PCUs AM Peak Hour 500 = PCUs PM Peak Hour		Centurion House, 129 Deansgate, Manchester, M3 3WR Tel: 0161 830 2172 www.i-transport.co.uk
	SOUTH WEST URBAN EXTENSION	
	Appendix K5	
	SWUE (1,800 dwellings) Shopping (Food) - Total Trips	

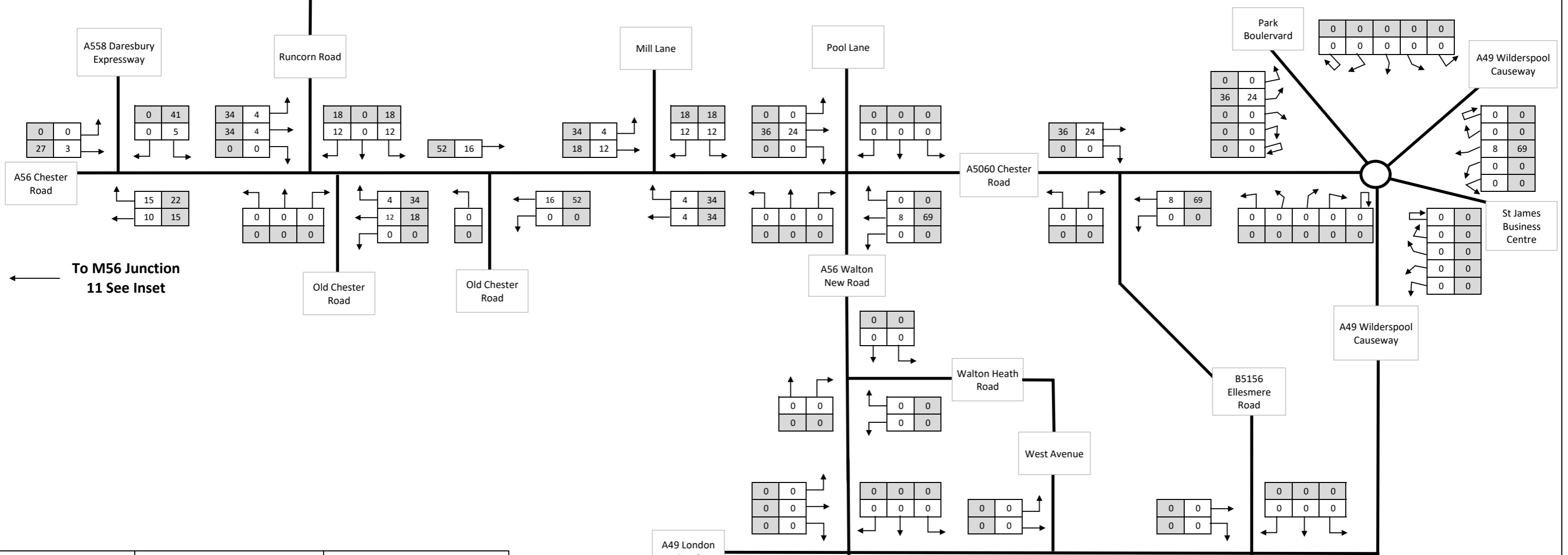
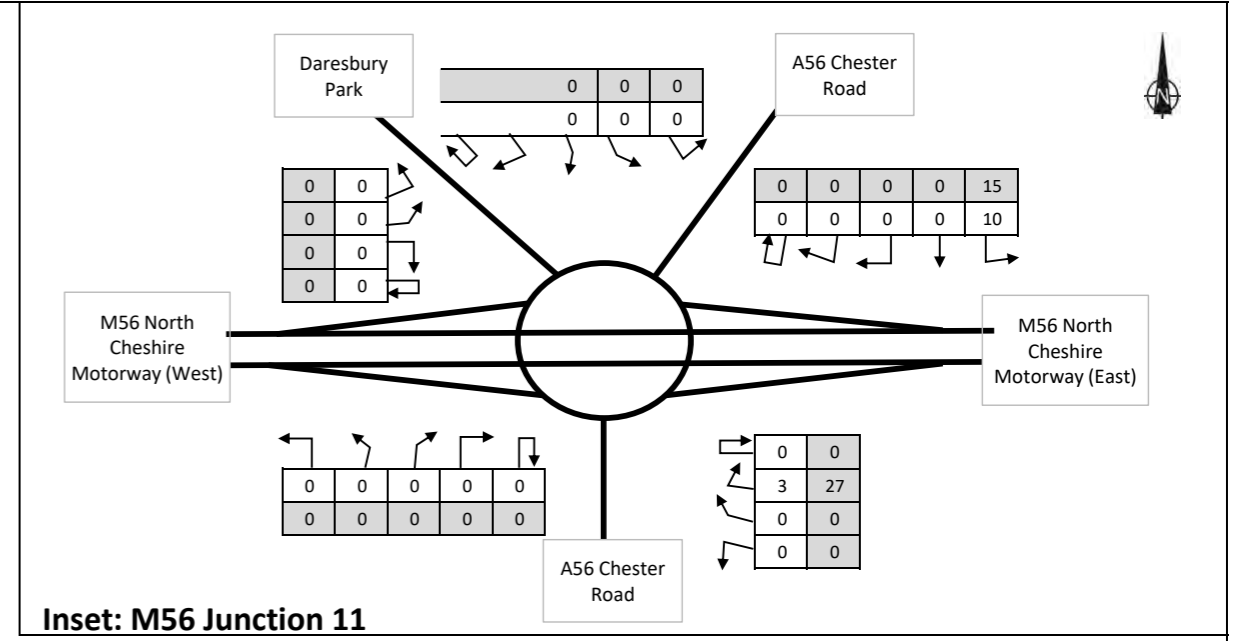
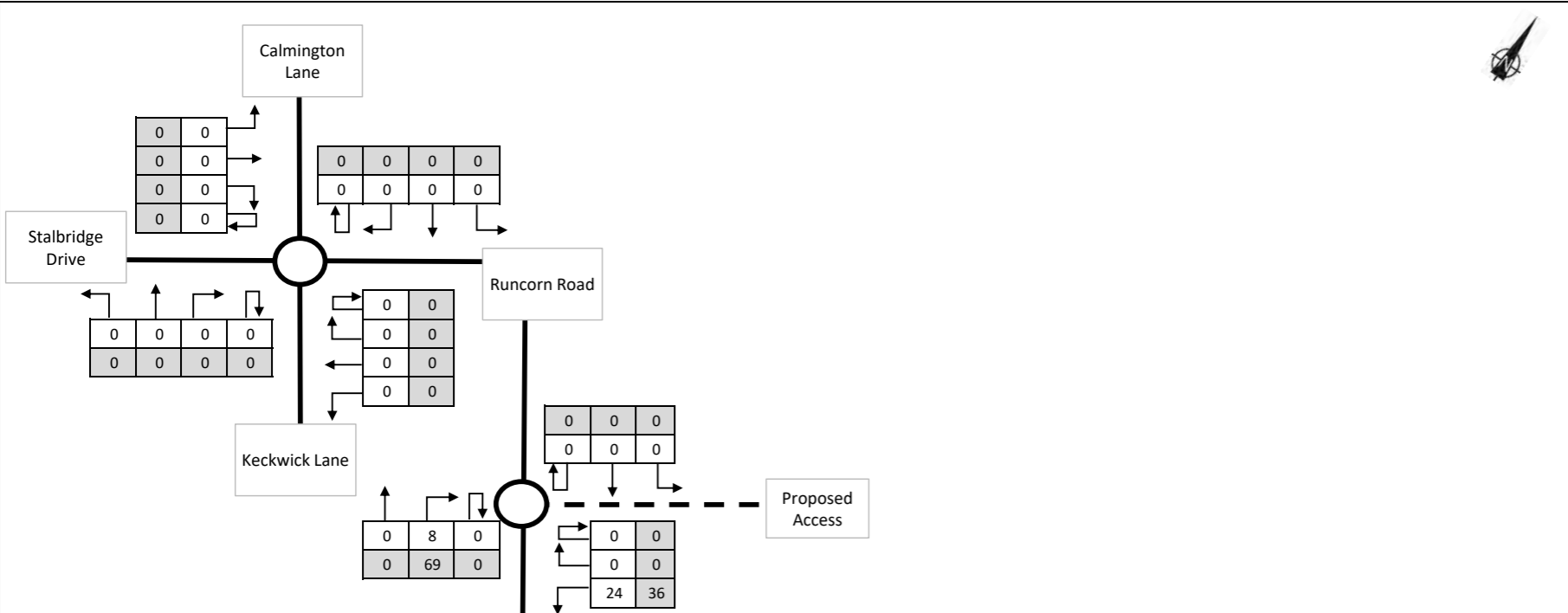
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To M56 Junction 11 See Inset

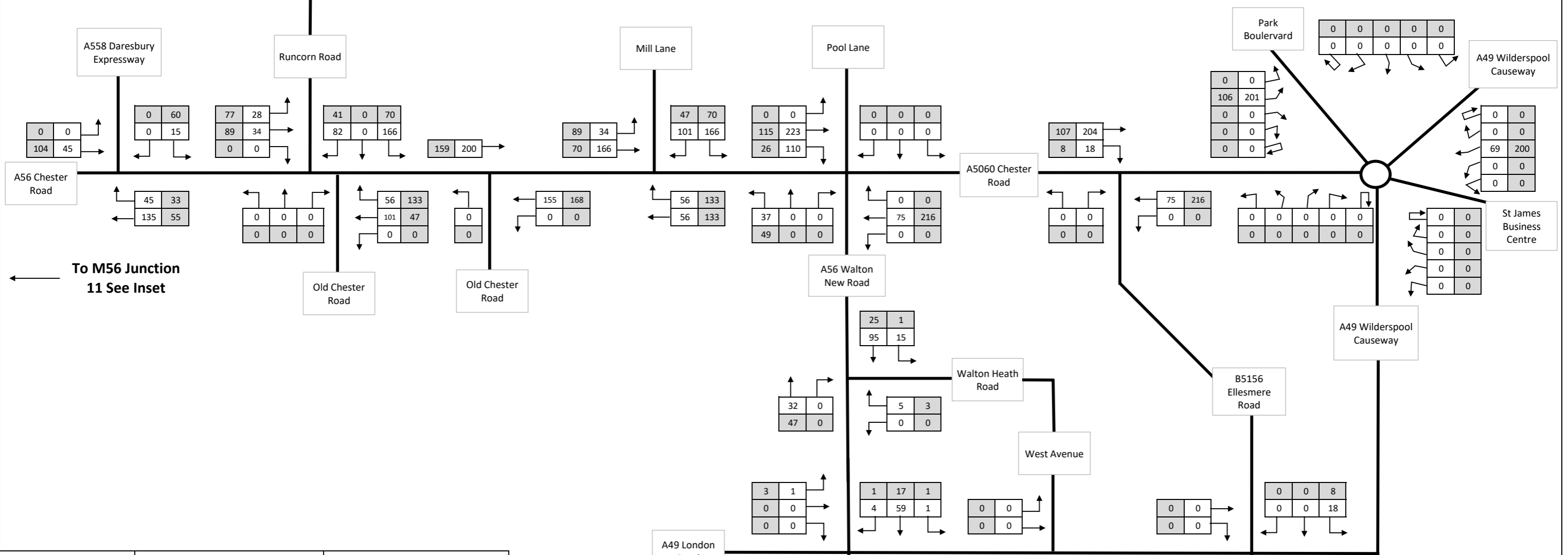
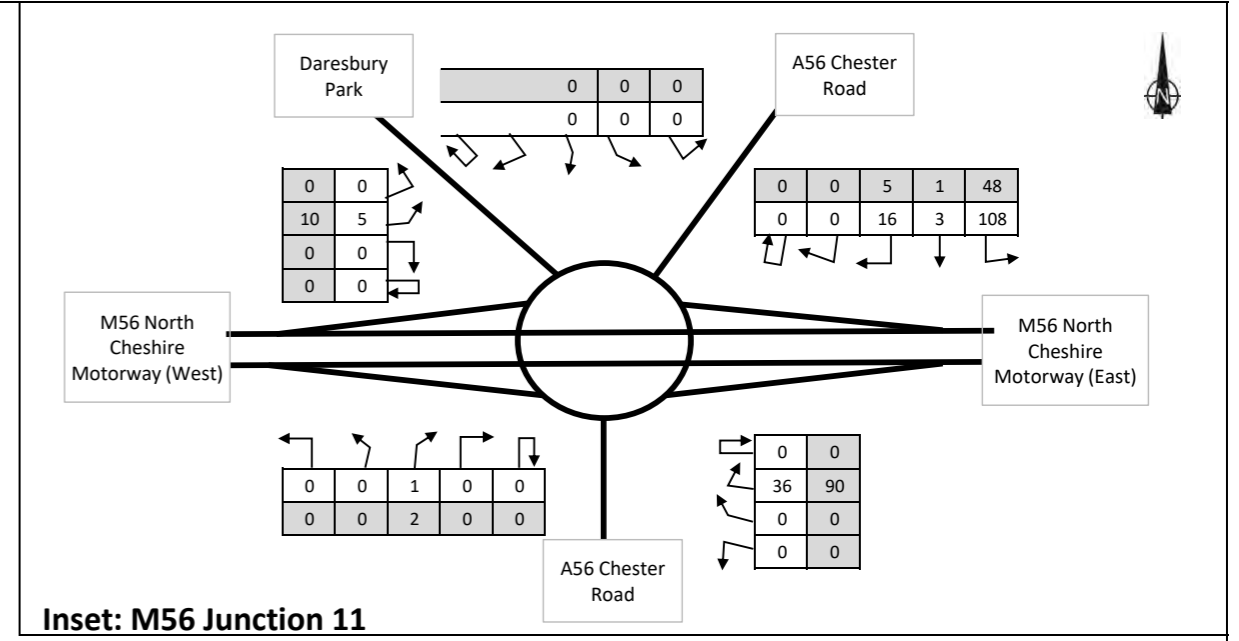
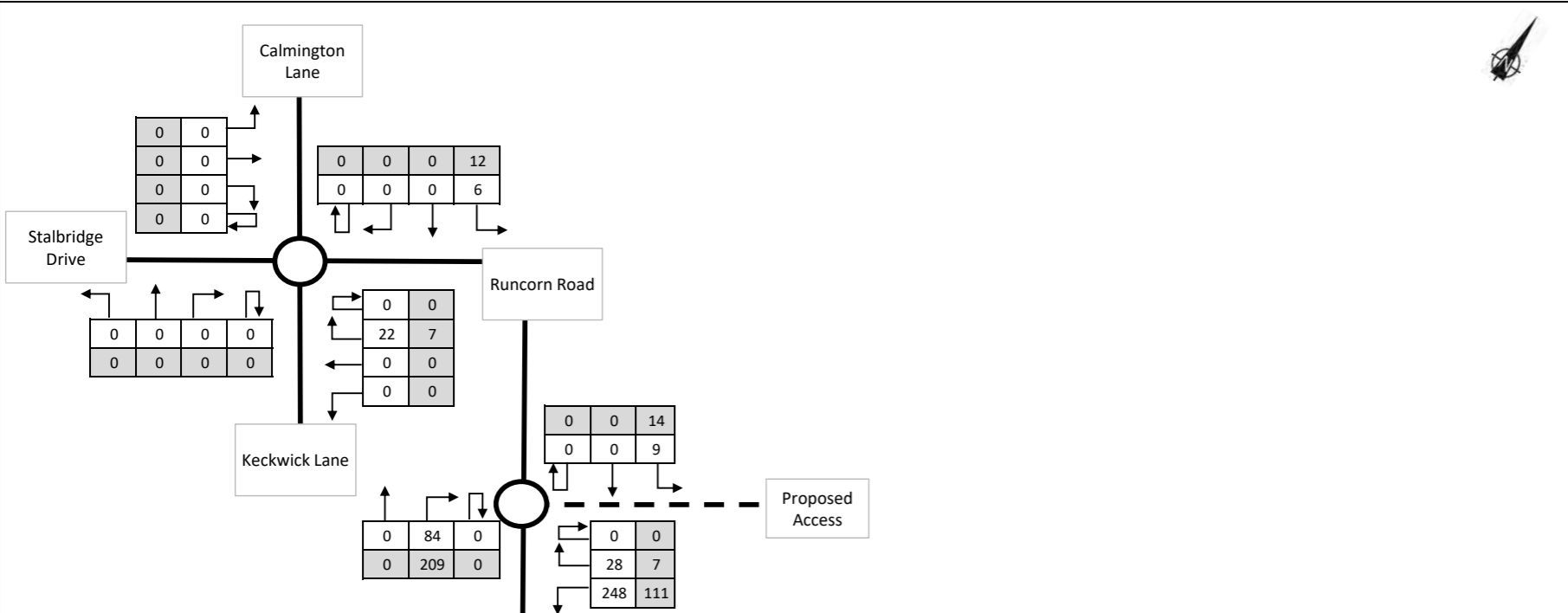
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	<p>SOUTH WEST URBAN EXTENSION</p>	
	<p>Appendix K6</p>	
	<p>SWUE (1,800 dwellings) Shopping (Non-Food) - Total Trips</p>	

Notes:



<p>KEY</p> <p> = PCUs AM Peak Hour</p> <p> = PCUs PM Peak Hour</p>		<p>Centurion House, 129 Deansgate, Manchester, M3 3WR Tel: 0161 830 2172 www.i-transport.co.uk</p>
	<p>SOUTH WEST URBAN EXTENSION</p>	
	<p>Appendix K7</p>	
	<p>SWUE (1,800 dwellings) Personal Business - Total Trips</p>	

Notes:

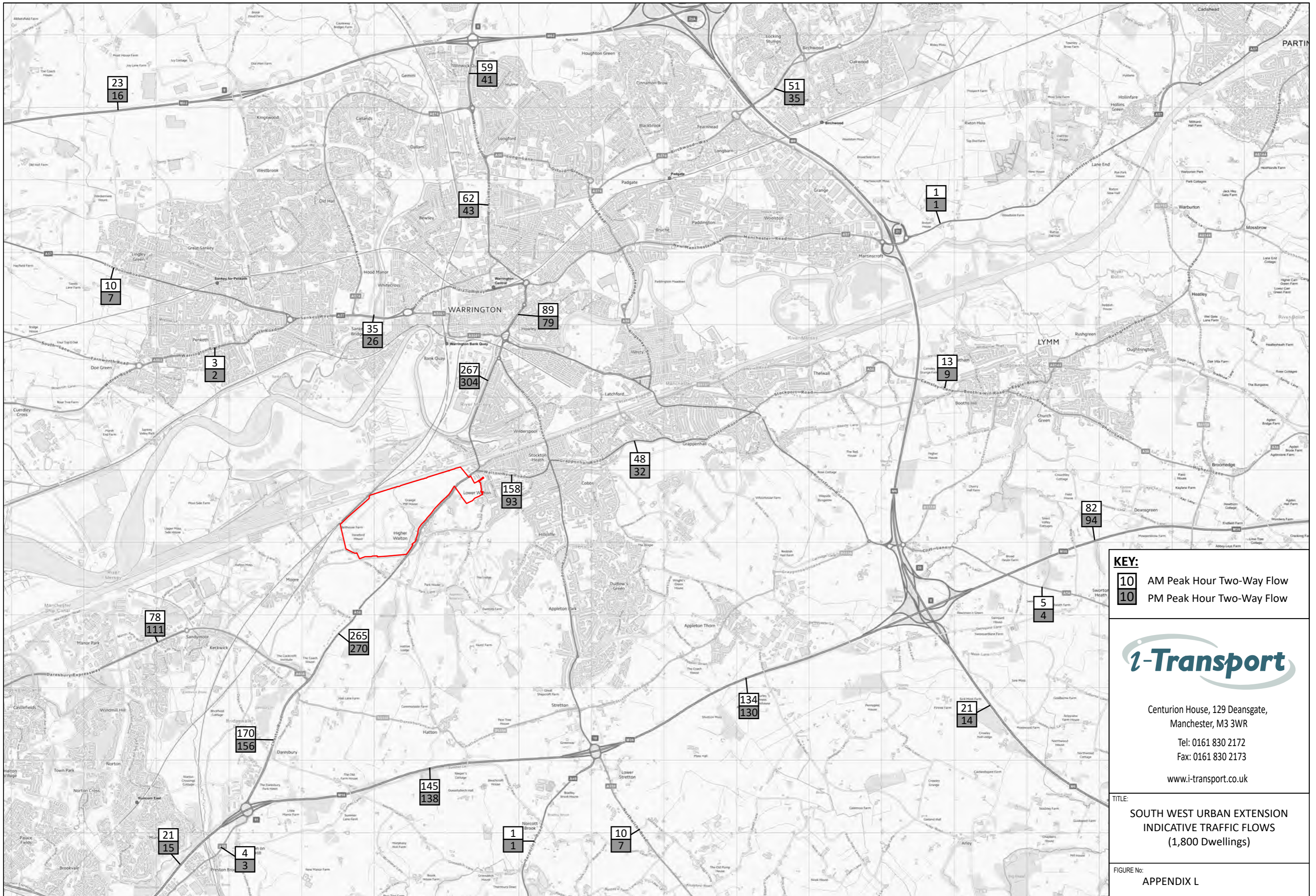




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	SOUTH WEST URBAN EXTENSION	
	Appendix K8	
	SWUE (1,800 dwellings) Total Development Trips	

Notes:

APPENDIX L. Development Traffic Flows on the Wider Highway Network – 1,800 Dwellings



KEY:
 AM Peak Hour Two-Way Flow
 PM Peak Hour Two-Way Flow



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TITLE:
 SOUTH WEST URBAN EXTENSION
 INDICATIVE TRAFFIC FLOWS
 (1,800 Dwellings)

FIGURE No:
 APPENDIX L

i-Transport

