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Land at Hollins Green Technical Appendix

Peel Holdings (Management) Ltd

September 2017

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Land at Hollins Green

Landscape Sensitivity Assessment of Hollins Green and Landscape Appraisal of Proposed Development on Land at Hollins Green

September 2017

Prepared for:





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1. Introduction

- 1.1. Randall Thorp LLP has been commissioned by Peel Holdings to produce an assessment of the landscape sensitivity of Hollins Green; a landscape appraisal for a site, Land at Hollins Green; and provide advice in relation to the development potential of the site.
- 1.2. This report has been prepared in response to the Warrington Borough Council Local Plan Settlement Profiles – Outlying Settlement document, published in July 2017, which states that a sustainable settlement extension to Hollins Green *“could impact on the Green Belt objective and is likely to impact on the character of the settlement.”*
- 1.3. The settlement of Hollins Green is located within the eastern part of the Borough at the border of Warrington, Trafford and Salford, to the north of the A57 Manchester Road an important strategic route that links Warrington to Greater Manchester. The site is located immediately south of the settlement of Hollins Green and of the A57 and north of the Bridgewater Canal. The strategic location of Hollins Green within the Warrington Borough and the site location are shown on **Figure 1, Appendix A.**

2. Methodology

Guidance

- 2.1. This Landscape Sensitivity Assessment has been prepared in accordance with “Guidelines for Landscape and Visual Impact Assessment” (GLVIA3), Third Edition. Chapter 5 of GLVIA sets out the methodology for the assessment of landscape effects.

Study Area

- 2.2. For the purposes of the report a landscape Study Area, which encompasses the wider landscape context of Hollins Green has been adopted. **Figure 2, Appendix A** illustrates the Study Area

Approach

- 2.3. The principle objectives of the assessment are:

Firstly

- To describe and evaluate the existing landscape character of the Study Area;
- To assess the value and sensitivity of Study Area;

Secondly

- To describe and evaluate the existing landscape character of the Land at Hollins Green;
- To assess the value and sensitivity of the site; and
- To advise on the development potential of the site taking into account the landscape assessment set out above.

Baseline Studies

- 2.4. The baseline study identifies the landscape character and components of Hollins Green and of the site within the Study Area shown in **Figure 2, Appendix A**.
- 2.5. Analysis has been carried out to gain a first-hand understanding of the landscape surrounding the settlement of Hollins Green; and to establish the contribution this landscape currently makes in terms of landscape quality, character, value, green infrastructure functions and accessibility.
- 2.6. The following documents have been reviewed as part of the desk study:
- Warrington Landscape Character Assessment – Prepared 2007
 - Warrington Local Plan Core Strategy – Adopted July 2014
 - Warrington Borough Council Local Plan – Settlement Profiles July 2017

Methodology for appraising the sensitivity of the Study Area

- 2.7. The guidance in GLVIA3 underpins the complete process of landscape and visual impact assessment. ‘**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 ‘sensitivity’ is defined as a considered combination of the value of the landscape with its susceptibility to change.
- 2.8. 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 which 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.
- 2.9. In the case of this settlement there is a published assessment, Warrington: A Landscape Character Assessment (LCA) (Prepared in 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.
- 2.10. 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)

- 2.11. 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 Landscape Character Assessment.

2.12. 'Susceptibility to change' is defined at paragraph 5.40 of GLVIA3 which states:

"This means the 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".

2.13. 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.

2.14. In summary, when undertaking a landscape assessment, landscape sensitivity is the starting point, and this is determined by considering value and susceptibility together. The assessment of the effects on the landscape as the result of a particular scheme is then conducted by considering the magnitude of change to the baseline alongside the sensitivity of the landscape to reach a considered conclusion.

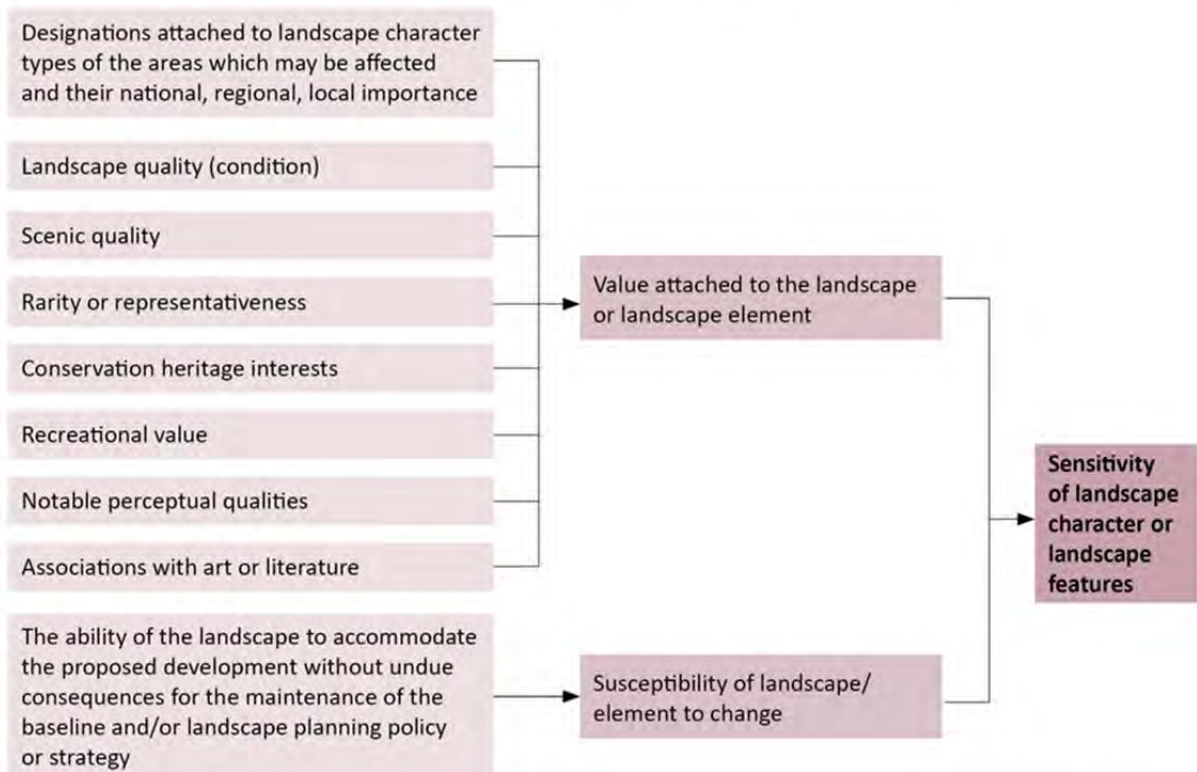
Methodology for the Site Specific Landscape Appraisal

2.15. The second part of the assessment is based on the findings of the sensitivity appraisal of the Study Area to determine the sensitivity of the site, as well as the magnitude of change to the baseline as a result of a proposed development within the site.

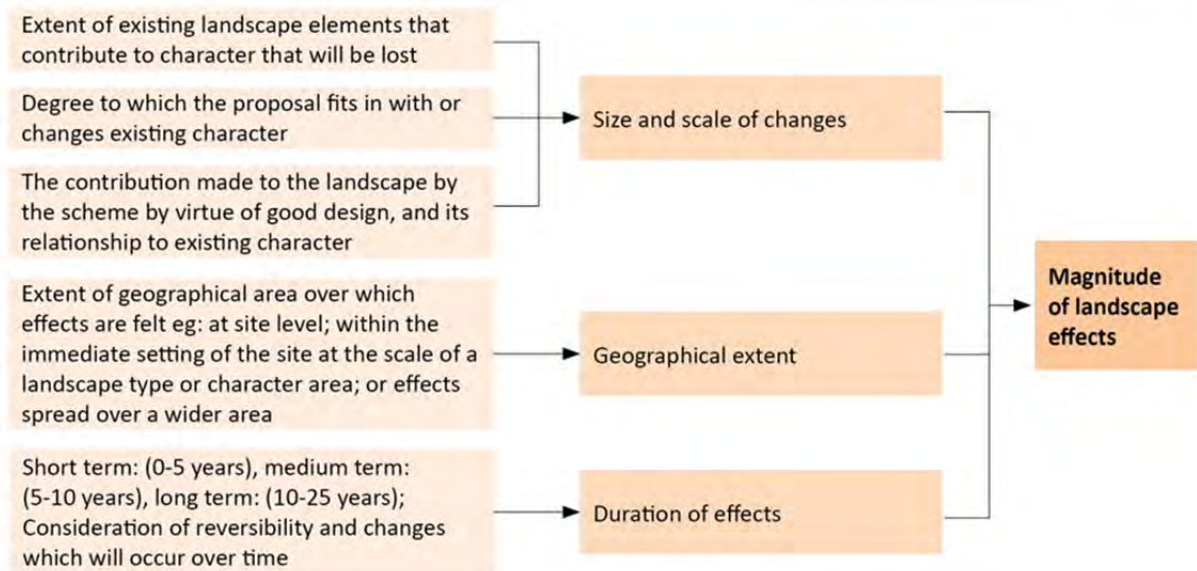
2.16. In line with GLVIA 3, the site assessment is based on the consideration of the sensitivity of landscape character, landscape features, and views/viewers to the type of development being proposed, (i.e. – residential development) and on the magnitude of change likely to occur. The sensitivity and magnitude are then considered together, and conclusions drawn on the likely effects on the landscape character.

2.17. The considerations contributing to establishing the significance of landscape effects are indicated in **Diagram 1**.

Diagram 1: Considerations contributing to establishing the significance of landscape effects.



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



B Overall judgement in respect of magnitude of landscape effects: Combines all of these considerations and is explained in text. It will be described as *High, Medium, Low or Negligible* depending on the combination of circumstances

A + B = C Judgement of effects: Combines sensitivity and magnitude in a considered way and will be described as *Major, Moderate, Minor, Negligible, and as Beneficial, Adverse or Neutral* depending on the circumstances

3. Planning Policy and Baseline Landscape Character Assessment

Planning Policy

- 3.1. 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 as the reference document for planning applications.
- 3.2. The majority of the landscape that surrounds the settlement of Hollins Green and the Land at Hollins Green is indicated as Green Belt, which is set out within Policy CS 5 – Overall Spatial Strategy – Green Belt. This policy is not a landscape policy but a strategic planning policy and Green Belt designation cannot be considered to add landscape value in GLVIA terms.
- 3.3. Warrington Borough Council recognises the need for Green Belt release in order to accommodate the Borough’s housing and economic requirements.
- 3.4. Within the Study Area surrounding Hollins Green settlement, to the west, is the nationally designated SSSI Rixton Clay Pits. This SSSI sits within a former boulder extraction works, the landscape has since formed a complex mosaic of ponds, mounds and woodland, it is rich wildlife. The SSSI is managed by Warrington Council and designated locally as Nature Reserve within the Local Plan under Policy QE5 – Biodiversity and Geodiversity. This policy sets out the need to protect and enhance sites recognised for their nature and geological value. In the wider Study Area SSSI Woolston is located to the west of the Study Area; SSSI Holcroft Moss to the North; and SSSI Risley Moss to the north west. In addition to the above there are a number of Local Wildlife Site/ Nature Reserves that are designated under Policy QE5.

Landscape Character Assessment

- 3.5. **Figure 2, Appendix A** shows the extent of the Landscape Character Area that surround the settlement of Hollins Green within the Study Area in which the sensitivity assessment is based on.
- 3.6. Warrington Borough Council Landscape Character Assessment 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.
- 3.7. The settlement of Hollins Green falls within Landscape Character Type 1 “Undulating Enclosed Farmland” and within Landscape Character Area 1C “Winwick, Culcheth, Glazebrook and Rixton”. Hollins Green is located to the eastern boundary of the Landscape Character Area, closely bordered to the south east by the Manchester Ship Canal. The Ship Canal and the land associated with it falls within Landscape Character Type 5 Flood Plain. Landscape

Character Area 5A “River Mersey/ Bollin” follows the Manchester Ship Canal which forms a boundary to the Borough of Warrington and has some association with Hollins Green. To the north of Hollins Green on the eastern boundary of the Borough is Landscape Character Area 5B “River Glaze” a thin linear character area which follows Glaze Brook on the eastern boundary of Warrington.

- 3.8. Land to the south of the Ship Canal is within the Metropolitan Borough of Trafford (Trafford MBC). Trafford MBC has published Supplementary Planning Guidance (SPG), Landscape Strategy, September 2004; this document is an assessment of open land outside the built up area and includes the Landscape Character Areas found within the Borough. Within the Study Area adjacent to the settlement of Hollins Greens there are three character areas identified, these are Settled Sandlands, River Meadowlands, and Urban River Valley.
- 3.9. Beyond Landscape Character Area 1C to north and west are Landscape Character Areas 2A and 2B both fall into the Landscape Character Type 2 Mossland Landscape. Although these character areas fall within the study area they are of a substantial distance from the Hollins Green settlement and its surrounding landscape and therefore will not be included in the baseline assessment.
- 3.10. The Study Area is divided in two by the Manchester Ship Canal, which is borne from the River Mersey. The settlements of Irlam and Cadishead are located to the east within the Salford Borough. The eastern Borough boundary of Warrington is formed by Glaze Brook which flows south until its confluence with the River Mersey/ Manchester Ship Canal to the east of Hollins Green. The south of the canal within the Warrington Borough is the settlement of Lymm. To the south and east is Warburton village, and the town of Partington which both fall within Trafford Metropolitan Borough.
- 3.11. South of the Manchester Ship Canal is the former railway trackbed that forms the Trans Pennine Way, and beyond this running through Lymm is the Cheshire Ring Canal Walk which follows the Bridgewater Canal. North of the Manchester Ship Canal following the River Mersey is the Mersey Way. These routes are important recreational routes through the Study Area.
- 3.12. There are a number of bridges that cross the Manchester Ship Canal within the Study Area; the M6 at the Thelwall Viaduct to the west, Warburton Bridge Road central to the Study Area, and two railway bridges in Cadishead, one of which is no longer in use.
- 3.13. Transport links such as the M62 and the Manchester to Liverpool Railway Line traverse the Study Area in an east to west alignment. The A57 crosses the Study Area generally following the route of the Manchester Ship Canal Manchester Road on the northern edge, this route is an important transport link connecting Warrington to Greater Manchester and Salford. Hollins Green village is located to the north of the A57 Manchester Road.
- 3.14. **Appendix B** includes extracts of the relevant Landscape Character Area descriptions from the Warrington Landscape Character Assessment.

Landscape Character Area 1C - Winwick, Culcheth, Glazebrook and Rixton

3.15. The relevant key characteristic from LCA 1C:

- *Medium to often large-scale mainly arable fields*
- *Lack of hedgerow trees*
- *Hedgerows between fields often fragmented*
- *Deciduous wooded backdrops*
- *Rixton Clay pits*
- *Rixton Landfill*

3.16. Landscape Character Area 1C is described in the Landscape Character Assessment as:

“These areas typify undulating enclosed farmland with a medium to large -scale field pattern. The area stretches in an arc from the River Mersey in the south, through Glazebrook to Culcheth in the north and finally wrapping around Winick in the west.

The agriculture predominantly consists of arable fields, intensely cropped, with poorly maintained remnant hedgerows with few hedgerow trees. Small deciduous woodlands form backdrops to views within the landscape.”

Landscape Character Area 5A – River Mersey/ Bollin

3.17. The relevant key characteristics from LCA 5A:

- *The River Mersey and River Bollin*
- *The Manchester Ship Canal*
- *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*

3.18. Landscape character Area 3B is described in 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 the its floodplain by the creation of artificial levee embankments, whilst its channel has also been occasional straightened or

restricted by sheet piling, walls or other hard structures.

Within the Borough boundary, only small areas of original flood meadows still survive. These are located to the south of the river in the Penketh area, to the north of the river within a meander loop at Paddington Meadows and at the confluence with the River Bollin between Warburton and Lymm. The remainder of the Mersey flood Plain has heavily developed for residential and industrial uses, particularly in the areas of martin Croft, Woolston, Padgate, Orford, Westy, Latchford, Wilderspool and Sankey Bridges.”

Landscape Character Area 5B – River Glaze

3.19. The relevant key characteristics from LCA 5B:

- *Flat land associated with the floodplain*
- *Narrow, linear river corridor*
- *Small scale*
- *Mainly rural character*
- *Small ‘river cliffs’ and levees*
- *Enclosed views*
- *Associated linear footpath route*
- *Notable absence of trees to the river bank*

3.20. Landscape character Area 5B is described in the Warrington Landscape Character Assessment as:

“The flood plain of the River Glaze has no settlements within it, but there is a tradition of ancient and historic sites immediately adjacent, in most cases making use of the defensive barrier of the river. The B5212, Holcroft Lane, follows the course of the river on its western side and represents the latest usage of a key passageway through the adjacent mosses of Chat Moss to the east and Holcroft Moss as well as Culcheth Carrs to the west.”

3.21. **Appendix C** includes extracts of the relevant Landscape Character Area descriptions from the Trafford MBC, SPG, Landscape Strategy.

Landscape Character Area Settled Sandlands

3.22. The relevant key characteristic from LCA Settled Sandlands:

- *Dominant agricultural land use, arable with some pasture*
- *Medium to large sized fields, generally defined by hedgerows and prominent hedgerow trees*
- *Generally low-lying, gently rolling topography, particularly down to the River Bollin floodplain*
- *Dispersed farmsteads throughout, linked by meandering country lanes with two main cluster settlements at Dunham Woodhouses and Warburton*
- *The vernacular style, particularly in farm buildings, with their traditional use of materials, is a distinguishing visual feature*
- *Small, isolated blocks of woodland*

- *The presence of several watercourses and ponds*

- 3.23. Landscape character Area Settled Sandlands is described in the Trafford Landscape Strategy SPG as:

“Settled Sandlands form an extensive wedge of landscape between the urban areas of Ashton-on-Mersey and Broadheath to the east, Partington to the west and around the Mossland area on its northwestern boundary. The River Bollin lies immediately to the south and the River Mersey immediately north, whilst the Ship Canal forms the western boundary south of Partington. The area consists of good quality agricultural land, supporting both arable and pasture. The semiregular pattern of medium sized fields is well defined by hawthorn hedgerows with a high proportion of hedgerow trees, predominantly Oak and Ash. These hedgerow trees and hedgerows around the farmsteads and country lanes are visually prominent throughout the area and contribute to the appearance of the rural area. Although low-lying the land begins to roll gently southwards beyond Sinderland Brook and in particular down to the River Bollin floodplain. The combination of the rolling landscape and unwooded nature of the rural landscape creates extensive views to the south, east and west. The Settled Sandlands consists of 3 subdivisions, which display the general characteristics but have subtle differences

ii) Warburton Fields are generally smaller with more irregular boundaries. There are several ponds throughout the area that provide ecological diversity, some perhaps coincide with the location of the former Warburton moss. The ponds were used in conjunction with the drainage ditches found in the area to assist in the control of water levels.”

Landscape Character Area River Meadowlands

- 3.24. The relevant key characteristic from LCA River Meadowlands:

- *low-lying topography associated with a flat alluvial floodplain*
- *meandering watercourse, not visually prominent due to the slightly sunken position within the flat topography*
- *medium scale pastoral landscape with patches of wet grassland*
- *semi-regular enclosure pattern marked by thorn hedgerows and post and wire fences*
- *open often distant views along the floodplain, views north and south controlled by the rising ground beyond the floodplain*
- *secluded character with the occasional building*
- *marginal aquatic vegetation with occasional fringing trees and scrub*

- 3.25. Landscape character Area River Meadowlands is described in the Trafford Landscape Strategy SPG as:

“The River Meadowlands describes two areas within the Borough, the western sections of both the River Mersey in the north and the River Bollin in the south. These two areas

demonstrate similar characteristics, albeit that the Mersey Valley is larger than the Bollin and is located within a more urban context.”

“The Bollin Meadowlands mark the southern extent of the Borough, the river itself marking the boundary with Cheshire County Council and Warrington Borough Council. To its north lie the rural and agricultural areas of Warburton and Dunham Massey and the historic hall and woodland areas of Dunham Park. A high, estate brick wall marks the boundary of Dunham Park. To the west the Bollin floodplain widens out until it meets the Ship Canal, whilst to the east the A56 Chester Road marks the boundary between the River Meadowlands and the Wooded River Valley.

The River Meadowlands of the Mersey and Bollin demonstrate similar physiographic, cultural and visual characteristics. The physical nature of the flat, alluvial floodplain, with its associated pastoral land use and only occasional buildings are perhaps the most significant characteristics which distinguish this landscape.

The rivers, which are a key physical element, are not visually prominent, due to their sunken position and the presence of levees, which are parallel to the river course and protect the adjacent areas from flooding. Both the rivers are often marked by the presence of marginal and aquatic vegetation, including willow and hawthorn scrub, herbaceous and rough grassland or aquatic species such as reeds. Due to the rivers periodic flooding woodland areas are uncommon.

Bollin Valley –

Agricultural areas adjacent to the Bollin floodplain, are predominantly pasture, but also include arable and rough grassland. Field boundaries comprise a mixture of hedgerows and most often post and wire fences. Many hedgerows are overgrown or remnant, with isolated and scattered hedgerow trees, particularly adjacent to the river. Where post and wire fences occur these increase the visually open aspect and apparent scale of the field areas. Adjacent to the Dunham Estate the landscape assumes a more managed appearance, with pristine post and rail fences and recent Avenue planting emphasising the main pedestrian routes to and from the Park.”

Landscape Character Area Urban River Valley

3.26. The relevant key characteristic from LCA Urban River Valley:

- *The presence of the Manchester Ship Canal and the canalised part of the River Mersey, views of these watercourses are limited Both these stretches of water are operational and working waterways*
- *Generally low lying areas associated with the floodplain*
- *Mixed land use, with a significant amount used for recreation in the Mersey*
- *A fairly dense communication network with motorways, roads and railways producing a number of bridged crossings*
- *Scrub vegetation and natural regeneration often adjacent to the watercourse,*

otherwise few trees or woodland

- *Lack of field pattern or boundaries*
- *Few distinguishing built features, a secluded character in parts*

3.27. Landscape character Area Urban River Valley is described in the Trafford Landscape Strategy SPG as:

“This description refers to two areas, the Manchester Ship Canal Corridor and the canalised section of the River Mersey (to the east of the Carrington Spur Road and M60). The Ship Canal Corridor contains a narrow strip of land either side of the Canal. The River Mersey area is broadly defined by the extent of the floodplain, which continues into Manchester's boundary.

The character of the two areas has been greatly affected by the proximity of adjacent urban areas. Development adjacent to the Ship Canal extends almost up to the banks. The Ship Canal was borne out of the River Mersey and in this locality the river's former alignment and original topography have been lost. The Ship Canal attracted industrial uses, which have since decreased resulting in remnant landscapes, which appear derelict or in a state of transition. Views of the Canal are limited by the extent and nature of adjacent development.

The land adjacent to the River Mersey is a mosaic of land uses created by development and its proximity to urban areas. These uses include: - water parks, playing fields, golf courses, sewage works and an increase in access within the floodplain. The banks of the river within this character area have been engineered and have an artificial, formal appearance. There is a general lack of field boundaries such as hedges or fencing. The lack of boundaries and flat topography often permit extensive views over the floodplain, sometimes restricted by the regenerating scrub vegetation and tree planting.

Other than localised areas of remnant trees or woods, vegetation is limited to areas where regeneration has occurred or where planting has taken place. Scrub, herbaceous vegetation or reedbeds create a rich ecological diversity. Some of have been designated as Sites of Biological Importance (S.B.I.).”

4. The Landscape Sensitivity of the Study Area

- 4.1. The value of the landscape surrounding the settlement of Hollins Green is considered below using the guidelines set out in GLVIA Box 5.1.

Landscape Value

- **Landscape Quality (Condition):** The landscape surrounding Hollins Green is described as “arable fields, intensely cropped, with poorly maintained remnant hedgerow trees.”
- **Scenic Quality:** The “*intensely cropped*” agricultural landscape is not renowned for its scenic quality. In addition to this the “*visually intrusive*” Rixton Landfill site stands out as an incongruous feature in the landscape, to the north. To the south “*Transportation routes have reduced the visual unity and rural appearance.*”
- **Rarity:** SSSI Rixton Clay Pits forms a “*a rich mélange of habitats*” this is a rare and valuable landform. This landscape feature is located 500m to the west of Hollins Green and is not closely associated with the settlement. SSSI Woolston, SSSI Risley Moss and SSSI Holcroft are also located within the study area over 2km away from Hollins Green.
- **Representativeness:** The landscape surrounding Hollins Green is representative of the agricultural landscape as described in Landscape Character Area 1C.
- **Conservation Interests:** To the west of Hollins Green are Rixton Clay Pits, Clay is still extracted from the site to the north but the bulk of the work ceased in the 1960s, resulting in complex landform which is rich in wildlife. The former Clay Pits are now designated as a SSSI and local nature reserve however these designations are located circa 500m away from the Hollins Green settlement. There are additional Local Nature Reserves, SSI Woolston, SSSI Risley Moss and SSSI Holcroft, located within the Study Area at a distance of over 2km from the settlement of Hollins Green.
- **Recreation Value:** There are two Public Rights of Way that pass through the outskirts of Hollins Green settlement, the area is not known for having significant recreational value. There is network of footpath access through the Rixton Clay Pits Nature Reserve, but there is no direct link from the settlement to the nature reserve. Beyond Hollins Green is the Trans Pennine Trail, Cheshire Ring Canal and Mersey Valley Timberland Trail; to the west leading from the A57 is the Mersey Valley Way; these are important recreational routes through the study Area but they do not have a direct link with Hollins Green.
- **Perceptual Aspects:** The area surrounding Hollins Green is influenced by the intensely farmed landscape and the landfill site at Rixton which “*presents a whaleback form with a high ridge*” which is “*visually very prominent*”. The A57, motorways and the railway line run through the Study Area, this landscape cannot be considered tranquil or wilderness.
- **Associations:** There are no known associations of the wider study area or site with any published art, literature or folklore which would add to its landscape value.

- 4.2. The landscape value of the Study Area is considered to be **Medium**.

Susceptibility to Change

- 4.3. There are areas beyond the immediate vicinity of Hollins Green settlement that would be vulnerable to change. The landscape in close proximity to the settlement, to the west, north and south is predominantly agricultural. This surrounding farmland is often perceived in the context of urbanising features such as existing residential development and the A57 dual carriageway. To the south east of Hollins Green, beyond the canal, the Trafford Landscape Strategy SPG states that “*Urban land changes threaten to completely remove the original characteristics*” of the Urban River Valley Character Area and “*Urban encroachment*” has “*adversely affected the landscape pattern*” of the River Meadowlands Character Area; making this landscape to the south of the site more vulnerable to change.

- 4.4. The susceptibility to change of the Study Area is therefore considered to be **Medium**.

Conclusion in respects of the Landscape Sensitivity

- 4.5. As can be ascertained from the descriptions there is nothing to indicate that there is anything about the wider settlement landscape character which should be considered remarkable or out of the ordinary with the exception of Rixton Clay Pits which is located 500m away from Hollins Green and Woolston SSSI which is located over 1km from Hollins Green. The settlement wide study area identifies some features of value that are site specific and would be subject to further assessment or mitigation measures.
- 4.6. The landscape sensitivity of Hollins Green and the surrounding landscape results from the consideration of landscape value and its susceptibility to change. As the **landscape value has been assessed as Medium** and **the susceptibility to change has been assessed as Medium**; the landscape sensitivity is therefore considered to be **Medium**.
- 4.7. The Warrington Borough Council Local Plan: Settlement Profiles – Outlying Settlements Document (July 2017) which states that the Sustainable Settlement Extension “*could impact on the Green Belt objective and is likely to impact on the character of the settlement*”. For the reasons set out above the landscape surrounding Hollins Green is considered to have Medium sensitivity, and able to accommodate change.
- 4.8. The landscape to the north and west of Hollins Green is considered to be more important in Green Belt terms as this open area of land provides a physical and visual gap between Warrington Town and Hollins Green. The Manchester Ship Canal forms a linear landscape feature to the southern edge, and there is an opportunity to release land to the south of Hollins Green forming a new Green Belt boundary along the Manchester Ship Canal.
- 4.9. Overall the settlement of Hollins Green has the capacity to accommodate residential development without adverse impact on the landscape character, in particular the southern extents of the settlement area.

5. Site Description, Site Landscape Character and Landscape Sensitivity

Site Description

- 5.1. **Figure 3, Appendix A** shows the site in relation to Hollins Green and its landscape features and context.
- 5.2. The site is located immediately south of the settlement of Hollins Green and comprises a broadly triangular area of agricultural land, divided into three fields by a ditch to the north and a small brook, Marsh Brook, to the south.
- 5.3. The Manchester Ship Canal forms the south eastern boundary; the A57 forms the north western boundary; and a Hollybank Caravan Park and Warburton Bridge Road form the site boundary to south west.
- 5.4. The site is generally flat and well enclosed on all sides by mature vegetation; to the south is an area of mature woodland that creates a strong boundary to the embankment of Warburton Bridge Road. There is a second area of woodland to the north west of the site adjacent to A57 Manchester Road. The site is enclosed along the remainder of the north western edge along the A57 by a tall hedgerow. The south eastern edge of the site is formed by mature trees and vegetation that follow the Manchester Ship Canal.

Landscape Sensitivity of the Site

- 5.5. The sensitivity of the land surrounding the settlement of Hollins Green is appraised in Chapter 4.0 of this assessment. The site is not wholly representative of the Study Area. The Study Area is a complex landscape comprising various landscape character areas. The sites site itself lies within the LCA 1 C Winwick, Culcheth an, Glazebrook and Rixton and is agricultural land with a lower landscape value and sensitivity than the surrounding floodplain landscape, therefore, the sensitivity of the site is considered to be **Medium - Low**.

Magnitude of Change

- 5.6. A proposed illustrative masterplan for the development of the site is appended to this assessment (**Appendix C**). This Illustrative masterplan has been used to establish the potential magnitude of change to the sites baseline landscape as a result of a proposed sustainable settlement extension.

Size and scale:

- 5.7. There would be a loss of arable farmland as a result of developing the site, although this farmland is described as "*intensely cropped*" and is therefore not considered to be of high value. Existing landscape features such as trees, woodlands, hedgerows and watercourses would be retained where possible.

- 5.8. Hollins Green is a small village and development of the site would increase the overall size of the settlement, however the village has a strong association with Cadishead and Irlam to the east.
- 5.9. The landscape masterplan demonstrates that the proposals for developing the site could make a contribution to the landscape. The existing landscape structure of the site could be preserved, and enhanced with new woodland area surrounding the site and creating an attractive landscape setting and green corridors through the site. There is an existing locally walked route that follows the Manchester Ship Canal, a network of new footpaths and cycle routes could be incorporated into the design through the green corridors improving wildlife connectivity and enhancing recreational routes. The existing vegetation to the A57 Manchester Road should be retained and enhanced where possible to provide an appropriate landscape buffer to the dual carriageway.

Geographical Extent:

- 5.10. There would be an obvious change in the character at site level, however the site forms a small portion of the overall Study Area and a small portion of the landscape character area in which it sits. The site does not define the surrounding landscape in which it sits. Through a well-designed masterplan the proposed landscape design could achieve some aspects of the relevant Recommended Management and Landscape Objectives set out in the Warrington Landscape Character Assessment.

Duration and Reversibility:

- 5.11. The construction effects of the proposed development would be temporary; and upon completion the effects of the development would be permanent. Proposed landscape mitigation and tree planting would reduce these permanent effects as they mature.
- 5.12. The magnitude of change at the completion of developing the site is assessed as being **Medium**.

Landscape Impact of development

- 5.13. The masterplan demonstrates that the site could be developed, and with good design contribute to the landscape and its existing character. The relevant recommended management and landscape objectives within the Warrington Landscape Character Assessment are:
- *Conserve and manage existing woodlands to encourage habitat diversity;*
 - *Conserve and manage remaining hedgerows;*
 - *Consider additional native woodland planting; and*
 - *Consider the use of native planting to soften and screen new development.*
- 5.14. Planting new woodland around to the boundaries of the site as part of the proposed Illustrative Masterplan would enhance woodland connectivity, screen the new development and strengthen existing field boundaries in keeping with the objectives of the Landscape

Character Assessment. Development would extend the settlement of Hollins Green to a new defensible Green Belt boundary along the Ship Canal which would not impact on “*the strategic importance of the Green Belt*” in this location.

- 5.15. There is no reason why a well-designed development that preserves the existing landscape features and provide a green infrastructure network, and responds sensitively to the setting of the existing conservation area to the west of the site would have any significant effects the character of Hollins Green, or the wider landscape of the Study Area.

6. Conclusion

- 6.1. The assessment of the Study Area and the land surrounding the settlement of the Hollins Green demonstrates **Medium** landscape sensitivity.
- 6.2. The assessment concludes that the Land at Hollins Green is representative of the character of the landscape within the Study Area and has an association with the existing settlement of Hollins Green.
- 6.3. The sensitivity of the site is assessed as **Medium-Low**, and development of the site is considered to result in a **Medium** magnitude of change. With appropriate good design and well-thought-out landscape mitigation measures the overall effects of development on the landscapes are not considered to be significant.
- 6.4. For the reasons outlined above, this report considers the Land At Hollins Green to be a sustainable and achievable location to be allocated for new housing development within the new Warrington Borough Local Plan without having significant effects on the overall Green Belt and settlement character objectives.

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Land at Hollins Green

Landscape Sensitivity Assessment of Hollins Green and Landscape Appraisal of Proposed Development on Land at Hollins Green

Appendices

September 2017

Prepared for:



Land at Hollins Green

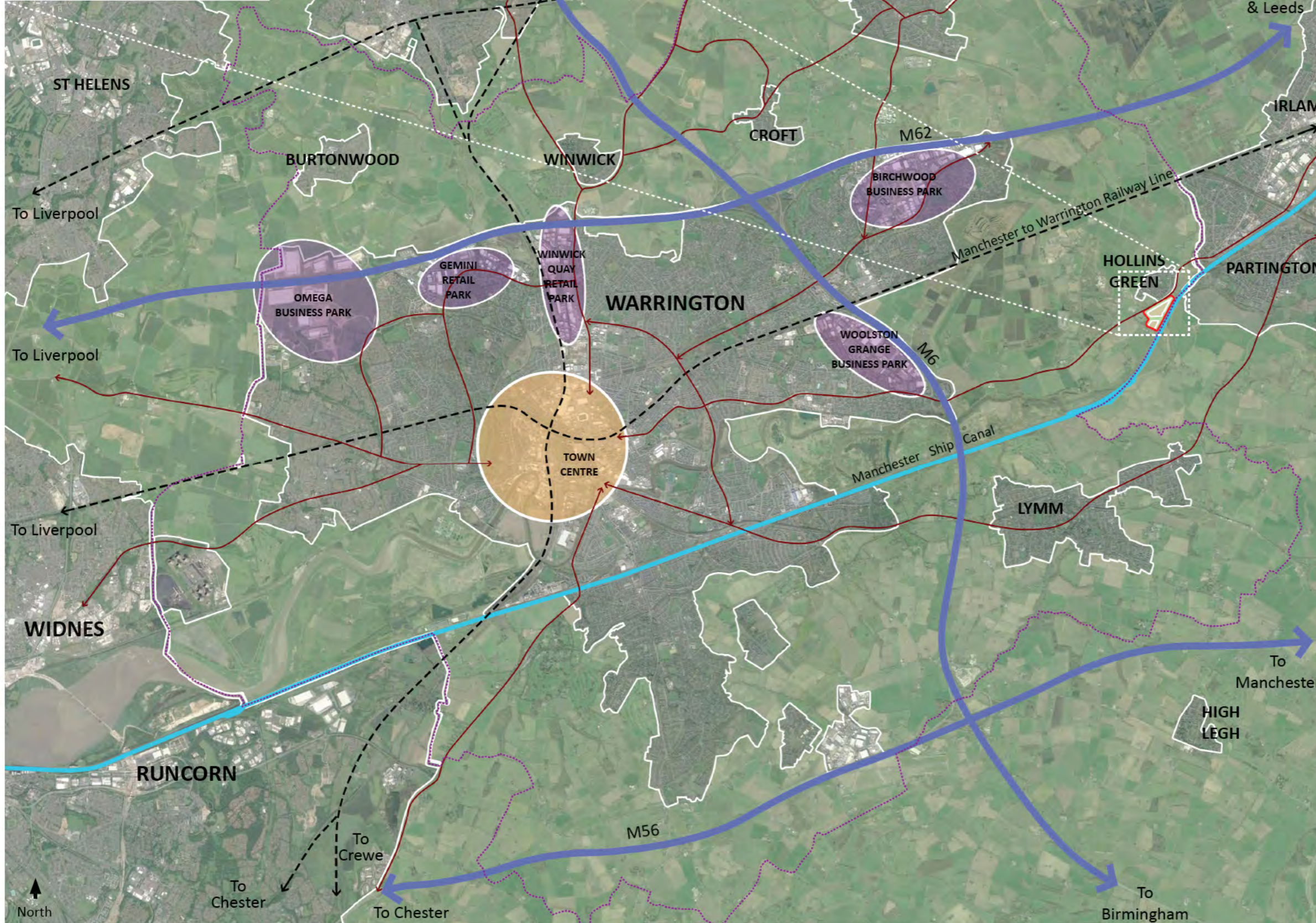
Landscape Sensitivity Assessment of Hollins Green
and Landscape Appraisal of Proposed Development
on Land at Hollins Green

Appendix A
Figures 1 - 3

September 2017

Prepared for:



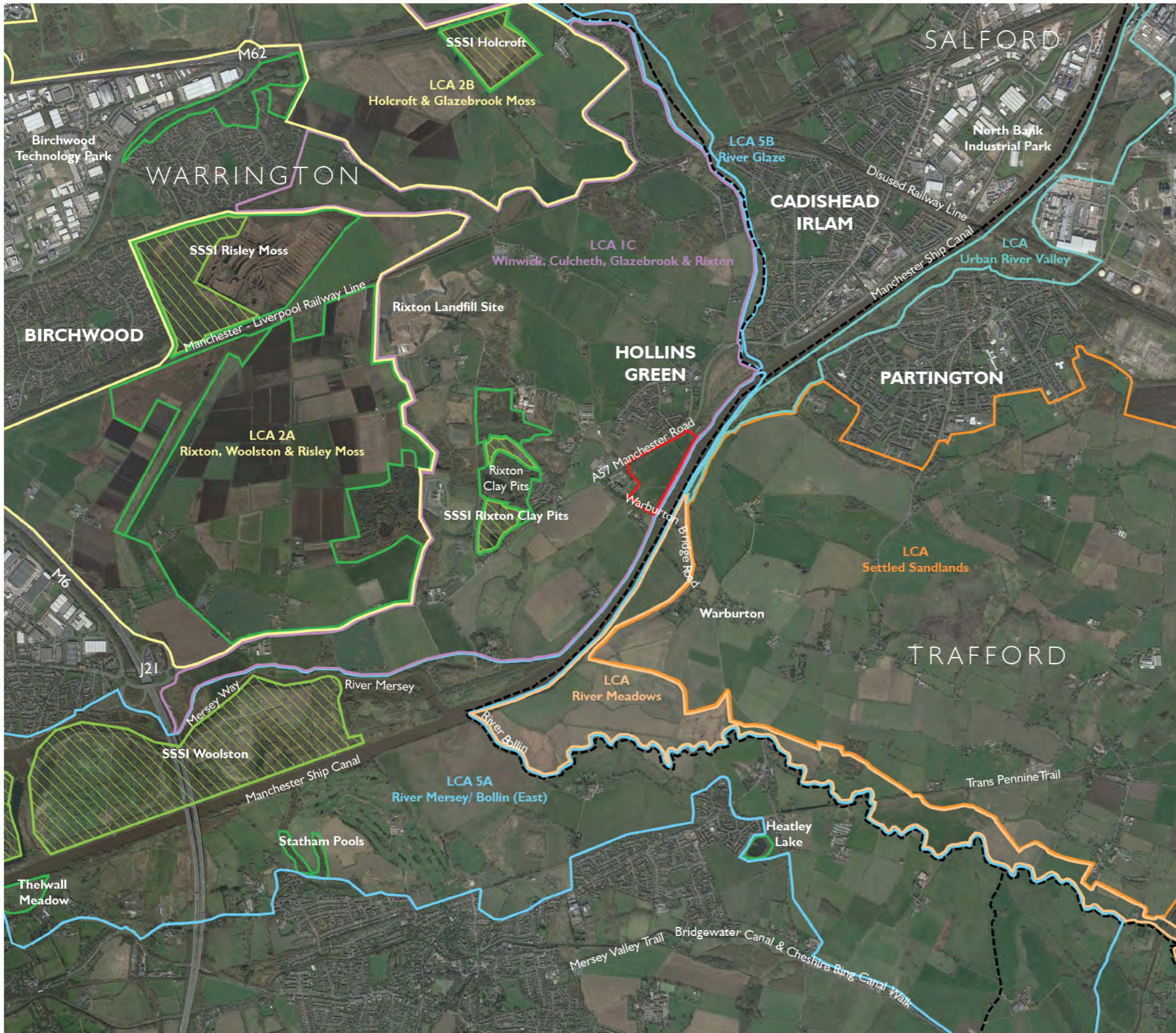


- KEY:**
- Urban area
 - Primary employment areas
 - Warrington town centre
 - Manchester Ship Canal
 - Warrington Borough boundary
 - Motorway
 - A580 East Lancashire Road
 - Key A and B road connections
 - Railway line
 - Potential strategic housing sites (green belt release)



Warrington Local Plan Sites
 Land off Manchester Road,
 Hollins Green
 Appendix A: Figure 1
 Warrington Context


Drwg No: 630CF-07A Date: 13.09.17
 Drawn by: SB Checker: SR
 Rev by: MF Rev checker: SR
 QM Status: Checked Product Status: For Issue
 Scale: NTS @ A3





KEY:

-  Site boundary
-  Borough boundary
-  SSSI
-  Local Wildlife Site/ Nature reserve



**Warrington Landscape Character Type 1:
Undulating Enclosed Farmland**

-  Landscape Character Area 1C:
Winwick, Culcheth, Glazebrook & Rixton

**Warrington Landscape Character Type 2:
Mosland Landscape**

-  Landscape Character Area 2A :
Rixton, Woolston & Risley moss
-  Landscape Character Area 2B :
Holcroft & Glazebrook Moss

**Warrington Landscape Character Type 5:
Floodplain**

-  Landscape Character Area 5A:
River Mersey/Bollin (East)
-  Landscape Character Area 5B:
River Glaze

Trafford Landscape Character Area:

-  River meadows
-  Settled Sands
-  Urban River Valley



Warrington Local Plan Sites




Land of Manchester Road,
Hollins Green
Appendix A: Figure 2
Landscape Character of the Study Area

Drwg No: 630CF-01
Drawn by: MF
Rev by:
QM Status: Checked
Scale: 1:25,000 @ A3

Date: 15.09.17
Checker: CW
Rev checker:
Product Status:
Confidential Review



KEY:

-  Site boundary
-  Existing water bodies/ watercourses
-  Manchester Ship Canal



Warrington Local Plan Sites
 Land off Manchester Road,
 Hollins Green
 Appendix A: Figure 3
 Site Features Plan

Drwg No: 630CF-02	Date: 07.09.2017
Drawn by: CD	Checker: CAW
Rev by:	Rev checker:
QM Status: Checked	Product Status:
Scale: 1:5000 @ A3	Client Review

Land at Hollins Green

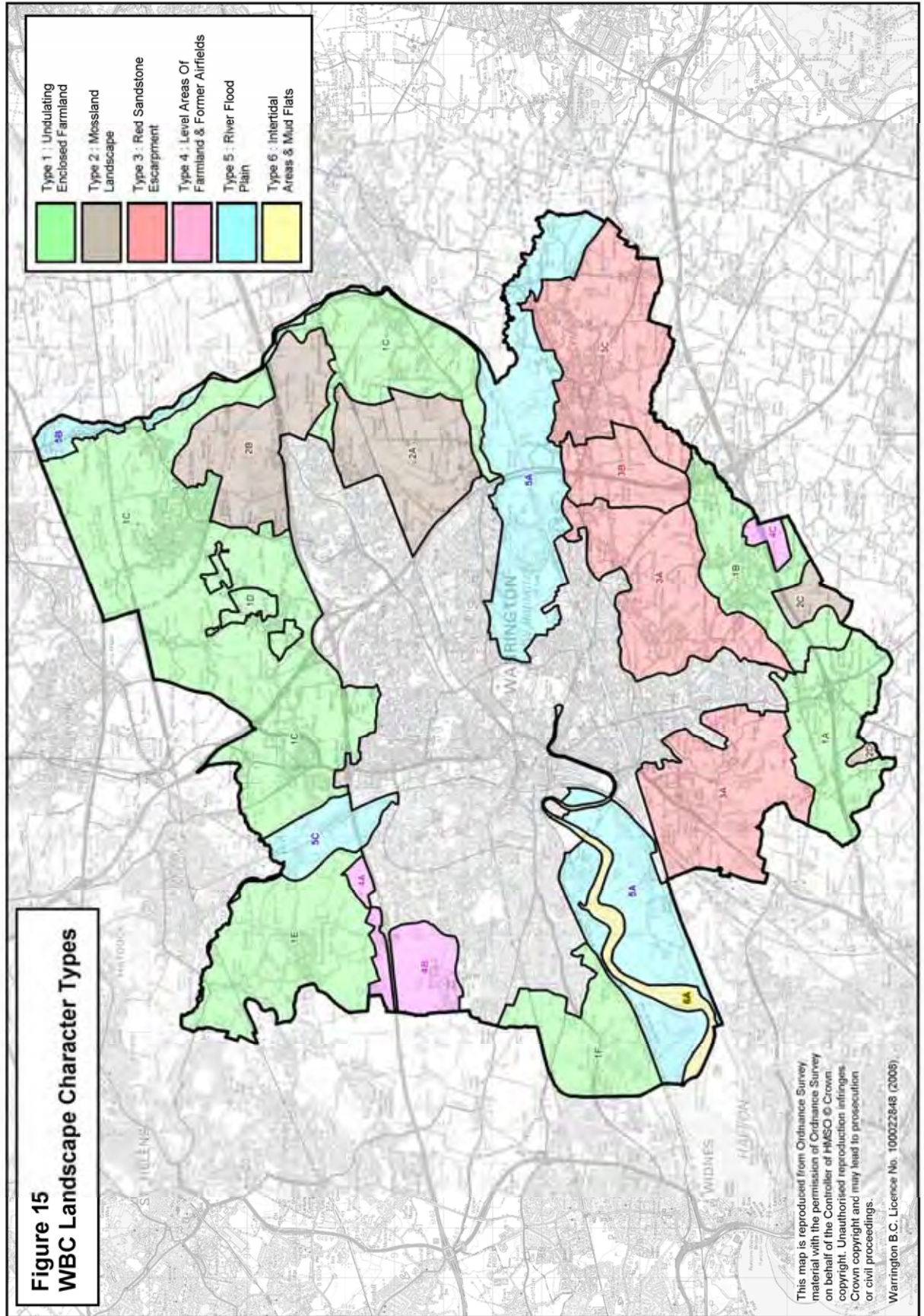
Landscape Sensitivity Assessment of Hollins Green
and Landscape Appraisal of Proposed Development
on Land at Hollins Green

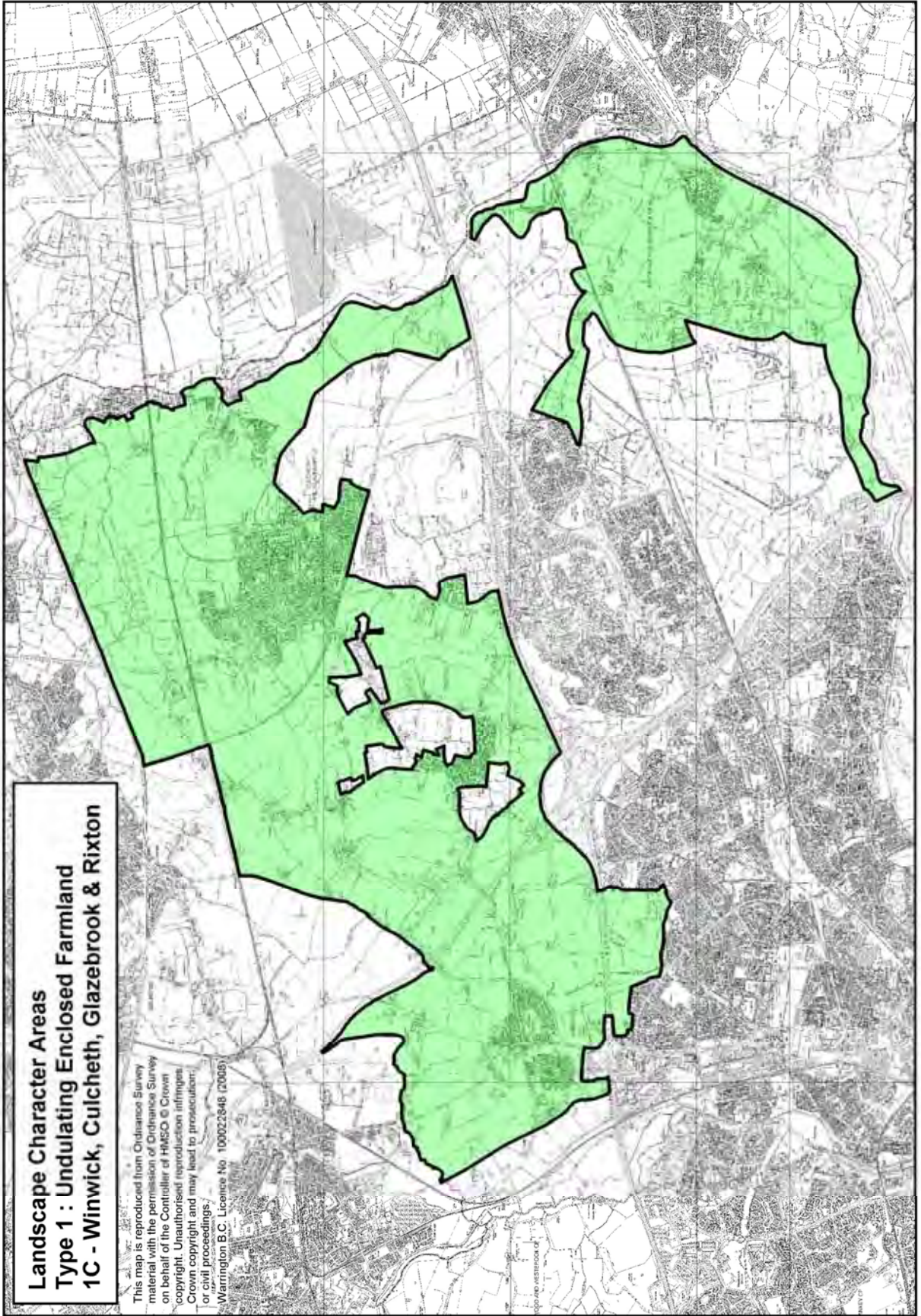
Appendix B
Extract from the Warrington Landscape
Character Assessment

September 2017

Prepared for:







TYPE 1. UNDULATING ENCLOSED FARMLAND

AREA 1.C WINWICK, CULCHETH, GLAZEBROOK AND RIXTON

Description

These areas typify undulating enclosed farmland with a medium to large-scale field pattern.

The area stretches in an arc from the River Mersey in the south, through Glazebrook to Culcheth in the north and finally wrapping around Winwick in the west.

The agriculture predominantly consists of arable fields, intensely cropped, with poorly maintained remnant hedgerows with few hedgerow trees. Small deciduous woodlands form backdrops to views within the landscape.

Areas of heavy clay soils have necessitated comprehensive land drainage systems although these are not always effective, leading to ephemeral areas of standing water in low areas at times of heavy rainfall. Other areas of lighter soils, particularly those just east of the village of Winwick, around Southworth, are better drained and heavily cultivated.

The area contains three significant knolls to the north-west of this area, one is the large knoll on which Winwick Church stands; a second to the north, is defined by Cop Halt Farm and the third is at Wood Head Farm just west of the Parkside Road crossing of the M6. The A49 road north from Warrington runs just to the west of Winwick Church over the larger knoll and then just to the east of Cop Halt Farm before crossing Oswald's Brook at Red Bank. It therefore follows the line of higher ground.

Associated with these knolls is another unusual feature, Oswald's Brook, forming an anomaly within the gently undulating landscape. The Borough boundary to the north of Winwick follows the line of Oswald's Brook, a fairly deeply incised stream running from the east and discharging into Newton Brook which in turn discharges into Sankey Brook. The valley of Oswald's Brook is narrow, wooded and contains low exposed red sandstone cliffs.

West of Hollins Green are the Rixton Clay Pits, an area of disused clay pits, some flooded, some partially flooded and some partially filled; these pits have been colonised by native species, creating a rich melange of habitats and a visually complex series of intimate spaces.

Immediately north of Rixton Clay Pits and abutting Risley Moss to the west is Rixton Landfill Site. This is a domestic refuse facility, which currently presents a whaleback form with a high

ridge running north – south. The landfill site is visually very prominent in the landscape, particularly dominating Rixton Moss to the west. Views from the south however are screened by Rixton Clay Pits. There appears to be little or no mitigation works to reduce the impact of the site.

North of Southworth Hall is a large sand quarry, screened by mounding and planting. This sand pit adjoins an old colliery tip to the north and to the west, part of which (adjacent to the M6) has been reclaimed.



Photo 32a . South elevation of the historic Winwick Church - a very conspicuous landmark.

Key Characteristics:

- Sweeping views to the north and east from the areas of Culcheth and Glazebrook
- Sweeping views to the south from the Winwick area
- Medium to often large-scale mainly arable fields
- Lack of hedgerow trees
- Hedgerows between fields often fragmented
- Deciduous wooded backdrops
- Rixton Clay Pits
- Rixton Landfill Site

Cultural History

Two important roads pass north-south through this area, the A49 through Winwick and the B5212 Holcroft Lane / A574 through Glazebury. Winwick Road was a former Roman Road of great strategic importance leading down to the bridge over the Mersey in Warrington. Holcroft Lane, to the east, was of lesser strategic importance, but took people through the relatively narrow gap between the mosses of the north side of the Mersey occupied by the River Glaze. This was the route taken by the Duke of Cumberland in December 1745 in pursuit of the retreating army of Bonnie Prince Charlie. Holcroft Lane is to the west of the River Glaze valley leading from Wigan down to the ford of the River Mersey at Warburton. Both roads were also important from ancient times for the movement of salt northwards from the Cheshire salt pans.

A third important road runs east-west through the south of the area, the A57 Manchester Road. This road follows the high ground north of the River Mersey flood plain and to the south of the great basin formed by Rixton Moss. The road connects with the M6 to the west and with the B5212 to the east. It is a long-established road and has some important historic sites along it. Rixton Old Hall is just south of the road at the edge of the Mersey flood plain; Rixton New Hall is just to the east. Hollins Green, a small village just north of the road contains a churchyard on an ancient circular-plan site with a footpath called 'The Weint' running around it –suggestive of a pre-Roman origin. The lowest ford on the Mersey was at Warburton and the road from Warburton joins the A57 just west of Hollins Green.

A fourth, locally important road runs east – west to the north of the area, connecting Winwick, Croft, Culcheth and Glazebury. Although classed today as a minor road, it connects with the more important north-south roads referred to above and is significant in that a number of moated or high status sites are located either at the roadside or close to the route. These include Winwick Church, Myddleton Hall, Southworth Hall and the former sites of Old Kingnall Hall and Kingnall Hall. A tumulus is sited just north of the road near Myddleton Hall. This evidence suggests that the road is probably ancient.

Winwick, the local high point, has clearly been the site of habitation for some time. A group of five barrows or burial mounds have been discovered at Winwick, two in the late C19th and two in modern times. One of these barrows, much disturbed, revealed Beaker pottery.

Another barrow was discovered at Southworth Hall Farm, Croft, east of Winwick, comprising a more extensive cemetery of over 800 burials possibly focused on the Bronze Age burial mound.

There are also a number of medieval manors scattered throughout this area, based on local halls. These include Culcheth, Holcroft, Peasfurlong, Risle, Kenyon and Southworth, of which Culcheth was the principal manor. Parts of these manorial holdings reached into the adjacent mosslands and it is probable that the mosses were exploited for hunting and for fuel. There are references to Culcheth having four plough-lands in 1212. Holcroft and Hurst appear to have had a number of water mills, implying a fairly substantial area of cereals. The site of at least one mill is probably close to Holcroft Hall - to the south of the Hall in the southern arm of Crow Wood. The 1832 Tithe Map records the name of this arm of woodland as Mill Ground. The picture of medieval Glazebrook, Culcheth and Winwick appears to be of mixed farmland, as now, with cereals being grown on the lighter soils such as around Southworth and grazing being practised on the heavier clay soils.

Holcroft Hall is one of a chain of probably early medieval sites (many of the others being moated) which stood along the line of Pennington Brook / Glaze Brook and running north – south along the road between Wigan and the Mersey ford at Warburton. These building complexes would have had some strategic value as is confirmed by the recent discovery of a Bronze Age promontory fort and settlement at nearby Little Woolden Hall on the eastern side of the River Glaze (just outside the Borough boundary).



Photo 69. Holcroft Hall viewed from Holcroft Lane, Chat Moss in the distance.

Holcroft Hall has some local fame through its connection with Colonel Thomas Blood of Crown Jewels fame. Colonel Blood married Maria Holcroft in 1650, the daughter of the owner of Holcroft Hall, Colonel John Holcroft.

Colonel Holcroft was a staunch Parliamentarian and was in command of the garrison of Lancaster when the Earl of Derby besieged and took it in 1643. In 1648, Blood served under Colonel Holcroft, during the pursuit of the Scots Army, ultimately defeated by Cromwell at Worcester. On the death of Colonel Holcroft, Blood engaged in an unseemly and murderous struggle for the possession of Holcroft Hall, but was beaten to it by his brother-in-law, Thomas Holcroft.

The present building at Holcroft is the core of what was evidently a large manor house built around a central courtyard. Little remains of the original buildings, but part of the original structure is probably incorporated in an old barn to the west of the house, now in a ruinous state.

Winwick Church, standing on the elevated ground north of Warrington dominates much of the area. The present structure was built probably around the early 1300s and extensively rebuilt around 1530, the famous architect A.W.N. Pugin designed the chancel in 1847-8. The church is dedicated to St Oswald and the church site is probably far older than the existing structure. It certainly existed in the Domesday Book and commemorates King Oswald of Northumbria, a prominent Christian, killed in battle at Maserfield or Macerfeld (site unknown, possibly on or near St Oswalds Brook, bordering Ashton in Makerfield north on the A49.

Much academic argument states that it was most probably near Oswestry) fighting against the ferocious pagan King Penda of Mercia and his Welsh allies in 641AD. Winwick was in Saxon times the centre of a large ancient parish of eleven townships, forming the southern half of the hundred of Newton, including the royal estate centre of Newton itself.

The high ground around Winwick had great strategic importance as it was the nearest defensible ground north of the Warrington bridge over the River Mersey. Certainly King Penda and his army could have marched through here to attack King Oswald of Northumbria (if a battle did indeed take place at Ashton in Makerfield) and local legends of a great Saxon battle near here could be realistic. St Oswald's Well and Oswald's Brook to the north of the area could possibly commemorate such an action – on the same site as the battle of the Red Bank?

The strategic importance of the area again was emphasised in the Civil Wars, Warrington was held at this time by the Earl of Derby for the King, but the town was taken by Parliamentary troops in 1643. On 23rd May 1643, the Roundhead troops of Colonel Assheton routed a body of Royalists at Winwick. *'Whilst the duty (of prayer and fasting) was in performing tidings came of the taking of Winwick Church and steeple, they on the steeple standing on terms till God sent a deadly messenger out of a fowling piece to one of them; also a strong hall [the rectory] possessed by professed Roman Catholics and stored with provision, as if it had been purposely laid in both for our supply and ease';* Civil War Tracts (Chet. Soc.), 138.

From: 'Townships: Winwick with Hulme', A History of the County of Lancaster: Volume 4 (1911), pp. 140-42.

In 1648, a battle took place at Red Bank, adjacent to Newton Brook at the crossing with the A49 former Roman military road. The Duke of Hamilton invaded England at the head of an allied army of Scottish Covenanters and north country Royalists, having evaded Cromwell and his troops in Scotland. Cromwell dispatched troops to pursue the Scots, particularly his powerful cavalry, inflicting a heavy defeat on the Scots at Preston and destroying their allied Royalist cavalry, Cromwell's cavalry harried the until then largely unscathed Scots forces on their way south.

Unsurprisingly, the Roundhead cavalry on several occasions caught up with the Scots, who detached a powerful force to hold up Cromwell's cavalry while the main force marched through Warrington and broke the bridge to force Cromwell to a crossing further to the east .



Photo 40. Cop Halt Farm, the Scottish HQ in 1648, viewed from the north near Newton Brook.

The detached rearguard held a narrow pass on the A49 road at Red Bank, where the road crossed the small but steep sided Oswald's Brook valley via a small bridge, close to the confluence of Oswald's Brook with Newton Brook. The Scottish forces constituted of a group of pike and muskets, numbering at least 4,000, under command of Major-General William Baillie who traditionally is supposed to have his headquarters at Cop Halt Farm behind the Scots army's left flank. The south bank of Oswald's Brook / Newton Brook constituted a formidable obstacle to the Roundhead cavalry and so attacks were delayed until the Roundhead infantry came up. On 19th August 1648, there came a fierce battle where the infantry of both sides charged each other with pikes while musketeers of each side engaged on the flanks. The battle was resolved when the powerful Roundhead cavalry crossed Oswald's Brook to the east via a lane, (now the A573) and then turned right to take a line parallel to the course of the brook through the fields, crashing into the right flank of the Scots infantry. The Scots carried out a dogged retreat south until they reached an area close to Winwick Church, which they then defended until finally forced to surrender.

Cromwell's own account of the action was, *'We could not engage the enemy until we came within three miles of Warrington, and then the enemy made a stand at a pass near Winwick. We held them in some dispute till our army came up, they maintaining the pass with great resolution for many hours, ours and theirs coming to push of pike and very close charges, and forced us to give ground; but our men, by the blessing of God, quickly recovered it, and charging very home upon them, beat them from their standing, where we killed about a thousand of them and took (as we believe) about two thousand prisoners, and prosecuted them home to Warrington town';*
Civil War Tracts, 264.

Cromwell also stated, '*...and the commissioners deputed by me have received and are receiving all the arms and ammunition; which will be, as they tell me, about 4,000 complete arms: and as many prisoners: and thus you have their infantry totally ruined*'.

Civil War Tracts 287-8.

A further account states: '*The greatest stand they (the Scots) made was between Newton and Winwick, in a strait passage in that lane that they made very strong and forcible, so that Cromwell's men could not fight them. But by the information of the people thereabouts and by their direction they were so guided into the fields that they came about so that they drove them up to that little green place of ground short of Winwick church and there they made a great slaughter of them, and then pursued them to Warrington*'.

Lancs. War (Chet. Soc.), 66.



Photo 34. Church Green, Winwick, the site of mass slaughter of Scots by Cromwell's troops.

It is a local tradition that Gallows Croft, a small area on the Newton side of Red Bank was the spot where a number of Scots / Royalist prisoners were summarily hung at the end of the battle.

This is Warrington's only recorded battlefield. Although it is not on the English Heritage Register of Battlefields, the significance of what was clearly a substantial action – not a mere skirmish, in terms of casualties and prisoners - and the unspoilt nature of the area suggests that the site of the Red Bank Battle and pursuit should be afforded some protection.

Kenyon Hall, indicated on the 1849 O.S. is now incorporated into Leigh Golf Club, Culcheth and the extensive parkland is now a golf course.

Culcheth was originally a small village probably founded after 1066 (it is not mentioned in Domesday) but was certainly in existence in 1212 when the de Culcheths built a Hall. In 1246 the last male de Culcheth died, leaving his estate between four daughters, whose descendants became the Holcrofts, the Risleys and the Peasfurlongs, the remaining daughter retaining the name 'de Culcheth'.

A water mill is mentioned in a deed of 1270, presumably powered by water from one of the local streams. It may be that it was on the site of Daisy Bank Mill, a cotton mill, (rare in this area) demolished in recent times. In 1751 an Enclosure Act enclosed some of the land around the village. Culcheth is unusual in that it retains its village green; although this is somewhat broken up, it is well used and popular.

In 1774, the last of the Culcheth family died without an heir and the estate was sold to the Withington family in 1824. The Withingtons planted many groves of trees in the area, including trees along Culcheth Hall Drive.

In 1560 a church was built in Culcheth, named New Church to distinguish it from the old church of St Oswald at Winwick, the original parish church. In 1903, New Church was burnt down and another church was built on the site to replace it. A workhouse was established near the village centre around 1660. In 1903, the Salford Board of Governors built the Culcheth Cottage Homes as an orphanage. It was converted to a hospital for mentally handicapped people after WWII, but this closed in the 1970s. The buildings have been refurbished and sold as private homes in recent times.

A local High School was built in 1932 at the junction of Withington Avenue and Warrington Road and this school is still flourishing.

Rixton was a small village held by Allan de Rixton from the Duke of Lancaster. His seat was a great hall at Rixton Hall, extended and improved in the C17th. In the period 1658 – 1748, New Rixton Hall or Little Hall, was built.

The Warburton family held the manor of Glazebrook, but in 1384, they ceded it to Hamo de Masey, Lord of the manor of Rixton. The combined manors became known as Rixton-with-Glazebrook from then on. The Tempest family owned most of Rixton-with-Glazebrook, as well as Broughton Hall, throughout the C18th and C19th. By 1750, the Tempests were sharing the estate with the Patten family, while the Tinsley brothers owned Glazebrook Hall with 137 acres.

Thomas Patten bought Glazebrook Hall and 600 acres of woodland and 33 acres of farmland and the chapel. Thomas Patten died in 1874; Wilson Patten inherited the estate and further developed it in the 1880s.

The imposing structure of Mount Pleasant, close to the junction of Glazebrook Lane and Manchester Road, was built in 1851 for Charles Tempest, and had 40 acres of land attached.

Many of the local Lords of the Manor were Catholics and suffered at the hands of the Protestant majority between Elizabethan times and Roundhead times. These recusants were often deprived of their lands or fined by losing part of their lands. This caused some disruption to land holdings during this period.

The Manchester – Liverpool railway line, now operated as a secondary line, was opened in 1830, its creator being the great engineer George Stephenson. It crosses the area running east west just north of Culcheth, having run through Glazebury to the east on an embankment. Stephenson had great difficulties in crossing Chat Moss to the east with the railway. Originally designed as a cable railway i.e. with static engines at each end and cables between, it had particularly easy gradients of up to 1:2,000. When the 'Rocket' won the Rainhill Trials in 1829, it was assigned to this line, becoming the first locomotive powered railway in the world. Stations on this line originally stood at Kenyon Junction (built between 1833 and 1837, closed 1961) and at Glazebury and Bury Lane (closed 1958).



Photo 61a. Culcheth Carrs storage facility.

A second main railway line running east-west through the area and through Glazebrook was constructed later in the C19th by the Cheshire Lines Committee and is now the main line between Manchester and Liverpool. Two other railway lines, now disused, were also constructed in the C19th. One of these joined the main line just west of Glazebrook and ran through Holcroft Moss before emerging into this area again south of Culcheth. Part of this disused railway is now Culcheth Linear Park. The park unfortunately does not extend along the full length of the track. The other disused track is the Bolton and Leigh Railway, built in 1828 (before the Manchester – Liverpool line), which ran to the west of Culcheth Carrs. Both of these lines were extensively used for coal traffic.

The A580 trunk road was opened by King George V in 1934 and was England's first intercity highway, linking Manchester and Liverpool. The name East Lancashire Road refers to the original and unattained objective of ultimately extending the road into East Lancashire.

A section of the road adjoins the boundary of Warrington Borough north of Culcheth Carrs and runs east to the junction with Warrington Road at Lately Common. This is built on an embankment to overcome the marshy ground problems of Culcheth Carrs.

The M6 motorway now replaces the A49 and Holcroft Lane as the strategic route through the area. The M62 is a similarly important strategic route running east-west through the area and the junction between the two motorways occupies and visually dominates a substantial area.

In WWII, an ammunition storage facility was constructed on Culcheth Carrs, accessed from a railway line (now closed) to the west. This facility, now in private ownership, with its concrete bunkers surrounded with soil is still in use as storage. It now has a prominent row of lightning conductors along the roofs. The name Culcheth Carrs refers to the large marshy area in which the store was built, drained by Carr Brook flowing to the east.

There were a number of military camps in the villages in the area. In Croft there is a disused camp to the east of Lady Lane. In Glazebrook there are two disused and now heavily overgrown campsites south of Bank Street. In Culcheth, two camps were built in the village, Ariel East and Ariel West, Ariel West was occupied by the Fleet Air Arm. Culcheth Hall was occupied by the army throughout WWII.

Winwick Hospital, closed in 1998, was one of the largest mental health hospitals in Europe. Almost all of the original buildings have now been demolished and replaced by a large-scale development of private housing. The Winwick Hospital site is designated as a SBI (Site of Biological Importance) Grade C.

Rixton Clay Pits is an extensive area of excavations from which boulder clay was extracted and used in the local brickworks. Clay is still extracted from the north of the area, but the bulk of the workings, some 13.99 ha., ceased to be used for extraction in the 1960s. The resultant landform is a complex mosaic of ponds, mounds, woodland and clearings and is exceptionally rich in wildlife. The site was designated as an SSSI (Site of Special Scientific Interest) because of the presence of great crested newts (*Triturus cristatus*) and is locally designated as an SBI (Site of Biological Importance) Grade A. There are a number of wild flower species of some interest, including marsh orchids, sedges and centaury. The site is managed by Warrington Borough Council as a nature reserve.

Key cultural elements in the landscape:

- The A49 major historic route north south
- Historic Halls and associated with the River Glaze
- Winwick Church
- Ancient burial sites around Southworth Hall
- Red Bank (Winwick) English Civil War Battlefield
- Stephenson's Manchester to Liverpool railway line and other historic railway lines
- A580 East Lancashire Road
- Culcheth Carrs WWII munitions storage site

- Kenyon Hall Parkland
- Winwick Hospital (site of)
- Rixton Clay Pits

Landfill and Mineral Extraction

There are no landfill operations within this area, however, there are visual impacts to the area from adjacent landfill sites. There are two active landfill sites adjacent to the area. The first at Silver Lane, has an impact on land to the north and east with a slightly lesser impact to the west. The second is at Rixton, having a visual impact on land to the east, around Hollins Green.

To the south of the area, within the River Mersey floodplain, there are two other landfill operations. The first is a non-hazardous wastes operation at Butchersfield, now complete, restored and planted. It has a high domed form and is visible from areas to the south up to the M62 motorway. The second is an adjacent landfill area to the west, formed from dredgings from the Manchester Ship Canal. This is now colonised by scrub, but permission has been sought to deposit additional material in this area and works have recently commenced.

Mineral extraction within the area comprises of sandstone extraction adjacent to Southworth Hall Farm and clay extraction west of Moat Lane and at Chapel Lane, Hollins Green. On completion of the extraction from the Southworth Hall site, which is well screened with planted embankments, the pit will be backfilled with inert fill and the land restored to agricultural use. Adjacent to the sand pit and close to the M6 motorway is a former colliery spoil heap which has now been reclaimed.

Map evidence suggests that the area around Winwick Church was widely used for quarrying on a small scale. These quarries appear to have been filled in during recent times. Other areas of land north-east of Winwick Church are possible small sand quarry sites, pre-dating the larger workings at Southworth Hall Farm. A substantial lake between Myddleton Hall Farm and the M6 is the result of gravel extraction in the recent past.

North-west of Hermitage Green is a colliery spoil heap which is sited outside the Warrington Borough boundary and therefore outside this character area. However, this spoil heap does have a visual impact on the character area. This spoil heap is a relic of the former Parkside Colliery and occupies an area of land formed by an elbow bend in Newton Brook. A planning application has recently been submitted (2007) for this area which impinges into the Warrington Borough.

Agricultural Land Classification

The bulk of the land around Winwick, Culcheth, Glazebrook and Rixton is Grades 2 and 3, reflecting a mixture of soil types, from sandy soils to the west to heavier clay soils (derived from brick earths) to the east. A further area of Grade 3 land is currently occupied by Rixton

Clay Pits together with a few fields to the east. A strip of land around the B5212 running south from Glazebrook down to Hollins Green is Grade 2.



Photo 54. View southwest from Sandy Brow Lane, showing the landscaped bunding around Southworth sand quarry in the left background.

Landscape Sensitivity

The Glazebrook, Culcheth and Winwick areas form a large tract of land with a similar character. The largely open countryside, dominated by arable crops, leads to long wide vistas. Although the land is gently undulating, any vertical structure or building stands out in the landscape as a dominant element. Views are also unrestricted by the scarcity of hedgerows and hedgerow trees, often suggesting a 'prairie like' simple landscape of waving crops or ploughed fields in winter. They are therefore generally visually sensitive to development.

Current visually intrusive elements to this landscape are the landfill sites within and adjoining these areas at Rixton, Butchersfield next to the River Mersey and at Silver Lane, Risley. These are huge, single mounds breaking through the surrounding gently undulating landscape and standing out incongruously as major features. The mounding associated with the sand extraction site at Kenyon is more subtly integrated into the landscape following a much lower and undulating profile.

Woodlands in the Glazebrook, Culcheth and Winwick areas tend to be the exception in the landscape and are generally on a small scale and isolated. Where woodlands are present, particularly in the Glazebury and north Culcheth areas, they help to create backdrops and form a more interesting landscape, breaking down long, uninterrupted views.

Key elements of landscape sensitivity:

- Wide, open vistas
- Simple, low, undulating landscape sensitive to vertical forms, particularly on local high points

Landscape Change

In common with the Stretton and Appleton areas, the landscape has tended towards the amalgamation of fields into larger units, with the resulting loss of hedgerows and hedgerow trees. The remaining hedgerows and hedgerow trees have little function within the arable, agricultural landscape and are often gapped and poorly maintained.



Photo 92b: An active clay pit at Rixton.

To maintain arable crop production, drainage to the clay soils has been essential, particularly at their margins with the adjoining mosslands of Holcroft, Glazebrook and Rixton Moss.

Woodland cover has also been reduced to maximise crop production and although often small and well scattered, woodlands now provide an important recreational resource. These are well used often with footpath connections to the surrounding villages.

Considerable landscape change has occurred locally in the Rixton area, through the extraction of clay for brick making. Most of these workings have left a landscape of discarded spoil and deep pit excavations now filled with water. The discarded spoil areas have naturally regenerated, largely with native trees and shrubs, and the area has become an important wildlife habitat and recreational resource for walking and fishing.

Communication routes have also substantially changed the landscape, carving it into ever-smaller parcels of land, requiring bridges, cuttings and embankments. The M62 and M6 motorways are particularly dominant features, cutting through the Winwick, Croft and Glazebrook areas with 2 main railway lines running east-west through Glazebury to the north and Glazebrook to the south – forming major obstacles to accessing farmland to either side.

A disused railway line runs from Wigan through Golborne and Culcheth to Glazebrook Moss, where it originally joined the main Manchester to Liverpool line. This has now been left as an historic feature in the landscape – easily recognisable by its linear vegetation clad embankments and cuttings running through the arable farmland. A section of the route has been utilised as a recreational footpath known as Culcheth Linear Park.

The construction of pylon routes have been additional impositions on the landscape and are common, intrusive features to the arable landscapes of Winwick and Kenyon.

Other landscape changes took place during the Second World War and can be evidenced today by the mounds and bunkers at Culcheth Carrs along the Borough's north-eastern boundary. Relatively new changes in the landscape have occurred in order to improve the viability of farming. Former agricultural land is now under consideration for alternative uses such as fishing ponds, golf courses, driving ranges and horse grazing. Fishing ponds and a driving range have now developed near Culcheth whilst demand for horse grazing paddocks is widespread adjoining the main village centres.

Landscape change to the area is summarised as follows:

- The imposition of landfill sites
- The past impact of roads and railways
- The past impact of pylons and power lines
- The enlargement of field sizes

- Substantial reduction in hedgerows and hedgerow trees
- Decline in management of remaining hedgerows and hedgerow trees
- Constant improvement of soil fertility for arable crops by drainage and fertilisers
- Pressure for horse grazing
- Changes from farmland to fishing and golfing facilities
- Disused railway lines
- Former Second World War munitions storage bunkers
- Clay extraction and restoration

Recommended Management and Landscape Objectives

Although much of the area's original small-scale field patterns have been lost, a strong framework of medium to large field boundaries is still present and forms a major part of the landscape's character. In order to retain this character, it is imperative to encourage the retention, enhancement and better management of the remaining hedgerows, together with the re-introduction of new hedgerow trees. Horse keeping should not be encouraged at the expense of traditional farming and in particular the destructive effects of horses browsing trees and frequently de-barking trees should be monitored.

The battlefield site of Red Bank should be preserved in its current, largely unspoiled state and opportunities should be considered for wider interpretation of this site, together with the associated Winwick Church.

The area's woodlands should be seen not only as important visual elements in an otherwise open landscape, but also as important recreational assets. The careful consideration of additional and woodland extension plantings should therefore be encouraged.

New development can be seen to have a major impact on the landscape, particularly where structures of mass and high elevations are concerned. The siting and size of such structures should therefore be carefully considered through visual impact studies and potential landscape mitigation.

The existing landfill sites currently form artificial dome or whaleback shaped profiles in the landscape. Flatter, lower and more undulating profiles appear to blend more sympathetically with the existing landscape. Elevations should be as low as feasibly possible, if necessary taking a greater area of land to minimise their visual impact. Restoration landscape schemes for such areas should not only consider wildlife and 'amenity space' but should also look to retain the land for productive use. Timber and biomass fuel production should be considered.

Management of the Landscape:

- Restore and enhance remaining field patterns by additional hedgerow planting

- Reintroduce hedgerow trees
- Conserve and manage existing woodlands to encourage habitat diversity
- Conserve and manage remaining hedgerows
- Consider additional native woodland planting
- Consider the use of native planting to soften and screen new development
- Investigate an extension of Culcheth Linear Park to the south, following the old railway line towards Glazebrook

Settlement

Settlements in the area include Hollins Green, Glazebrook, Glazebury, Fowley Common, Culcheth, Croft, Kenyon, Hermitage Green and Winwick.

Hollins Green is a small, nucleated settlement adjacent to the west side of junction of Manchester Road and Glazebrook Lane. There are very few older properties in the village, most are modern houses in a cul-de-sac development. The village occupies a generally flat site just north of the Mersey flood plain.

Glazebrook is a linear settlement along Glazebrook Lane, centred on the bridge over the Manchester/Liverpool railway line at Glazebrook station. It comprises of a small number of older properties and a number of modern houses and bungalows, occupying an area between Glazebrook Moss to the west and the edge of the flood plain to the River Glaze to the east.

Glazebury is essentially a linear settlement built along the A574 Warrington Road and sandwiched between the floodplain of the River Glaze and the extensive, formerly marshy area of Culcheth Carrs. It has a predominance of terraced housing built perhaps 100 years ago. There is a large garden centre, Bents, located to the east of the main road. At the northern end of the village, to the south-west of the junction between the A574 and the A580 (East Lancashire Road) is Lately Common, a flat area of common ground.

Buildings of note in the countryside around Glazebury include the north barn at Hurst Hall c. C15th, formerly a hall building Listed Grade II*; south barn at Hurst Hall c. early C17th, Listed Grade II and the Church of All Saints, Warrington Road, Glazebury, built 1851 and Listed Grade II. South of Glazebury, Holcroft Hall built in the late C15th – early C16th, with many alterations is Listed Grade II* and is the relict of a far larger courtyard site of the same period.

Fowley Common is a hamlet adjoining Glazebury, comprising of a small group of older properties and a public house with additional properties built after WWI. Fowley Common is located in a gently sloping south-east facing hollow, a tributary valley of the valley of the River Glaze. To the east of Fowley Common is a Local Authority housing estate built around Churchill Avenue. The estate comprises flat-roofed houses, which look particularly alien and locally quite visually dominant when viewed from the south.

Culcheth is a large nucleated settlement based around the junction of Warrington Road, Wigshaw Lane and Common Lane. Originally the settlement was close to the road junction, where a few older buildings are located. The settlement has been augmented by a series of conventional private housing estates of low architectural merit, many interconnected through a maze of loop roads. The village is sited on a generally gently north sloping area of undulating land.

Buildings of note in the countryside around Culcheth include Kenyon Hall, an early C19th building in Twiss Green, Listed Grade II, together with the contemporary Lodge to Kenyon Hall and associated gate posts, Listed Grade II. Brookhouse Farmhouse, Wigshaw Lane, built c. 1744 is Listed Grade II. On Warrington Road, south of Culcheth are a number of Listed buildings, including Hope Farmhouse, an early C19th farmhouse, Listed Grade II, the associated barn at Hope Farmhouse, a late C17th building Listed Grade II and Newchurch Old Rectory, a former rectory now a private house, Listed Grade II.

Croft was a dispersed settlement which historically began to coalesce around Lord Street and later infilled along Smithy Lane and Lord Street. A large estate occupies the area east of Pasture Drive and much of the village area is of similar housing type.

Croft is sited on undulating, gently south sloping land, north-east of the wide, flat floored valley of Cockshot Brook, now almost entirely occupied and certainly dominated by the M6 and M62 motorway junction. Within the village, the Catholic Church of St Lewis, Mustard Lane, built 1827 is Listed Grade II. St Lewis Presbytery, Mustard Lane, contemporary with the church is also Listed Grade II. The parish church of Christ's Church, Lady Lane, built in 1833 is Listed Grade II.

Just south of Croft, Eaves Lane Farmhouse c. 1703, on Spring Lane is Listed Grade II, as is Springfield Farmhouse, Spring Lane, a late C18th Grade II building.

Kenyon is an attractive collection of three small hamlets, Kenyon, New Lane End and Turret Hall. Both Kenyon and Turret Hall comprise of a small group of farm complexes. New Lane End is a similar group of farm complexes augmented with a few detached properties. Kenyon and New Lane End are located on almost flat ground, while the hamlet around Turret Hall is sited on the north-west side of Cockshot Brook.

Hermitage Green is a small hamlet on the junction between Hermitage Green Lane, Golborne Road and Parkside Road. In common with Kenyon, it is a small collection of farms augmented with some detached houses and a Public House. It is sited in a shallow valley, overlooking the steeper sided valley of Newton Brook to the north-west.

Winwick is a nucleated village standing to the east of the local high point, dominated by Winwick Church. The church is of great architectural significance, dedicated to St Oswald, it dates from the early C13th and has elements designed by Pugin in Victorian times. It is Listed Grade I. The oldest part of Winwick is clearly adjacent to the church. Generally, the older houses of the village are sited along Myddleton Lane and Golbourne Road. A series of infill estates have been built around the junction between these roads at various dates. A relatively modern bungalow estate forms the south-eastern edge of the village. The village has been greatly augmented with the development of the Winwick Hospital site, but this is detached from the body of the village and can almost be considered as a separate satellite development. Within the Winwick Hospital site is a Roman Catholic church, built c. 1900 and Listed Grade II.

Buildings of note in the countryside around Winwick include Myddleton Hall c 1658, Listed Grade II*, Myddleton Hall Farmhouse c. 1656, Listed Grade II, the Manor House, Golborne Road c. 1717, Listed Grade II, Church House Farmhouse, Golborne Road, early C17th, Listed Grade II and Ivy House, Delph Lane 1840, Listed Grade II. Southworth Hall and Turret Hall near Winwick are also of some importance, being more recent buildings on older sites.

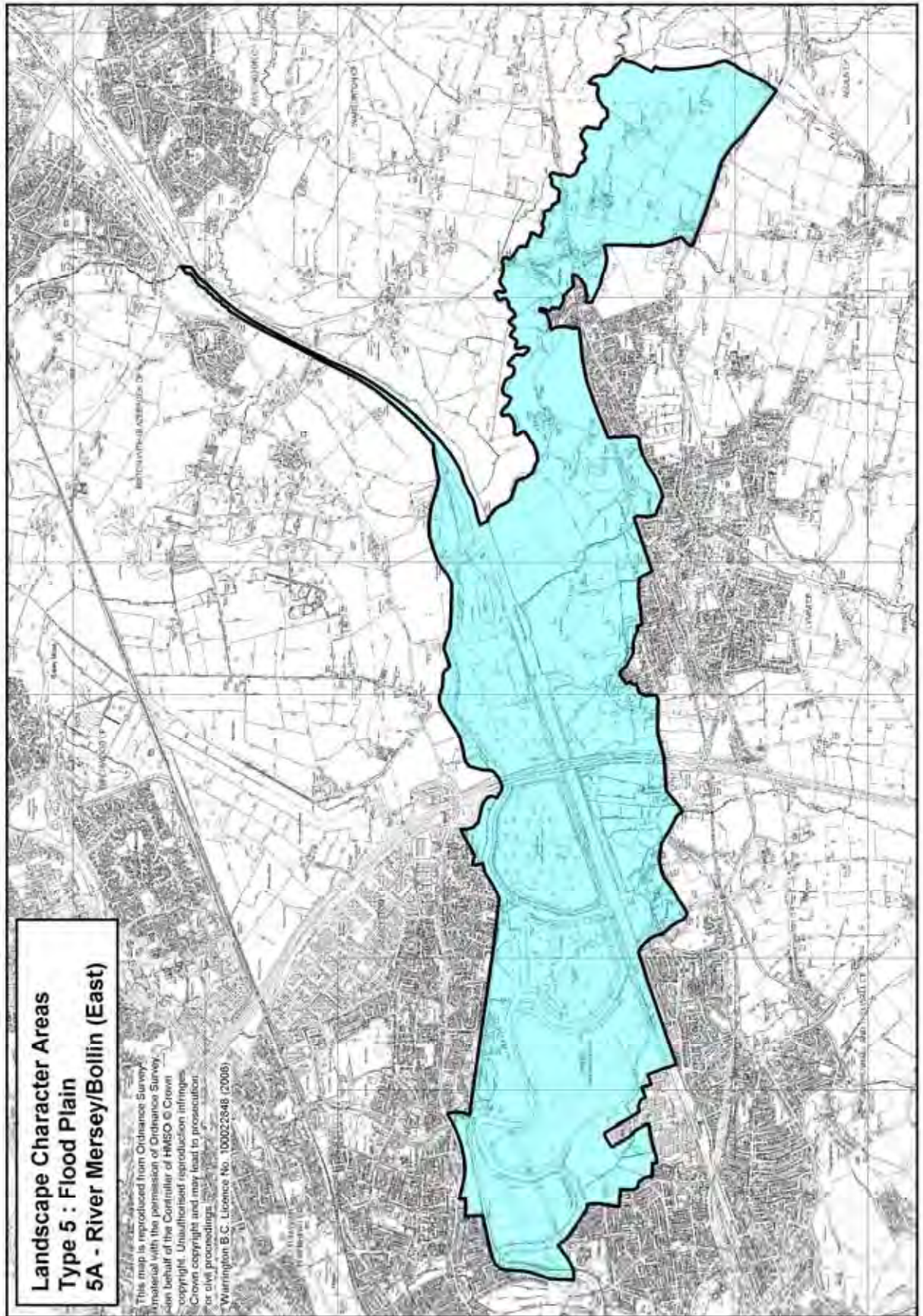
Farmsteads of note as aggregated groups of agricultural buildings include Clare's Farm in Croft, Mount Pleasant Farm in Rixton, Milverton and Ormerod Farms in Rixton, Hole Mill Farm in Holcroft and Dukinfield in Glazebury.

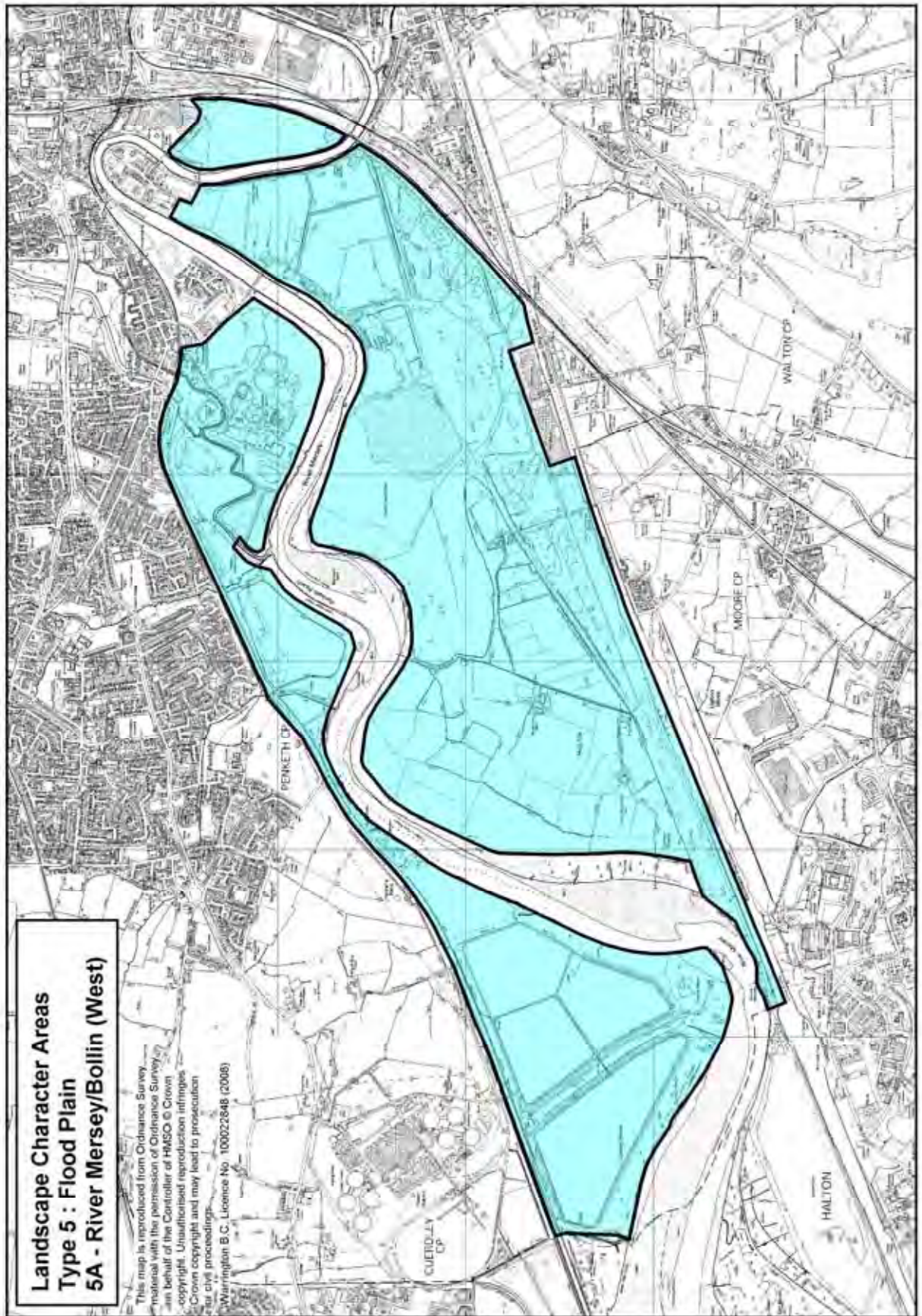
Cop Halt Farm, sited on a knoll south of Newton Brook and east of Sankey valley is a particularly visually dominant farmstead, seen from the Sankey Valley as well as from Winwick and from Wargrave to the north.

Within the area are three building complexes with significant landscape impact. Two of these are to the east of Warrington Road - Risley Remand Centre, with its high escape-proof walls, associated secure areas and car parking the and the Taylor Industrial Estate a gated private industrial estate. The third complex is the former Mental Hospital at Winwick, the original buildings of which have now been largely removed and replaced by a three storey housing complex.



Photo 94. An angler at one of the former clay pits at Rixton, now a tranquil and very beautiful pond.





TYPE 5. FLOOD PLAIN

AREA 5.A RIVER MERSEY/BOLLIN

Description

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. A section of the river upstream from Butchers Field, Rixton has also been canalised to form part of the Manchester Ship Canal.

Within the Borough boundary, only small areas of original flood meadows still survive. These are located to the south of the river in the Penketh area, to the north of the river within a meander loop at Paddington Meadows and at the confluence with the River Bollin between Warburton and Lymm. The remainder of the Mersey flood plain has been heavily developed for residential and industrial uses, particularly in the areas of Martinscroft, Woolston, Padgate, Orford, Westy, Latchford, Wilderspool and Sankey Bridges. All of the above areas are highlighted by the Environment Agency as Areas of High Risk of Flooding. Development has, in many areas taken place to the very edge of the River Mersey, although mainly 'turning its back' physically and visually to the river itself.

Other major uses of the Mersey floodplain are for major landfill, notably at Arpley and Sankey Bridges and at Rixton, adjacent to the Manchester Ship Canal. The resulting high mounds, some now treated with woodland planting, create an alien landform overlaid on the original flat flood meadows.

Undeveloped floodplain land is a rich haven for bird life, notably where access is limited. The slurry and dredging lagoons at Woolston and Martinscroft are particularly valuable together with the quiet areas of meadowland at Moss Side and Arpley, where nature reserves have been established restoring wild flower meadows and introducing and managing wetlands and native woodland.

Other key elements in the Mersey floodplain are its communications links and bridge crossings. Notable features include the Acton Grange Viaduct and the road bridges at Bridgefoot and Latchford. Also of particular note are the swing bridges over the Manchester Ship Canal at Wilderspool, Stockton Heath and Latchford and the high level bridges at Latchford and Warburton.

The Manchester Ship Canal forms a major feature in the landscape and runs in close association with the River Mersey, downstream from the confluence of the River Bollin. The Ship Canal is constructed at the boundary between the Red Sandstone Escarpment and the Mersey Flood Plain and at numerous points can be seen to cut directly through the sandstone, creating vertical cliffs rarely found elsewhere.

A number of smaller canals also run through the floodplain, often in close association with the River Mersey. These include the restored St Helens Canal to the north of the river, together with the disused Woolston New Cut and the Runcorn and Latchford Canal.

The Thelwall M6 viaduct is also a major visual element, creating a focal point in the landscape due to its scale and elevation. The Mersey Way long distance footpath is an important recreational route, closely following the river and floodplain.

The River Mersey/Bollin floodplain landscape is extremely diverse, particularly in comparison with the other landscape areas identified within the Borough.

Key Characteristics:

- The River Mersey and River Bollin
- The Manchester Ship Canal
- 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.

Cultural History

The most strategically important feature of this area is the bridge at Bridgefoot, which has been for centuries the lowest bridging point on the River Mersey. The Mersey has a particularly large tidal range and historically this, associated with flooding generated

upstream, made the Mersey floodplain a particularly hazardous area. It is almost certain that the first bridge on the Mersey was a Roman structure, accessed via Wilderspool Causeway.

The river was the frontier between the Saxon Kingdoms of Mercia, to the south, and Northumbria, to the north, and was probably a frontier between the Celtic kingdoms before the Roman conquest. As well as being a frontier, the river was the major transport route for the north-west of England and was probably used as such in ancient times. The Mersey was navigable as far as Manchester, but the braided nature of the river course would have severely reduced the available draught for ships. The lowest ford on the Mersey was at Warburton, above the tidal point of the river. Ships cannot have ever had a draught deeper than wading depth.

In Roman times, the River Mersey was probably used for the transport of goods up to the fort at Manchester. In 1770, some Roman finds were made in the Lumb Brook area, during the cutting of the Bridgewater Canal, but in 1787, more extensive finds were made. Excavations in 1930-35, 1966-67 and in 1974 at Wilderspool Causeway revealed a substantial Roman industrial site, making pottery. This would have been shipped along the River Mersey. A number of Viking raids were made along the Mersey, at least one directed at Manchester, which, if by longship, must have passed Warrington on its way upriver.



Photo 116: The ferryman's cottage at Thelwall, landing stage to the right.

One of the key features of the Mersey flood plain is the 'eyes', a word derived from the early Saxon word 'ēg' (West Saxon 'iēg') meaning 'island', but more commonly used to denote an area of raised ground in wet country. The Eyes are therefore the land within the loops of the River Mersey. A substantial area of the Mersey floodplain belonged to the township of Thelwall of which, during medieval times, one third was owned by the Clayton family and remainder belonged to Norton Priory. The Eyes appear to have been used as water meadows and the Claytons are regularly referred to as 'of Shepecroft', implying sheep grazing in the area.

Norton Priory owned the fishing rights for the south side of the River Mersey, which may have been fairly lucrative. In May 1749, catches of 19lb and 23lb salmon were made - substantial fish. Salmon were common in the River Mersey, as evidenced by the C16th salmon fishery smoke house on Ferry Lane near Thelwall Old Hall.

Gunpowder mills with associated workers cottages were built on one of the Eyes in 1755, a suitably isolated location for a hazardous manufacturing facility. In 1855 the gunpowder mills were destroyed by an explosion and the location was left vacant.

At various times efforts were made to improve the navigability of the River Mersey. In 1677, Thomas Patten, a merchant, wrote that it would be an advantage if the Rivers Mersey and Irwell were made navigable around Manchester. By 1697 the Mersey had been made navigable from Liverpool to Warrington. In 1712, Thomas Steers, an engineer, proposed eight locks on the Mersey and a cut at Butchersfield to cut off a loop near Lymm. After a late start, the improvement works to the river were fully open in 1736, although possibly only five vessels were used in the first years. A cut was made at Latchford to cut off a hairpin loop in the Mersey, known as Hell Hole and Howley Lock was built in the channel; below this lock the Mersey remained tidal.

More loops in the course of the Mersey were cut off following this work. Woolston Old Cut, half a mile long, was constructed at Thelwall thus shortening the Mersey by two miles. The lock at its lower end, Powder Mill Lock, was built in 1755 and named after the gunpowder mills at Thelwall. The cuts made in the Mersey within the Warrington area were as follows:-

- Howley c. 1720, a hairpin bend in the Mersey was cut off and a lock constructed in the cut.
- Runcorn and Latchford Canal, completed 1803, which by-passed the Mersey between Runcorn Gap and Warrington, negating the effects of neap tides.
- Woolston Old Cut, c. 1755
- Woolston New Cut, opened 14th February 1821, replaced Woolston Old Cut and by-passed several more loops in the Mersey. Paddington Lock was constructed at the lower end and Woolston Lock at the upper end.
- Butchersfield, which had two cuts dug, the first in 1760 had a single lock in it, Old Lock. The second, in 1829, had a double lock at its lower end and was known as the Butchersfield Canal.

In 1759 the Bridgewater Canal was constructed, creating a rivalry between it and the Mersey navigation. Passengers could sail from the Cathedral steps in Manchester down to Liverpool and there were races between boats on the Bridgewater Canal and those on the River Mersey. Despite the lengthier course of the Mersey, there was no speed restriction and a 'flat' under full sail could move at far greater speed than the horse drawn barges on the Bridgewater Canal.

In 1816, packet steamers were introduced, speeding up services, although the opening of the Liverpool - Manchester railway line in 1830 meant that these were rapidly made redundant. However bulk cargo was still carried in other boats. In 1872, the Mersey and Irwell Navigation and the Bridgewater Canal were bought out by a railway syndicate. In 1882, the Ship Canal Company was formed and the following year applied to construct a Ship Canal. This failed, as did a second application in 1884. In 1885 a third application succeeded and in 1887 the Ship Canal Company took over the Mersey and Irwell Navigation and the Bridgewater Canal, beginning the cutting of the Ship Canal in the same year. On 1st January 1894, Queen Victoria opened the Manchester Ship Canal.

After the opening of the Manchester Ship Canal, two functioning sections of the Mersey and Irwell Navigation continued to be run by the Ship Canal Company. These were as follows:-

- The Navigation from Rixton Junction to Bank Key via the river Mersey, Butchersfield Canal and Woolston New Cut.
- The section of the Runcorn and Latchford Canal from Latchford Lock to the Wilderspool (Stockton Heath) junction with the Ship Canal.

In addition, there was a new branch from the River Mersey at Arpley, through Walton Lock to the Ship Canal.

A ferry crossed the Ship Canal at Thelwall, landing passengers at the Canal side of The Eyes on the north bank. The ferryman's hut is of historic interest and can still be seen.

Shipbuilding has been practiced at various places along the north bank of the River Mersey. At Sankey Bridges the firm of Clare and Ridgway built boats for over 120 years. Mersey Flats, a type of freight barge, were built by this firm and their 'Eustace Carey' jigger flat was still being used up until 1965, when it beached off Spike Island. The Mersey Flat had been slowly evolving in the area from around 1700, centred on the Port of Liverpool. These were sailing barges, but when halted through adverse winds, they were hauled by 'bankhaulers' in the earlier years and later by horses. Initially the flats could carry 30 to 35 tons, with a draught of 3 ft, later the flats were carrying up to 80 tons with a correspondingly greater draught.

In 1850 the famous Vulcan foundry in Wargrave was connected by rail to Warrington and the Bank Quay Foundry Company was set up. This company designed and built the large iron sailing ship '*Tayleur*' (named after Vulcan Foundry's owner) which was launched in 1854. The ship was carefully sailed down the Mersey using the tide to clear the shallow river channel. She was handed over to her new owners, The White Star Line, in Liverpool and sank with heavy loss of life, on her maiden voyage to Australia, hitting the rocks of Lambay

Island. This appears to have been the only shipbuilding of note from Bank Quay, since the yard closed in 1860.

During the First World War, shortages of timber, steel plate and especially skilled labour in the UK's shipbuilding industry reached crisis point. Concrete vessels were built at two areas in the UK, one on the Ribble in Preston and the other at Fiddler's Ferry, Warrington. The Concrete Seacraft Company was based at Fiddlers Ferry and after the war continued to build pre-fabricated houses.

During WWII, the River Mersey appears to have been used for navigation by the Luftwaffe as part of the air campaign against the UK. Liverpool or Manchester could easily be found by following the Mersey, as could Warrington itself. As a result a number of defensive belts were set up to prevent the Luftwaffe traversing the area. These included anti-aircraft batteries and barrage balloon belts. Within the floodplain area only one balloon station site remains, in the fields near Moss Side Farm, Moore.

Flooding occurred at various times on the Mersey, especially prior to the construction of the Ship Canal. The rapid industrialisation of Manchester and Salford and the construction of factories and dwellings close to the rivers resulted in constriction of the channels of the Irwell and Mersey with occasionally disastrous consequences. The last serious flood was in 1946. The Ship Canal acts as a flood relief channel, but the tributary streams to the River Mersey still cause problems locally.

The British Hydrological Society has records confirming that significant floods occurred in 1881, 1911, 1928 and 1933. In 1990 tidal flooding affected Warrington, when the flood defences were overtopped and seventeen residential properties and 8,000m² of commercial

floor area and a school were flooded. The Environment Agency has identified that 1,700 residential properties and over 100,000m of commercial space are at risk from tidal flooding within Flood Zone 3 (Warrington). See Figure 13 (page 45).



Photo 190 The Mersey at Fiddlers Ferry Reach, near the lock connection to the St Helens Canal.

The Eyes and Thelwall Eye have been designated as sites of Special Scientific Interest (SSSI) and have a very rich diversity of flora and fauna. Land to the west of Moor Lane Bridge between the Runcorn and Latchford Canal and the Manchester Ship Canal is designated as a Site of Biological Interest (SBI), as is part of the St Helens Canal and a

remnant of Cuerdley Marsh adjacent to the Fiddlers Ferry pulverised fuel ash lagoons. The whole of the Mersey Valley floodplain and the River Bollin floodplain are designated as wildlife corridors in 'The Nature Conservation Strategy for Warrington' 1995.

The River Bollin is not suitable for navigation and this has greatly reduced human pressure on the river and its flood plain. The Bollin flood plain is broad, flat and relatively unspoilt. The Warrington boundary runs along the centre of the river from its junction with the River Mersey at Bollin Point / Rixton Junction up to the confluence with Agden Brook. This area and the area on the Trafford side of the river have been used as river meadows for many hundreds of years. Some of the land on the Trafford side belonged to Dunham Massey, but on the Warrington side the land appears to have been farmed by a small number of large farm complexes. These include Wetgate Farm, Wetgate Lane Farm, Heatley Heath Farm, Platt Farm and Reddish Hall.



Photo 91b. The view west from Warburton Toll bridge of the Mersey Ship Canal. The former river course rejoined the canal to the left of the picture some distance behind the electricity pylon

The flood plain has been subjected to 'wild' brine pumping, where a small drilling rig would be brought in, a shaft sunk and the brine pumped out until exhausted. The rig would then be moved on to another site. The sites of this pumping are unknown, but there have been a number of cases of subsidence in the area and there are a number of small ponds probably formed as a result of these operations.

There was a large Georgian / early Victorian water-powered mill at Warburton Bridge until the 1980s when operations ceased and the site was sold. After a period standing empty, the mill was demolished and a 'replica' mill built, containing apartments, while the mill outbuildings were replaced by conventional houses. The area of rock on which the mill stands was probably the only outcrop in the lower Bollin valley and made a strong foundation for the mill and contained the mill race which ran under the building past the wheel. The mill wheel was powered by river water held back by a weir.

The same rock outcrop was a suitable base for the Warburton Bridge carrying the A6144 between Lymm and Trafford. This attractive stone-built bridge, with a load limit of a mere 7.5 tons is regularly crossed by far heavier vehicles. West of the road bridge are a number of flood channels running under the road, which allow for the River Bollin to flood on either side of Warburton Mill.

North of Warburton Bridge, the Bollin river meadows have been cultivated in recent times, following the construction of low levees during WWI.

Sewage works are sited at a number of points along the Mersey flood plain. Lymm sewage works is located near Reddish Lane, Lymm. The main Warrington sewage works is at Gateworth.

Lymm Golf Course, founded 1907, is one of a large number of golf courses within the wider area of the Mersey flood plain. Recent weather patterns have meant heavier rainfall, causing serious problems of waterlogging, which has been addressed by the club.

Angling is very popular throughout the floodplain area. Angling facilities exist at Grey Mist, Woolston, at Meadow View Fisheries, Statham, on the St Helens Canal and all along the River Bollin and the original course of the River Mersey.

Key cultural elements in the landscape:

- Historic sites on either side of the flood plain
- Historic quays and loading areas - associated in many cases with manufacturing facilities
- The use of the area for navigational improvements, including locks
- Historic ferries and fords
- Historic crossing points over the River Mersey
- Historic ship building
- Use of the area for manufacturing, including using water power
- The use of the flood plain for water meadows
- Use of the area as a fishery
- The presence of Sites of Special Scientific Interest (SSSIs) and RAMSAR site
- The presence of sewage works in the valley
- The use of the area for landfill sites
- The use of the area for settlement lagoons
- Use of the Bollin Valley for brine pumping

Landfill and Mineral Extraction

Deposition of dredgings within the Mersey flood plain appears to have commenced with the establishment of a lagoon area during the 1920s at Butchersfield for the dumping of silt dredged from the Manchester Ship Canal. Subsequently, more such silt lagoons were

established at Thelwall Eyes and then at The Eyes, south of Woolston. Farming on the Eyes stopped as the deposition progressed. The last farm ceased operations during the 1950s.

The old course of the River Mersey between the two major Eyes is being infilled, cutting it off from the present river course through the construction of a dam.

Other landfill developments include Butchersfield, near Rixton, (now completed and restored), at Arpley Meadows (still active) and at Gatewarth Tip. Butchersfield, although 'naturalised' with the planting of trees and supporting a well-established grass sward, is far from natural in form. The irregular rounded landform is exceptionally alien to the surrounding landscape and is a highly prominent feature.



Photo 183b: Arpley landfill site viewed from Gatewarth landfill site.

Arpley Landfill is an extremely large active landfill site, currently approximately 1km by 2km, and covering 130 hectares. Landfill gas from the site is extracted and used to generate power.

It is intended that on completion the landfill site will revert to Public Open Space, commensurate with adequate safety for the public.

Gatewarth Tip is completed and capped. Currently the summit of the site is fenced off from public access, but in general it has been planted and seeded.

An elevated path around the shoulder of the site affords good views over the River Mersey, particularly over the adjacent Richmond Bank, a sandbank on the Mersey.

To the south of Fiddlers Ferry Power Station, the extensive pulverised fuel ash settlement lagoons project out into the Mersey flood plain on the site of Cuerdley Marsh. This is a by-product of power production at the nearby power station. Proposals exist to use this material as secondary aggregates, no reduction in the size of this area has occurred as this report was prepared.

Agricultural Land Quality

The bulk of the Bollin flood plain is Grade 3 agricultural land with areas of Grade 5 at the western edge of the plain. There is a small area of Grade 4 agricultural land immediately adjacent to the River Bollin to the extreme east of the Borough. Where agricultural land is available to farm in the River Mersey flood plain it is uniformly Grade 3.

Landscape Sensitivity

The flood plain in general has been extensively developed and altered without consideration to its landscape sensitivity. Much of its character is now heavily influenced by industry and

communication links. A small number of residual flood meadows, however, remain at Moss Side, opposite Fiddlers Ferry, Paddington Meadows and along the River Bollin floodplain between Heatley and Warburton.

The Moss Side and Paddington Meadows sites have been recognised for their wildlife and habitat importance and now form nature reserves. The Moss Side site is a quiet, little advertised, area of farmland now managed in particular for bird life and in association with the adjoining intertidal areas of the River Mersey. Wildflower meadows have also been introduced. The area would be sensitive to wildlife disturbance if visitor numbers substantially increased or if more active recreational pursuits were introduced. At Paddington Meadows, the nature reserve faces more immediate pressures of use, disturbance and vandalism from the adjoining housing estates at Bruche, Fairfield and Paddington.

The River Bollin floodplain retains a more traditional agricultural landscape of cropped fields and hedgerows and, in terms of the landscape sensitivity, is more akin to those elements described in the adjoining Lymm area (Area 3.C).

Areas of more recently created landscape, such as the slurry and dredging deposition lagoons, have now naturalised to form attractive and valuable landscapes in their own right.

Although they form artificially raised areas over 15m above the surrounding floodplain they are flat-topped and in some respects therefore echo the more level horizon of the floodplain. Vegetation has been allowed to colonise the embankment, often creating an envelope of mature woodland to the marsh and open water areas they contain. These features have

matured to form a rich habitat for birdlife and have benefited from the restricted/prohibited public access due to safety.

Parts of the lagoon areas have become a nature reserve. Public access is allowed to limited areas by a footbridge at Woolston Weir and the elevated footpath around the edges of the lagoons. This forms a quiet, attractive route with rewarding views, although the area is also close to the housing areas of Woolston and Martinscroft and is sensitive to disturbance and anti-social behaviour.

Landfill sites are particularly prone to creating a visual intrusion of the flat floodplain landscape, even following restoration planting on completed areas. This is particularly the case to the north and south of the Mersey at Arpley and further east at the Rixton landfill site.

Key elements of landscape sensitivity:

- Important areas of wildlife and habitat are sensitive to disturbance and vandalism
- Low, flat floodplain sensitive to high mounded landform
- Continued development of building in the flood plain

Landscape Change

The landscape of the Mersey floodplain has altered substantially throughout its history. The area would originally have been allowed to flood naturally over flood meadows and the river would have followed an ever-changing and unrestricted course. The landscape would have had a tranquil nature dominated by pasture land and grazing stock.

The development of the town of Warrington irrevocably altered this scene and natural river flooding was largely prevented by raising river banks and levees, channel straightening and artificial walling. Many of the old flood plain areas were then developed for residential and industrial uses and, more recently, large tracts of flood plain have been allocated as landfill sites. Small areas of residual agricultural land remain under pressure from the urban areas and have either succumbed to housing development or are now managed as nature reserves. Only areas associated with the River Bollin floodplain have retained their agricultural use.

Landscape change to the area is summarised as follows:

- Development of Warrington across the natural floodplain
- Flood prevention and the loss of natural flood meadows
- Prevention of natural river channel movement
- Development of industrial uses over the flood plain
- Allocation of land landfill sites on the floodplain

- Management of former agricultural and urban/industrial land for nature reserves.

Recommended Management and Landscape Objectives

A great deal of the remaining Mersey floodplain landscapes have been badly damaged or altered and require either careful management or, in many cases, substantial mitigation works. Areas of important habitat or wildlife value have already been recognised and are receiving appropriate management. Many other areas of former industrial land remain in an unmanaged and derelict state, whilst the various landfill sites unfortunately continue to build higher and with a domed profile alien to the floodplain landscape.

Management of the landscape:

- Discourage visually intrusive landfill operations in the floodplain
- Encourage more appropriate landform and restoration to existing landfill sites.
- Support existing nature reserve management
- Encourage long-term wildlife habitat and conservation management for active lagoon/slurry deposition areas
- Promote integrated and sensitive landscape reclamation schemes for derelict land

Settlement

Settlement within the flood plain area is, for obvious reasons, limited and mainly represented by farms. These include Moss Side Farm and a small number of farms close to Thelwall, Statham and Lymm, including Laskey House and Woodacre Farm, Thelwall, Pool Farm and Whitbarrow Farm, Statham and Reddish House and Hall, Lymm.

A small industrial estate is located on the south side of Woolston New Cut, east of Grey Mist.

Much of the core urban area of Warrington is built within the floodplain of the Mersey.

Land at Hollins Green

Landscape Sensitivity Assessment of Hollins Green
and Landscape Appraisal of Proposed Development
on Land at Hollins Green

Appendix C
Trafford MBC, SPG, Landscape Strategy

September 2017

Prepared for:



The mature woodland and trees in the Park are an important component of the area, but the ecological diversity is limited.

Guidelines:

- v Development should enhance ecological value
- v Opportunities to increase ecological diversity should be explored, including:
 - new areas for planting
 - enhancement of existing planting
 - uncut grass areas
 - Wildflower areas.

SETTLED SANDLANDS

Key Characteristics

- v Dominant agricultural land use, arable with some pasture
- v Medium to large sized fields, generally defined by hedgerows and prominent hedgerow trees
- v Generally low-lying, gently rolling topography, particularly down to the River Bollin floodplain
- v Dispersed farmsteads throughout, linked by meandering country lanes with two main cluster settlements at Dunham Woodhouses and Warburton
- v The vernacular style, particularly in farm buildings, with their traditional use of materials, is a distinguishing visual feature
- v Small, isolated blocks of woodland
- v The presence of several watercourses and ponds

Landscape Character

The Settled Sandlands form an extensive wedge of landscape between the urban areas of Ashton-on-Mersey and Broadheath to the east, Partington to the west and around the Mossland area on its northwestern boundary. The River Bollin lies immediately to the south and the River Mersey immediately north, whilst the Ship Canal forms the western boundary south of Partington.

The area consists of good quality agricultural land, supporting both arable and pasture. The semi-regular pattern of medium sized fields is well defined by hawthorn hedgerows with a high proportion of hedgerow trees, predominantly Oak and Ash. These hedgerow trees and hedgerows around the farmsteads and country lanes are visually prominent throughout the area and contribute to the appearance of the rural area. Although low-lying the land begins to roll gently southwards beyond Sinderland Brook and in particular down to the River Bollin floodplain. The combination of the rolling landscape and unwooded nature of the rural landscape creates extensive views to the south, east and west.

The Settled Sandlands consists of 3 subdivisions, which display the general characteristics but have subtle differences

i) Warburton Park Farm/Mossland Fringe

This area has a number of marl pit ponds which are characteristic to this area and which were used to improve the fertility of the surrounding fields. There are isolated pockets of remnant coverts and woods, most of which provide a valuable range of woodland and wetland habitats, essential for

wildlife diversity. Some of these woodlands are linear, as they are associated with Red Brook and Sinderland Brook. Coroners Wood, an Ancient Woodland along Red Brook, provides a visual boundary between the built up area of Partington and the rural areas around Warburton.

ii) Warburton

Fields are generally smaller with more irregular boundaries. There are several ponds throughout the area that provide ecological diversity, some perhaps coincide with the location of the former Warburton moss. The ponds were used in conjunction with the drainage ditches found in the area to assist in the control of water levels.

iii) Dunham Massey

Fields are more regular in size and shape, bounded by well-maintained hawthorn hedgerows, with some post and wire fencing to the north at Carrington where horse grazing has become prevalent. Few areas of woodland occur allowing extensive views across the other areas of the Settled Sandlands.

Physical Influences

Permo-Triassic Marls and Sandstones which are masked by a thick covering of fluvio-glacial sands and gravels underlie the whole area. The drift deposits have weathered to form free draining sandy brown soils, which provide a good agricultural land (Grade 2 classification), throughout this area.

Topographically much of the area lies around the 20m level, with land rising gradually towards the Dunham Estate at 25m and falling towards Warburton and the former River Mersey catchment area. Dunham Road marks a ridgeline between Dunham and Warburton, which permits extensive views, to the River Bollin and beyond.

Three watercourses run through the area, namely Red, Sinderland and Caldwell Brooks. The latter drains in a northerly direction into Sinderland Brook, from the higher ground in the south. Generally the land drains from an east to west direction, flowing into the Ship Canal (formerly the River Mersey).

The area immediately adjacent to and east of Warburton Village was formerly Mossland. This has affected the type and location of settlement and farming patterns. Present day drainage systems have enabled the transformation to the rich and ordered landscape of productive fields.

Historical & Cultural Influences

Settlement is thought to have developed originally around the Warburton area, with a manorial estate and its associated Deer Park and open fields (for grazing). The settlement pattern remained such for many centuries, with a likely increase in the number of farms around the 18th and 19th centuries. At this time the demand for farming grew as the demand for food from urban areas increased. Isolated farmsteads began to emerge; changing the pattern from that associated with a manorial estate to that of dispersed and centralised holdings. This was followed by bringing into production and enclosure of the mossland and farmland areas, east of Warburton Park Farm.

The mossland area, known as Warburton Moss has long since disappeared, although Warburton Lane and Moss Lane (its name denoting its mossland relationship) are likely indicators of its previous extent. The number of drainage ditches and the manner of enclosure indicate its piecemeal encroachment and development. It is perhaps the enclosure of this agricultural area, around the mid 18th century, which has visual significance today, providing the strong characterising features of hedgerow shrubs and trees in the present landscape.

Parish boundaries, both past and present, have also helped to shape the landscape pattern. Conflicts arose over boundaries between the Warburton and Dunham Estates, both wanted to own and exploit the rich agricultural mossland or water meadows. The result of these conflicts has no doubt influenced the present road and field pattern and the scale and type of farming activities. Similarly the development at Partington remains close to the Warburton parish boundary, but not beyond.

The dispersed farmsteads and cluster settlements of Warburton and Dunham Woodhouses are generally well integrated into the surrounding landscape, due to their small scale, use of traditional materials and abundance of hedgerows and hedgerow trees.

There are two Conservation Areas at Warburton and Dunham Woodhouses. Many of the farm buildings in this area are Grade II Listed. Within the Warburton Conservation Area is the Grade I Listed building St. Werburg's Church, perhaps of Pre-Conquest origin.

The former Heatley to Skelton Junction Railway, now part of the Trans Pennine Trail (TPT), passes to the south of the Warburton area. It severs the field pattern, but generally does not visually impose upon the landscape. The cut, straight alignment is not emphasised by parallel bands of vegetation, but is marked by sporadic and naturally recolonising clumps of shrubs and grassland vegetation.

The intrinsic value of the character of Warburton and its surrounding areas is actually the age of the landscape, its simplicity, the relatively few changes it has experienced and the retention of century-old landscape patterns.

Pressures in the Landscape

- **Development on the fringes of the area.**

This area comprises one of the largest remaining high quality rural areas within Trafford's Borough. A gradual deterioration in the rural character of the landscape is apparent in areas that abut Partington, Ashton-on-Mersey and Broadheath.

- **Loss of hedgerows and hedgerow trees.**

The loss and degradation of hedgerows and hedgerow trees and associated loss of wildlife and ecological habitats, threatens one of the key characterising features of this area. Of particular note are the hedgerows around the Warburton area, which are believed to be the oldest in the Borough.

- **The loss of traditional style buildings. New building and modern details that are out of character with the vernacular.**

The vernacular style is a distinguishing feature and traditional style buildings are either being altered or demolished and replaced with modern buildings which ignore the traditional details, scale and materials. Similarly changes in road alignment, new kerbs, signs and lighting contribute to dilute and therefore weaken the character of this area.

- **Loss and degradation of woodland.**

The recreational pressures from urban areas results in the degradation and loss of heritage and ecology, in particular the Ancient Woodland of Coroner's Wood. In some instances new planting schemes (adjacent to Ashton-on-Mersey) have changed the original land use and pattern and certain species which do not always reflect the native species typical of the region.

- Farming practices have led to a loss of ponds with associated loss of ecological diversity and wildlife habitats.

- Continual proliferation and intensification of power line alignments with their increasing heights and dominating scales, result in visual and physical disturbance.

STRATEGY STATEMENT

The characterising features include: the agricultural land use; the pattern of hedgerows and hedgerow trees; the Ancient Woodlands and ponds; the vernacular style and settlement pattern; and the low lying, gently rolling topography with distant and extensive views. This visual unity and landscape character should be conserved, restored and enhanced.

POLICY GUIDELINES

1. Conserve, restore and maintain the pattern of hedgerows and hedgerow trees

Field pattern, hedgerows and hedgerow trees are the essential fabric of this landscape and provide areas of ecological value.

Guidelines:

- v Development should conserve and maintain hedgerows and hedgerow trees.
- v Opportunities to plant new hedgerows and hedgerow trees where the landscape is fragmented should be encouraged.
- v Hedgerows and hedgerow trees should be planted using traditional species and managed in a traditional manner.
- v Assessment of Ancient hedgerows should be undertaken.

2. Conserve the visual unity.

The low-lying, gently rolling topography reflects the visual unity of the area, which creates views through into adjacent areas.

Guidelines:

- v Development should not disrupt the visual unity and views.
- v Alternatives to new power lines/pylons should be encouraged.
- v Measures to mitigate the impact of existing power lines/pylons should be encouraged.

3. Conserve the rural character of the area

Development has encroached on the area reducing the visual unity, disrupting the rural character and having a detrimental impact on the landscape pattern.

Guidelines:

- v Development should integrate in to the landscape pattern, with consideration being given to the landform, design and materials used.
- v Development should reflect a style; scale and location appropriate to the area.
- v Opportunities to mitigate the effects of existing buildings should be encouraged, including where appropriate, screen planting.

4. Conserve and maintain the historic settlement patterns

The dispersed farmsteads and cluster settlements of Dunham Woodhouses and Warburton are important historical settlements.

Guidelines:

- v Development should be in a style and location appropriate to historic settlements.
- v Opportunities to extend Conservation Areas should be encouraged, where appropriate.

5. Conserve the vernacular style

The details used in the traditional buildings reflect the historic character of the settlements.

Guidelines:

- v Development should retain the vernacular style.
- v Traditional details including walls, fencing, gates, paving and landscape should be retained and enhanced.
- v Opportunities to retain or re-use traditional details should be encouraged.

6. Conserve the pattern of roads

The small winding country lanes which follow field boundaries, demarcated by hedgerows and grass verges are an integral feature of the landscape.

Guidelines:

- v Improvements to highways should retain traditional features.
- v Opportunities to improve the highway details including landscape features should be encouraged.

7. Conserve and restore woodlands, including Ancient Woodlands

Existing woodlands are an integral part of the landscape, which enhance ecological diversity and recreational value of the area.

Guidelines:

- v Development should conserve and restore woodlands.
- v Opportunities to enhance existing woodland should be encouraged.
- v Opportunities to provide new woodlands should be encouraged.
- v Further opportunities to enhance Coroners Wood should be explored.
- v Opportunities to enhance or where appropriate, control access to woodlands should be encouraged.

8. Conserve, restore and enhance ecological features

Ponds, ditches and watercourses are an important component of the landscape providing ecological diversity.

Guidelines:

- v Development should conserve and enhance existing ecological features.
- v Opportunities to improve the quality and pattern of ponds should be encouraged.
- v Opportunities to enhance ditches for increased ecological diversity should be encouraged.

MOSSLAND

Key Characteristics

- v Flat topography associated with relic mossland
- v Dominant arable agricultural land use within a planned enclosure system and conspicuous drainage ditches around field areas
- A rectilinear network of tracks around large scale fields, usually without fences and often emphasised by scrub-like vegetation and trees

The Rides form an important part of the mosaic pattern of the area, defining areas of farmland and reflecting the traditional vegetation, for ecological and visual diversity.

Guidelines:

- v Development should conserve and where appropriate enhance the structure of the Rides.
- v Opportunities to increase planting to the Rides should be encouraged.
- v Opportunities to soften the impact of new development should be encouraged, including screen planting, where appropriate.
- v Proposed planting should consist of native species, traditional to the area.
- v Opportunities to improve access and the use of traditional details should be encouraged.

3. Restore traditional ecological habitats

The mossland ditches along field boundaries provide important areas of ecological value.

Guidelines:

- v Opportunities to restore ditches and field boundaries should be encouraged.
- v Traditional grassland management techniques should be encouraged.
- v The establishment of traditional wildflowers, next to ditches and fields, should be encouraged.

4. Conserve and enhance the visual unity

The open aspect and views, which extend into the adjacent areas, are important characteristics of the area.

Guidelines:

- v Development should as far as possible conserve and enhance the visual unity of the area.
- v Measures to mitigate the impact of existing or proposed power lines should be encouraged.
- v Opportunities to strengthen foreground planting and screen planting of the Petro-Chemical works should be encouraged.

RIVER MEADOWLANDS

Key Characteristics

- v low-lying topography associated with a flat alluvial floodplain
- v meandering watercourse, not visually prominent due to the slightly sunken position within the flat topography
- v medium scale pastoral landscape with patches of wet grassland
- v semi-regular enclosure pattern marked by thorn hedgerows and post and wire fences
- v open often distant views along the floodplain, views north and south controlled by the rising ground beyond the floodplain
- v secluded character with the occasional building
- v marginal aquatic vegetation with occasional fringing trees and scrub

Landscape Character

The River Meadowlands describes two areas within the Borough, the western sections of both the River Mersey in the north and the River Bollin in the south. These two areas demonstrate similar characteristics, albeit that the Mersey Valley is larger than the Bollin and is located within a more urban context.

The Mersey Meadowlands are enclosed in the north by the urban areas of Urmston and Flixton; in the east by the M60 motorway; in the west by the Ship Canal corridor and the industrial and rural areas of Carrington; and in the south by the urban area of Ashton-on-Mersey. The Carrington Spur Road marks the boundary between the River Meadowlands and the Urban River Valley.

The Bollin Meadowlands mark the southern extent of the Borough, the river itself marking the boundary with Cheshire County Council and Warrington Borough Council. To its north lie the rural and agricultural areas of Warburton and Dunham Massey and the historic hall and woodland areas of Dunham Park. A high, estate brick wall marks the boundary of Dunham Park. To the west the Bollin floodplain widens out until it meets the Ship Canal, whilst to the east the A56 Chester Road marks the boundary between the River Meadowlands and the Wooded River Valley.

The River Meadowlands of the Mersey and Bollin demonstrate similar physiographic, cultural and visual characteristics. The physical nature of the flat, alluvial floodplain, with its associated pastoral land use and only occasional buildings are perhaps the most significant characteristics which distinguish this landscape.

The rivers, which are a key physical element, are not visually prominent, due to their sunken position and the presence of levees, which are parallel to the river course and protect the adjacent areas from flooding. Both the rivers are often marked by the presence of marginal and aquatic vegetation, including willow and hawthorn scrub, herbaceous and rough grassland or aquatic species such as reeds. Due to the rivers periodic flooding woodland areas are uncommon

Bollin Valley -

Agricultural areas adjacent to the Bollin floodplain, are predominantly pasture, but also include arable and rough grassland. Field boundaries comprise a mixture of hedgerows and most often post and wire fences. Many hedgerows are overgrown or remnant, with isolated and scattered hedgerow trees, particularly adjacent to the river. Where post and wire fences occur these increase the visually open aspect and apparent scale of the field areas. Adjacent to the Dunham Estate the landscape assumes a more managed appearance, with pristine post and rail fences and recent Avenue planting emphasising the main pedestrian routes to and from the Park.

Mersey Valley –

Land use in the Mersey floodplain is more mixed than that of the Bollin. Much of the pasture is used for horse grazing, with only a small amount of land now used for arable farming. Few field boundaries remain most comprising post and wire fencing to those fields used for horses. This allows extensive views along the river corridor, with recent planting and changes to topography (often from landfill operations) being the main obstacle to distant views. Recreational uses have become more widespread to the east of the meadowlands with very little access to the west. There are a number of features such as ox-bows created by the River Mersey, which are important in terms of their geomorphologic and ecological value.

Physical Influences

The River Meadowlands are defined by their low-lying topography, rather than the visual presence of the rivers, which are sunken beneath their banks. However, it is the actual presence and location of the rivers, which has determined the areas particular characteristics.

Both the Mersey and the Bollin lie in an alluvial floodplain, formed by the deposition of sediments laid down during periods of intermittent flooding. It is this risk of flooding, with levels for both rivers around 15 to 20m, which has determined the historic pattern of settlement and land use and which continues to limit the extent of built development and access.

Historical and Cultural Influences

Both rivers would have been used for a variety of purposes including - as a source of food; for defence; and as a natural administrative boundary. These would have combined to attract settlement on the higher ground adjoining the river corridor.

The Mersey floodplain is in general surrounded by residential development to the north around Flixton and Urmston, and south at Ashton-on-Mersey. There is evidence to suggest these were ancient settlements, given the ancient medieval churches of St. Michaels at Flixton and St. Martins at Ashton. Although there are farms at the edge of the floodplain, including Dainewell and Ackers Farms, development upon the floodplain is limited. Equally there are a scattering of farms and villages in the Sandlands areas, slightly north and south of the Bollin which have been located on the slightly higher ground.

Both rivers continue to hinder movement north to south since they have limited crossing points. They form a natural boundary and act as an obvious administrative boundary. The Mersey was the old administrative boundary between Lancashire and Cheshire County Councils and today the Bollin is Trafford's boundary with Cheshire C.C.

The rivers act as drainage receptors, which take water into the Ship Canal and ultimately out, to sea. Current strategies on drainage no longer favour canalisation of riverbanks, to minimise the risk of flooding. This could otherwise threaten the Mersey's natural course.

Warburton and Bollington mills (constructed in the 1800's) lie within the floodplain of the River Bollin and were designed to make specific use of the water. The latter is Grade II Listed and has been well preserved - its origins are said to be linked to the Dunham Estate. The mill at Warburton lies within the Borough of Warrington; this is not a Listed Building. Both the original mill buildings have been converted to provide housing, with additional housing development around the mill at Warburton.

Other than these, built features consist of the Grade II Listed Bridgewater Canal Aqueduct, and the former Heatley to Skelton Railway, now a recreational route.

Pressures in the landscape

v Urban encroachment particularly the scale of change in land use, adversely affecting the landscape pattern.

The most significant pressure to River Meadowlands and especially the Mersey Valley, is the encroachment of urban development. This is mainly development associated with recreational land use, such as sports fields and pitches, but also includes sewerage farms and landfill operations. It is the scale of change, which threatens to override the traditional landscape pattern, from that of a river valley to one where the agricultural character becomes obscured and possibly associated more with urban development. Should further development occur the traditional floodplain character would be weakened to such an extent that urban influences would dominate, with remnant pockets of wetland remaining.

v Development severing the visual unity of the river meadowlands.

Urban influences in this part of the Bollin Valley are negligible. The Bridgewater Canal Aqueduct, although severing the visual unity of this area, is acceptable as a feature in its own right. The use of traditional materials and the fact that it is only one feature, help to integrate it into the pastoral landscape. In contrast further upstream the noise and sight of constant traffic using the A56 is apparent. Recent changes to the former Warburton Mill, where the floodplain and Mill have been replaced by housing development. This is a concern to the change in pattern in this area, which until recently has retained the visual unity and landscape pattern of the river valley.

v Changes to topography resulting from development affects the intrinsic landscape character of the floodplain.

Landform changes associated with landfill sites have one of the greatest impacts upon the landscape character. These changes include: - raised profiles and bank stabilisation, which destroy the flat river valley; either rough grassland or woodland type planting dominates removal of hedgerows; and

vegetation, which is uncharacteristic of the floodplain. Aquatic and species rich vegetation associated with the river have little opportunity to flourish.

v Loss of hedgerows resulting in changes to the enclosure pattern and ecological diversity.

Change in landform, land use and general lack of management has resulted in the loss of hedgerows. Boundaries are sometimes replaced with post and wire fences. These break the traditional pattern by changing the scale and increasing the openness of the field areas, thus affecting the visual appearance and ecological diversity of the traditional landscape character.

v The spread of invasive species particularly along watercourses, due to a lack of management.

The watercourses and river banks in general are not managed, resulting in the spread of invasive species, which dominate and eradicate those species local to the area and thus reduce the ecological potential of the Character Area.

STRATEGY STATEMENT

The characterising features include: the naturally meandering river courses; the semi-regular landscape pattern of the floodplains; hedgerows and hedgerow trees; and views within the valley corridors. These should be conserved and enhanced.

POLICY GUIDELINES

1. Conserve and enhance the landscape character

The low-lying topography and agricultural pattern are the most important characteristic features of the River Meadowlands.

Guidelines:

- ✓ Agricultural land uses should be encouraged.
- ✓ Development, where appropriate, should conserve the low-lying topography and landscape pattern.
- ✓ Further formal recreational development is considered inappropriate.
- ✓ Opportunities to enhance access, where appropriate, should be encouraged.

2. Conserve, restore and enhance hedgerows and hedgerow trees

Hedgerows and hedgerow trees define the irregular field pattern, characteristic of the area.

Guidelines:

- ✓ Development should conserve existing hedgerows and hedgerow trees.
- ✓ Opportunities to strengthen and enhance existing hedgerows and hedgerow trees should be encouraged.
- ✓ Opportunities for new hedgerows and hedgerow trees should be encouraged.
- ✓ Hedgerows and hedgerow trees should be of traditional species and managed using traditional management techniques, which reflect the original landscape pattern.

3. Conserve the river channel and its ecological diversity

The naturally meandering river channel determines the character of the floodplain.

Guidelines:

- ✓ Conserve the geomorphologic and ecological features.
- ✓ Opportunities to enhance ecological diversity of the river channels should be encouraged.
- ✓ Appropriate, traditional management techniques should be encouraged to:
 - enhance ecological diversity including aquatic and marginal habitats
 - Eradicate inappropriate alien species.

4. Conserve and enhance the visual unity of the river valley corridors

Views within the river corridors and distant views to adjacent rural areas are important characteristic features.

Guidelines:

- v Opportunities to integrate previous development into the landscape pattern should be encouraged.
- v Planting should:
 - reflect the traditional landscape pattern
 - promote views within the area and improve distant views
 - Consist of native species traditional to the area.

5. Conserve desirable built features for heritage value

The Bollin Aqueduct and Bollington Mill are important historical and attractive features in the landscape.

Guidelines:

- v Development should conserve and enhance historical features of the area.
- v Opportunities to improve the setting and appearance of these features should be encouraged.

WOODED RIVER VALLEY

Key Characteristics

- v A well defined river valley, characterised by a narrow alluvial floodplain, flanked by steep valley sides
- v A meandering river, generally in a sunken position and fringed by groups of trees
- v Predominantly pastoral land use
- v A concentration of linear bands of woodland and scrub on the steeper slopes and occasionally along field boundaries
- v Views framed by rising ground and/or trees along the edge of the valley, which create a small scale landscape
- v A quiet secluded character with few roads or buildings

Landscape Character

The Bollin Valley forms an irregular meandering corridor, through the northern part of the Cheshire Plain. The A56, which is on embankment, provides the boundary between the Wooded River Valley and the River Meadowlands. To the east the M56 motorway marks the administrative boundary of Trafford.

The character of the wooded river valley varies slightly from west to east. To the west the floodplain areas are slightly wider and flatter, and gradually become almost none existent further east, where the flat floodplain alternates from one side of the river to the other with dominating steeper slopes.

The urban areas of Hale and Bowdon encroach upon the river valley in a number of places, although the wooded slopes help to reduce their visual prominence. The river valley has an intimate secluded nature. This is created by the narrow valley bottom, the adjacent rural area, the small scale; meandering course of the river and small wooded areas interspersed with small 'cells' of open space.

Guidelines:

- v Development should conserve and enhance the ecological diversity of the area.
- v Appropriate management techniques for existing and proposed habitats within the area, should be encouraged.

URBAN RIVER VALLEY

Key Characteristics

The presence of the Manchester Ship Canal and the canalised part of the River Mersey, views of these watercourses are limited Both these stretches of water are operational and working waterways

v

- v Generally low lying areas associated with the floodplain
- v Mixed land use, with a significant amount used for recreation in the Mersey
- v A fairly dense communication network with motorways, roads and railways producing a number of bridged crossings
- v Scrub vegetation and natural regeneration often adjacent to the watercourse, otherwise few trees or woodland
- v Lack of field pattern or boundaries
- v Few distinguishing built features, a secluded character in parts

Landscape Character

This description refers to two areas, the Manchester Ship Canal Corridor and the canalised section of the River Mersey (to the east of the Carrington Spur Road and M60). The Ship Canal Corridor contains a narrow strip of land either side of the Canal. The River Mersey area is broadly defined by the extent of the floodplain, which continues into Manchester's boundary.

The character of the two areas has been greatly affected by the proximity of adjacent urban areas. Development adjacent to the Ship Canal extends almost up to the banks. The Ship Canal was borne out of the River Mersey and in this locality the river's former alignment and original topography have been lost. The Ship Canal attracted industrial uses, which have since decreased resulting in remnant landscapes, which appear derelict or in a state of transition. Views of the Canal are limited by the extent and nature of adjacent development.

The land adjacent to the River Mersey is a mosaic of land uses created by development and its proximity to urban areas. These uses include: - water parks, playing fields, golf courses, sewage works and an increase in access within the floodplain. The banks of the river within this character area have been engineered and have an artificial, formal appearance. There is a general lack of field boundaries such as hedges or fencing. The lack of boundaries and flat topography often permit extensive views over the floodplain, sometimes restricted by the regenerating scrub vegetation and tree planting.

Other than localised areas of remnant trees or woods, vegetation is limited to areas where regeneration has occurred or where planting has taken place. Scrub, herbaceous vegetation or

reedbeds create a rich ecological diversity. Some of have been designated as Sites of Biological Importance (S.B.I.).

Physical Influences

The river course and canal corridors are generally associated with low-lying topography, much of which lies between 15 to 20m. The solid geology of the Ship Canal Corridor and Mersey Valley consists of Sandstones, whilst the drift geology comprises predominantly alluvium, with adjacent fluvial-glacial gravels.

The possibility of flooding on the adjacent low-lying floodplain areas in the Urban River Valley continues to limit built development.

In both instances the river or Canal is not conspicuous, unless viewed from adjacent land or from a raised position.

Historical and Cultural Influences

Historically the River Mersey would have meandered through the low-lying topography, draining the outlying areas, offering potential defence and navigation and acting as a physical and administrative boundary. Industrial requirements in the late 19th Century led to the construction of the Ship Canal, to facilitate transportation to and from industrial Manchester. The original course of the Mersey was lost, although some evidence still remains around the agricultural areas of Warburton and derelict areas around Irlam. Although navigation of the Ship Canal remains it is less frequent than its past, but there are frequent reminders of the past industrial era on the adjacent derelict sites.

Drainage strategies of the 1960's and 70's led to further canalisation of the Mersey's banks east of the M60 (formerly M63). The river's meandering course was straightened and the appearance is now one of a series of grassed engineered slopes, which have changed little since their construction. The long linear routes provide recreational value.

Sale and Chorlton Water Parks were originally created from borrow pits for the construction of the M60 in the 1960's and 70's and to provide flood control capacity for the Mersey. They have been developed for recreation in a countryside setting.

The river and canal respectively form the administrative boundary between the adjoining Boroughs of Manchester, Salford and Warrington. Transportation routes which cross the areas are limited to strategic points, to overcome the difficulties of the river, canal and floodplain areas. These include the M60, the A56, the Metrolink and Bridgewater Canal, which cross by means of Aqueducts (Cut Hole and Barfoot), which are Grade II Listed and distinguishing features within this area.

The Mersey floodplain is surrounded by built development, whilst on the floodplain itself development is very limited and has various transportation routes, which cross the valley. Along the Ship Canal the strategic transport routes consist of road and railway crossings. The locks and associated buildings at Irlam and the Barton Swing Bridge and Bridgewater Canal Aqueduct offer striking visual links to the industrial past. The Toll Bridge at Warburton creates a distinguishing landmark where the corridor broadens to form a flat landscape.

Pressures in the Landscape

- **Urban land use changes, threaten to completely remove the original characteristics of this area.**

Changes in land use have removed field boundaries, which has resulted in a large-scale pattern within the landscape. The degree of change to the landform and pattern is such that the landscape character is in a state of transition, where characteristics are blurred. These changes mainly include recreation either side of the Mersey and industry and housing fringing the Ship Canal, with associated changes in topography (especially where landfill sites occur) and vegetation. There is the danger that the remaining remnant open areas within the Mersey Valley could become completely incorporated into the adjacent urban framework.

- **The disappearance of built features, worthy of retention.**

Features worth retaining include the Toll Bridge at Warburton and the Locks at Irlam.

- **Pressure from urban development threatens the ecologically sensitive areas.**

The demand for further development and redevelopment creates conflicts with the areas of ecological diversity and threatens their existence. Often their location on the urban edge makes them vulnerable to misuse and vandalism.

- **Power line alignments create an extension to the urban framework.**

The Ship Canal has narrow, linear tracts of open space, which are often all that remain of the former rural area. Large pylons and their cables striding the landscape frequently dominate these tracts, which accentuate an urban association.

- **Transportation routes have reduced the visual unity and rural appearance.**

Existing transportation routes have a significant adverse impact upon the character of the Mersey Valley. The proposed M60 road widening and extension of the Metrolink to Manchester Airport will further aggravate this. They sever the visual unity of the river's course, by the imposition of their high structures, and destroy an otherwise secluded character by introducing the sight and sound of moving traffic. Attempts to screen the infrastructure may emphasise its presence, through the selection of ornamental species, alien within an otherwise rural context.

STRATEGY STATEMENT

The characterising features include the floodplain; notable built features; areas of ecological regeneration; remnant features and the mixed land use. These should be conserved and enhanced. The disparate land use pattern in this area should be visually unified.

POLICY GUIDELINES

1. Conserve the features of the river valley/canal corridor

The open aspect of the river, canal, its open areas, floodplain and low-lying topography, are the underlying characteristics of the area.

Guidelines:

- v Development, where appropriate, should conserve these original features of the area.
- v Opportunities to conserve these features should be encouraged.

2. Restore and enhance the physical and visual unity

The physical and visual unity of the area needs to be redefined.

Guidelines:

- v Development should not lead to further loss of physical and visual unity of the area.
- v Where new development is proposed it should be of appropriate scale and nature to the area.
- v Opportunities to conserve and develop a framework of open spaces should be encouraged.
- v Structured planting should be encouraged including;
 - new planting
 - enhancement of existing planting
 - Habitat enhancement and creation.

3. Conserve and enhance the historical features of the area

The existing historical features, including Warburton Toll Bridge, Irlam Locks, Barton Swing Bridge, the Bollin Aqueduct and Manchester Ship Canal are important features.

Guidelines:

- ▼ Development should conserve and enhance historical features of the area where this does not prejudice the commercial and operational requirements of the waterway.
- ▼ Opportunities to improve the setting and appearance of these features should be encouraged.

4. Conserve and promote the ecological areas

There are several sites of ecological interest, providing links to habitats in adjacent areas. There are instances where pressures of adjacent areas have had a detrimental impact on these sites.

Guidelines:

- ▼ Development should conserve and promote ecological diversity.
- ▼ Opportunities to enhance existing sites should be encouraged.
- ▼ Opportunities to enhance the ecological corridor should be encouraged.
- ▼ Where appropriate measures to control access should be encouraged.

5. Enhance ecological diversity and appearance of the river bank

The engineered riverbanks have destroyed the ecological diversity and visual appearance of these areas.

Guidelines:

- ▼ Development should enhance the ecological diversity and appearance of the riverbanks.
- ▼ Opportunities to improve existing engineered banks should be encouraged.

Land at Hollins Green

Landscape Sensitivity Assessment of Hollins Green
and Landscape Appraisal of Proposed Development
on Land at Hollins Green

Appendix D
Illustrative Masterplan

September 2017

Prepared for:





KEY:

-  Site boundary
-  Existing buildings
-  Existing vegetation
-  Proposed woodland planting
-  Proposed avenue trees
-  Green infrastructure
-  Proposed development area
-  Potential focal square
-  Proposed primary road
-  Proposed vehicular access
-  Proposed footpaths



**Land off Manchester Road,
 Hollins Green**

Conceptual Masterplan and Vision

Total Area: 12.24ha
 Development Area : 6.63ha
 Spine Road Area: 0.78ha
 Green Infrastructure: 4.83ha

Potential Yield
 @30 dph 199 units
 @35 dph 232 units

Drwg No: 630CF-05C
 Drawn by: AH
 Rev by: AH
 QM Status: Checked
 Scale: 1: 5,000 @ A3

Date: 22.09.17
 Checker: CAW
 Rev checker: CAW
 Product Status:
 Confidential Review

NOTE:

LANDSCAPE ARCHITECTURE
ENVIRONMENTAL PLANNING
MASTERPLANNING
URBAN DESIGN

RANDALL
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LAND AT HOLLINS GREEN



FLOOR

AISAL

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CI283/NM/DOR/EAJ/2017114



Report Title: Land at Hollins Green, Warrington
Flood Risk and Utilities Appraisal

Client: Peel Investments (North) Ltd

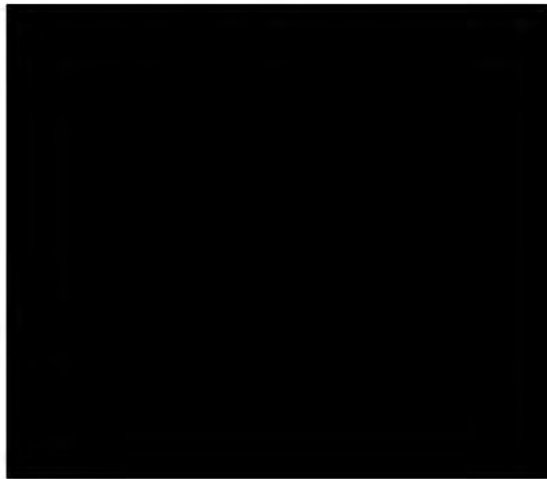
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Prepared by:

Checked & Approved:



Version	Date	Initials	Comments
-	05.09.2017	NM	First Issue
V1	15.09.2017	NM	Revised to reflect amended masterplan.
V2	28.09.2017	NM	Revised to reflect amended masterplan.



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.

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Shepherd Gilmour Infrastructure Ltd. does not accept any liability concerning the legal significance of its findings or the accuracy of the information presented and conclusions drawn are for information purposes only. The study provides no guarantee of accuracy, nor of the absolute accuracy of water levels, flow rates or other data.

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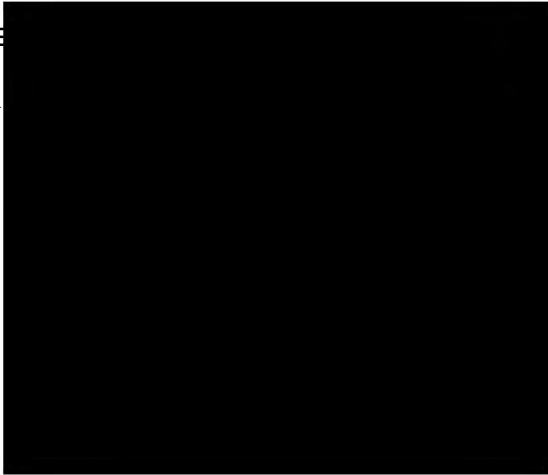
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SECTION I INTRODUCTION

I.1. Shepherd Gilmour Infrastructure Ltd (SGi) has been engaged by Peel Investments (North) Limited (hereafter “the Applicant”) to provide a Flood Risk and Utilities Appraisal in support of development known as Land at Hollins Green in the forthcoming representations to the Warrington Local Plan.

SITE LOCATION

I.2. The proposed site is located in the village of Hollins Green in Warrington. The site is approximately 12.24ha in total and consists of three agricultural fields and two watercourses.

- Nearest Postcode: WA3 6HY
- OS Coordinate [REDACTED]
- OS Grid Reference [REDACTED]



Figure I.1 Red Line Boundary

TOPOGRAPHY

- I.3. Based on the Ordnance survey maps the site ranges in level between 10-15m AOD. The site appears to generally falls in level from the A57 Manchester Road (northern boundary) to the Manchester Ship Canal (southern boundary).

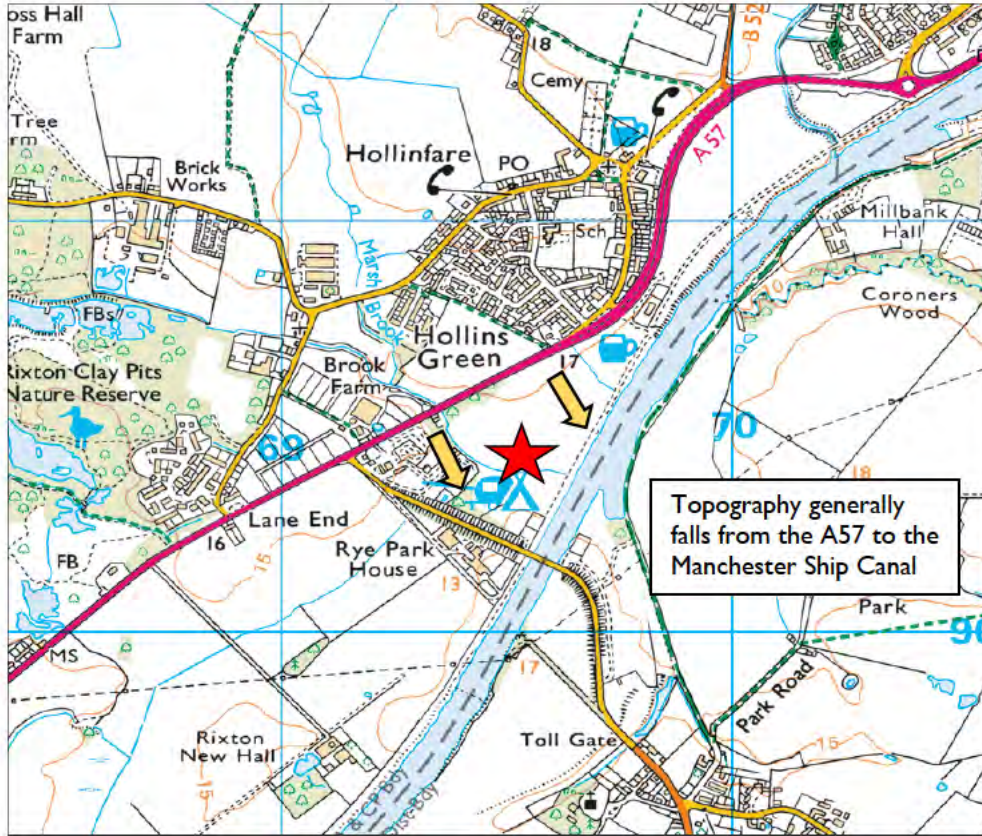


Figure I.2 Site Plan (OS Map)

PRELIMINARY PROPOSALS

- I.4. The client's conceptual masterplan is shown in **Figure I.3** proposes up to 232 dwellings with associated infrastructure works and landscape buffers.
- I.5. A full-sized plan of the below is included in **Appendix A**.



Figure I.3 Conceptual Masterplan (Randall Thorp)

SECTION 2 PRELIMINARY FLOOD RISK ADVICE

GOV.UK PLANNING ADVICE MAPS

2.1. The Gov.UK online Flood Map for Planning provides initial information on any flood zoning onsite. This map indicate that the majority of site is located within Flood Zone 2 (medium probability of fluvial flooding) with some small areas of Flood Zone 1 (low probability of fluvial flooding).

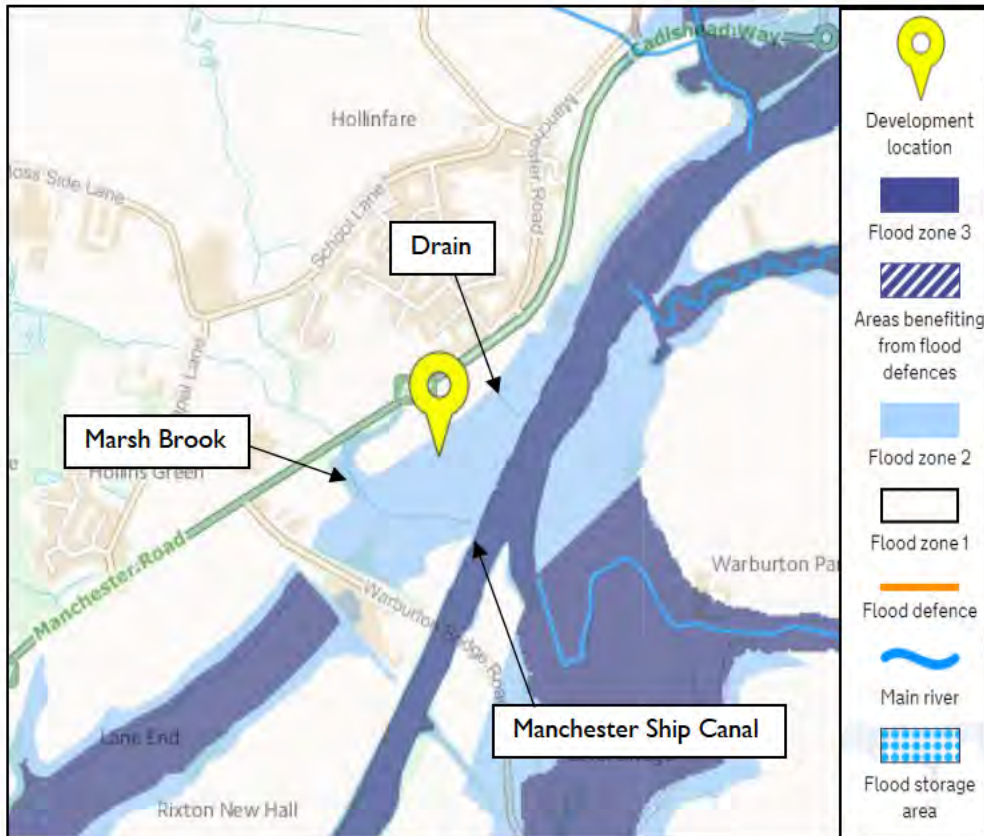


Figure 2.1 Gov.UK Flood Map

ENVIRONMENT AGENCY DATA

2.2. The latest flood data and maps has been requested from the Environment Agency (EA) and indicate similar flood zoning (**Figure 2.2**). The data also includes estimated flood levels which can be used in conjunction with a topographical survey during the detailed design stage. This information has been included within **Appendix B**.



FLOOD ZONE GUIDANCE

2.3. The Flood Risk and [redacted], development type is suitable for each Flood Zone [redacted].

Flood Zone	Flood Risk Vulnerability Classification				
	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
1	✓	✓	✓	✓	✓
2	✓	Exception Test Required	✓	✓	✓
3a	Exception Test Required	x	Exception Test Required	✓	✓
3b	Exception Test Required	x	x	x	✓

Table 2.1 Flood Risk Classification

Highly Vulnerable	<ul style="list-style-type: none"> • Police stations, Ambulance stations and Fire stations and Command Centres. • Emergency dispersal points. • 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 not at risk of flood. • Sewage treatment works not at risk of flood.

T

- 2.4. The conceptual map shows developments (i.e. more vulnerable developments) in medium probability areas (Flood Zone I & II) and the proposals meet the requirements of the Flood Risk Regulations.
- 2.5. The estimated flood risk analysis will require further analysis once a topographical survey is available.

SECTION 3 EXISTING DRAINAGE INFRASTRUCTURE

PUBLIC SEWERS

3.1. The public sewers in the vicinity of the proposed site are owned and maintained by United Utilities (UU). Copies of their records have been requested and are included in **Appendix C** of this report.

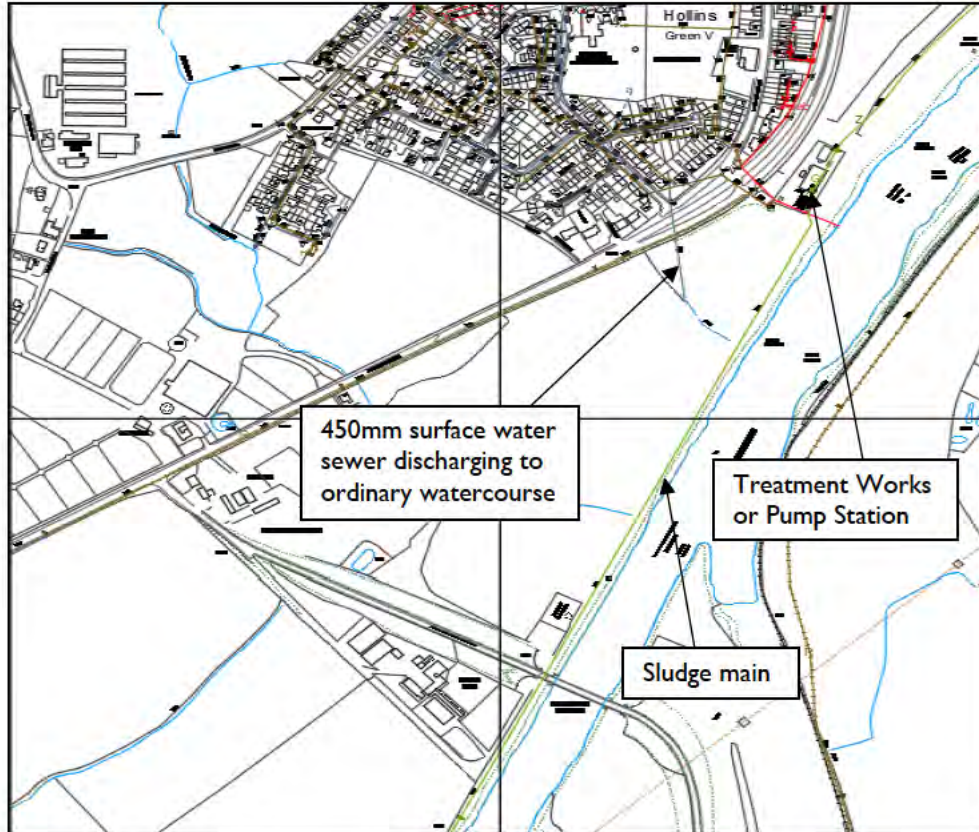


Figure 3.1 Combined UU Sewer Plan

Surface Water Sewers

3.2. According to United Utilities records there is a surface water sewer which connects to the Manchester Ship Canal via an onsite waterbody. The sewer appears to serve all of the residential development located to the north of the site.

3.3. Based on the information available the 450mm sewer is likely to require a 4m offset each side of the centreline of the sewer (Sewers for Adoption 6th Edition).

Foul Water Sewers

3.4. United Utilities records show a 225mm foul water sewer which may encroach on the northernmost point of the site. The foul water sewer serves the development to the north and discharges into the adjacent treatment works/pump station via a combined water sewer.

- 3.5. Based on the information available the 225mm sewer is likely to require a 3m offset each side of the centreline of the sewer (Sewers for Adoption 6th Edition).

Combined Water Sewers

- 3.6. Records indicate a 225mm diameter combined sewer at the northernmost point of the site. The sewer discharges into the treatment works/pump station and has an overflow to the Manchester Ship Canal. The sewer appears to miss the site but is likely to require a 3m offset each side of the centreline of the sewer (Sewers for Adoption 6th Edition).

PRIVATE DRAINAGE

- 3.7. There is no known private drainage onsite.

PRELIMINARY DEVELOPMENT

Surface Water Drainage

- 3.8. Based on the topography it should be possible to discharge any runoff to the waterbodies and/or the Manchester Ship Canal. The runoff destination hierarchy set out in the Canal Change Guidance document.

- 3.9. Note that any surface runoff should be managed in accordance with the Lead Local Flood Authority and/or the Manchester Ship Canal Company.

Foul Water Drainage

- 3.10. Foul effluent generated by the development should be able to connect into the adjacent treatment works/pump station. At the stage the need for off-site reinforcement is unknown and United Utilities should be consulted as soon as practically possible.

Sewer Diversions

- 3.11. At this preliminary stage, it is difficult to assess if any sewer diversions would be required. More information is required and any diversion can be addressed at a later stage.

SECTION 4 UTILITIES INFRASTRUCTURE

ELECTRICITY

- 4.1. The electricity in the area is supplied by Electricity North West (ENW) and Scottish Power Manweb.
- 4.2. The ENW records identify a 11kV supply along the western boundary and 6/6.6 kV supply within Manchester Rd (northern boundary). There are also a number of LV supplies in the vicinity which serve the existing residential areas.
- 4.3. The need for any offsite reinforcement to meet the power demands of the development is unknown. Discussions with ENW should be undertaken as soon as practically possible.

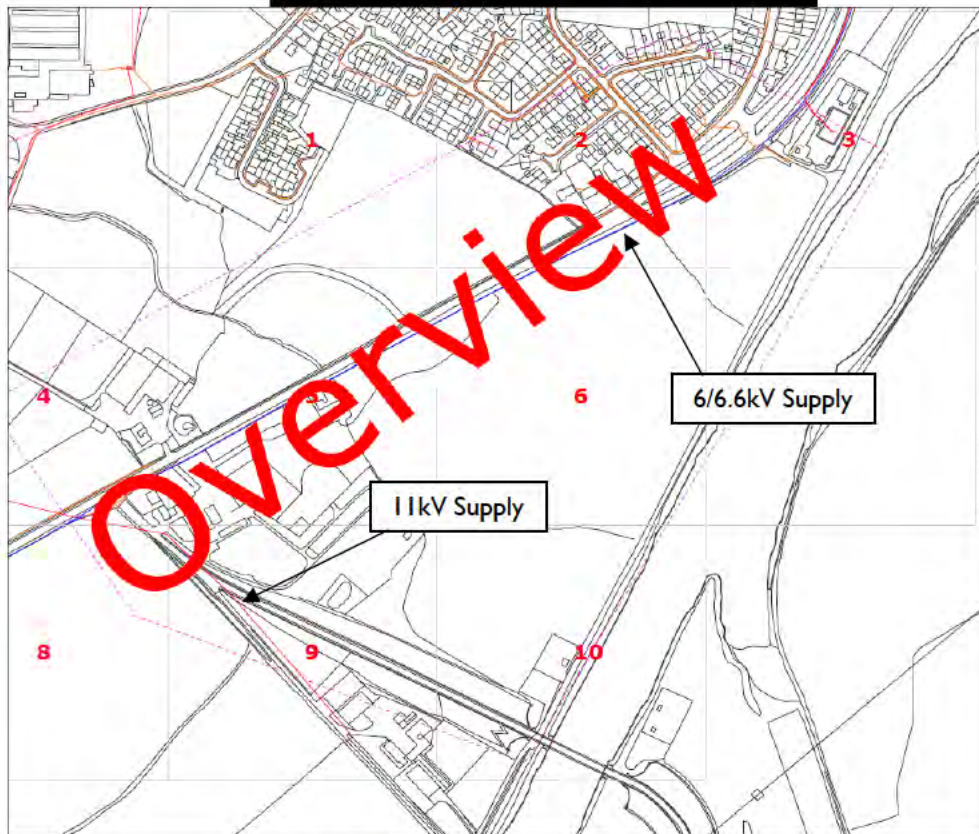


Figure 4.1 Electricity Infrastructure (ENW)

- 4.4. A copy of the ENW and Scottish Power Manweb records has been included within **Appendix D**.

TELECOMMUNICATION

- 4.5. Openreach records show a number of assets in the vicinity of the site which serve the existing dwellings. A supply from the existing infrastructure might be possible

but there may not be sufficient capacity. Discussions with Openreach should be undertaken as soon as practically possible.

- 4.6. A copy of Openreach records has been included within **Appendix E**.

MAINS WATER

- 4.7. United Utilities records indicate a 160mm water main within Manchester Road (northern boundary). The need for offsite reinforcement to meet the water supply demands of the development is unknown. Discussions with UU should be undertaken as soon as practically possible.

- 4.8. A copy of United Utilities records has been included within **Appendix C**.

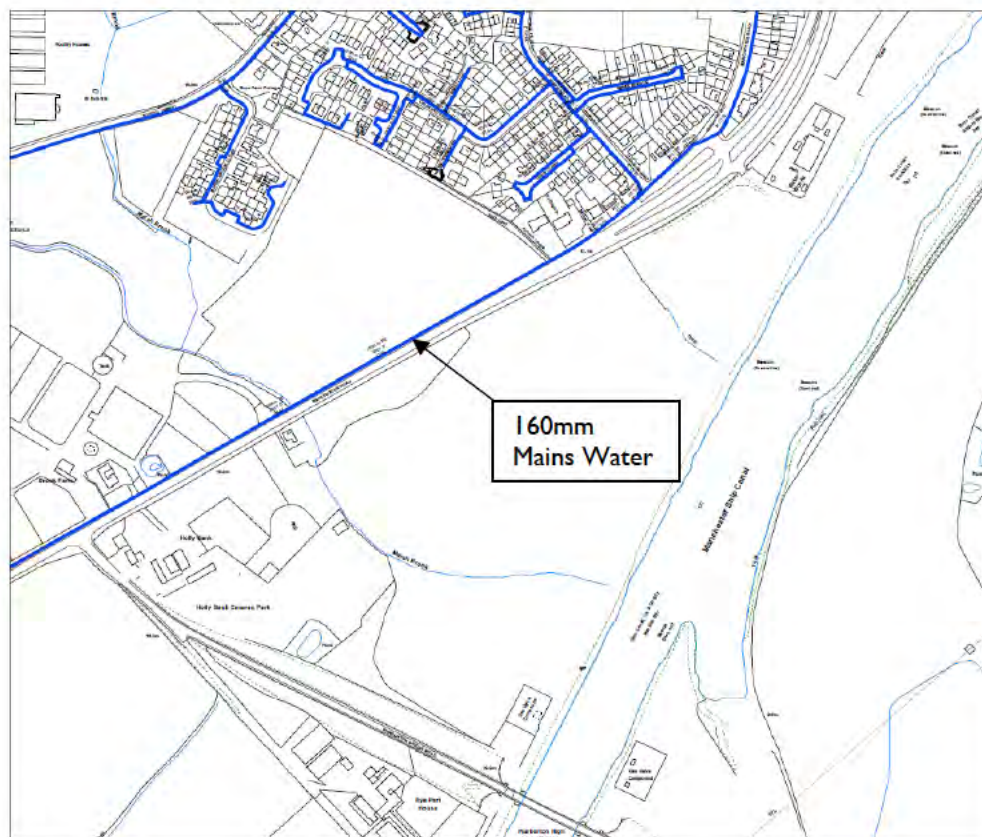


Figure 4.2 UU Record Plans

GAS

- 4.9. Cadent/National Grid records indicate two Local High Pressure mains crossing through the site from the Manchester Ship Canal. The first main crosses through the southern section of the site in a southwest direction. The second main follows the Manchester Ship Canal in a north-east direction.

- 4.10. Due to the scale/quality of the records any further information such as size, depth etc. is obscured. The other mains are Low Pressure mains and serve the existing dwellings in the area.
- 4.11. The LHP mains are likely to have an associated legal easement but the exact dimensions are unknown at this stage.
- 4.12. The need for offsite reinforcement to meet the gas supply demands of the proposed development is unknown. Discussions with Cadent/National Grid should be undertaken as soon as practically possible.

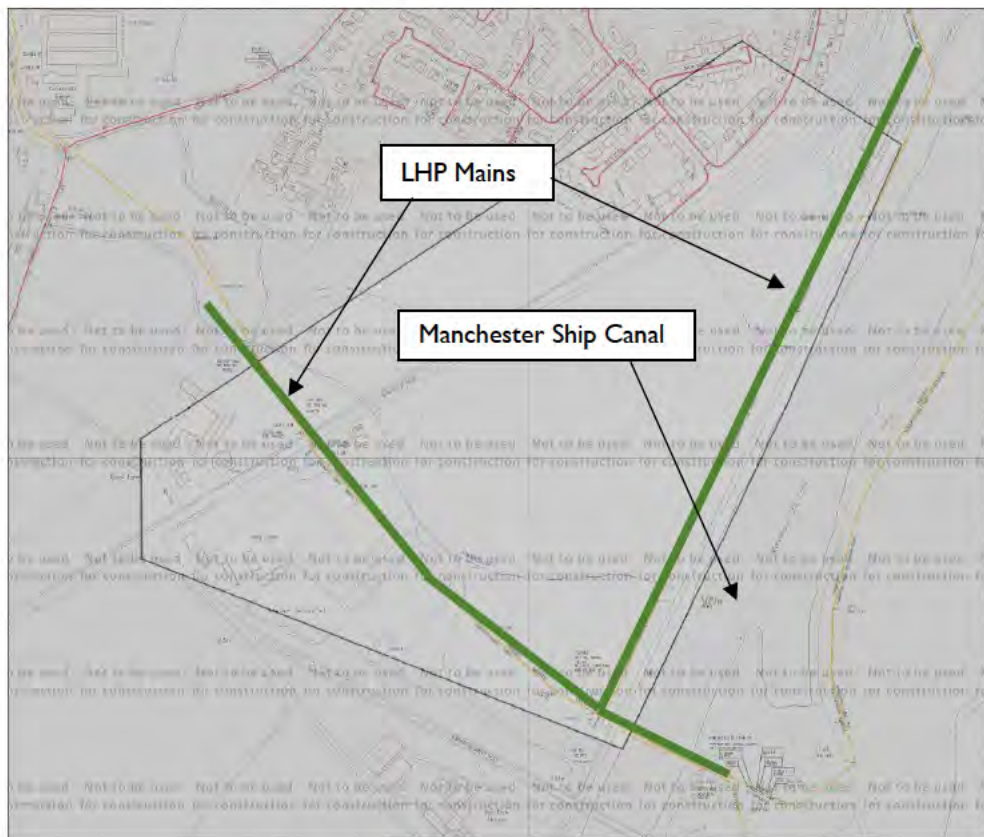


Figure 4.3 Cadent Gas Record Plans

- 4.13. A copy of Cadent/National Grid records has been included within **Appendix F**.

SECTION 5 HEALTH AND SAFETY EXECUTIVE CHECK

5.1. A preliminary consultation with the Health and Safety Executive indicated that the proposed site is located near or on a major hazard site or major accident hazard pipeline. The plans provided highlighted two items of risk.

LHP MAIN

5.2. The Local High Pressure mains that passes through the site are considered a major accident hazard pipeline. The HSE “consultation distance” for the risk indicates narrow inner zone, but a significant outer zone for these pipelines.

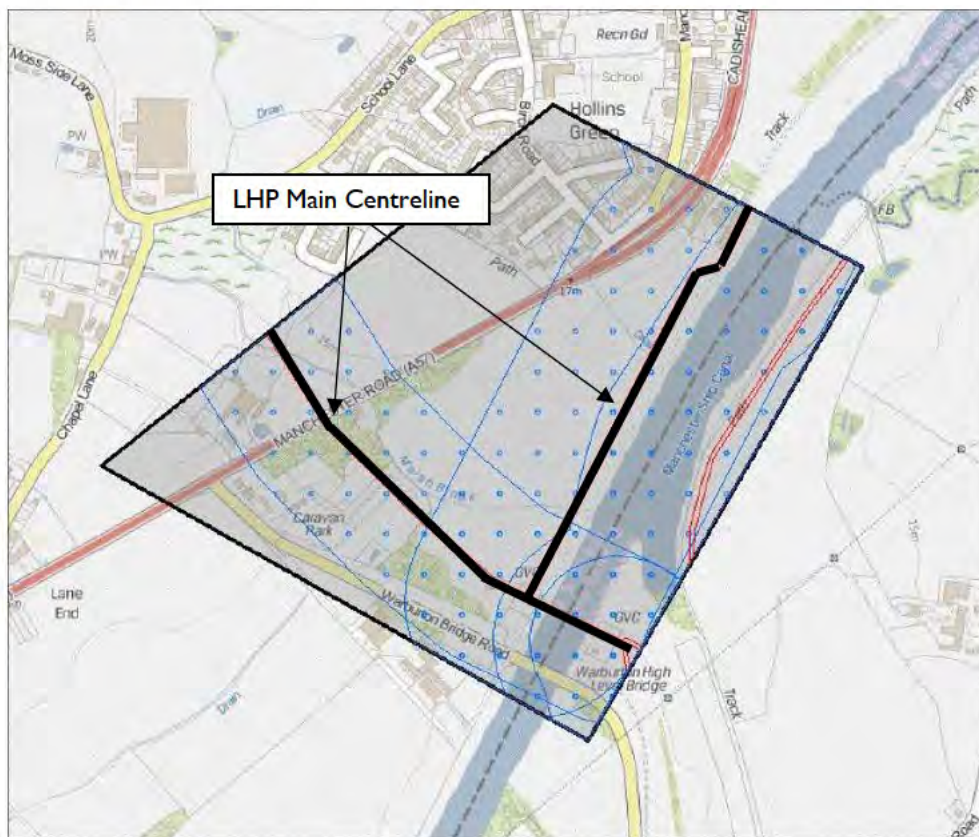


Figure 5.1 Planning Advice Map – LHP Mains (HSE)

CONSULTATION ZONING

5.3. The consultation distance consists of three zones known as the Inner, Middle and Outer. These zones along with the sensitivity level of the development (**Table 5.1**) will determine if the HSE will advise against the proposed development (**Table 5.2**).

Level of Sensitivity	Developments in Inner Zone	Development in Middle Zone	Development in Outer Zone
1	Don't Advise Against	Don't Advise Against	Don't Advise Against
2	Advise Against	Don't Advise Against	Don't Advise Against
3	Advise Against	Advise Against	Don't Advise Against
4	Advise Against	Advise Against	Advise Against

Table 5.1 HSE Decision Matrix

Development Type	Examples	Development Detail and Size	Justification
DT2.1 Housing	Houses, flats, retirement flats / bungalows, residential caravans, residential home	Developments up to and including 30 dwelling units and at a density of more than 2 dwelling units at a density of more than 40 dwelling units per hectare (Level 3)	Development where people live or are temporarily resident. It may be difficult to evacuate people in the event of an emergency
	Exclusions		
	Very small developments including land		Minimal increase in numbers at risk
	Large developments		Potential increase in numbers at risk
		Any developments for more than 2 dwelling units at a density of more than 40 dwelling units per hectare (Level 3)	High density development

Table 5.2 HSE Development Classification

- 5.4. The residential proposals for the development would be considered a **Level 3** “type” and as such should only occur in the outer zone.
- 5.5. The conceptual masterplan (**Appendix A**) indicates that the residential development parcels avoid the onsite gas mains and lie outside of the Inner zone and can therefore be considered to be in the outermost zone. This therefore satisfies the HSE condition.

SECTION 6 CONCLUSION

6.1. This flood risk and utilities appraisal provides an overview of the existing infrastructure on or around the proposed site and evaluates flood risk issues that may potentially influence the conceptual masterplan. In summary, the statement confirms that;

- a) That majority of the proposed residential areas are within Flood Zone 2 (medium probability). In accordance with the Flood Risk and Coastal Change Guidance these proposals are acceptable in this zone.
- b) The proposed surface water runoff generated by the proposals should discharge to one or more of the onsite waterbodies. Flow rates to be agreed with the Lead Local Flood Authority or M [redacted] (g on waterbody).
- c) The proposed foul water [redacted] adjacent treatment works/pump station. [redacted] works are to be agreed with United Utilities.
- d) Any surface water [redacted] further once the masterplan layout is finalised.
- e) Early discussions with [redacted] establish the proposed electricity route(s) to the site.
- f) The existing Openreach infrastructure that surrounds the site could be able to cater for the site proposals. However early discussions with Openreach should be undertaken to confirm whether this is the case.
- g) Early discussions with United Utilities are required to establish the proposed mains water route(s) to the site.
- h) Early discussions with Cadent/National Grid are required to confirm the onsite easement associated with the LHP mains and establish the future proposed gas main route(s) to the site.
- i) Early discussions with Health and Safety Executive are required to confirm the consulting distances associated with the LHP pipelines. Once confirmed the conceptual masterplan can be adjusted to suit if necessary and therefore avoid any future objections during the planning process.



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APPENDIX A



KEY:

-  Site boundary
-  Existing buildings
-  Existing vegetation
-  Proposed woodland planting
-  Proposed avenue trees
-  Green infrastructure
-  Proposed development area
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Date: 22.09.17
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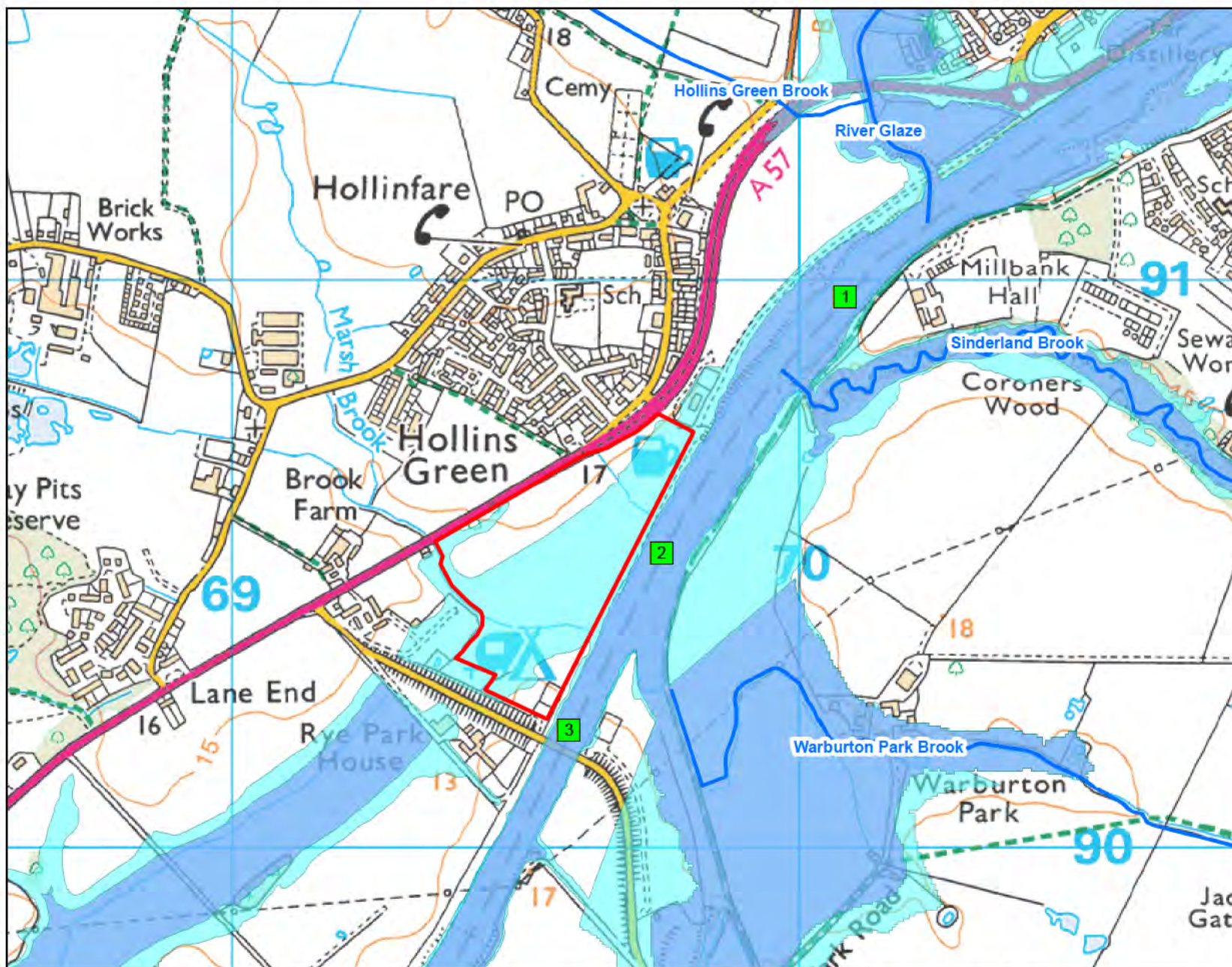
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APPENDIX B

Detailed Flood Map centred on Hollins Green, Warrington, WA3 6HY. Created on 11/08/2017 [GMMC55920CC]



1:10,001



Legend

- Site Location
- Model Measurements
- Main River
- Flood Zone 2
- Flood Zone 3

Map Reference	Model Node Reference	Easting	Northing	Data	Model run is representative of a single gate failure on every set of sluice structures. Maximum gate opening height is set to 2.4m.						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 % AEP (1 in 50 year)	1.33 % AEP (1 in 75 year)	1 % AEP (1 in 100 year)	1 % AEP (1 in 100 year) + Climate Change*	0.5 % AEP (1 in 200 year)	0.1 % AEP (1 in 1000 year)	2 % AEP (1 in 50 year)	1.33 % AEP (1 in 75 year)	1 % AEP (1 in 100 year)	1 % AEP (1 in 100 year) + Climate Change*	0.5 % AEP (1 in 200 year)	0.1 % AEP (1 in 1000 year)
1	ea013_Model_MSCCO6_131	370082	390970	Modelled Water Level (m aodN)	11.65	11.85	11.98	12.62	12.30	14.44	11.66	11.86	12.00	12.68	12.34	14.43
				Modelled Flow (cumecs)	941.09	983.44	1016.26	1180.17	1096.39	1752.85	941.69	990.55	1029.21	1195.91	1112.14	1744.86
2	ea013_Model_MSCCO6_134	369758	390518	Modelled Water Level (m aodN)	11.57	11.76	11.89	12.52	12.20	14.36	11.58	11.77	11.91	12.58	12.23	14.34
				Modelled Flow (cumecs)	939.44	982.38	1015.00	1178.59	1094.87	1750.30	940.11	989.43	1027.88	1194.08	1110.41	1742.72
3	ea013_Model_MSCCO6_137	369595	390207	Modelled Water Level (m aodN)	11.48	11.68	11.82	12.48	12.14	14.35	11.49	11.70	11.84	12.54	12.18	14.34
				Modelled Flow (cumecs)	937.42	981.18	1013.44	1176.60	1092.93	1747.03	938.70	988.16	1026.10	1191.79	1108.38	1739.76

Model data taken from Manchester Ship Canal (2010) Study

AEP - Annual Exceedence Probability

m aodN - metres above ordnance datum Newlyn

cumecs - cubic metres per second

Notes **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.



Shepherd Gilmour
Consulting Engineers

Colchester House, 40 Peter Street, Manchester M2 5GP

(44)0161 837 1500

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APPENDIX C



**Shepherd Gilmour Infrastructure
SGi Consulting Colchester House
40 Peter Street**

**Manchester
M2 5GP**

FAO: [REDACTED]

Dear Sirs

Location: Land at Hollins Green Warrington WA3 6HY

I acknowledge with thanks your request dated 08/08/17 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 [REDACTED] [REDACTED]



[REDACTED]
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 HOLLINS GREEN
Our Ref: [REDACTED]
Date: 10/8/2017

Extract from Map of Water Mains

The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available

The actual positions may be different from those shown on the plan, private service pipes may be shown where a known record is available.

United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown. Crown copyright and database rights [2016] Ordnance Survey 100022432.

United Utilities Water Limited 2014

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**Land at Hollins Green
Warrington
WA3 6HY**

Printed By: Property Searches Date: 10/08/2017

DO NOT SCALE
Approximate Scale: 1:5000





Ratio	Cover	Func	Invert	Size	Shape	Length	Grad	Ratio	Cover	Func	Invert	Size	Shape	Length	Grad
8201		FO													

WASTE WATER SYMBOLOLOGY

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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

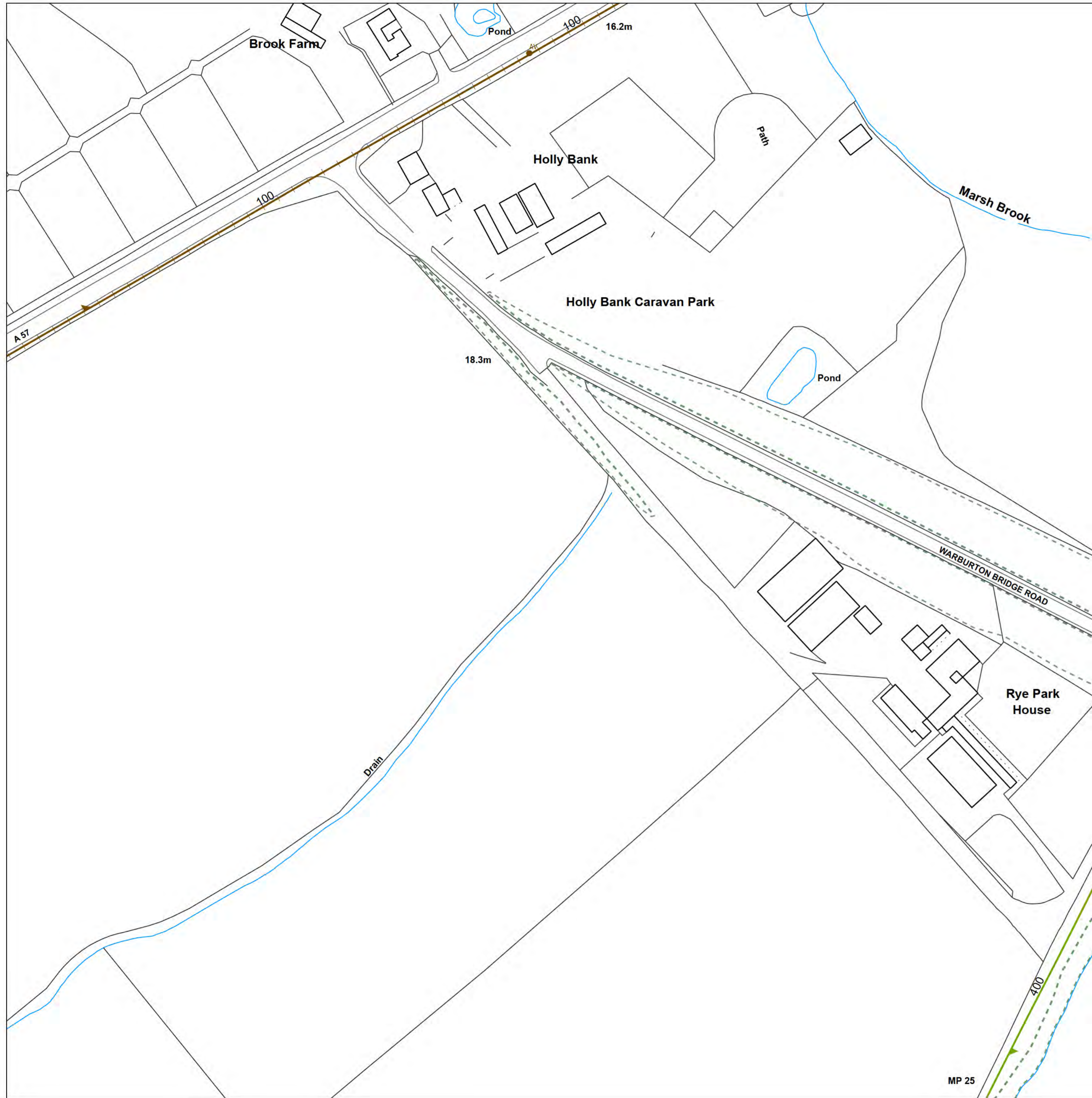
AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Span Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
CSU	Concrete Segment Unbolted	PP	Polypropylene
CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

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OS Sheet No: SJ6990SE
 Scale: 1:1250 Date: 10/08/2017

OS Sheet No: SJ6990SE
 Scale: 1:1250 Date: 10/08/2017
 1 Nodes
 Sheet 1 of 1





Ratio	Cover	Func	Invert	Size	Shape	Length	Grad	Ratio	Cover	Func	Invert	Size	Shape	Length	Grad
7:00		FO													

WASTE WATER SYMBOLOLOGY

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	Overflow

ABANDONED PIPE

	Sludge Main, Public
	Sludge Main, Private
	Sludge Main, S104

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	Span Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
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PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

Control Kiosk

Unspecified

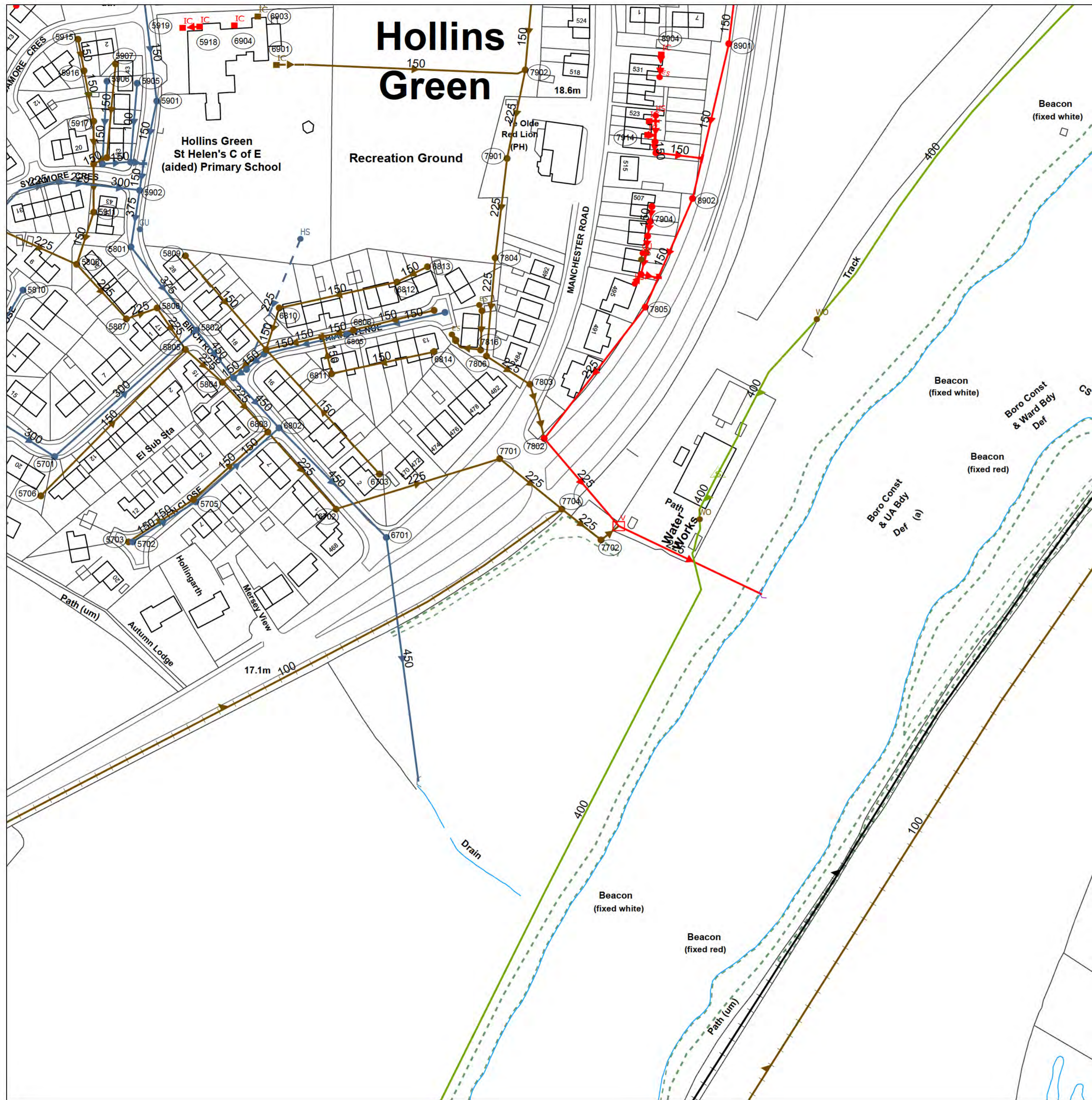
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OS Sheet No: SJ6990SW
 Scale: 1:1250 Date: 10/08/2017
 1 Nodes
 Sheet 1 of 1





Refno	Cover	Func	Invert	Size	Shape	Matl	Length	Grad	Refno	Cover	Func	Invert	Size	Shape	Matl	Length	Grad
5701	18.13	SW	15.8	300	CI	CO	87.11	156									
5702	16.84	SW	15.47	150	CI	VC	34.18	88									
5703	16.83	FO	15.09	150	CI	VC	35.46	131									
5704	16.64	FO	15.4	150	CI	VC	46.02	79									
5705	16.62	SW	15.06	150	CI	VC	50.99	94									
5706	18.37	FO	17.72	150	CI	VC	94.12	53									
5801	17.13	SW	15.21	375	CI	CO	48.41	131									
5802	16.7	SW															
5804	16.85	FO	14.89	225	CI	CO	30.81	280									
5805	16.82	FO	14.96	225	CI	CO	22.87	334									
5806																	
5807	17.07	FO															
5808	17.18	FO	15.23	225	CI	VC	33.88	484									
5809	17.12	FO	16.31	150	CI	VC	56.72	56									
5810	17.83	SW	16.83	150	CI	VC	53.24	113									
5901	19.26	SW	17.1	150	CI	VC	29.5										
5902	17.58	SW	15.3	375	CI	CO	26.31	329									
5903	18.12	SW	16.19	225	CI	VC	19.07	49									
5904	18.11	FO	16.87	150	CI	VC	22	42									
5905	19.34	SW	18.52	100	CI	VC	36.1	23									
5906	19.35	SW	18.36	150	CI	VC	38.85										
5907	19.82	FO	18.47	150	CI	VC	43.19	37									
5908	19.22	SW															
5909																	
5910	19.5	FO	17.26	150	CI	VC	6.71	26									
5911	17.39	FO	16.35	150	CI	VC	25.26	194									
5916																	
5917																	
5918																	
5919																	
6701	16.83	SW															
6702	16.73	FO	0	225	CI	CO	78.45										
6703	16.78	FO	15.98	150	CI	VC	77.1	109									
6801	16.58	SW	14.51	450	CI	CO	31.03	125									
6802	16.5	SW	14.25	450	CI	CO	70.12										
6803	16.49	FO	14.78	225	CI	CO	47.09										
6804	17.31	FO	16.03	150	CI	VC	38.08	89									
6805	16.97	SW	15.17	150	CI	VC	39.95	150									
6806	17.03	FO	15.58	150	CI	VC	14.32										
6807	16.72	FO															
6808	16.68	SW															
6809	16.57	SW															
6810	16.95	FO	15.85	150	CI	VC	19.93	35									
6811	17.01	FO	16.12	150	CI	VC	17.46										
6812	17.31	FO	0	150	CI	VC	55.32										
6813																	
6814																	
6901																	
6903																	
6904																	
7701	16.82	FO															
7702	15.04	FO															
7704																	
7801	17.33	SW															
7802	16.7	FO															
7803	16.84	FO															
7804	18.12	FO															
7805	17.11	CO															
7806	17.27	FO															
7808				150	CI	VC	7.7										
7809				150	CI	VC	10.16										
7810				150	CI	VC	7.81										
7816				100	CI	VC	13.21										
7817				100	CI	VC	3.24										
7818				100	CI	VC	3.24										
7901	18.17	FO	16.13	225	CI	CO	45.97	62									
7902	19.72	FO															
7903				150	CI	VC	6.82										
7904				150	CI	VC	6.81										
7907				150	CI	VC	5.83										
7912				150	CI	VC	21.23										
7914																	
8901	17.7	CO															
8902	17.39	CO															
8904			15.16	150	CI	VC	54.42	113									
8905																	
8912		SW															
8914		SW	15.8	300	CI	VC	18.12	46									
8916		SW		225	CI	VC	54.52										
8902		FO		150	CI	PF	101.46										
7807																	
7811																	
7813																	
7814																	
7905				100	CI	VC	5.42										
7915																	
7916																	
8913		SW	0	150	CI	VC	12.17										
6815		FO	0	150	CI	VC	26.89										
7812																	
7815																	
7908																	
7909																	
8903																	
7703																	
8703	12	FO	10.8	400	CI	DI	22.67										

WASTE WATER SYMBOLOLOGY

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
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PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

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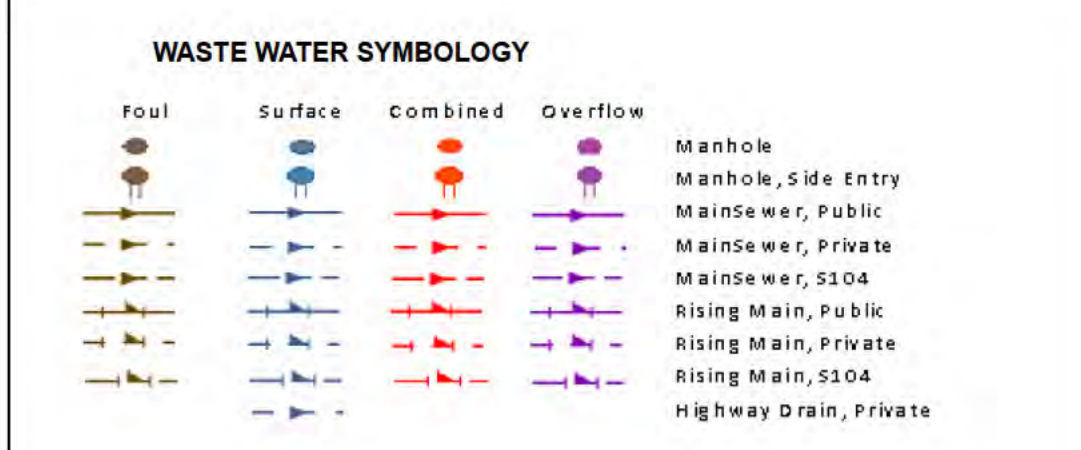
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OS Sheet No: SJ6990NE
 Scale: 1:1250 Date: 10/08/2017
 98 Nodes
 Sheet 1 of 1



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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

Foul	Surface	Combined	Overflow			Foul	Surface	Combined	
				Manhole					Septic Tank
				Manhole, Side Entry					Sludge Main, Public
				MainSewer, Public					Sludge Main, Private
				MainSewer, Private					Sludge Main, S104
				MainSewer, S104					Abandoned Pipe
				Rising Main, Public					MainSewer
				Rising Main, Private					Rising Main
				Rising Main, S104					Highway Drain
				Highway Drain, Private					Sludge Main
				WW Site Termination					Sludge Pumping Station
				Air Valve					Sewer Overflow
				Cascade					T Junction/Saddle
				Non Return Valve					LampHole
				Extent of Survey					OilInterceptor
				Flow Meter					PenStock
				Gully					Pump
				Hatch Box					RoddingEye
				Head of System					Soakaway
				Hydrobrake / Vortex					Summit
				Inlet					Valve
				Inspection Chamber					Valve Chamber
				Bifurcation					Washout Chamber
				Catchpit					DropShaft
				WW Pumping Station					WW Treatment Works

Foul	Surface	Combined	Overflow	
				Screen Chamber
				Discharge Point
				Outfall
				Control Kiosk
				Unspecified

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	DI	Ductile Iron
BR	Brick	VC	Vitrified Clay
CO	Concrete	PP	Polypropylene
CSB	Concrete Segment	PF	Pitched Fibre
CSU	Concrete Segment	MA	Masonry, Coursed
CC	Concrete Box Culverted	MA	Masonry, Random
PSC	Plastic / Steel	RP	Reinforced Plastic
GR	Glass Reinforced	CI	Cast Iron
GRP	Glass Reinforced	SI	Spun Iron
PVC	Polyvinyl Chloride	ST	Steel
PE	Polyethylene	U	Unspecified

CLEAN WATER SYMBOLOGY

PIPE WORK	Nodes/Furnitures		
Live	Proposed	Live Proposed	
			End Cap
			CC Valve
			AC Valve
			Air Valve
			Sluice Valve
			Non Return Valve
			Pressure Management Valve
			Change of Characteristic
			Anode
			Chlorination Point
			De Chlorination Point
			Bore Hole
			Inlet Point
			Bulk Supply Point
			Fire Hydrant
			Hydrant
			Private Fire Hydrant
			Pump
			Site Termination
			Service Start
			Service End
			Process Meter
			Stop Tap
			Monitor Location
			Strainer Point
			Access Point
			Hatch Box
			IP Point
			Route Marker
			Sampling Station
			Logger Box

ABANDONED PIPE	
	Trunk Main
	Raw Water Aqueduct
	LDTM Raw Water Distribution
	LDTM Treated Water Distribution
	Private Pipe
	Distribution Main
	Comms Pipe
	Concessionary Service

PROPERTY TYPES		
Live	Proposed	
		Condition Report
		Pipe Bridges
		Tunnels (non carrier)
		Pumping Station
		Water Treatment Works
		Private Treatment Works

Legend	
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
MO	MOLING
PI	PIPELINE
SL	SLIP LINED



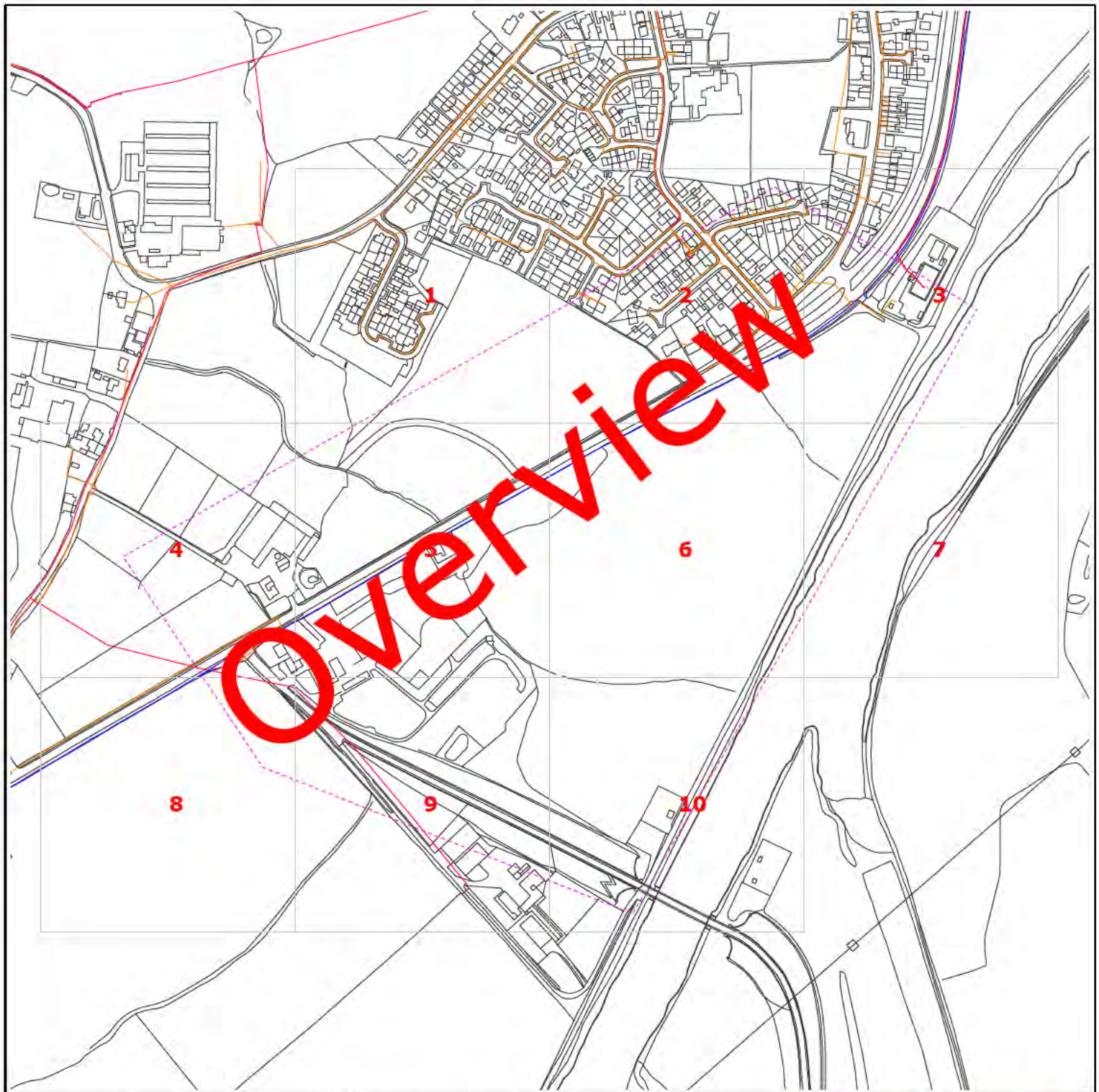
Shepherd Gilmour
Consulting Engineers

Colchester House, 40 Peter Street, Manchester M2 5GP

(44)0161 837 1500

www.shepherd-gilmour.co.uk

APPENDIX D



Requested by: Shepherd Gilmour
 Company: Shepherd Gilmour Infrastructure L
 Date Requested: 08/08/2017
 Job Reference: 10979080
 Your Scheme/Reference: Land at Hollins Gre

Operating Voltage	Colour Code	Line Colour
132kV	Black	
33kV	Green	
22kV-25kV	Yellow	
11kV	Red	
6kV-6.6kV	Blue	
1kV-6kV	Violet	
LV	Orange	
Unknown Voltage	Brown	



Dig Sites:
 Area Line

Data Management
 Electricity North West
 Linley House
 Dickinson Street
 Manchester, M1 4LF
 Phone: 0800 195 4141
 Email: planrequest@enwl.co.uk

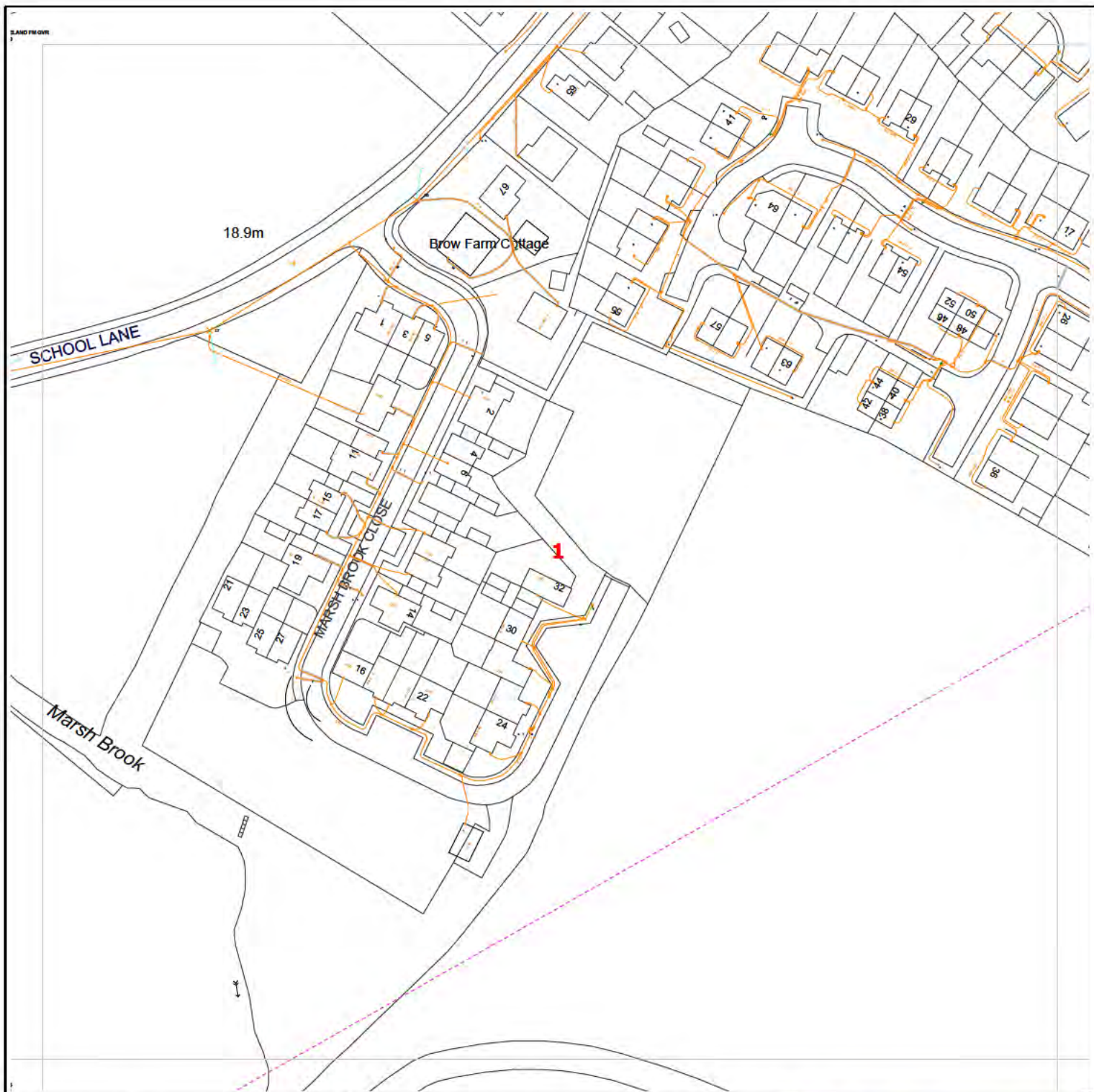
Unless otherwise indicated the depth of Electricity North West Limited cables are in accordance with NUIG (450mm for Low Voltage & 600mm for 11kV cables) 33kV and 132kV cables are laid at depths as marked. The depth and positions of Electricity North West Limited equipment was accurate as shown when the equipment was installed. However third parties may have altered the level & other reference data. Therefore Electricity North West Limited accept no responsibility for the position of Electricity North West Limited equipment being different from shown. No person, body or company, shall be relieved from liability for damage caused to Electricity North West Limited equipment by reason of being located differently to the indications on this drawing. Service cables are not necessarily shown but must be assumed to exist to all premises, streetlights and signs. There may be other Electricity North West Limited apparatus in the vicinity which is not indicated on the cable records. Other apparatus may also be present which is owned by a third party other than Electricity North West Limited.

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Reference should be made to HSE Guidance, HS(G)47 "Avoiding Danger from Underground Services" and GS6 "Avoidance of Danger from Overhead Power Lines".

Electricity North West Limited 304 Bridgewater Place, Birchwood Park, Warrington WA3 6XG. Registered in England and Wales. Registered No 02366949

Scales on A4 paper:
 1:1250 Area dig site
 1:250 Line dig site



Requested by: Shepherd Gilmour
 Company: Shepherd Gilmour Infrastructure L
 Date Requested: 08/08/2017
 Job Reference: 10979080
 Your Scheme/Reference: Land at Hollins Gre

Operating Voltage	Colour Code	Line Colour
132kV	Black	
33kV	Green	
22kV-25kV	Yellow	
11kV	Red	
6kV-6.6kV	Blue	
1kV-6kV	Violet	
LV	Orange	
Unknown Voltage	Brown	



Dig Sites:
 Area Line

Data Management
 Electricity North West
 Linley House
 Dickinson Street
 Manchester, M1 4LF
 Phone: 0800 195 4141
 Email: planrequest@enwl.co.uk

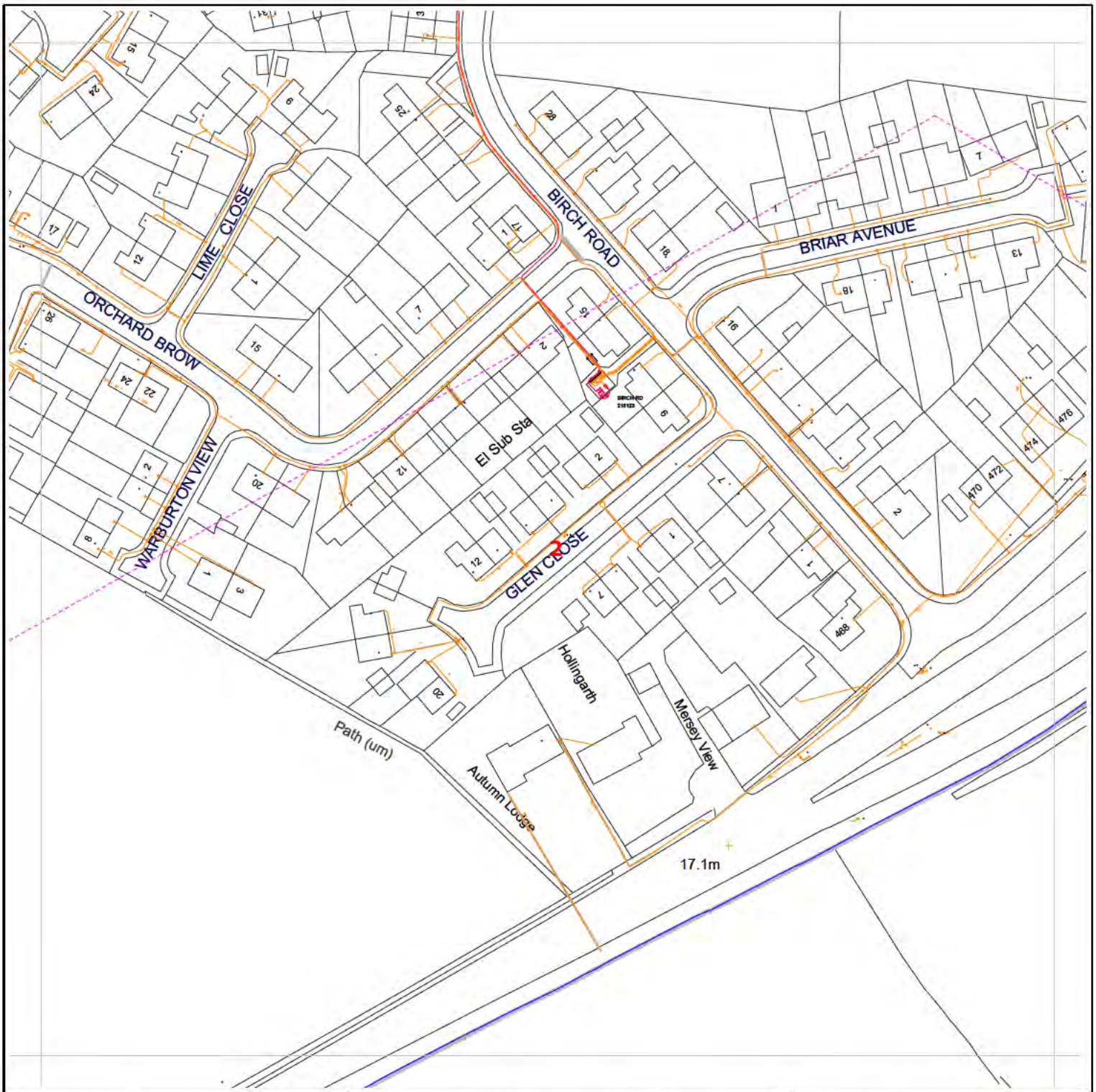
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Scales on A4 paper:
 1:1250 Area dig site
 1:250 Line dig site



Requested by: Shepherd Gilmour
 Company: Shepherd Gilmour Infrastructure L
 Date Requested: 08/08/2017
 Job Reference: 10979080
 Your Scheme/Reference: Land at Hollins Gre

Dig Sites:
 Area  Line 

Operating Voltage	Colour Code	Line Colour
132kV	Black	
33kV	Green	
22kV-25kV	Yellow	
11kV	Red	
6kV-6.6kV	Blue	
1kV-6kV	Violet	
LV	Orange	
Unknown Voltage	Brown	



Data Management
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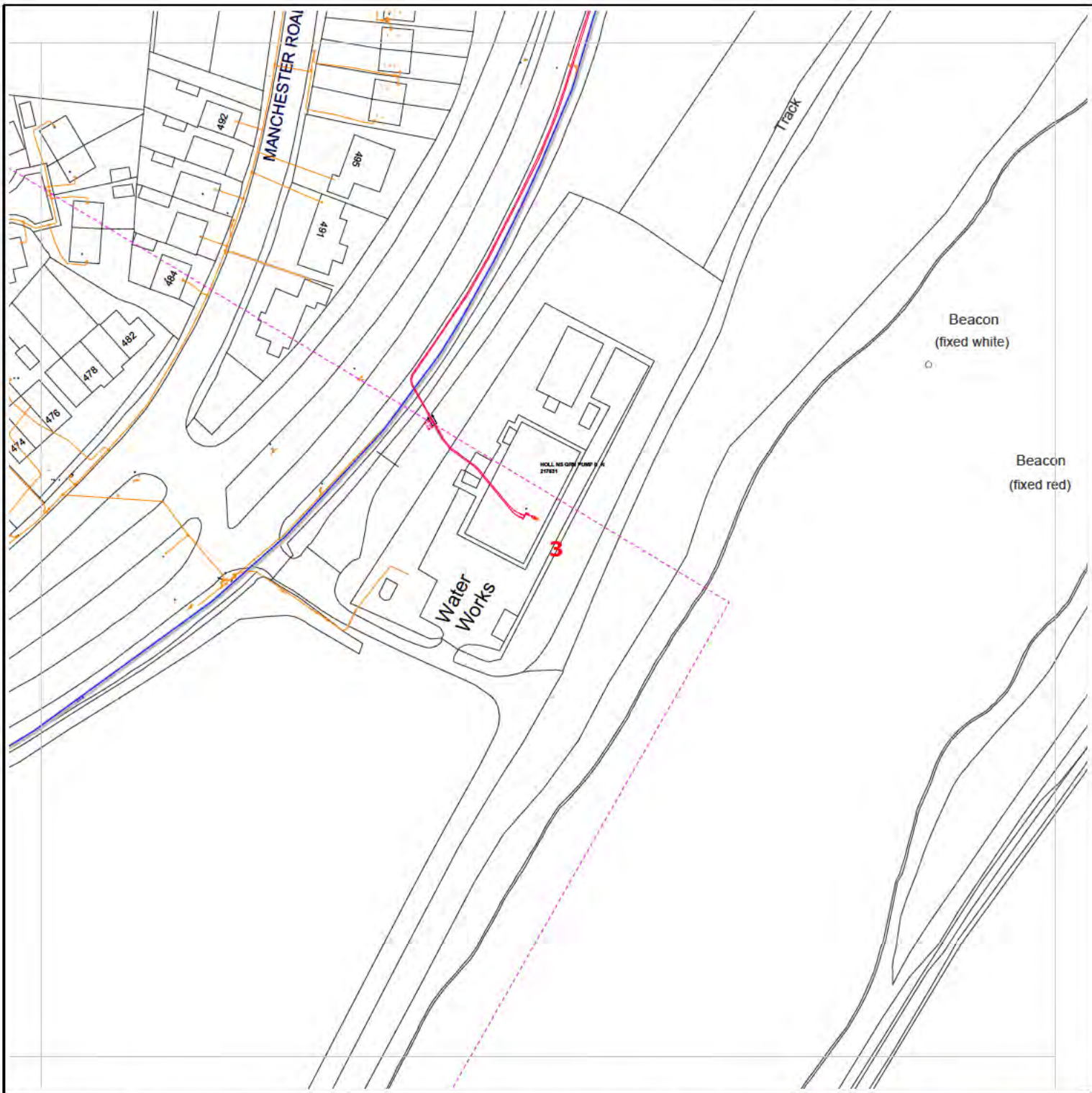
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 Job Reference: 10979080
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Unknown Voltage	Brown	



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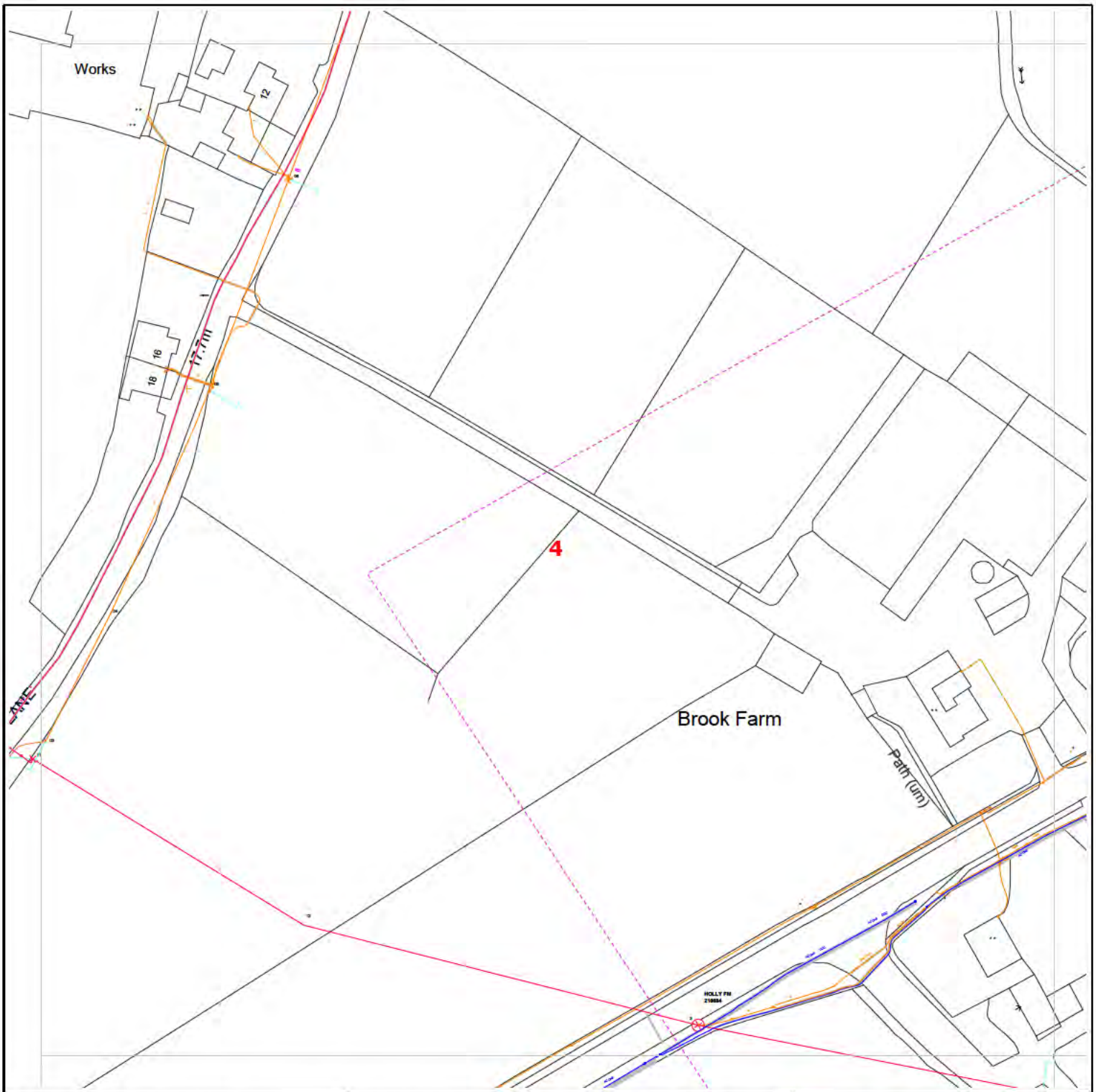
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 Job Reference: 10979080
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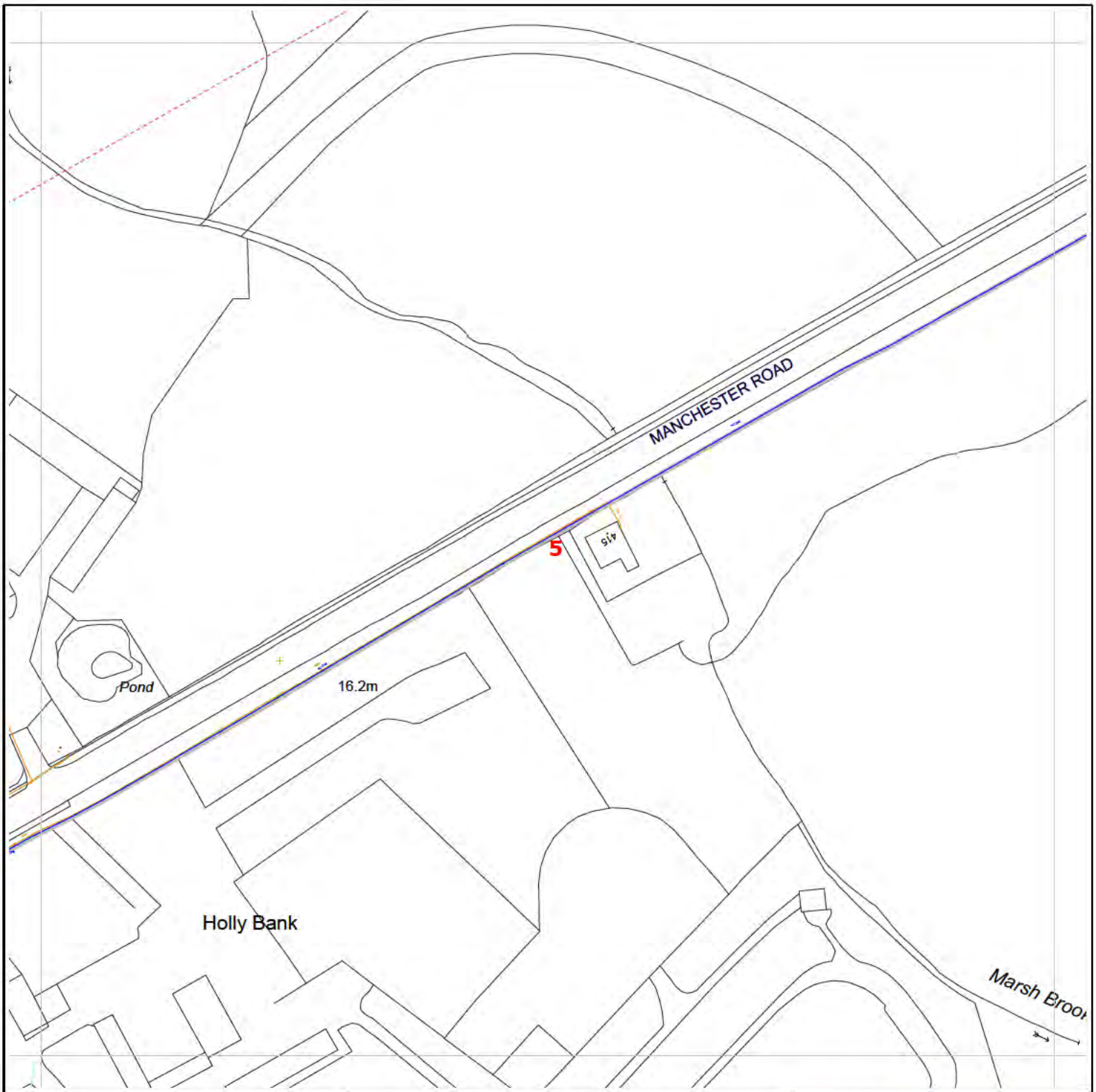
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Requested by: Shepherd Gilmour
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 Job Reference: 10979080
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Operating Voltage	Colour Code	Line Colour
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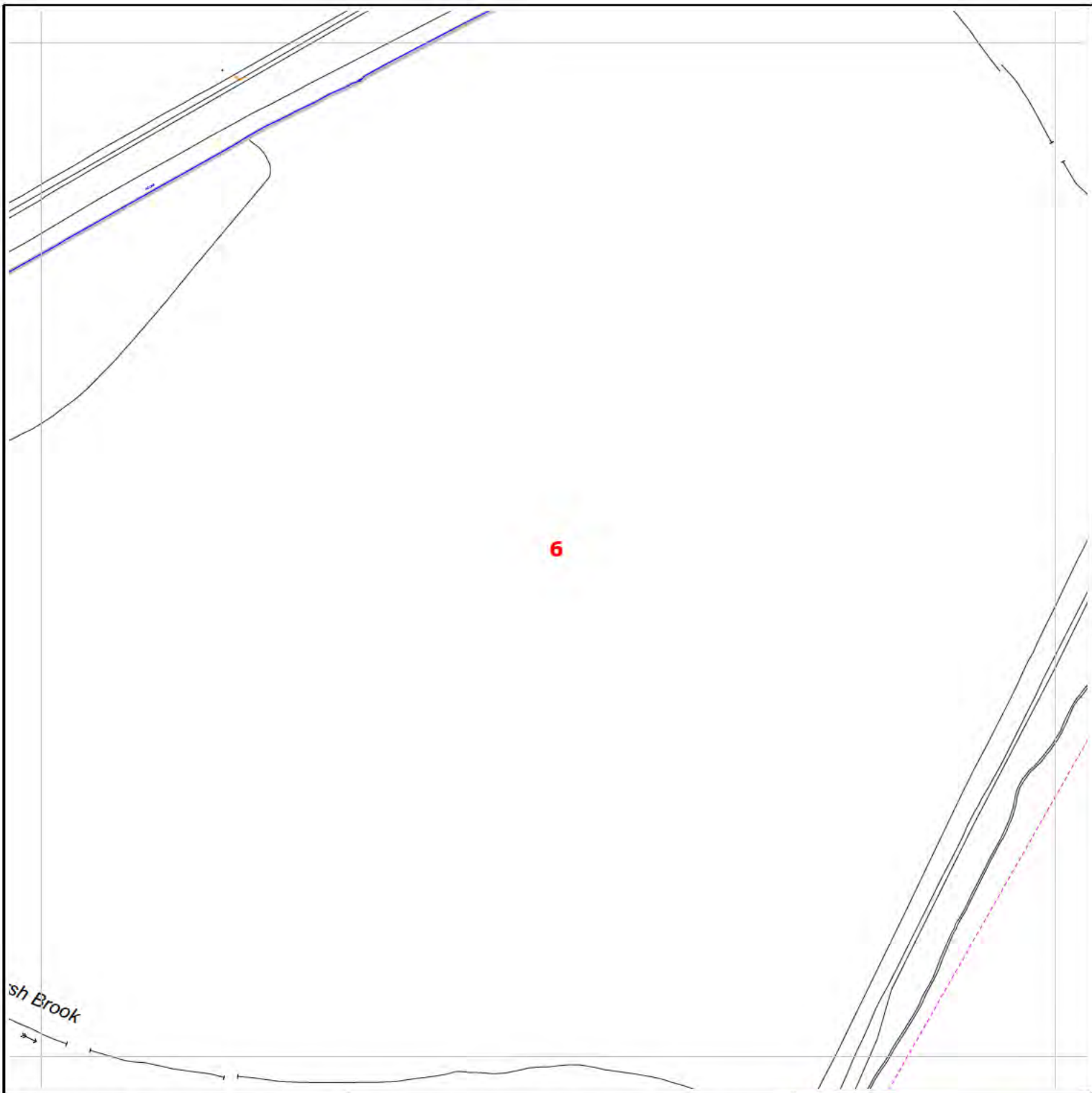
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 Company: Shepherd Gilmour Infrastructure L
 Date Requested: 08/08/2017
 Job Reference: 10979080
 Your Scheme/Reference: Land at Hollins Gre

Dig Sites:
 Area  Line 

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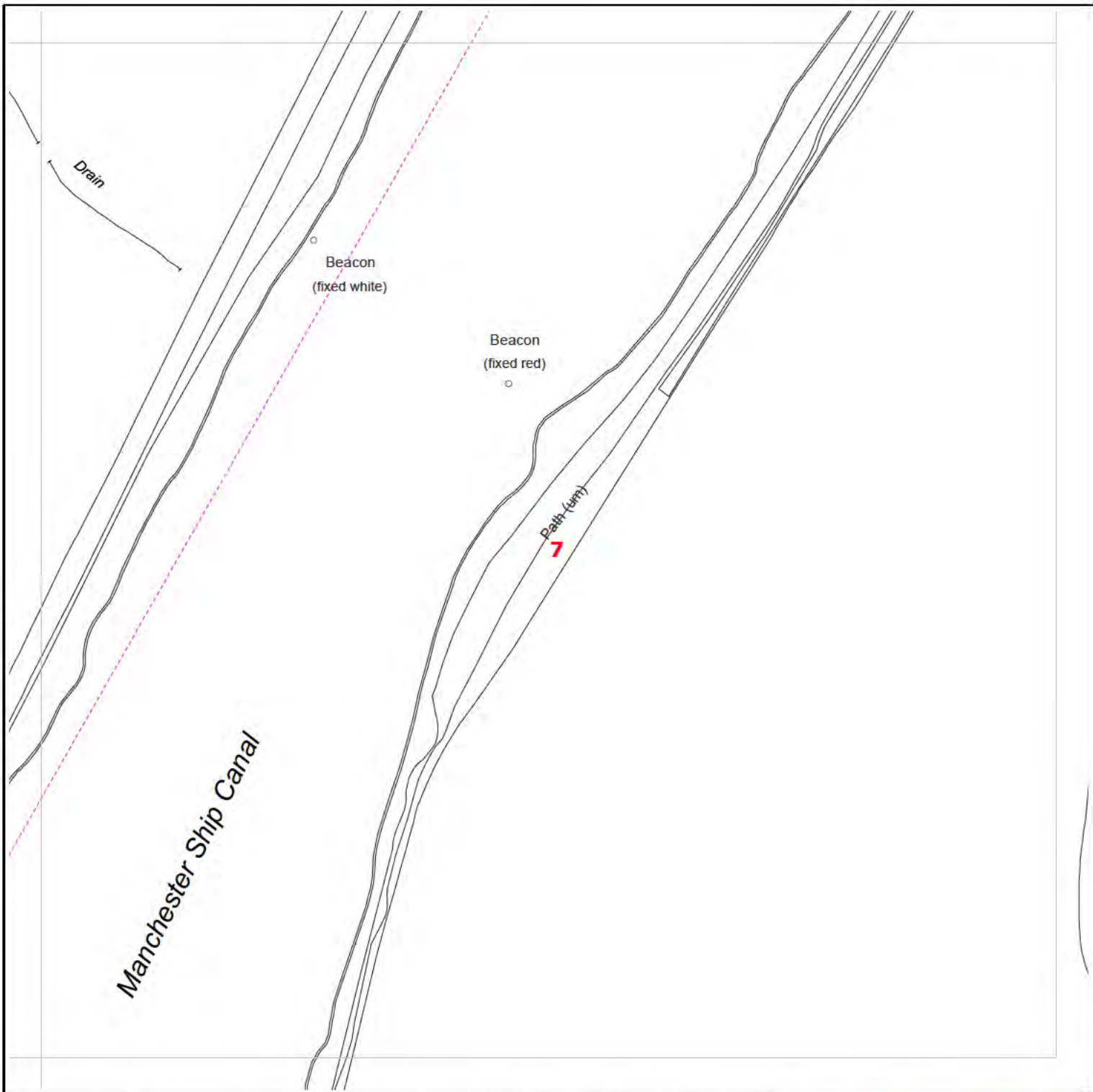
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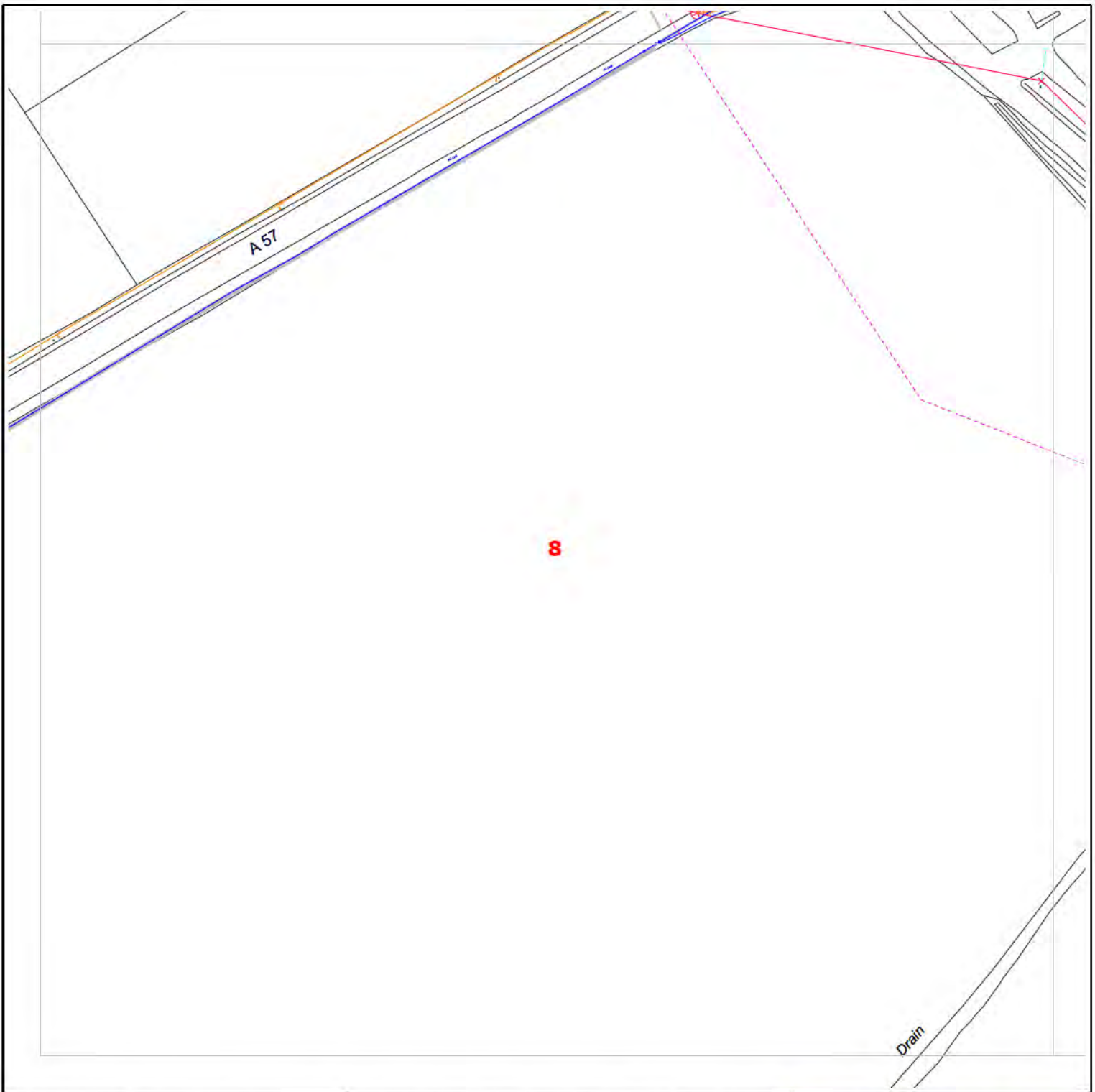
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 Date Requested: 08/08/2017
 Job Reference: 10979080
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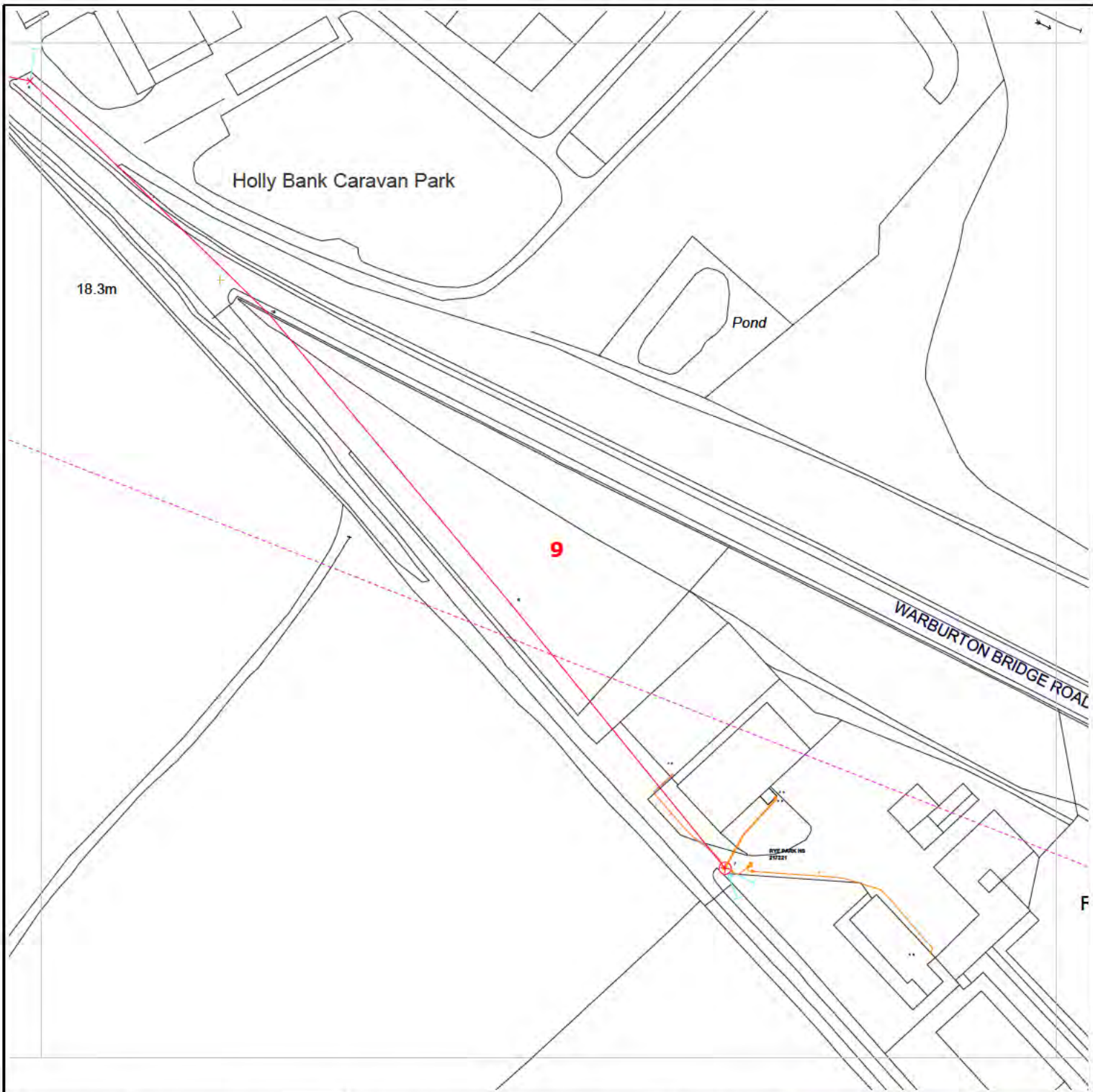
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Operating Voltage	Colour Code	Line Colour
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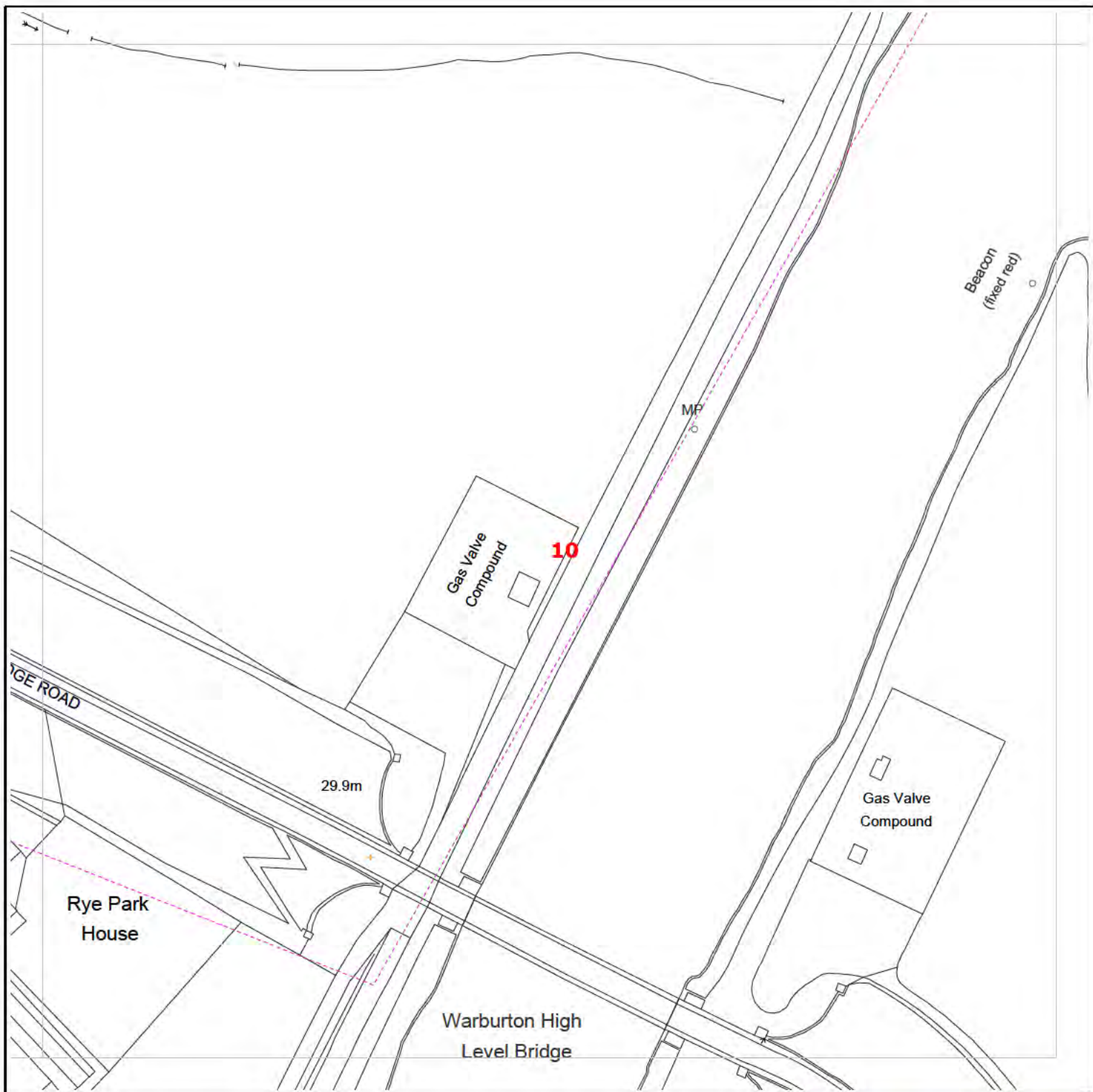
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Scales on A4 paper:
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The position and depths of underground and overhead apparatus as indicated on this plan are approximate and are intended for guidance only. The depths may have changed if the land surface levels have altered. You are also informed that the plan may not show, or may inaccurately show, individual property services and services to street lighting installations. The onus of locating the apparatus precisely before commencing any excavations or other works in the immediate vicinity therefore rests entirely upon the person undertaking or responsible for those works. Before any such works are undertaken the precise location of the apparatus and cables should therefore be ascertained by suitable means. In the event of an emergency or for further assistance please contact 0800-002-0290 (ScottishPower area) or 0800-001-5400 (SP Manweb area).

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SP ENERGY NETWORKS
On behalf of SP Manweb plc

SP Manweb plc
Registered Office: c/o PowerSystems
3 Prenton Way, Prenton, CH43 3ET
Registered in England and Wales No 2386937

OVERHEAD LINE	-----
UNDERGROUND CABLES	-----
In Use	-----
Out of Use	-----
Assumed route	-----
VOLTAGE COLOUR KEY	
EHV	132kV BLUE
HV	33kV GREEN
LV	RED BROWN

Where cables have been laid SINCE 1 OCTOBER 1988, the following depths in mm apply (to the tops of cables or ducts) UNLESS OTHERWISE SHOWN, but see comments. (TO TOP OF CABLE, ADD 75mm FOR BOTTOM OF TRENCH)

	EHV	HV	LV
IN FOOTPATHS	775	600	450
ACROSS ROADS	775	700	600
ALONG ROADS	775	700	600
AGRICULTURAL	910	910	910

Your attention is drawn to the Health and Safety Executive Booklet HSG47, available from HSE.

DATE: 15/09/2017

SCALE: 1 : 2,500

MAP REFERENCE: 369,517 390,503

0 5 10 20 30 40 Metres



Shepherd Gilmour
Consulting Engineers

Colchester House, 40 Peter Street, Manchester M2 5GP

(44)0161 837 1500

www.shepherd-gilmour.co.uk

APPENDIX E

Maps by email Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy.

It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.



openreach
BT

CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

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KEY TO BT SYMBOLS

DP		Pole	
Planned DP		Planned Pole	
PCP		Joint Box	
Planned PCP		Change Of State	
Built		Split Coupling	
Planned		Duct Tee	
Inferred		Planned Box	
Building		Manhole	
Kiosk		Planned Manhole	
Hatchings		Cabinet	
		Planned Cabinet	

Other proposed plant is shown using dashed lines.
BT Symbols not listed above may be disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation

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a BT Group business



BT Ref : EJ110503A

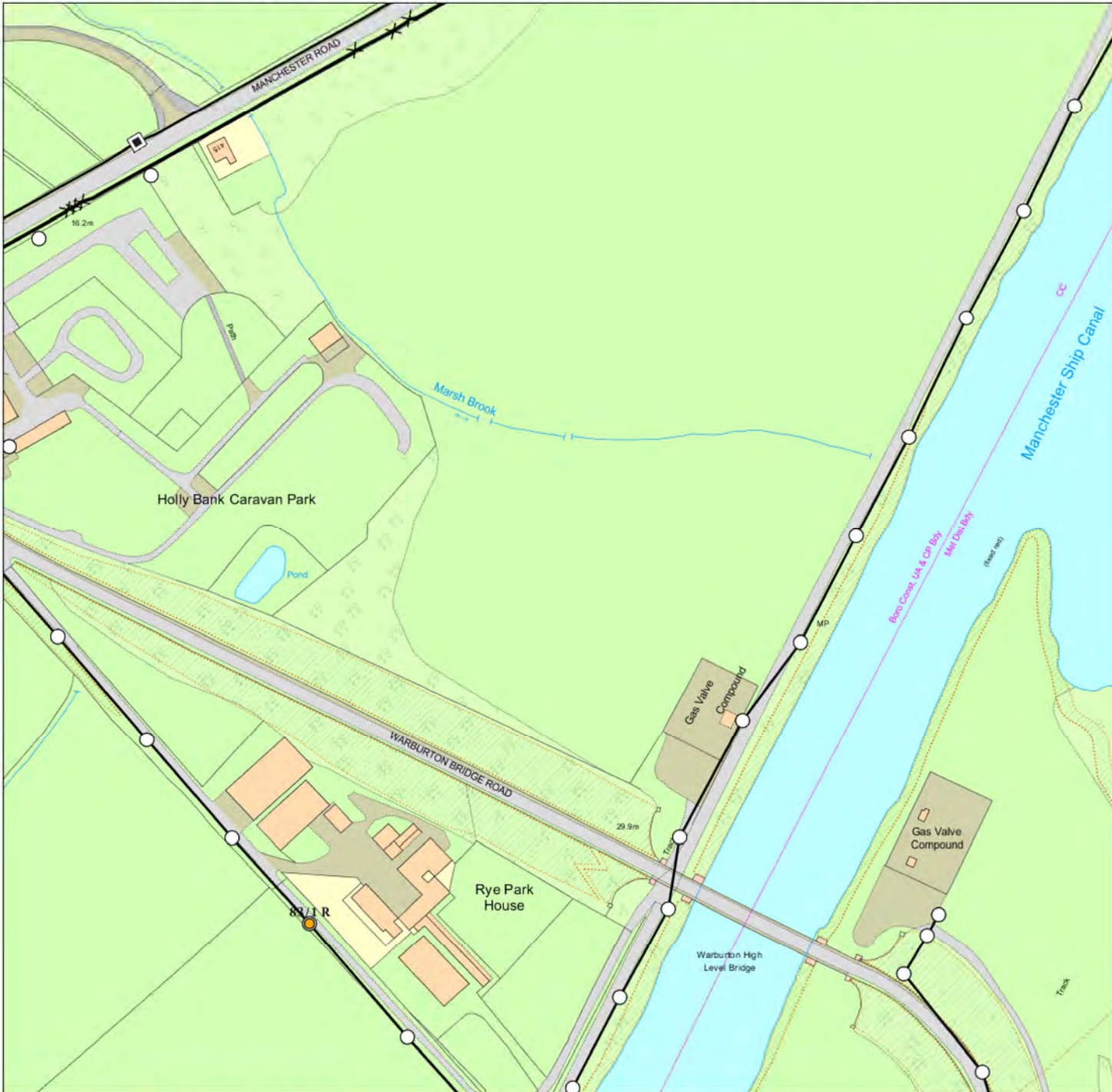
Map Reference : (centre) SJ69378905 14

Easting/Northing : (centre) 369378,3905

Issued : 08/08/2017 10:50:25

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Maps by email Plant Information Reply



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openreach
BT

CLICK BEFORE YOU DIG

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email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
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www.openreach.co.uk/cbyd

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KEY TO BT SYMBOLS

DP		Pole	
Planned DP		Planned Pole	
PCP		Joint Box	
Planned PCP		Change Of State	
Built		Split Coupling	
Planned		Duct Tee	
Inferred		Planned Box	
Building		Manhole	
Kiosk		Planned Manhole	
Hatchings		Cabinet	
		Planned Cabinet	

Other proposed plant is shown using dashed lines.
BT Symbols not listed above may be disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation

openreach
a BT Group business



BT Ref : WXG11038Y

Map Reference : (centre) SJ6949490342

Easting/Northing : (centre) 369494,390342

Issued : 08/08/2017 11:03:28

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

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openreach
BT

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FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
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KEY TO BT SYMBOLS

DP		Pole	
Planned DP		Planned Pole	
PCP		Joint Box	
Planned PCP		Change Of State	
Built		Split Coupling	
Planned		Duct Tee	
Inferred		Planned Box	
Building		Manhole	
Kiosk		Planned Manhole	
Hatchings		Cabinet	
		Planned Cabinet	

Other proposed plant is shown using dashed lines.
BT Symbols not listed above maybe disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation

openreach
a BT Group business

BT Ref : CIM11057C

Map Reference : (centre) SJ6969190570

Easting/Northing : (centre) 369691,390570

Issued : 08/08/2017 11:06:08

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Maps by email Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy.

It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.



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BT

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Kiosk		Planned Manhole	
Hatchings		Cabinet	
		Planned Cabinet	

Other proposed plant is shown using dashed lines.
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Information valid at time of preparation

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BT Ref : DFN11063Y

Map Reference : (centre) SJ6955490634

Easting/Northing : (centre) 369554,390634

Issued : 08/08/2017 11:07:05

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Shepherd Gilmour
Consulting Engineers

Colchester House, 40 Peter Street, Manchester M2 5GP

(44)0161 837 1500

www.shepherd-gilmour.co.uk

APPENDIX F



Your Gas Network

Shepherd Gilmour Infrastructure
4th Floor Colchester House
40 Peter Street
Manchester
Manchester
Greater Manchester
M2 5GP

Date: 09/08/2017

Our Ref: NW_TW_Z1_3SWX_353081

Your Ref: Land at Hollins Green

RE: Proposed Works, Land at Hollins Green, Warrington

Thank you for your enquiry which was received on 08/08/2017.
Please note this response and any attached map(s) are valid for 28 days.

An assessment has been carried out with respect to Cadent Gas Ltd, National Grid Electricity Transmission plc's and National Grid Gas plc's apparatus. Please note it does not cover the items listed in the section "Your Responsibilities and Obligations", including gas service pipes and related apparatus.
For details of Network areas please see the Cadent website (<http://cadentgas.com/Digging-safely/Dial-before-you-dig>) or the enclosed documentation.

As your works are at a "proposed" stage, any maps and guidance provided are for information purposes only. This is not approval to commence work. You must submit a "Scheduled Works" enquiry at the earliest opportunity and failure to do this may lead to disruption to your plans and works. Plant Protection will endeavour to provide an initial assessment within 14 days of receipt of a Scheduled Works enquiry and dependent on the outcome of this, further consultation may be required.

In any event, for safety and legal reasons, works must not be carried out until a Scheduled Works enquiry has been completed and final response received.

Plant Protection
Cadent
Block 1; Floor 1
Brick Kiln Street
Hinckley
LE10 0NA
E-mail: plantprotection@cadentgas.com
Telephone: +44 (0)800 688588

National Gas Emergency Number:
0800 111 999*

National Grid Electricity Emergency Number:
0800 40 40 90*

* Available 24 hours, 7 days/week.
Calls may be recorded and monitored.

www.cadentgas.com

Your Responsibilities and Obligations

The "Assessment" Section below outlines the detailed requirements that must be followed when planning or undertaking your scheduled activities at this location.

It is your responsibility to ensure that the information you have submitted is accurate and that all relevant documents including links are provided to all persons (either direct labour or contractors) working for you near Cadent and/or National Grid's apparatus, e.g. as contained within the Construction (Design and Management) Regulations.

This assessment solely relates to Cadent Gas Ltd, National Grid Electricity Transmission plc (NGET) and National Grid Gas plc (NGG) and apparatus. This assessment does **NOT** include:

- Cadent and/or National Grid's legal interest (easements or wayleaves) in the land which restricts activity in proximity to Cadent and/or National Grid's assets in private land. You must obtain details of any such restrictions from the landowner in the first instance and if in doubt contact Plant Protection.
- Gas service pipes and related apparatus
- Recently installed apparatus
- Apparatus owned by other organisations, e.g. other gas distribution operators, local electricity companies, other utilities, etc.

It is **YOUR** responsibility to take into account whether the items listed above may be present and if they could be affected by your proposed activities. Further "Essential Guidance" in respect of these items can be found on the National Grid Website (<http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=8589934982>).

This communication does not constitute any formal agreement or consent for any proposed development work; either generally or with regard to Cadent and/or National Grid's easements or wayleaves nor any planning or building regulations applications.

Cadent Gas Ltd, NGG and NGET or their agents, servants or contractors do not accept any liability for any losses arising under or in connection with this information. This limit on liability applies to all and any claims in contract, tort (including negligence), misrepresentation (excluding fraudulent misrepresentation), breach of statutory duty or otherwise. This limit on liability does not exclude or restrict liability where prohibited by the law nor does it supersede the express terms of any related agreements.

If you require further assistance please contact the Plant Protection team via e-mail ([click here](#)) or via the contact details at the top of this response.

Yours faithfully

Plant Protection Team

ASSESSMENT

Affected Apparatus

The apparatus that has been identified as being in the vicinity of your proposed works is:

- High or Intermediate pressure (above 2 bar) Gas Pipelines and associated equipment
- Low or Medium pressure (below 2 bar) gas pipes and associated equipment. (As a result it is highly likely that there are gas services and associated apparatus in the vicinity)

Requirements

BEFORE carrying out any work you must:

- Carefully read these requirements including the attached guidance documents and maps showing the location of apparatus.
- Contact the landowner and ensure any proposed works in private land do not infringe Cadent and/or National Grid's legal rights (i.e. easements or wayleaves). If the works are in the road or footpath the relevant local authority should be contacted.
- Ensure that all persons, including direct labour and contractors, working for you on or near Cadent and/or National Grid's apparatus follow the requirements of the HSE Guidance Notes HSG47 - 'Avoiding Danger from Underground Services' and GS6 – 'Avoidance of danger from overhead electric power lines'. This guidance can be downloaded free of charge at <http://www.hse.gov.uk>
- In line with the above guidance, verify and establish the actual position of mains, pipes, cables, services and other apparatus on site before any activities are undertaken.

GUIDANCE

High Pressure Gas Pipelines Guidance:

If working in the vicinity of a high pressure gas pipeline the following document must be followed: 'Specification for Safe Working in the Vicinity of Cadent and/or National Grid High Pressure Gas Pipelines and Associated Installations - Requirements for Third Parties' (SSW22). This can be obtained from:
<http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=33968>

Dial Before You Dig Pipelines Guidance:

<http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=33969>

Excavating Safely - Avoiding injury when working near gas pipes:

http://www.nationalgrid.com/NR/rdonlyres/2D2EEA97-B213-459C-9A26-18361C6E0B0D/25249/Digsafe_leaflet3e2finalamends061207.pdf

Standard Guidance

Essential Guidance document:

<http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=8589934982>

General Guidance document:

<http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=35103>

Excavating Safely in the vicinity of gas pipes guidance (Credit card):

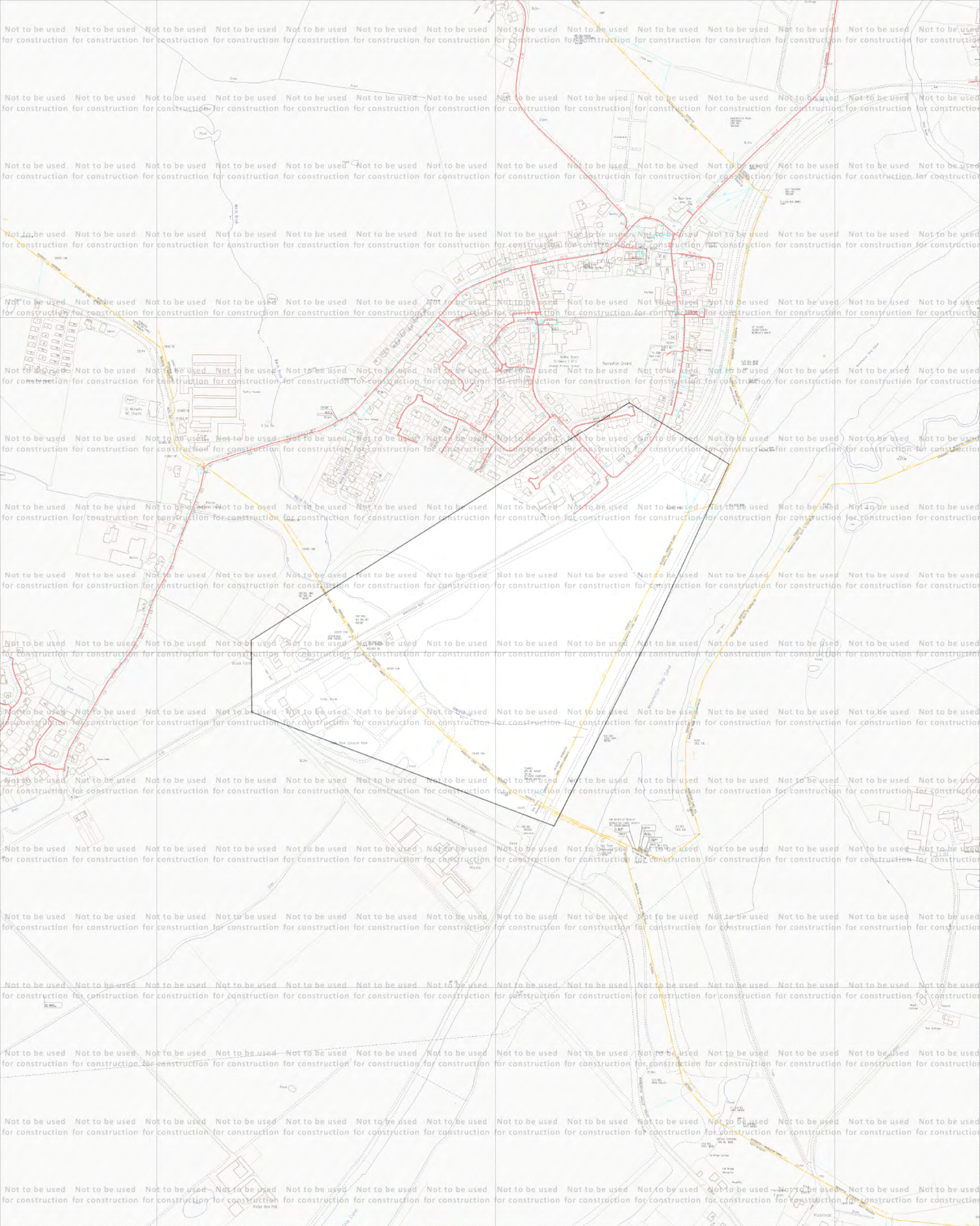
<http://www.nationalgrid.com/NR/rdonlyres/A3D37677-6641-476C-9DDA-E89949052829/44257/ExcavatingSafelyCreditCard.pdf>

Excavating Safely in the vicinity of electricity cables guidance (Credit card):

<http://www.nationalgrid.com/NR/rdonlyres/35DDEC6D-D754-4BA5-AF3C-D607D05A25C2/44858/ExcavatingSafelyCreditCardelectricitycables.pdf>

Copies of all the Guidance Documents can also be downloaded from the National Grid Website:


<http://www.nationalgrid.com/uk/Gas/Safety/work/downloads/>



ID: NW_TW_Z1_3SWX_353081
 USER: [REDACTED]
 DATE: 09/08/2017
 DATA DATE: 06/08/2017
 REF: Land at Hollins Green
 MAP REF: SJ6990
 CENTRE: 369492, 390557

View extent: 1445m, 1835m
 LP MAINS
 MP MAINS
 IP MAINS
 LHP MAINS
 NHP MAINS
 0m 100m
 Approximate scale 1:5000
 on A3 Colour Portrait

Map not to be used for construction
 This plan shows those pipes owned by National Grid Gas plc in its role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc., are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by National Grid Gas plc or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

Map 1 of 1 (GAS)
 MAPS Plot Server Version 1.9.0

 Your Gas Network
 Requested by: Shepherd Gilmour Infrastructure

Some examples of Plant Items:
 Valve, Depth of Cover, Syphon, Diameter Change, Material Change, Out of Standard Service



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ENQUIRY SUMMARY

Received Date

08/08/2017

Your Reference

Land at Hollins Green

Location

Centre Point: 369492, 390557

X Extent: 706

Y Extent: 634

Postcode: WA3 6HY

Location Description: Land at Hollins Green, Warrington

Map Options

Paper Size: A3

Orientation: PORTRAIT

Requested Scale: 2500

Actual Scale: 1:5000 (GAS)

Real World Extents: 1445m x 1835m (GAS)

Recipients

[REDACTED]

Enquirer Details

Organisation Name: Shepherd Gilmour Infrastructure

Contact Name: [REDACTED] [REDACTED]

Email Address: [REDACTED]

Telephone: [REDACTED]

Address: 4th Floor Colchester House, 40 Peter Street, Manchester, Manchester, Greater Manchester, M2 5GP

Description of Works

Currently only in the initial planning stages for potential housing development

Enquiry Type

Proposed Works

Activity Type

Development Project

Work Types

Work Type: Plans Only



Shepherd Gilmour
Consulting Engineers

Colchester House, 40 Peter Street, Manchester M2 5GP

(44)0161 837 1500

www.shepherd-gilmour.co.uk

APPENDIX G

M15 4LZ

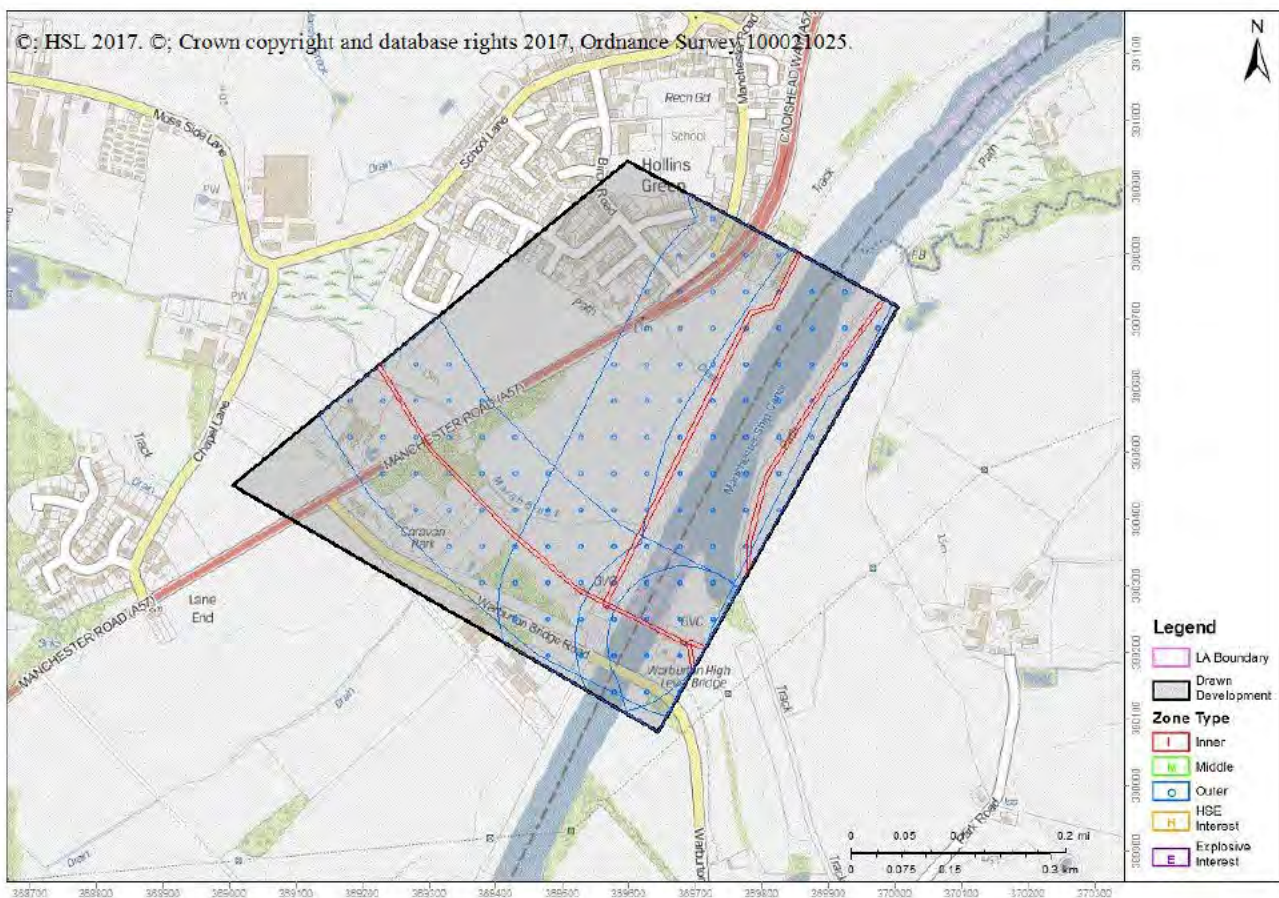
Advice : HSL-170814102609-432 Crosses Consultation Zone

Please enter further details about the proposed development by continuing with the enquiry on the HSE's Planning Advice Web App from the Previous Enquiries tab either now or at a later time, unless the Web App has stopped the process and notified you to contact HSE.

Your Ref: Land at Hollins Green

Development Name:

Comments:



Commercial In Confidence

The proposed development site which you have identified currently lies within the consultation distance (CD) of at least one major hazard site and/or major accident hazard pipeline; HSE needs to be consulted on any developments on this site.

This advice report has been generated using information supplied by [REDACTED] at Shepherd Gilmour Infrastructure on 14 August 2017.

You will also need to contact the pipeline operator as they may have additional constraints on development near their pipeline.

- 6741 1026 Cadent Gas Ltd
- 6742 1027 Cadent Gas Ltd

- 6751 1035 Cadent Gas Ltd
- 6782 1063 Cadent Gas Ltd

HSL/HSE accepts no liability for the accuracy of the pipeline routing data received from a 3rd party. HSE/HSL also accepts no liability if you do not consult with the pipeline operator.

You may wish to contact HSE's Planning Advice team to discuss the above enquiry result on [REDACTED] [REDACTED] or by email [REDACTED]



**Warrington Borough Council Local Plan
Preferred Development Option Regulation 18
Consultation**

**LAND OFF MANCHESTER ROAD, HOLLINS GREEN
TRANSPORT APPRAISAL**

**Client: Peel Investments (North) Ltd
27 September 2017**



2-Transport



**Warrington Borough Council Local Plan
Preferred Development Option Regulation 18
Consultation**

**LAND OFF MANCHESTER ROAD, HOLLINS GREEN
TRANSPORT APPRAISAL**

**Client: Peel Investments (North) Ltd
27 September 2017**

i-Transport LLP
Centurion House
129 Deansgate
Manchester
M3 3WR
Tel: 0161 830 2172
Fax: 0161 830 2173
www.i-transport.co.uk

i-Transport Ref: SEE/dc/ITM13248-001A R

Date: 27 September 2017

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QUALITY MANAGEMENT

Report No.	Comments	Date	Author	Authorised
ITM13248-001R	Draft	13/09/17	██████████	████ █████
ITM13248-001AR	Final	27/09/17	████ █████	████ █████

File ref: Z:\Projects\13248ITM Land at Hollins Green\Admin\Report and Tech Notes\ITM13248-001A Transport Appraisal.docx

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SECTION 1 INTRODUCTION

1.1 Warrington Local Plan Review

1.1.1 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 Preferred Development Option (PDO) and is consulting on this.

1.1.2 WBC's consultation document of July 2017 sets out how the PDO was developed using a four stage process and then summarises the PDO. This identifies 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 PDO is summarised on Figure 9 of the consultation document, identifying the number of new dwellings and quanta of employment floorspace within the various development areas.

1.2 Peel's Land Interests

1.2.1 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. Peel has significant interests in Warrington Borough including at the Waterfront, south west urban extension and in the outlying settlements.

1.2.2 Peel has specific interests in land off Manchester Road at Hollins Green which is capable of delivering up to 235 dwellings.

1.2.3 The main representations prepared by Turley explain how the site can make a significant contribution to meeting the housing needs of Warrington over the plan period.

1.3 Report Structure

1.3.1 This transport appraisal considers the key transport and highways related aspects of the sustainable development proposals at Hollins Green.

1.3.2 The background to the consideration of sites by WBC and the overall policy position, focussing on transport, is set out in Section 2.0. Section 3.0 explains the development proposals. The key ‘tests’ of the National Planning Policy Framework (NPPF) paragraph 32 are then considered: Section 4.0 shows that the site will be accessible and sustainable; Section 5.0 demonstrates how access will be provided to the site; Section 6.0 outlines the broad scale of traffic impacts.

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) A range of facilities and services will be available locally within walking and/or cycling distance in Hollins Green. These include the primary school, post office, public houses and play area. Doctors, dentist and pharmacy in Cadishead can be accessed on foot or by using the 100 bus service. Buses are available to Lymm and Culcheth High Schools and there is a frequent bus service from Hollins Green providing connection to Warrington, Irlam, the Trafford Centre and Manchester. Rail services can be accessed at Irlam with connections to a range of destinations.
- ii) Therefore the development of the site will fully accord with the NPPF objective related to sustainable travel, with opportunities for such modes taken up.
- iii) Access to the site is proposed off Manchester Road and feasibility level design options have been produced and the capacity of these considered. These will operate satisfactorily. Site access is controlled by Peel and is deliverable and achievable. It is therefore also considered that satisfactory access can be provided in accordance with the NPPF.
- iv) The residual cumulative traffic impacts of development on the site will not be severe and therefore, in accordance with NPPF, development should not be prevented on transport grounds.

1.4.2 Overall, it is therefore concluded that the site off Manchester Road at Hollins Green 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 Transport Policy Context

2.1.1 This section considers both national and local policy related to transport and, in particular, how this frames the consideration of development proposals. Policy aspects of WBC's consideration of the PDO and allocation of sites are set out in Section 2.2 below and, where relevant, in Sections 4.0, 5.0 and 6.0 related to accessibility, access and traffic impacts.

National Planning Policy Framework (NPPF)

2.1.2 Paragraph 14 of the NPPF sets out the presumption in favour of sustainable development noting that at plan-making stage, local planning authorities should positively seek opportunities to meet the development needs of an area.

2.1.3 The specific transport policies of the Framework are contained within its Part 4, the section of the document related to Delivering Sustainable development.

2.1.4 Paragraph 32 sets out the key 'tests' for the consideration of the transport aspects of development, stating that:

'All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:

- **the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;**
- **safe and suitable access to the site can be achieved for all people; and**
- **improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.'**

2.1.5 Issues related to the sustainability of the site, access and traffic impacts are set out in Sections 4.0, 5.0 and 6.0 respectively.

2.1.6 Paragraph 30 notes:-

“Encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion. In preparing Local Plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport”

2.1.7 In addition, Paragraph 34 states that:

‘Plans and decisions should ensure developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised.’

2.1.8 These submissions will demonstrate that the proposals will facilitate and maximise the use of sustainable travel modes.

2.1.9 Paragraph 35 considers the location and design of developments, and notes that:

‘Plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people. Therefore, developments should be located and designed where practical to

- **accommodate the efficient delivery of goods and supplies;**
- **give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;**
- **create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones;**
- **incorporate facilities for charging plug-in and other ultra-low emission vehicles; and**
- **consider the needs of people with disabilities by all modes of transport.’**

2.1.10 Paragraph 37 goes on to note:

‘Planning policies should aim for a balance of land uses within their area so that people can be encouraged to minimise journey lengths for employment, shopping, leisure, education and other activities’

2.1.11 The proposals at Hollins Green will be close to the range of facilities and services in Hollins Green village, including primary school, shop, post office and public houses, thus minimising journey lengths. This is considered in Section 4.0.

2.1.12 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 Local Plan

2.1.13 The Core Strategy of the Warrington Local Plan was adopted by the Council in July 2014. Following a legal challenge, parts of the plan related to the housing target and new homes at Omega were overturned. All other policies within the Plan remain unaltered.

2.1.14 Policy CS1 'Overall Spatial Strategy – Delivering Sustainable Development' notes that development proposals that are sustainable will be welcomed. It goes on to note that, to be sustainable, development must accord with national and local planning policy frameworks, taking into account other material considerations, and notes that it must have regard to a range of issues/factors including:-

- “ • **the need to develop sites, services and facilities in appropriate locations accessible by public transport, walking and cycling;**
- **the need to make best use of existing transport, utility, social and environmental infrastructure within settlements, and ensure additional provision where needed to support development.”**

2.1.15 Policy CS2 sets out principles related to the quantity and distribution of development and Policy CS4 Transport notes:

“Using the principles set out in Policy CS2, development will be located to reduce the need to travel, especially by car, and to enable people as far as possible to meet their needs locally.”

2.1.16 Thematic policies related to transport are set out in Section 11 of the Core Strategy 'Making the Place Work' with both objectives and policies defined. The objectives include:

“Objectives

Ensure all new residential development is built in sustainable locations with walking, cycling and public transport access to employment, health, education, leisure facilities and fresh food (Objective T1).

Ensure that any commuting into or out of the borough is as sustainable as possible, making best use of public transport including Strategic Park and Ride facilities and ensuring that transport hubs within the borough are linked to employment areas (Objective T4).

Encourage walking and cycling for both utility and recreation on existing routes by making roads and other routes safer, convenient, and more enjoyable for walking and cycling and increase the functionality of Green Infrastructure to facilitate walking and cycling where appropriate (Objective T6).

Ensure new large scale development and existing development at key locations such as Warrington Hospital and schools are as sustainable as possible and explore demand management measures as part of travel planning to reduce dependence on the private car and improving accessibility to alternative modes of travel, particularly from deprived areas (Objective T7).

Ensure that opportunities are taken to extend and enhance the existing public rights of way network (Objective T10)."

with the General Transport Principles set out in Policy MP1:-

"To secure sustainable development the Council and its partners will support proposals where they:

- **reduce the need for private car use through its location, travel planning and marketing (smarter choices) and other measures to change travel behaviour.**
- **Consider demand management measures including the effective reallocation of road space in favour of public transport, pedestrians and cyclists.**
- **Adhere to locally determined car and cycle parking standards.**
- **Mitigate the impact of development or improve the performance of Warrington's Transport network, including the Strategic Road Network, by delivering the site specific infrastructure which will support the proposed level of development."**

2.1.17 Policy MP3 relates to Active Travel and notes:-

"Active Travel

The Council will expect that a high priority will be given to the needs and safety of pedestrians and cyclists in new development.

New development should not compromise and should contribute to enhancing and developing integrated networks of continuous, attractive and safe routes for walking and cycling including improvements to roads, Rights of Way and the Greenway Network (as shown on the Policies Map). This should include appropriate segregation of users and appropriate priority should be given to users at junctions. Where appropriate the Council will consider the use of conditions or planning obligations to secure such improvements.

Enhancements and improvements should look to increase accessibility and make the most of potential environmental, social and health benefits.

Particular priority will be given to routes linking residential areas (especially those in recognised areas of deprivation) with employment areas, transport interchanges, schools, Warrington hospital and other local services and facilities.”

2.1.18 Policy MP4 considers Public Transport:-

“Public Transport

The Council will aim to secure improvements to public transport infrastructure and services (including bus, rail and taxi/private hire) in partnership with operators and delivery partners.

In accordance with the overall Spatial Strategy, development should be located in areas with easy access to public transport. Development should aim to make public transport a viable and attractive alternative by;

- **Integrating with existing public transport infrastructure and services as far as possible, and**
- **Providing additional public transport infrastructure and services that are reasonably related in scale to the proposed development where existing facilities are not available or are in need of improvement, provided this does not impact on the deliverability of the scheme.**

Where appropriate the Council will consider the use of conditions or planning obligations to secure these improvements.”

2.1.19 These policies are considered throughout this appraisal and are referenced, where appropriate, in Sections 4.0 – 6.0.

2.1.20 The PDO consultation document includes strategic objectives for the Local Plan including:-

“W4 To provide new infrastructure to support Warrington’s growth, reduce congestion and promote sustainable transport options, whilst reducing the need to travel and encourage active lifestyles.”

Warrington Local Transport Plan

2.1.21 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."**

2.1.22 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 **Growth in Outlying Settlements**

2.2.1 Peel's proposals off Manchester Road, Hollins Green comprise the development of up to 235 residential dwellings. The PDO proposes incremental growth in the outlying settlements with only 40 new homes identified at Hollins Green. It is understood this is based on a 10% expansion of the existing settlement.

2.2.2 The four-stage process adopted by the Council to derive the PDO does not appear to take account of any numerical analysis of the transport system that would result in a cap on growth (of 10%) in Hollins Green or the other outlying settlements.

2.2.3 Stage 1 identifies development needs and land requirements and Stage 2 sets the objectives for the Local Plan. Stage 3 assesses high level spatial options with option 3 being extension in one or more settlements with the remainder of the growth adjacent to the main urban area. The Council's 'Area Profiles and Options Assessment' Technical Note (July 2017) states:-

“For the outlying settlements, the Council applied the following assumptions in defining the growth scenarios:

(i) ‘Incremental growth’ – based on a level of development that could be accommodated by existing infrastructure, subject to minor expansion of that infrastructure, up to 10% of settlement size.”

2.2.4 The process adopted, Figure 2 of the PDO document, states that the evidence base for stage 3 included a 'Transport Review'. Further detail is given at 4.46 and 4.47 of PDO document, noting:-

“In order to help inform the options appraisal process, the Council prepared Area Profiles for... each of the outlying settlements” (4.46)

and

“these profiles provide a detailed assessment of the capacity of... the transport network.” (4.47)

2.2.5 Examination of the area profile for Hollins Green includes consideration of the assessment criteria for objective W4, noting:

“Local Highways Network. Peak hour congestion on A57 at Warburton bridge junction. No current planned local highways improvements.”

Other criteria related to the strategic highways network, public transport and active travel do not raise detailed constraints, albeit the profile does note that the nearest rail stations are Glazebrook or Irlam and that active travel to work is generally low.

2.2.6 It is understood that the transport review did not include any quantitative analysis. No analysis of the capacity of the existing transport system, the impacts of traffic generated by development and the potential to introduce improvements to facilitate growth has been undertaken. Indeed, the PDO notes (5.49) that the development numbers in each settlement will depend on detailed assessment including transport impacts. It is understood this will be undertaken with the Council's new traffic model which is not yet available.

- 2.2.7 Specifically, it is understood no analysis has been undertaken of the A57/Warburton Bridge Road traffic signal controlled junction. Development of only 40 dwellings in the village, as identified in the PDO, will only generate c.20 vehicular trips in each peak hour with less than this using this junction.
- 2.2.8 There is therefore no justification, based on sound evidence of transport capacity, to limit development in Hollins Green (or the other outlying settlements) to an arbitrary 10% increase.
- 2.2.9 This report, which complements the main submissions prepared by Turley, identifies the potential of the site off Manchester Road, Hollins Green to contribute to growth in the borough in a sustainable manner.

SECTION 3 DEVELOPMENT PROPOSALS

3.1 Site Location

- 3.1.1 The site is located south of A57 Manchester Road, just south of the existing built development at Hollins Green. The location of the site is shown on Figure 3.1.
- 3.1.2 The site is broadly triangular shaped and has well defined boundaries: by A57 Manchester Road on its northern side; the Manchester ship canal on its southern side; and Warburton Bridge Road/Hollybank Caravan Park on its western side.
- 3.1.3 The site is c.12 hectares in size and currently comprises agricultural land. The site is designated as Green Belt within the Warrington Unitary Development Plan.

3.2 Masterplan

- 3.2.1 A concept masterplan of the site has been developed by Randall Thorp and is included in the main representations prepared by Turley. The masterplan shows residential development of up to 235 dwellings across the site with landscape buffers around all edges.
- 3.2.2 Access to the site is considered in detail in Section 5.0 below: access will be provided off A57 Manchester Road close to the current edge of built development at Hollins Green. A loop road will then be provided within the site to access parcels of residential development. Footpaths will cross the site.
- 3.2.3 The design and layout of transport corridors within the site will focus on creating places. 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 and 'Living Streets' and will result in streets that are destinations worth visiting. Shared surfaces will be encouraged. Speed limits will be low with an appropriate hierarchy developed, making it the norm to travel slowly within the site. The site will be designed for the mobility impaired with full account taken of 'Inclusive Mobility' requirements.
- 3.2.4 Thus the design philosophy of the masterplan will encourage sustainable travel, contributing to the site forming sustainable development in the context of the NPPF.

SECTION 4 SUSTAINABILITY AND ACCESSIBILITY OF THE SITE**4.1 Overview****4.1.1 Sustainable travel modes will be promoted at the site by:**

- i) Taking advantage of the site's location close to Hollins Green village;
- ii) Maximising opportunities for walking and cycling trips, particularly over shorter distances, and encouraging public transport;
- iii) Encourage commuting trips to Warrington and other destinations to be made by bus; and
- iv) Mitigate the impacts of residual car borne trips by the introduction of highways mitigation improvements where absolutely necessary.

4.1.2 Measures for encouraging walking, cycling and public transport including those to be included in a Travel Plan are included in Sections 4.2 – 4.4 with the locational characteristics of the site and existing sustainable travel provision also set out. The accessibility of the site is then considered in Section 4.5.

4.2 Local Connectivity of the Site

4.2.1 As noted above, the sites lies immediately adjacent to the existing built development within Hollins Green village thus affording the opportunity to make direct and high quality connections. A pedestrian crossing facility of A57 will be included in the site access proposals. The streets in Hollins Green have footways and the site can connect to these, providing easy pedestrian access to the facilities within the village, and are lightly trafficked and suitable for cycling.

4.2.2 Improvements to the pedestrian/cyclist environment will be investigated in detail and, where appropriate, implemented in line with development coming forward. At this stage it is envisaged these could include: the provision of a crossing of A57; where possible within the highway, the widening of the footway along the northern side of Manchester Road between the site access and Mersey View; and footway improvements in Hollins Green village such as dropped kerbs at crossing points. These will be complemented by measures included in the Travel Plan for the site (see Section 4.4 below).

4.2.3 The location of the site close to the every-day facilities in Hollins Green village will afford an opportunity to focus movement on slow modes of travel and thereby reduce car use.

4.3 Availability of Public Transport

4.3.1 There are existing bus routes and services in the vicinity of the site as summarised in the table below.

Table 4.1 Existing Bus Services

Service No.	Route / Destinations Served	Frequency					
		Mon – Fri		Saturday		Sunday	
		Day	Eve	Day	Eve	Day	Eve
100 ¹	Warrington – Hollins Green – Cadishead – Irlam – Trafford Centre – Eccles – Manchester	30	60	30	60	60	60
192	Rixton – Culcheth – Croft – Birchwood	1 service					

¹from The Black Swan

4.3.2 Thus these are half-hourly bus services between Hollins Green at The Black Swan and a range of destinations including Warrington, Irlam, The Trafford Centre, Eccles and Manchester. The service is hourly from the ‘Eagle and Child’ stops closer to the site. The 192 provides additional service to and from Birchwood.

4.3.3 As well as the scheduled bus routes, there are school bus services to Culcheth High School (service 278) and Lymm High School (service 40B).

4.3.4 The closest railway stations to the site are at Glazebrook and Irlam, the latter connected by the 100 bus service which stops on Liverpool Road close to the station.

4.3.5 Further measures to promote bus (and rail) use can be delivered as part of the Travel Plan, see 4.4 below.

4.4 Promoting Sustainable Travel Choices

Overview

4.4.1 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.

Travel Plan Objectives and Targets

4.4.2 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 have been considered at this stage:

- 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 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.

4.4.3 Specific SMART targets will be developed for the plan focusing on two key aspects:

- First, meeting agreed 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 (beyond that which is mitigated) from additional car trips.

4.4.4 Formal monitoring arrangements will be agreed to assess the achievement of objectives and targets on an on-going basis.

Travel Plan Measures

4.4.5 Detailed assessment and evaluation will be undertaken to establish the most appropriate measures for the site should the site be allocated. The size of the site is such that a comprehensive package of initiatives will be needed 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

4.4.6 These will include:

- Travel Plan Co-ordinator: the TPC will be responsible for the overall delivery of the 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

4.4.7 Physical measures, including a crossing of A57 to connect the site with Hollins Green village centre, are considered above. Additional measures 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. The TPC will forge links with cycle shops to arrange discounts on purchases and repairs, if possible.

- Travel voucher: a voucher will be offered to each new household which can be used to purchase equipment or part purchase a bicycle.
- Cycle storage and stands: secure weather protected cycle storage and/or stands will be provided throughout the site.
- School walking bus: funding for the advertising of walking bus schemes and the provision of fluorescent vests for children and walking bus 'drivers', to connect the site with the primary school in Hollins Green.
- Cycling proficiency schemes at the primary school: funded for a period to be agreed with the Council.
- Cycle training: this will be offered to residents who are less confident regarding the use of a bike. The BUG can co-ordinate this.

Measures to Promote Public Transport

4.4.8 Measures to promote the use of buses could include:

- Travel vouchers/travel cards/bus tickets: a monthly bus pass will 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.
- 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

4.4.9 Residents will continue to seek to make some journeys by car but car sharing will be promoted from occupation of the dwellings by the TPC. A bespoke car sharing scheme could be developed or existing car sharing initiatives could be used.

Information and Awareness

4.4.10 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.
- 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 strategic 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.

4.4.11 The TPC and travel plan measures will be funded by the developer and/or their successors in title.

4.4.12 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 MP1 (general transport principles), MP3 (active travel) and MP4 (public transport) of the Core Strategy.

4.5 **Accessibility of the Site**

Overview

4.5.1 Strategic objective W4 of the Local Plan includes the promotion of sustainable travel with the Sustainability Appraisal objectives including those related to reducing the need to travel and enhancing accessibility for essential services and facilities.

4.5.2 Local facilities and services within the vicinity of the site are shown on Figure 4.1 and the distance from the site access to the key destinations in the local area are set out in the table below.

Table 4.2 Distance to Key Facilities and Services

Use	Name	Distance and Mode
Primary School	St Helens C of E Primary School	0.4km – walk
	Cadishead Primary School	3.0km – bus (100)
	Forest Gate Academy, Partington	4.1km - drive
Secondary School	Culcheth High School	7.0km – bus (278)
	Lymm High School	4.9km – bus (40B)
	Irlam & Cadishead College	3.8km – bus (100)
	Broadwalk High School	4.4km – drive
Health	Longfield Lodge Surgery	1.7km – walk or bus (100)
	Longfield Lodge Dental Practice	1.6km – walk or bus (100)
	Lloyds Pharmacy	2.3km – walk or bus (100)
Retail and Leisure	Hollins Green Community Shop	0.4km – walk
	Hollinfare Post Office	0.7km – walk
	Hollins Green Park	0.4km – walk
	Ye Old Red Lion public house	0.3km – walk
	The Black Swan public house	0.6km – walk

Accessibility to Education

- 4.5.3 St Helens Primary School is located in Hollins Green off Birch Road and is within a short walk of the site. The Cadishead Primary School is c.3km distant with pupils and parents able to use the 100 bus service to access the school.
- 4.5.4 There are school buses to both Lymm High School (service 40B) and Culcheth High School (service 278) and Irlam and Cadishead College can be reached by the 100 bus service which travels along Liverpool Road through Irlam, close to the college located on Station Road.
- 4.5.5 The accessibility of the site to education facilities is therefore considered to be excellent.

Accessibility to Health Facilities

- 4.5.6 There are no GP practices or dental practices in Hollins Green but the Longfield Lodge Surgery and Dental Practice are c.1.7km and c.1.6km away respectively in Cadishead. They are within walking distance or both can be accessed using the 100 bus service. Lloyds Pharmacy also in Cadishead is c.2.3km distant and can be reached using the 100 bus service.
- 4.5.7 It is considered that the accessibility of the site to day-to-day health facilities is good.

Accessibility to Retail and Leisure Facilities

- 4.5.8 There is a range of facilities in Hollins Green village which provide for everyday needs and all are located within 0.3km – 0.6km of the site. These include the community shop, Hollinfare Post Office, two public houses and park.
- 4.5.9 Higher-order facilities are further afield in Warrington, at the Trafford Centre and in Manchester and these can be accessed using the regular 100 bus service. This can also be used to reach Irlam railway station where there are onward frequent connections to Birchwood, Warrington, Liverpool and Manchester.
- 4.5.10 The accessibility to local retail and leisure facilities is therefore concluded to be good.

Summary

- 4.5.11 In conclusion, a range of facilities and services will be available locally within walking and/or cycling distance in Hollins Green. These include the primary school, post office, public houses and play area. Doctors, dentist and pharmacy in Cadishead can be accessed on foot or by using the 100 bus service. Buses are available to Lymm and Culcheth High Schools and there is a frequent bus service from Hollins Green providing connection to Warrington, Irlam, the Trafford Centre and Manchester. Rail services can be accessed at Irlam with connections to a range of destinations.
- 4.5.12 It is therefore concluded that the site is sustainable and accessible via a range of travel modes and 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 Access Proposals**

- 5.1.1 A site access off A57 Manchester Road is proposed to serve the development. The site has a long frontage of c.450m onto Manchester Road and therefore there is flexibility in where the site access is located. Once in the site, the access road will form a loop with connections off this to serve residential parcels.
- 5.1.2 Two options for the site access have been considered; a traffic signal controlled junction and a priority junction. Both can be delivered on land wholly under Peel's control.
- 5.1.3 The traffic signal controlled access option is shown on Figure 5.1 (drawing reference ITM13248-GA-002). A right-turn lane is provided and also pedestrian crossing facilities across both the site access arm and Manchester Road, with the latter providing a connection to the footway on the northern side of the main road with onward connections to Hollins Green village.
- 5.1.4 The priority controlled option is shown on Figure 5.2 (drawing reference ITM13248-GA-001). This includes a ghost-island right-turn lane and an auxiliary lane to aid left turn movements into the site. Pedestrian crossing facilities are shown by way of refuge islands with these providing connections to the footway on the northern side of Manchester Road.
- 5.1.5 The access arrangements will be agreed with WBC and will be subject to refinement and road safety audit at the appropriate time. At this stage it is concluded that access is deliverable and therefore achievable.

5.2 Capacity of the Access

- 5.2.1 Limited traffic data is currently available, comprising a DfT count on A57 Manchester Road east of Glazebrook Lane. This only provides an AADT traffic flow which is 13,769 vehicles per day, two-way with 5.6% HGVs. The counter shows that there has been little traffic growth along A57.

- 5.2.2 Peak hour traffic flows have been derived by taking 10% of the AADT flow, which is typical, and also converting to PCUs for use in traffic assessment. The tidality of flows is not known but it is expected that the highest flows are eastbound in the AM peak hour and westbound in the PM peak hour. Therefore two traffic flow scenarios have been considered: 50/50 tidality in the AM and PM peak hours; and 60% eastbound/40% westbound in the AM peak and 40% eastbound/60% westbound in the PM peak.
- 5.2.3 Traffic has been growthed to the 2037 end of plan year using factors from TEMPRO, adjusted to account for the exclusion of land-use related growth. The growth factors are c.10%. These have been used to assess the capacity of the site access junction options on Manchester Road. Development traffic has then been derived using the approach set out in Section 6.0 but noting that the below considers a 'worst case' assessment by assessing 300 dwellings on the site, based on an early version of the masterplan.
- 5.2.4 The results of the traffic capacity assessment of the traffic signal controlled option are given in the table below showing that the junction will operate within capacity

Table 5.4 Manchester Road Site Access Capacity Assessment Results – Traffic Signals

Scenario	Approach Arm	AM Peak Hour		PM Peak Hour	
		DoS	MMQ	DoS	MMQ
50% Eastbound 50% Westbound Both Peak Hours	A57 East	66.8%	14	65.8%	14
	Site Access	60.2%	3	33.3%	1
	A57 West	66.7%	14	66.3%	13
60% Eastbound 40% Westbound – AM Peak 40% Eastbound 60% Westbound – PM Peak	A57 East	51.9%	9	78.4%	19
	Site Access	75.3%	4	33.3%	1
	A57 West	76.9%	19	53.8%	9

- 5.2.5 The results of the capacity assessment of the priority junction site access option off Manchester Road are summarised in the table below.

Table 5.2 Manchester Road Site Access Capacity Assessment Results – Priority Junction

Scenario	Movement	AM Peak Hour		PM Peak Hour	
		Max RFC	Max Queue	Max RFC	Max Queue
50% Eastbound	Site Access Left Turn	0.16	0	0.07	0
50% Westbound	Site Access Right Turn	0.25	0	0.12	0
Both Peak Hours	Manchester Road Right Turn	0.05	0	0.12	0
60% Eastbound 40% Westbound – AM Peak	Site Access Left Turn	0.15	0	0.08	0
	Site Access Right Turn	0.23	0	0.13	0
40% Eastbound 60% Westbound – PM Peak	Manchester Road Right Turn	0.04	0	0.13	0

5.2.6 The assessment results demonstrate that this site access option will operate within capacity and noting that the development generated traffic flows are a worst case.

5.2.7 For both options, the results are considered to represent a worst case as: no allowance has been made to take account of the proximity of local facilities (e.g. schools) or affordable housing and resultant reduced trips from the development; and growth is applied whereas peak hour growth is unlikely. For the priority option, the results are for the peak 'time slice' within the peak hour which may not occur in practice.

Conclusions

5.2.8 It is concluded that the site access will operate within capacity, confirming that satisfactory access to the land off Manchester Road in Hollins Green can be provided in accordance with the NPPF.

SECTION 6 TRAFFIC IMPACTS

6.1 Overview

6.1.1 It is understood the Council has not undertaken any detailed assessment of the potential traffic impacts resulting from development in outlying settlements, including the proposed development off Manchester Road at Hollins Green. It is understood such work will follow once the Council's new transport model is available. Peel is keen to engage with WBC to assess the site and demonstrate how the traffic flows generated by the development can be accommodated on the surrounding highway network.

6.1.2 In the absence of the transport model, this section considers indicative traffic flows likely to be generated by the proposals followed by consideration of the impacts of this traffic in broad terms.

6.2 Development Traffic Flows

6.2.1 Traffic flows have been calculated for a development of 235 residential dwellings.

Trip Generation

6.2.2 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. At this stage, no allowance has been made for lower trip rates associated with affordable housing on the site.

6.2.3 The trip generation rates and the resultant generated traffic flows are shown in the table below for the morning and evening peak hours.

Table 6.1 Land off Manchester Road, Hollins Green – Trip Generation

Peak Hour	Direction	Trip Rate (per unit)	No. Trips
AM Peak	Arrival	0.127	30
	Departure	0.377	89
	Total	0.504	119
PM Peak	Arrival	0.309	73
	Departure	0.164	39
	Total	0.473	112

6.2.4 Thus the development could generate up to c.120 vehicular trips in the peak hours.

- 6.2.5 TEMPRO has been used to identify the potential journey purposes travelled by residents. In the peak periods this identifies for the Hollins Green area:-

Table 6.2 North East Culcheth – Journey Purposes of Car Travel

Trip Purpose	Proportion of Trips	
	AM Peak Period	PM Peak Period
Work	54%	39%
Employer's business	7%	6%
Education	10%	4%
Shopping	16%	20%
Personal business	5%	7%
Recreation/Social	4%	10%
Visiting friends/relatives	2%	11%
Holiday/day trips	2%	3%

- 6.2.6 Considering the above, there is potential for some of the peak hour trips to be made locally and by active travel modes rather than the car e.g. to the school in Hollins Green or the facilities and services within the village. In the AM and PM peak periods, 39% and 55% of trips respectively are made for reasons other than journeys to work or on employer's business.

Trip Distribution and Assignment

- 6.2.7 The potential routes of car trips to and from the site have been derived using 2011 Census journey to work patterns from the local area. This will over-estimate trips on the surrounding highway network as, as noted above, there is potential for journeys to be made locally whereas work related trips tend to be made over longer distances.
- 6.2.8 The Census data shows the following general distribution of trips:

Table 6.3 Hollins Green – Overall Trip Distribution

Destination/District	Proportion of Trips
Warrington Borough	40%
Salford	10%
Trafford	8%
Manchester	7%
Wigan	8%
Halton	4%
Cheshire West & Chester	2%
Cheshire East	2%
Other	19%
Total	100%

6.2.9 Of the trips to ‘other’ destinations, larger proportions are made to the rest of Greater Manchester (5%) and Merseyside (8%).

6.2.10 Trips have been assigned to destinations using the fastest routes based on Google mapping. The resultant destination points on the road network surrounding the site are as follows:

Table 6.4 Hollins Green – Trip Assignment

Location	Proportion
A57 East	32.5%
Warburton Bridge Road	5.5%
M6 South	11.2%
A57 West of M6	20.9%
M6 North	24.6%
Glazebrook Lane	5.4%
Total	100.0%

6.2.11 Indicative development traffic flows are given on Figure 6.1, noting these are considered to be an over-estimate for the reasons set out above.

6.3 Traffic Impacts

6.3.1 The local highway network in the vicinity of the site is shown on Figure 6.2. A57 runs in an east-west direction through Hollins Green, connecting with M6 at Junction 21 c.4km west of Hollins Green and after travelling past Cadishead and Irlam, connecting with M60 at Junction 11. Manchester Road continues west of M6 towards Warrington town centre. Warburton Bridge Road connects with A57 at a traffic signal controlled junction, with this route then providing onward connections towards Lymm, Altrincham and M56 Junction 7. Glazebrook Lane joins A57 at the eastern end of Hollins Green, with this road continuing northwards towards Culcheth and then joining A574 which continues northwards to join A580 East Lancs Road.

6.3.2 In terms of traffic conditions in Hollins Green, WBC’s Settlement Profile notes with respect to the local road network:

“Peak hour congestion on A57 at the Warburton Bridge junction. No current planned local highways improvements.”

6.3.3 It is understood the above is not based on a detailed analysis of the operation of the junction which will need to be undertaken at the appropriate time. Google traffic maps do indicate that there is some delay at the junction.

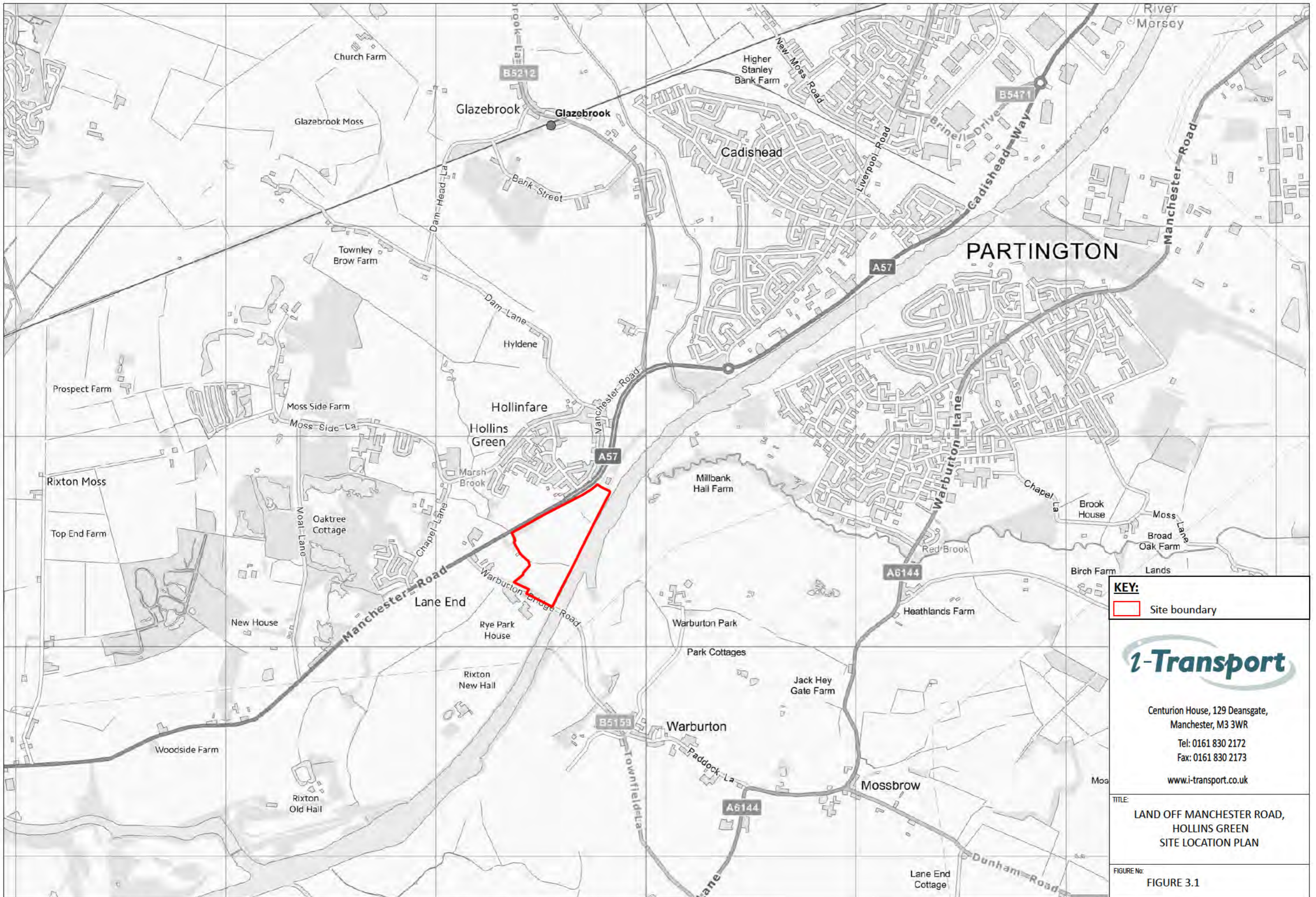
- 6.3.4 The development will generate up to 120 vehicles (two-way) in the peak hours. The indicative traffic flows shown on Figure 6.1 show that traffic to/from the site is likely to be spread to the east and west of the site. Around 75 vehicles per hour could use the A57 Manchester/Warburton Bridge Road junction, with this traffic spread over the three arms at the traffic signals. The development traffic therefore adds one vehicle every 48 seconds to the junction, c.two vehicles every cycle of the traffic signals. It is unlikely that such an increase will result in significant increases in queues and delays.
- 6.3.5 On this basis it is concluded that, in accordance with the NPPF, development should not be prevented on transport grounds as the residual cumulative impacts of development will not be severe.


SECTION 7 CONCLUSIONS

- 7.1 This report has considered the transport and highways implications of Peel's land interests off Manchester Road at Hollins Green. These are capable of accommodating up to 235 new dwellings.
- 7.2 A range of facilities and services will be available locally within walking and/or cycling distance in Hollins Green. These include the primary school, post office, public houses and play area. Doctors, dentist and pharmacy in Cadishead can be accessed on foot or by using the 100 bus service. Buses are available to Lymm and Culcheth High Schools and there is a frequent bus service from Hollins Green providing connection to Warrington, Irlam, the Trafford Centre and Manchester. Rail services can be accessed at Irlam with connections to a range of destinations.
- 7.3 The site will meet the transport related objectives of the Council's Core Strategy as well as its policies related to general transport principles (MP1), active travel (MP3) and public transport (MP4).
- 7.4 It is therefore concluded that the development of the site will fully accord with the NPPF objective related to sustainable travel, with opportunities for such modes taken up.
- 7.5 Access to the site is proposed off Manchester Road and feasibility level designs have been produced and the capacity of these considered. The access will operate satisfactorily. Site access is controlled by Peel and is deliverable and achievable. It is therefore also concluded that satisfactory access can be provided in accordance with the NPPF.
- 7.6 The impacts of the traffic increases as a result of the development will be assessed in detail but generated traffic flows are modest and are not expected to add significant queues and delays to the junction of A57 with Warburton Bridge Road which the Council identify as suffering from some congestion in the peak hours.
- 7.7 On this basis it is concluded that, in accordance with the NPPF, development should not be prevented on transport grounds as the residual cumulative impacts of development will not be severe.

- 7.8 Overall, it is therefore concluded that the site at Hollins Green is suitable for allocation in the Council's Local Plan and will form a sustainable development that can provide much needed housing.

FIGURES



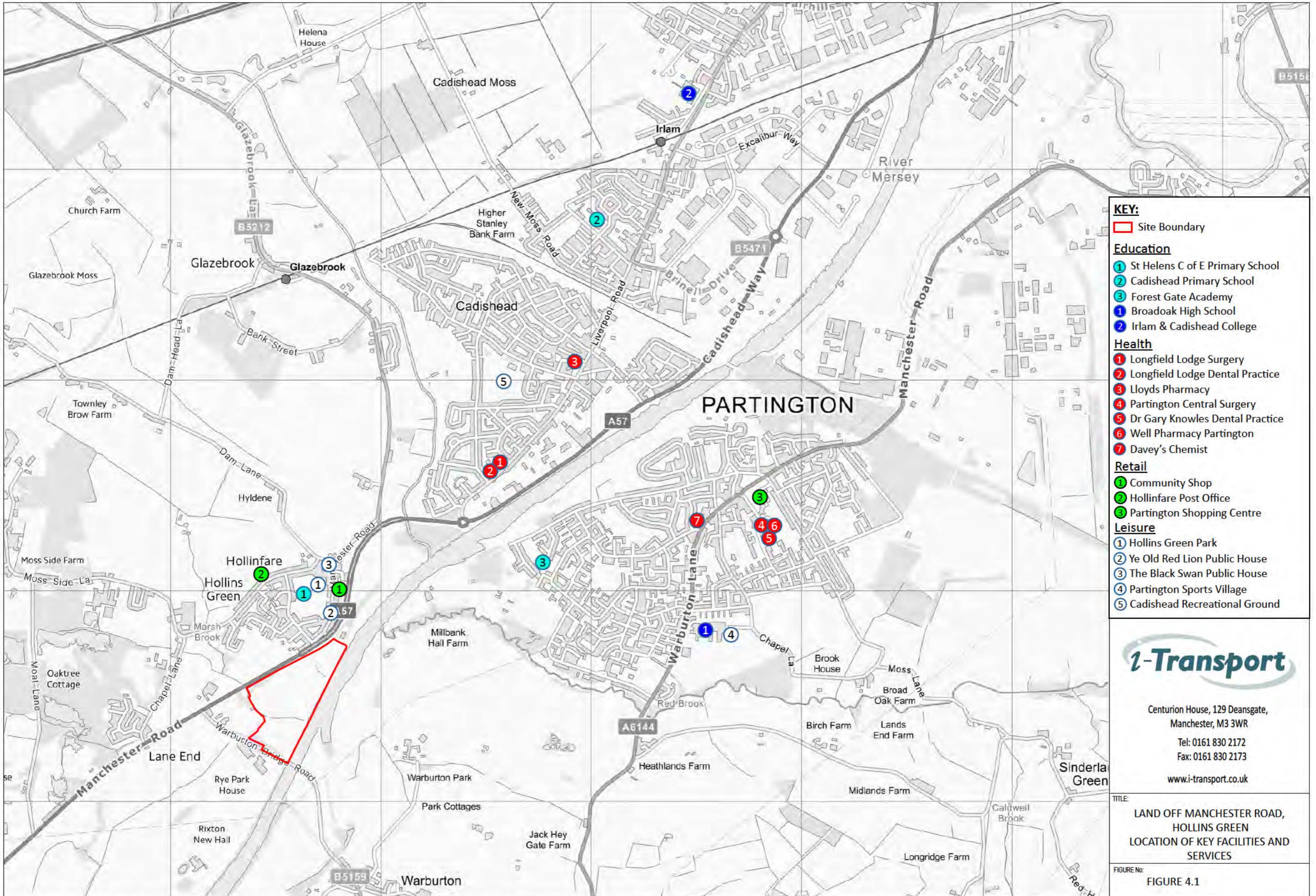
KEY:
 Site boundary



Centurion House, 129 Deansgate,
 Manchester, M3 3WR
 Tel: 0161 830 2172
 Fax: 0161 830 2173
 www.i-transport.co.uk

TITLE:
**LAND OFF MANCHESTER ROAD,
 HOLLINS GREEN
 SITE LOCATION PLAN**

FIGURE No:
FIGURE 3.1



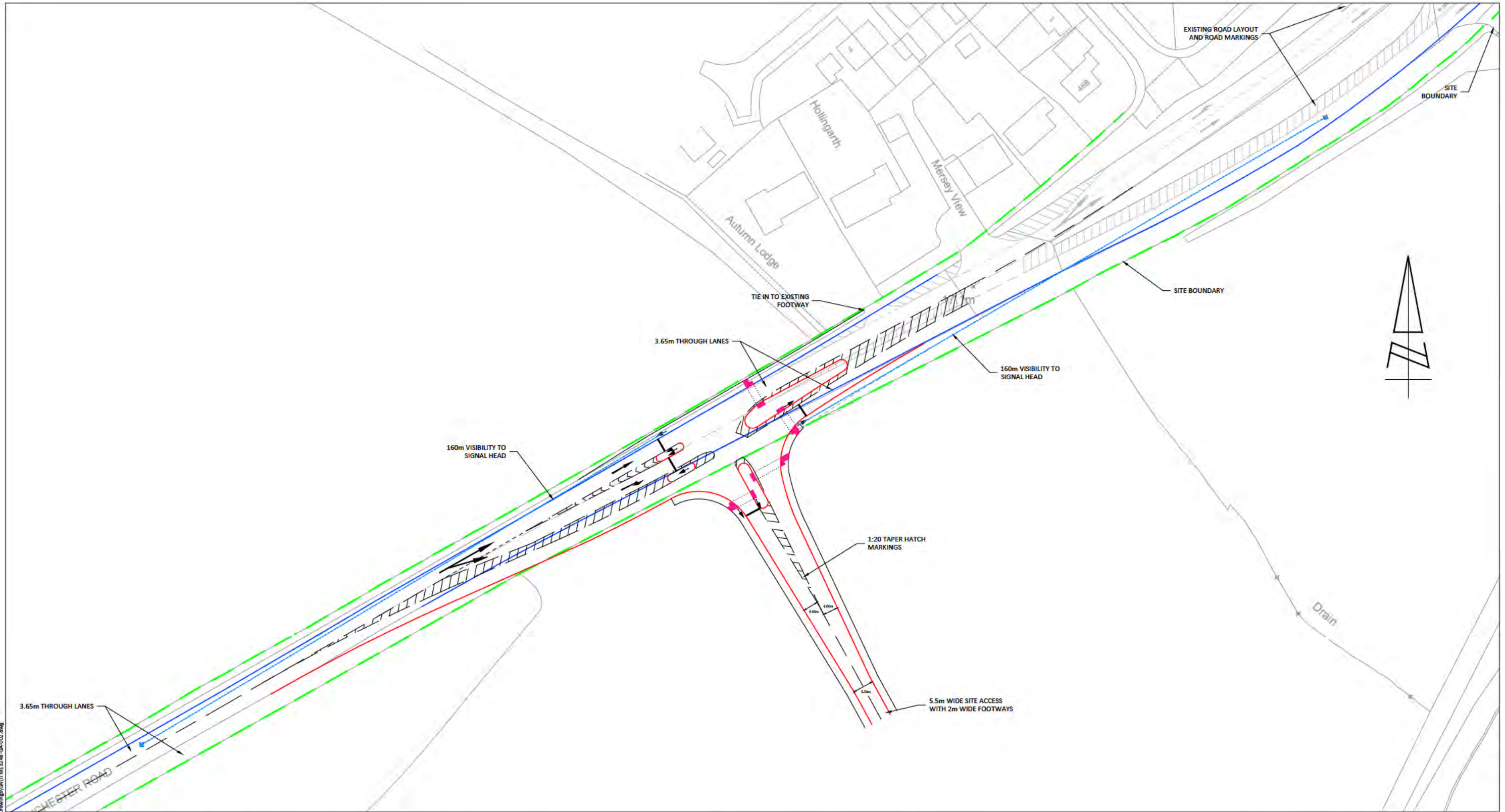
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- Site Boundary
- Education**
- 1 St Helens C of E Primary School
 - 2 Cadishead Primary School
 - 3 Forest Gate Academy
 - 4 Broadoak High School
 - 5 Irlam & Cadishead College
- Health**
- 1 Longfield Lodge Surgery
 - 2 Longfield Lodge Dental Practice
 - 3 Lloyds Pharmacy
 - 4 Partington Central Surgery
 - 5 Dr Gary Knowles Dental Practice
 - 6 Well Pharmacy Partington
 - 7 Davey's Chemist
- Retail**
- 1 Community Shop
 - 2 Hollinfare Post Office
 - 3 Partington Shopping Centre
- Leisure**
- 1 Hollins Green Park
 - 2 Ye Old Red Lion Public House
 - 3 The Black Swan Public House
 - 4 Partington Sports Village
 - 5 Cadishead Recreational Ground



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Fax: 0161 830 2173
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TITLE:
**LAND OFF MANCHESTER ROAD,
HOLLINS GREEN
LOCATION OF KEY FACILITIES AND
SERVICES**

FIGURE No:
FIGURE 4.1



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— HIGHWAY BOUNDARY

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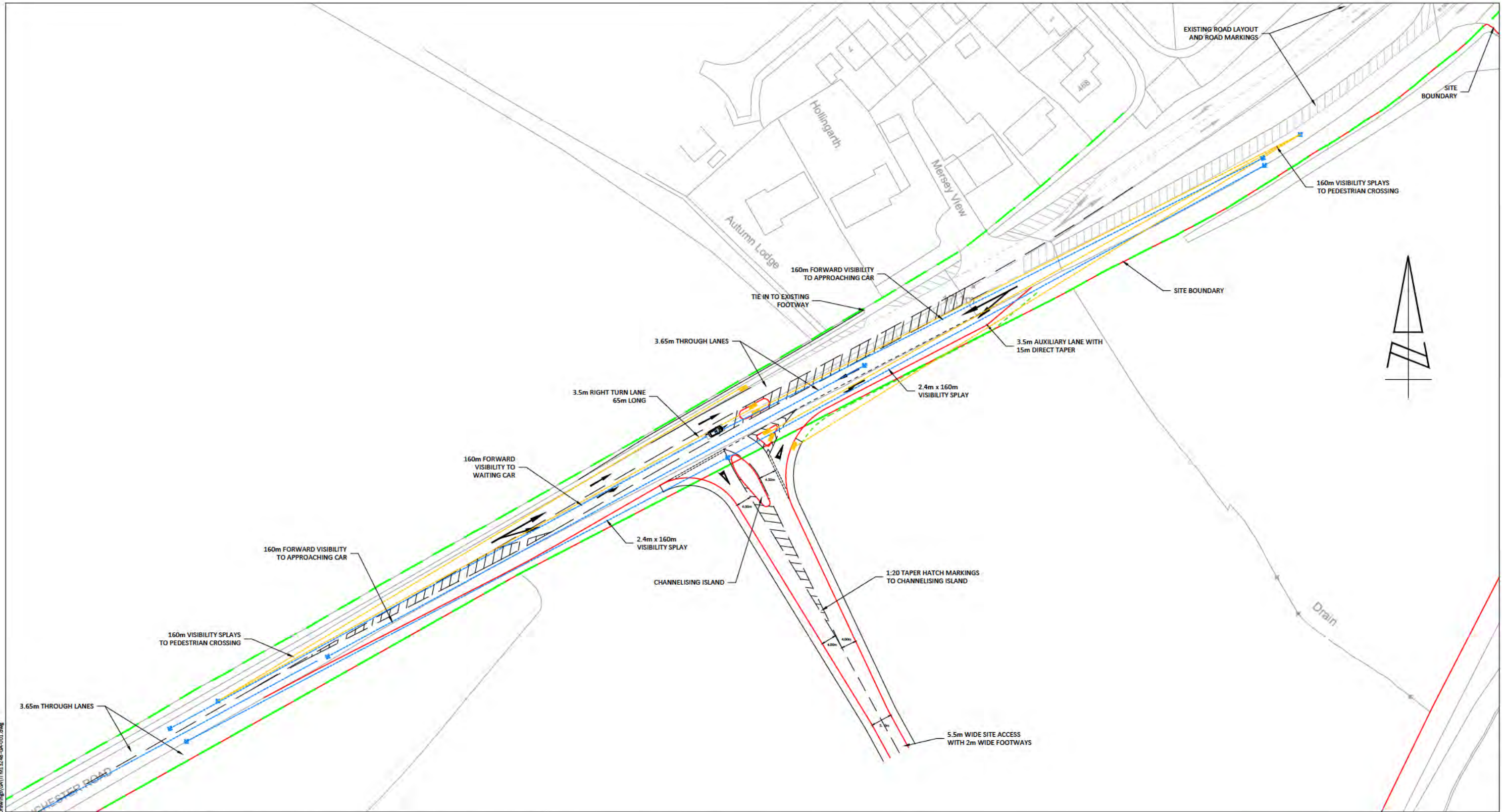
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REV	DATE	BY	DESCRIPTION	CHK	APD
STATUS: DRAFT					

TITLE: POTENTIAL SITE ACCESS FROM MANCHESTER ROAD SIGNAL CONTROLLED JUNCTION	
PROJECT: LAND OFF MANCHESTER ROAD, HOLLINS GREEN	CLIENT: PEEL INVESTMENTS (NORTH) LIMITED

SCALE @ A3: 1:1000	CHECKED: SEE	APPROVED: SEE
FILE REF: ITM13248-GA-002	DRAWN: PH	DATE: 07.09.2017
DRAWING No: FIGURE 5.1 (ITM13248 - GA - 002)		
PROJECT No: ITM13248		REV: -

Z:\Projects\13248\ITM Land at Hollins Green\ITM13248-Transport Drawing\GA\ITM13248-GA-002.dwg



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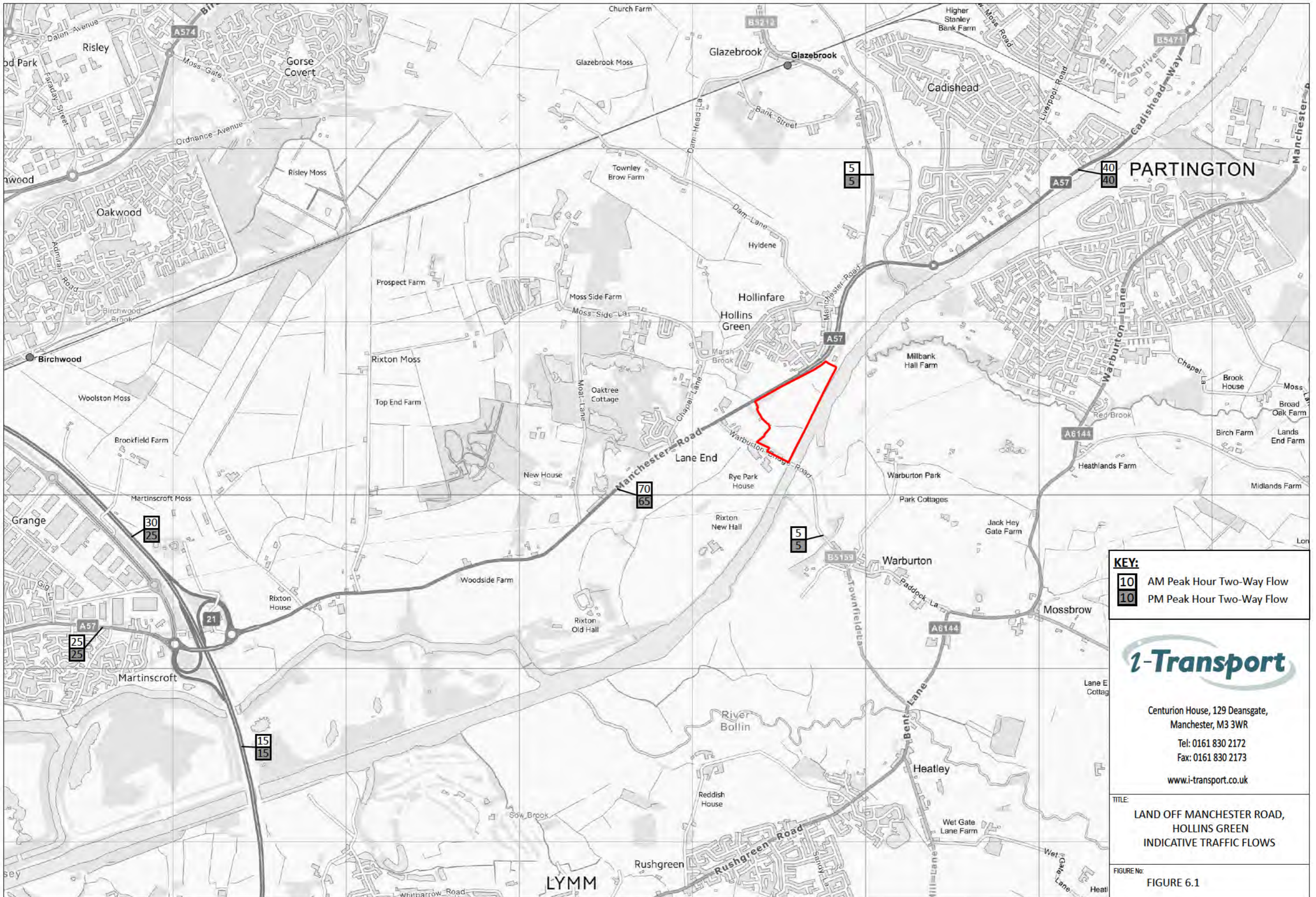
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REV	DATE	BY	DESCRIPTION	CHK	APD
STATUS: DRAFT					

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PROJECT: LAND OFF MANCHESTER ROAD, HOLLINS GREEN	CLIENT: PEEL INVESTMENTS (NORTH) LIMITED

SCALE @ A3: 1:1000	CHECKED: SEE	APPROVED: SEE
FILE REF: ITM13248-GA-001	DRAWN: PH	DATE: 24.08.2017
DRAWING No: FIGURE 5.2 (ITM13248 - GA - 001)		
PROJECT No: ITM13248		REV: -

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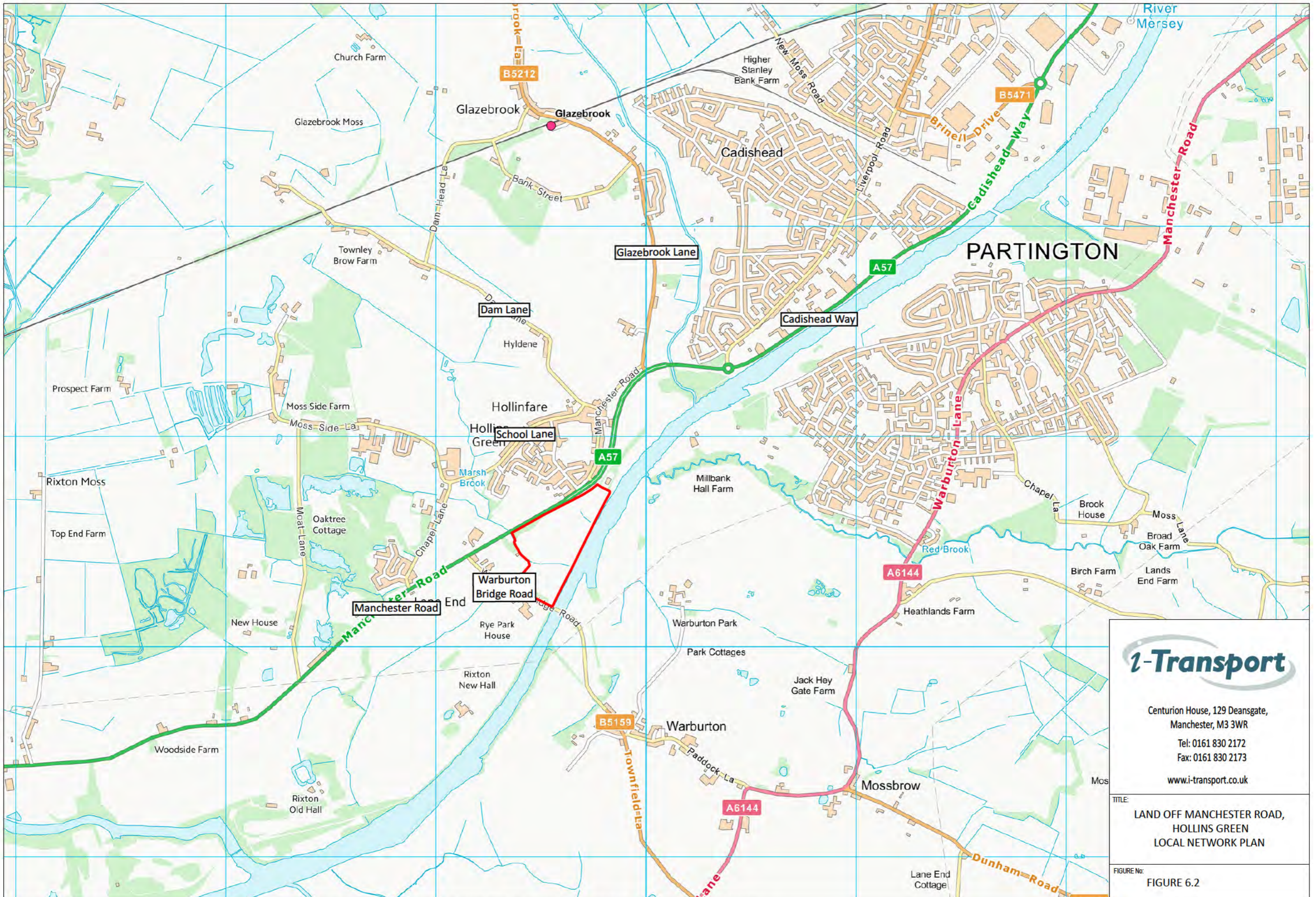
KEY:
10 AM Peak Hour Two-Way Flow
10 PM Peak Hour Two-Way Flow



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TITLE:
**LAND OFF MANCHESTER ROAD,
 HOLLINS GREEN
 INDICATIVE TRAFFIC FLOWS**

FIGURE No:
FIGURE 6.1



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TITLE:
**LAND OFF MANCHESTER ROAD,
 HOLLINS GREEN
 LOCAL NETWORK PLAN**

FIGURE No:
FIGURE 6.2



E enquiries@i-transport.co.uk

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THE
ENVIRONMENT
PARTNERSHIP



LAND AT HOLLINS GREEN WARRINGTON ECOLOGICAL APPRAISAL

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APPENDIX A: Target Notes

APPENDIX B: Desktop Study

DRAWINGS

G6296.01.001 - Phase 1 Habitat Plan

G6296.01.002 - Ecological Constraints Plan

251G - 01 GMSF Illustrative Masterplan

1.0 Overview

Summary

- 1.1 Based on the desktop assessment and site surveys described in the sections below, TEP's assessment indicates that there are no overriding ecological constraints which preclude sustainable development of the Hollins Green site.

Introduction

- 1.2 TEP was commissioned by Peel Holdings (Land and Property) Ltd in August 2017 to provide an ecological representation for Land at Hollins Green (12ha), outlining potential ecological constraints and opportunities in relation to potential future development of the site for housing.
- 1.3 The site is currently allocated as Green Belt within the Warrington Unitary Development Plan (June 2005). However, Peel consider that the 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.
- 1.4 The Phase 1 Habitat Map is located within the Drawings section of this report and the accompanying Target Notes are found in Appendix A. Areas of high, medium and low ecological constraint have been identified and are shown on Drawing G6612.01.002 Ecological Constraints Plan.

Desktop and Background Study

- 1.5 The table below shows all protected sites within 10km of the proposed development site. A map showing the locations and names of site is included within the desktop report at Appendix B.

Table 1 - nationally, internationally and locally protected sites within 10km.

Site name	Location	Designations
Rixton Clay Pits	0.6km W	Local Nature Reserve (LNR) Site of Special Scientific Interest (SSSI) Special Area of Conservation (SAC)
Holcroft Moss	2.5km N	SSSI
Risley Moss	2.5km NW	LNR, SSSI
Manchester Mosses	2.5km NW	SSSI
Woolston Eyes	2.5km W	SSSI
Brookheys Covert	4km E	SSSI
Dunham Park	5km SE	SSSI

Site name	Location	Designations
Paddington Meadows	6.1km W	LNR
Astley and Bedford Mosses	6.5km N	SSSI
Rostherne Mere	7km SE	National Nature Reserve (NNR), SSSI, Ramsar
The Mere	7km SE	SSSI
Midland Mere and Mosses	8.5Km S	Ramsar
Highfield Moss	9.5km NW	SSSI

- 1.6 Impacts on these internationally and nationally designated sites will need to be considered at the detailed design stage.
- 1.7 Rixton Clay Pits is the closest nationally protected site and lies approximately 700m south west of site. Rixton Clay Pits is designated as a Special Area of Conservation (SAC), Site of Special Scientific Interest (SSSI), and as a Local Nature Reserve for its population of great crested newts and rich mosaic of wet grassland and woodland. The development site is separated from Rixton Clay Pits protected sites by the A57, which is a major roadway and barrier to migration for amphibians. In addition no access for development traffic is required through Rixton Clay Pits. However, the potential for impacts upon this site would need to be reviewed at the detailed design stage.
- 1.8 The site falls within a Natural England SSSI Impact Risk Zone. Residential developments over 100 houses and rural residential housing over 50 houses are both listed in the SSSI impact risk categories. Therefore, consultation with Natural England will be required should either of these thresholds be passed.
- 1.9 Rixton Clay Pits is also classified as a local wildlife site (LWS). The only other local wildlife site within 1km is Coroners Wood Site of Biological Importance (SBI), which is located 800m north east of the site boundary and is separated from the development site by the Manchester ship canal. No direct or indirect impacts on this LWS are anticipated as a result of the development of the site.
- 1.10 Records of protected species within 1km of the site were returned including bird species listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), Section 41 (S41) of the NERC Act 2006, the Local Biodiversity Action Plan (LBAP) and Birds of Conservation Concern (BoCC). S41 reptiles and amphibians were identified within 1km including common lizard, common toad and great crested newts. Other protected species identified within 1km include badger, otter, water vole and moth species. No records were returned within the site boundary.

1.11 In line with Policy CC 1 of the Warrington Borough Council Local Plan Core Strategy (adopted July 2014), Hollins Green has been specifically identified as a location to be excluded from the general green belt policy. The CC 1 policy states that new build developments will be allowed provided they comply with national planning policy and are suitable in terms of policy CS1.

1.12 Full results of the desktop survey, including maps of designated sites, are found in Appendix B.

Site Description

1.13 The site is dominated by three arable fields which have been recently ploughed and reseeded with a single crop.

1.14 A band of tall ruderal vegetation and scattered scrub dominated by nettle *Urticum dioica* and bramble *Rubus fruticosus agg* runs along the northern, eastern and part of the southern boundary. A species-poor intact hedgerow is present along the western boundary dominated by hawthorn *Crataegus monogyna*, which is an S41 habitat of principal importance.

1.15 There is a large block of plantation woodland screening at the southern end of site and an area of semi natural broadleaved woodland in the south east corner which contains a shallow pond, both are bounded by areas of tall ruderal vegetation.

1.16 Two watercourses cross the site, these are shallow drainage ditches bounded by tall ruderal vegetation dominated by reed canary grass *Phalaris arundinacea*.

1.17 The invasive species Himalayan balsam *Impatiens glandulifera* listed on Schedule 9 of the Wildlife and Countryside Act (1981, as amended) was recorded in a number of places across the site. The location of the Himalayan balsam stands are shown on Drawing G6612.01.001.

2.0 Areas of Constraint

2.1 Areas of constraint are mapped separately within drawing G6612.01.002 which identifies areas of High, Moderate and Low constraint to development.

High Constraint

2.2 The following habitat features present within the site represent a high ecological constraint to development:

- Plantation broadleaved woodland;
- Semi natural broadleaved woodland;
- Drainage ditches.

2.3 The areas of woodland and ditches within the site act as wildlife corridors and based on the current master plan are to be retained and protected by habitat buffers. It is recommended that the exclusion buffers extend at least 10m from these features. The ditches are to be crossed at two points to enable access across the site. These crossing points must be carefully designed with ecology in mind.

2.4 The semi-natural woodland present within the site is a Section 41 priority habitat¹. The lighting scheme adjacent to the woodlands should be carefully planned to avoid light spill onto tree canopies (this can affect bat roosting and displace foraging bats).

Medium Constraint

2.5 The hedgerows within the site consist of native woody species and are therefore Section 41 priority habitat². The tall ruderal vegetation along the north and east of site, while not priority habitats, form valuable habitat linkages along the site boundaries particularly where it borders the Manchester ship canal.

2.6 The mature scattered trees, predominantly along the ditches within the centre of the site, also represent a medium ecological constraint to development, offering some bat roosting potential and foraging, commuting and nesting opportunities to local species.

2.7 The arable field margins, particularly along the eastern boundary where they do not form part of a hedge line or water course, also qualify as S41 priority habitat and offer important habitat linkages for local wildlife

2.8 If these areas of medium ecological constraint are to be removed/impacted, given the extent of the site, there would be the opportunity to mitigate or compensate for losses of habitat linkages.

¹ Under S41 of the Natural Environment and Rural Communities Act, 2006, Local Planning Authorities are under a duty to have regard to habitats and species of principal importance for biodiversity (such as native hedgerows, natural watercourses, deciduous woodland, lowland meadows etc)

² Under S41 of the Natural Environment and Rural Communities Act, 2006, Local Planning Authorities are under a duty to have regard to habitats and species of principal importance for biodiversity (such as native hedgerows, natural watercourses, deciduous woodland, lowland meadows etc)

Low Constraint

- 2.9 The majority of the site consists of arable crop with patches of bareground/ephemeral vegetation, which offers little opportunity to local wildlife. These relatively small arable fields are considered to be a low ecological constraint to future development.

Protected and Priority Fauna

- 2.10 Constraints relating to protected and Section 41 species are considered in Table 2. Only areas currently in use as arable crop (low ecological constraint) should be lost during development, all other habitat must be suitably protected throughout development.

Table 2. Summary of constraints related to Fauna

Fauna Group/ Species (Protected ³)	Constraint	Details
Amphibians	Yes	There is one pond on site and another immediately adjacent to the south west boundary. Great crested newts and common toad have been recorded within 1km of the site. Full amphibian surveys will therefore be required.
Reptiles	No	The site contains only limited habitat for reptiles and it is considered unlikely that reptiles are present on site. There are no implications for the development with regard to reptiles.
Birds	Yes	The habitats across the site provide breeding opportunities for a range of bird species. A number of Section 41 priority birds and those protected under Schedule 1 of the Wildlife and Countryside act, 1981 have historically recorded from within the site. Breeding and wintering bird surveys will be required to inform a planning application.
Bats	Yes	A number of the scattered trees have potential for roosting bats. The network of habitats provide foraging and commuting opportunities for bat species. At least three species of bat have been recorded within 1km of the site boundary. Bat roost surveys will be required to inform a planning application.
Badger	Yes	A single hole of a size and shape to be used by badger was identified within the site boundary and records of badger have been returned within 1km. Its exact location is confidential, however further survey for this species would be required to inform a planning application.
Water vole	Yes	There are water vole records from within 1km of the site. There are two wet ditches running across the site and Manchester ship canal lies adjacent to the eastern boundary. Further survey for this species would be required to inform a planning application.
Otter	Yes	The Manchester ship canal lies adjacent to the eastern boundary of the site. Therefore a survey for otter would be required to inform a planning application.
Invertebrates	No	A single record of an S41 invertebrate was returned within 1km. The site lacks significant populations of important invertebrate food plants and as such is unlikely to support an important population.

³ The rarest and most threatened species in England are listed under Section 41 of the 2006 Natural Environment and Rural Communities (NERC) Act. Protecting and enhancing S41 species is key delivering the Biodiversity 2020 strategy.

3.0 Opportunities

- 3.1 There are opportunities to enhance biodiversity through the process of development, in line with National Planning Policy Framework (NPPF) under Section 40⁴ and Warrington Borough Council supplementary planning document on Design and Construction (2016).
- 3.2 The supplementary planning document on Design and Construction (2016) states that development of new sites in relation to ecology will need to adhere to the following:
- Existing attractive or valuable natural features must be retained and protected on a site and be the starting point for the development of building design and landscaping proposals. These could include trees, hedges, ponds or streams. They may be valuable because of their visual amenity or their wildlife or biodiversity value. The Council has identified significant areas for nature conservation within the borough. Development proposals on or close to designated wildlife sites will warrant special scrutiny and those that will have an adverse effect on these sites will not be permitted without mitigation to reduce the damage.
 - Planting that enhances nature conservation, wildlife habitat and diversity will be encouraged, particularly on sites that are close to existing wildlife areas or enhance and expand “green corridors”.
- 3.3 The illustrative masterplan for the site indicates that all features of ecological value are to be retained and there are suitable areas available for enhancement.
- 3.4 The Overall Spatial Strategy - Delivering Sustainable Development (Policy CS 1) also identifies the need to sustain and enhance the borough’s built heritage, biodiversity and geodiversity. Biodiversity can be enhanced through appropriate planting and management of existing features.
- 3.5 Policy QE3 on Green Infrastructure identifies goals in relation to:
- protecting existing provision and the functions this performs;
 - 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;
- 3.6 The retained areas on site provide important green corridors, particularly along the eastern boundary which runs along the Manchester ship canal. These corridors can be maintained and enhanced to further provide opportunities to both wildlife and the local community.

⁴ Section 40 of the Natural Environment and Rural Communities Act 2016 places a duty on all public authorities in England and Wales to have regard, in the exercise of their functions, to the purpose of conserving biodiversity which in turn will seek to contribute to the achievement of the commitments of the Biodiversity 2020 strategy.

- 3.7 The non-native invasive species recorded within the site boundary should be controlled. There is the opportunity to enhance the existing green corridors and woodland blocks for wildlife by clearing the Himalayan balsam which currently dominates the understorey, excluding native vegetation.

APPENDIX A: Target Notes

Target Notes Report

Target Note 1

A band of tall ruderal vegetation runs along the north and eastern boundaries for the site. This has varying amounts of dense and scattered scrub along its length.

<i>Urtica dioica</i>	Nettle	D
<i>Calystegia sp.</i>	Bindweed species	A
<i>Lolium perenne</i>	Perennial Ryegrass	A
<i>Poa trivialis</i>	Rough Meadow-grass	A
<i>Rubus fruticosus agg.</i>	Bramble	A
<i>Arrhenatherum elatius</i>	False Oat-grass	F
<i>Dactylis glomerata</i>	Cock's-foot	F
<i>Triticum aestivum</i>	Wheat	F
<i>Artemisia vulgaris</i>	Mugwort	O
<i>Buddleja davidii</i>	Buddleia	O
<i>Cirsium arvense</i>	Creeping Thistle	O
<i>Conyza canadensis</i>	Canadian Fleabane	O
<i>Epilobium hirsutum</i>	Great Willowherb	O
<i>Equisetum arvense</i>	Field Horsetail	O
<i>Fallopia baldschuanica</i>	Russian Vine	O
<i>Galium aparine</i>	Cleavers	O
<i>Heracleum sphondylium</i>	Hogweed	O
<i>Lythrum salicaria</i>	Purple Loosestrife	O
<i>Stachys sylvatica</i>	Hedge Woundwort	O
<i>Brassica napus</i>	Rape	R
<i>Cirsium vulgare</i>	Spear Thistle	R
<i>Crataegus monogyna</i>	Hawthorn	R
<i>Dipsacus fullonum</i>	Teasel	R
<i>Geranium robertianum</i>	Herb-Robert	R
<i>Myosotis sp.</i>	Forget-me-not species	R
<i>Rosa arvensis</i>	Field Rose	R
<i>Saponaria officinalis</i>	Soapwort	R

Target Note 2

There are two ditches running through the site which are dominated by tall ruderal vegetation.

<i>Phalaris arundinacea</i>	Reed Canary-grass	D
<i>Rubus fruticosus agg.</i>	Bramble	A
<i>Arrhenatherum elatius</i>	False Oat-grass	F
<i>Avena sativa</i>	Oat	F
<i>Dactylis glomerata</i>	Cock's-foot	F
<i>Holcus lanatus</i>	Yorkshire-fog	F
<i>Lolium perenne</i>	Perennial Ryegrass	F
<i>Urtica dioica</i>	Nettle	F
<i>Heracleum sphondylium</i>	Hogweed	O
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O
<i>Triticum aestivum</i>	Wheat	O
<i>Cardamine sp.</i>	Bitter-cress Species	R
<i>Pteridium aquilinum</i>	Bracken	R

Target Note 3

A short section of hawthorn dominated intact hedgerow.

<i>Crataegus monogyna</i>	Hawthorn	D
<i>Fraxinus excelsior</i>	Ash	R

KEY - D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

Target Note 4

Bare ground and ephemeral vegetation to the south east of site.

<i>Hypericum maculatum</i>	Imperforate St John's-wort	D
<i>Cirsium arvense</i>	Creeping Thistle	O
<i>Geranium molle</i>	Dove's-foot Cranesbill	O
<i>Plantago lanceolata</i>	Ribwort Plantain	O
<i>Senecio jacobaea</i>	Common Ragwort	R

Target Note 5

To the south of site outside the arable field is an area which begins as tall ruderal vegetation and succeeds into mature woodland as it heads south.

<i>Acer pseudoplatanus</i>	Sycamore	D
<i>Impatiens glandulifera</i>	Himalayan Balsam	D
<i>Chamerion angustifolium</i>	Rosebay Willowherb	A
<i>Dactylis glomerata</i>	Cock's-foot	A
<i>Epilobium hirsutum</i>	Great Willowherb	A
<i>Arrhenatherum elatius</i>	False Oat-grass	F
<i>Salix viminalis</i>	Osier	F
<i>Betula pendula</i>	Silver Birch	O
<i>Carex pendula</i>	Pendulous Sedge	O
<i>Cirsium arvense</i>	Creeping Thistle	O
<i>Crataegus monogyna</i>	Hawthorn	O
<i>Fraxinus excelsior</i>	Ash	O
<i>Hieracium sp.</i>	Hawkweed species	O
<i>Matricaria chamomilla</i>	Scented Mayweed	O
<i>Prunella vulgaris</i>	Selfheal	O
<i>Quercus robur</i>	English Oak	O
<i>Rubus fruticosus agg.</i>	Bramble	O
<i>Salix cinerea</i>	Grey Willow	O
<i>Sambucus nigra</i>	Elder	O
<i>Senecio jacobaea</i>	Common Ragwort	O
<i>Trifolium pratense</i>	Red Clover	O

Target Note 6

In the south west corner of site is an area of semi natural broadleaved woodland which lines either side of a shallow wet depression.

<i>Acer pseudoplatanus</i>	Sycamore	A
<i>Hedera helix</i>	Ivy	A
<i>Impatiens glandulifera</i>	Himalayan Balsam	A
<i>Salix fragilis</i>	Crack Willow	A
<i>Arrhenatherum elatius</i>	False Oat-grass	F
<i>Calystegia sp.</i>	Bindweed species	F
<i>Chamerion angustifolium</i>	Rosebay Willowherb	F
<i>Ulmus glabra</i>	Wych Elm	F
<i>Urtica dioica</i>	Nettle	F
<i>Heracleum sphondylium</i>	Hogweed	O
<i>Phalaris arundinacea</i>	Reed Canary-grass	O
<i>Pteridium aquilinum</i>	Bracken	O
<i>Rubus fruticosus agg.</i>	Bramble	O
<i>Salix viminalis</i>	Osier	O
<i>Sambucus nigra</i>	Elder	O
<i>Pyrus communis</i>	Pear	R

KEY - D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare

APPENDIX B: Desktop Study

**Desk Based Ecology Assessment
Peel Sites Warrington – Hollins Green
Approximate Central Grid Reference: SJ 69624 90550**

Contents

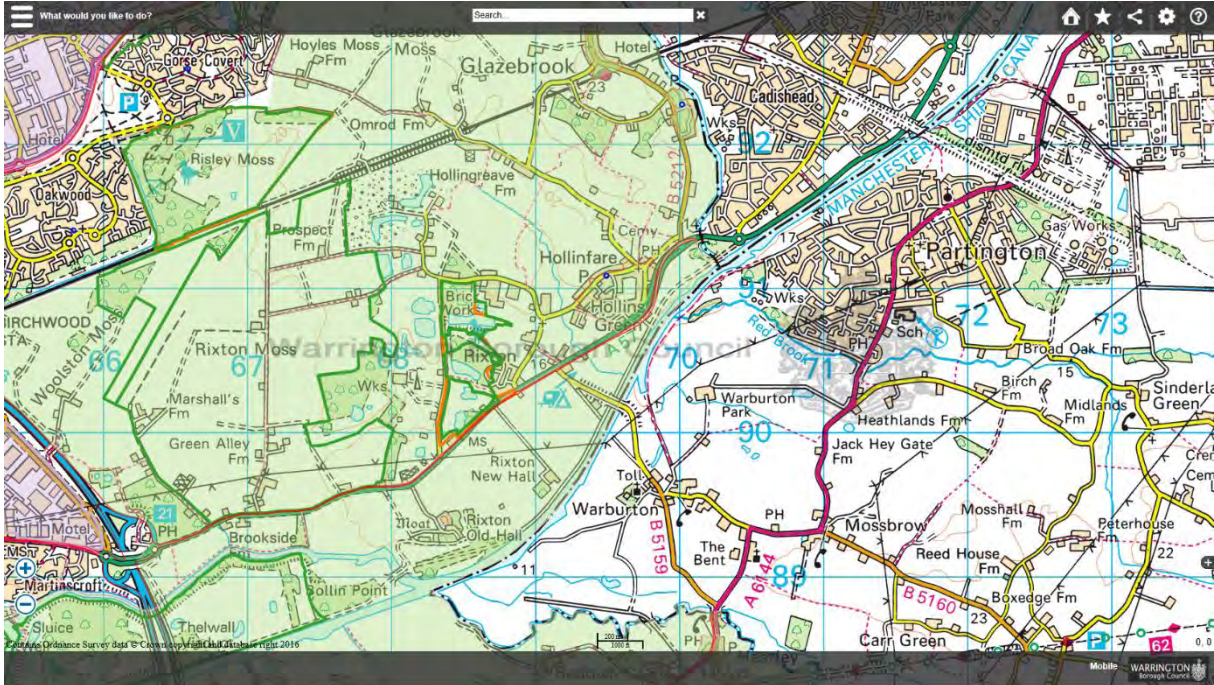
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- **Extract from Local Plan**
- **Extracts of Relevant Planning Policies**
- **National Site Designations**
- **Habitat Inventory Records**
- **Local Site Designations**
- **Local Species Records**
- **Wildlife Site Citations**

Site Location Plan



Contains Ordnance Survey data © Crown copyright and database right 2017

Extract of Warrington Borough Council Local Plan Core Strategy (adopted July 2014) and Supporting Key



Hollins Green as shown in the Interactive Map for Warrington Borough Council, with the Local Plan Core Strategy layer turned on. This shows the proposed development site to be within the designated Green Belt.

This map is available in full online at:
https://www.warrington.gov.uk/info/200564/planning_policy/1903/local_plan
[accessed 30 August 2017].

Extracts of Relevant Planning Policies and Supplementary Planning Guidance

Extracted from the Warrington Borough Council Local Plan Core Strategy (adopted July 2014), available online at:

https://www.warrington.gov.uk/info/200564/planning_policy/1903/local_plan

[accessed 30 August 2017].

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 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 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.

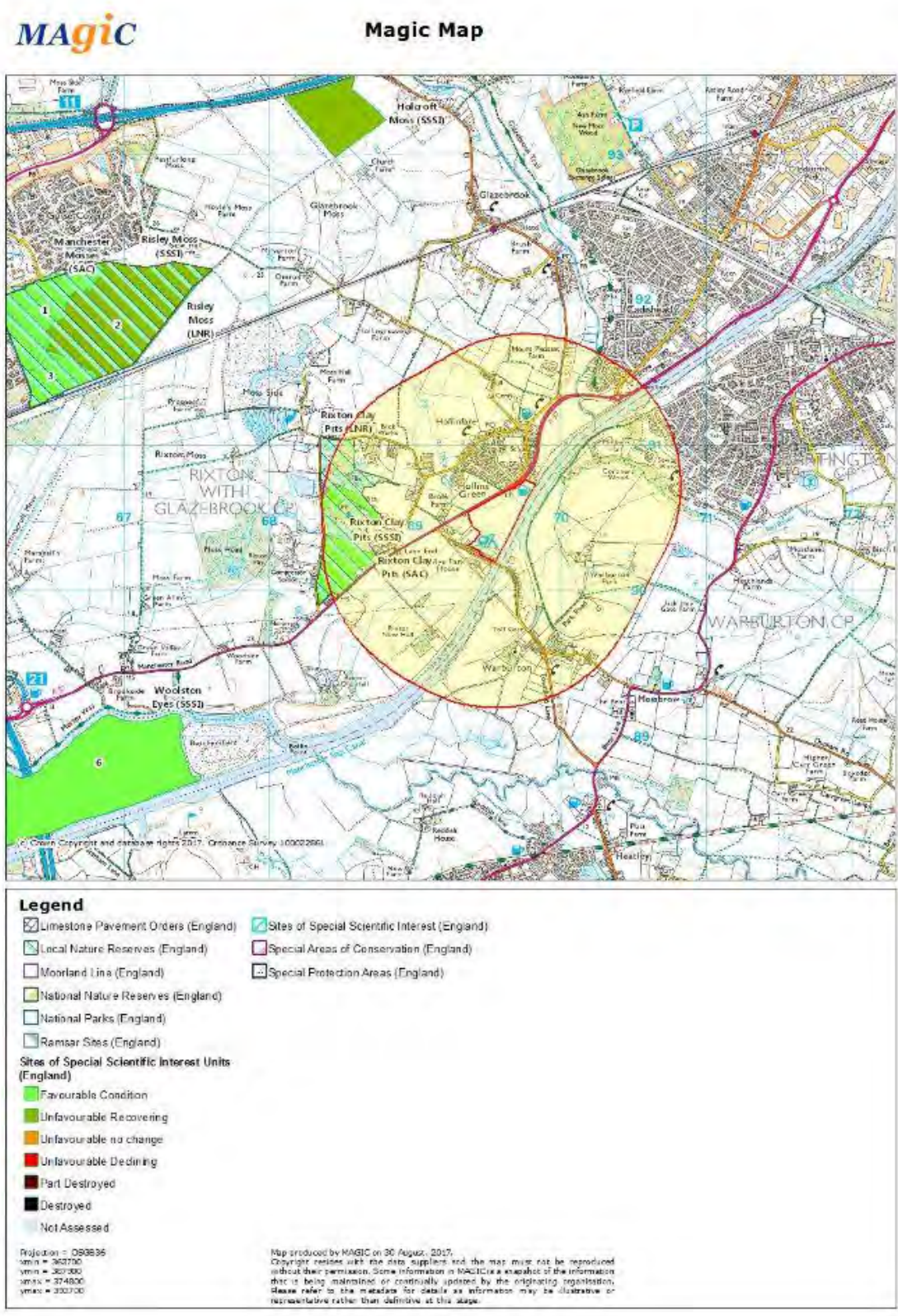
Proposals may be required to submit detailed assessments in relation to any of the above criteria to the Council for approval.

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.

MAGIC Map 1km Search Zone for Designated Wildlife Sites - Map



MAGIC Map 1km Search Zone for Designated Wildlife Sites - Report

Local Nature Reserves (England) - points

Reference

1009103

Name

RIXTON CLAY PITS

Hectares

33.57

Hyperlink

http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1009103

Local Nature Reserves (England)

Reference

1009103

Name

RIXTON CLAY PITS

Hectares

33.57

Hyperlink

http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1009103

Sites of Special Scientific Interest Units (England) - points

Name

RIXTON CLAY PITS

Reference

1056001

Site Unit Condition

FAVOURABLE

Citation

1011662

Hectares

9.87

Hyperlink

<http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011662>

Name

RIXTON CLAY PITS

Reference

1056002

Site Unit Condition

FAVOURABLE

Citation

1011663

Hectares

3.63

Hyperlink

<http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011663>

Sites of Special Scientific Interest Units (England)

Name

RIXTON CLAY PITS

Reference

1056001

Site Unit Condition

FAVOURABLE

Citation

1011662

Hectares

9.87

Hyperlink

<http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011662>

Name

RIXTON CLAY PITS

Reference

1056002
Site Unit Condition
FAVOURABLE
Citation
1011663
Hectares
3.63
Hyperlink
http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011663
Sites of Special Scientific Interest (England) - points
Name
Rixton Clay Pits SSSI
Reference
1002021
Natural England Contact
PAUL THOMAS
Natural England Phone Number
0845 600 3078
Hectares
13.5
Citation
1003514
Hyperlink
http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1003514
Sites of Special Scientific Interest (England)
Name
Rixton Clay Pits SSSI
Reference
1002021
Natural England Contact
PAUL THOMAS
Natural England Phone Number
0845 600 3078
Hectares
13.5
Citation
1003514
Hyperlink
http://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1003514
Special Areas of Conservation (England) - points
Name
RIXTON CLAY PITS
Reference
UK0030265
Hectares
13.5
Hyperlink
http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?euocode=UK0030265
Special Areas of Conservation (England)
Name
RIXTON CLAY PITS
Reference
UK0030265
Hectares
13.5
Hyperlink
http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?euocode=UK0030265
National Nature Reserves (England) - points
No Features found
National Nature Reserves (England)
No Features found
Ramsar Sites (England) - points
No Features found
Ramsar Sites (England)

No Features found
Special Protection Areas (England) - points
No Features found
Special Protection Areas (England)
No Features found

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

Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.

Wind & Solar Energy

Minerals, Oil & Gas

Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.

Rural Non Residential

Residential

Residential development of 100 units or more.

Rural Residential

Any residential development of 50 or more houses outside existing settlements/urban areas.

Air Pollution

Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, pig & poultry units, slurry lagoons > 200m² & manure stores > 250t).

Combustion

General combustion processes >20MW 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

Any composting proposal with more than 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.

Discharges

Any discharge of water or liquid waste of more than 5m³/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

Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own 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

Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.

Wind & Solar Energy

Minerals, Oil & Gas

Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.

Rural Non Residential

Residential

Rural Residential

Air Pollution

Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, pig & poultry units, slurry lagoons > 200m² & manure stores > 250t).

Combustion

General combustion processes >20MW 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

Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.

Discharges

Any discharge of water or liquid waste of more than 5m³/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

Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.

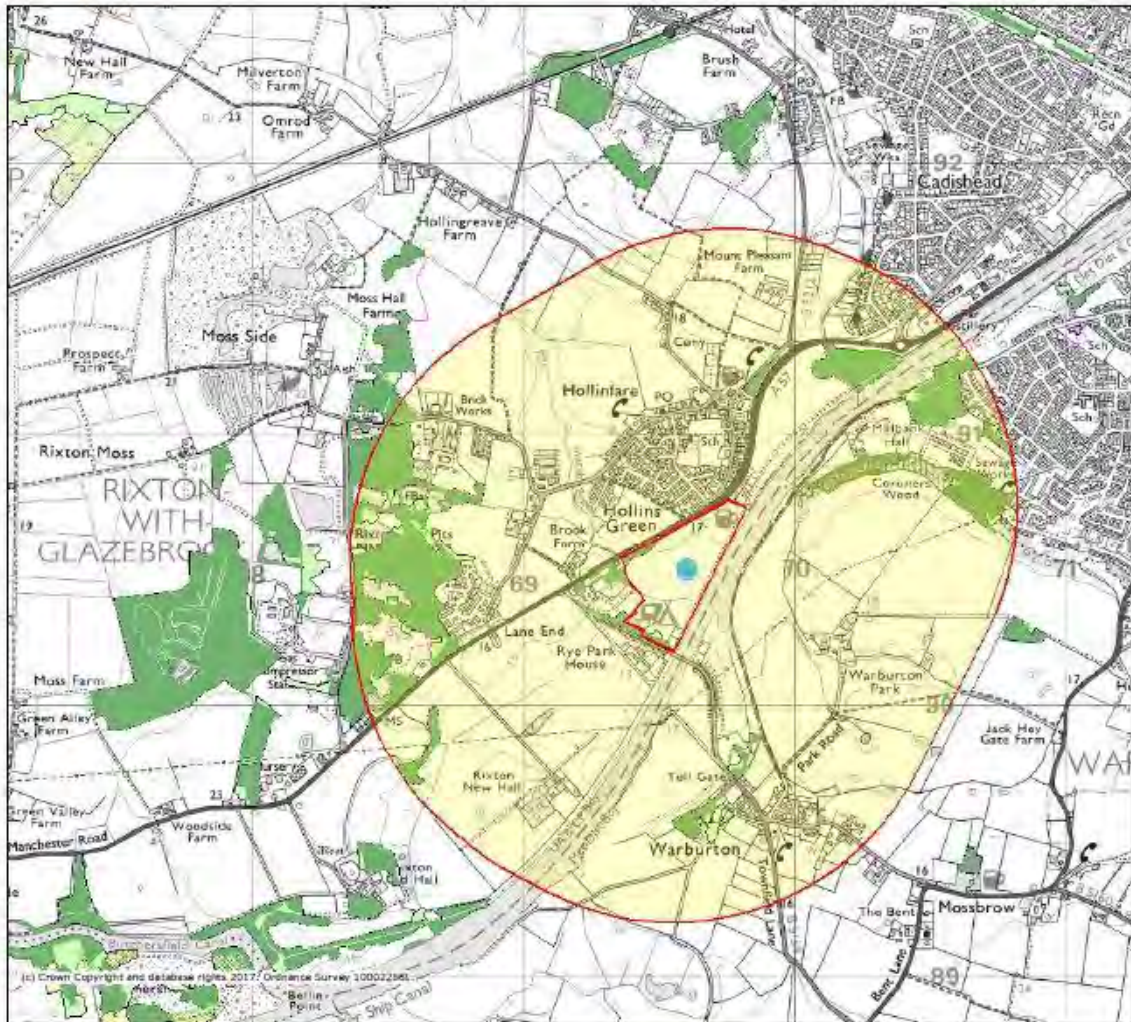
Notes

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

Magic Map



Legend

- | | |
|---|--------------------------|
| Ancient Woodland (England) | Low density |
| Ancient and Semi-Natural Woodland | Mixed mainly broadleaved |
| Ancient Replanted Woodland | Mixed mainly conifer |
| Priority Habitat Inventory - Deciduous Woodland (England) | Shrub |
| National Forest Inventory (GB) | Uncertain |
| Assumed woodland | Windthrow |
| Broadleaved | Young trees |
| Cloud / shadow | |
| Conifer | |
| Coppice | |
| Coppice with standards | |
| Felled | |
| Felled | |
| Ground prep | |

Projection = OSGB36
 xmn = 365430
 ymn = 368700
 xmx = 373000
 ymx = 392700

Map produced by MAGIC on 30 August, 2017.
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MAGIC Map 10km Search Zone for Protected Sites



Hollins Green



Legend

- Areas of Outstanding Natural Beauty (England)
- Special Protection Areas (England)
- Local Nature Reserves (England) - points
- National Nature Reserves (England) - points
- Ramsar Sites (England)
- Sites of Special Scientific Interest Units (England)**
- Favourable Condition
- Unfavourable Recovering
- Unfavourable no change
- Unfavourable Declining
- Part Destroyed
- Destroyed
- Not Assessed
- Special Areas of Conservation (England)

Projection = OSGB36
 xmin = 320700
 ymin = 369200
 xmax = 413200
 ymax = 414700

Map produced by MAGIC on 6 September, 2017.
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Site Check Report Report generated on Wed Sep 6 2017
 You selected the location: Centroid Grid Ref: SJ695904
 The following features have been found in your search area:

Local Nature Reserves (England) - points

Reference 1009103
 Name RIXTON CLAY PITS
 Hectares 33.57
 Hyperlink http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1009103

Reference 1421783
 Name PADDINGTON MEADOWS
 Hectares 34.56
 Hyperlink http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1421783

Reference 1009099
 Name RISLEY MOSS
 Hectares 82.42
 Hyperlink http://www.lnr.naturalengland.org.uk/special/lnr/lnr_details.asp?themeid=1009099

National Nature Reserves (England) - points

Name ROSTHERNE MERE
 Reference 1006125
 Hyperlink <http://www.naturalengland.org.uk/ourwork/conservation/designatedareas/nnr/1006125.aspx>
 Hectares 152.49

National Nature Reserves (England)

Name ROSTHERNE MERE
 Reference 1006125
 Hectares 152.49
 Hyperlink <http://www.naturalengland.org.uk/ourwork/conservation/designatedareas/nnr/1006125.aspx>

Ramsar Sites (England) - points

Name ROSTHERNE MERE
 Reference UK11060
 Hectares 79.76

Ramsar Sites (England)

Name MIDLAND MERES & MOSSES - PHASE 1
 Reference UK11043
 Hectares 513.35

Name ROSTHERNE MERE
 Reference UK11060
 Hectares 79.76

Sites of Special Scientific Interest Units (England) - points

Name BROOKKEYS COVERT
 Reference 1056326
 Site Unit Condition FAVOURABLE
 Citation 1011473
 Hectares 2.37
 Hyperlink <http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011473>

Name DUNHAM PARK
 Reference 1056340
 Site Unit Condition FAVOURABLE
 Citation 1011691
 Hectares 14.99
 Hyperlink <http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011691>

Name HIGHFIELD MOSS
 Reference 1056406
 Site Unit Condition UNFAVOURABLE RECOVERING
 Citation 1011608
 Hectares 4
 Hyperlink <http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011608>

Name THE MERE, MERE
 Reference 1056136
 Site Unit Condition UNFAVOURABLE NO CHANGE

Citation	1015882
Hectares	3.71
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1015882
Name	THE MERE, MERE
Reference	1056137
Site Unit Condition	UNFAVOURABLE NO CHANGE
Citation	1015883
Hectares	15.7
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1015883
Name	DUNHAM PARK
Reference	1056341
Site Unit Condition	FAVOURABLE
Citation	1011692
Hectares	43.81
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011692
Name	HIGHFIELD MOSS
Reference	1056407
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1011611
Hectares	1.32
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011611
Name	DUNHAM PARK
Reference	1056342
Site Unit Condition	FAVOURABLE
Citation	1011694
Hectares	20.38
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011694
Name	HIGHFIELD MOSS
Reference	1056408
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1011600
Hectares	14.84
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011600
Name	ROSTHERNE MERE
Reference	1056157
Site Unit Condition	FAVOURABLE
Citation	1020542
Hectares	17.83
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1020542
Name	ROSTHERNE MERE
Reference	1056158
Site Unit Condition	FAVOURABLE
Citation	1020555
Hectares	34.84
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1020555
Name	ROSTHERNE MERE
Reference	1056159
Site Unit Condition	UNFAVOURABLE NO CHANGE
Citation	1020554
Hectares	55.94
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1020554
Name	ROSTHERNE MERE
Reference	1056160
Site Unit Condition	FAVOURABLE
Citation	1020556
Hectares	20.82
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1020556
Name	WOOLSTON EYES
Reference	1082711
Site Unit Condition	FAVOURABLE
Citation	1028509
Hectares	269.82
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1028509
Name	ROSTHERNE MERE
Reference	1056161
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1023076

Hectares	23.05
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1023076
Name	RIXTON CLAY PITS
Reference	1056001
Site Unit Condition	FAVOURABLE
Citation	1011662
Hectares	9.87
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011662
Name	RIXTON CLAY PITS
Reference	1056002
Site Unit Condition	FAVOURABLE
Citation	1011663
Hectares	3.63
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011663
Name	RISLEY MOSS
Reference	1056138
Site Unit Condition	FAVOURABLE
Citation	1011725
Hectares	22.81
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011725
Name	HOLCROFT MOSS
Reference	1056141
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1011492
Hectares	19.04
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011492
Name	ASTLEY & BEDFORD MOSSES
Reference	1056401
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1011458
Hectares	19.01
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011458
Name	RISLEY MOSS
Reference	1056139
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1011727
Hectares	50.57
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011727
Name	ASTLEY & BEDFORD MOSSES
Reference	1056402
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1011459
Hectares	37.09
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011459
Name	RISLEY MOSS
Reference	1056140
Site Unit Condition	FAVOURABLE
Citation	1011726
Hectares	9.9
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011726
Name	ASTLEY & BEDFORD MOSSES
Reference	1056403
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1011460
Hectares	12.99
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011460
Name	ASTLEY & BEDFORD MOSSES
Reference	1056404
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1011461
Hectares	21.61
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011461
Name	ASTLEY & BEDFORD MOSSES
Reference	1056405
Site Unit Condition	FAVOURABLE
Citation	1019394
Hectares	1.3

Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1019394
Sites of Special Scientific Interest Units (England)	
Name	BROOKKEYS COVERT
Reference	1056326
Site Unit Condition	FAVOURABLE
Citation	1011473
Hectares	2.37
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011473
Name	DUNHAM PARK
Reference	1056340
Site Unit Condition	FAVOURABLE
Citation	1011691
Hectares	14.99
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011691
Name	HIGHFIELD MOSS
Reference	1056406
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1011608
Hectares	4
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011608
Name	THE MERE, MERE
Reference	1056136
Site Unit Condition	UNFAVOURABLE NO CHANGE
Citation	1015882
Hectares	3.71
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1015882
Name	THE MERE, MERE
Reference	1056137
Site Unit Condition	UNFAVOURABLE NO CHANGE
Citation	1015883
Hectares	15.7
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1015883
Name	DUNHAM PARK
Reference	1056341
Site Unit Condition	FAVOURABLE
Citation	1011692
Hectares	43.81
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011692
Name	HIGHFIELD MOSS
Reference	1056407
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1011611
Hectares	1.32
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011611
Name	DUNHAM PARK
Reference	1056342
Site Unit Condition	FAVOURABLE
Citation	1011694
Hectares	20.38
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011694
Name	HIGHFIELD MOSS
Reference	1056408
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1011600
Hectares	14.84
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011600
Name	ROSTHERNE MERE
Reference	1056157
Site Unit Condition	FAVOURABLE
Citation	1020542
Hectares	17.83
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1020542
Name	ROSTHERNE MERE
Reference	1056158
Site Unit Condition	FAVOURABLE
Citation	1020555

Hectares	34.84
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1020555
Name	ROSTHERNE MERE
Reference	1056159
Site Unit Condition	UNFAVOURABLE NO CHANGE
Citation	1020554
Hectares	55.94
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1020554
Name	ROSTHERNE MERE
Reference	1056160
Site Unit Condition	FAVOURABLE
Citation	1020556
Hectares	20.82
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1020556
Name	WOOLSTON EYES
Reference	1082711
Site Unit Condition	FAVOURABLE
Citation	1028509
Hectares	269.82
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1028509
Name	ROSTHERNE MERE
Reference	1056161
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1023076
Hectares	23.05
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1023076
Name	RIXTON CLAY PITS
Reference	1056001
Site Unit Condition	FAVOURABLE
Citation	1011662
Hectares	9.87
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011662
Name	RIXTON CLAY PITS
Reference	1056002
Site Unit Condition	FAVOURABLE
Citation	1011663
Hectares	3.63
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011663
Name	RISLEY MOSS
Reference	1056138
Site Unit Condition	FAVOURABLE
Citation	1011725
Hectares	22.81
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011725
Name	HOLCROFT MOSS
Reference	1056141
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1011492
Hectares	19.04
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011492
Name	ASTLEY & BEDFORD MOSSES
Reference	1056401
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1011458
Hectares	19.01
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011458
Name	RISLEY MOSS
Reference	1056139
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1011727
Hectares	50.57
Hyperlink	http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011727
Name	ASTLEY & BEDFORD MOSSES
Reference	1056402
Site Unit Condition	UNFAVOURABLE RECOVERING
Citation	1011459
Hectares	37.09

Hyperlink <http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011459>

Name RISLEY MOSS
Reference 1056140
Site Unit Condition FAVOURABLE
Citation 1011726
Hectares 9.9
Hyperlink <http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011726>

Name ASTLEY & BEDFORD MOSSES
Reference 1056403
Site Unit Condition UNFAVOURABLE RECOVERING
Citation 1011460
Hectares 12.99
Hyperlink <http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011460>

Name ASTLEY & BEDFORD MOSSES
Reference 1056404
Site Unit Condition UNFAVOURABLE RECOVERING
Citation 1011461
Hectares 21.61
Hyperlink <http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1011461>

Name ASTLEY & BEDFORD MOSSES
Reference 1056405
Site Unit Condition FAVOURABLE
Citation 1019394
Hectares 1.3
Hyperlink <http://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1019394>

Special Areas of Conservation (England) - points

Name MANCHESTER MOSSES
Reference UK0030200
Hectares 171.52
Hyperlink <http://ncc.defra.gov.uk/protectedsites/sacselection/sac.aspx?euocode=UK0030200>

Name RIXTON CLAY PITS
Reference UK0030265
Hectares 13.5
Hyperlink <http://ncc.defra.gov.uk/protectedsites/sacselection/sac.aspx?euocode=UK0030265>

Special Areas of Conservation (England)

Name MANCHESTER MOSSES
Reference UK0030200
Hectares 171.52
Hyperlink <http://ncc.defra.gov.uk/protectedsites/sacselection/sac.aspx?euocode=UK0030200>

Name RIXTON CLAY PITS
Reference UK0030265
Hectares 13.5
Hyperlink <http://ncc.defra.gov.uk/protectedsites/sacselection/sac.aspx?euocode=UK0030265>

Areas of Outstanding Natural Beauty (England)

No Features found

Special Protection Areas (England) - points

No Features found

Special Protection Areas (England)

No Features found

Map provided by RECORD of Site Designations within 1km

Site Boundary Report

Local Sites

Local Wildlife Sites

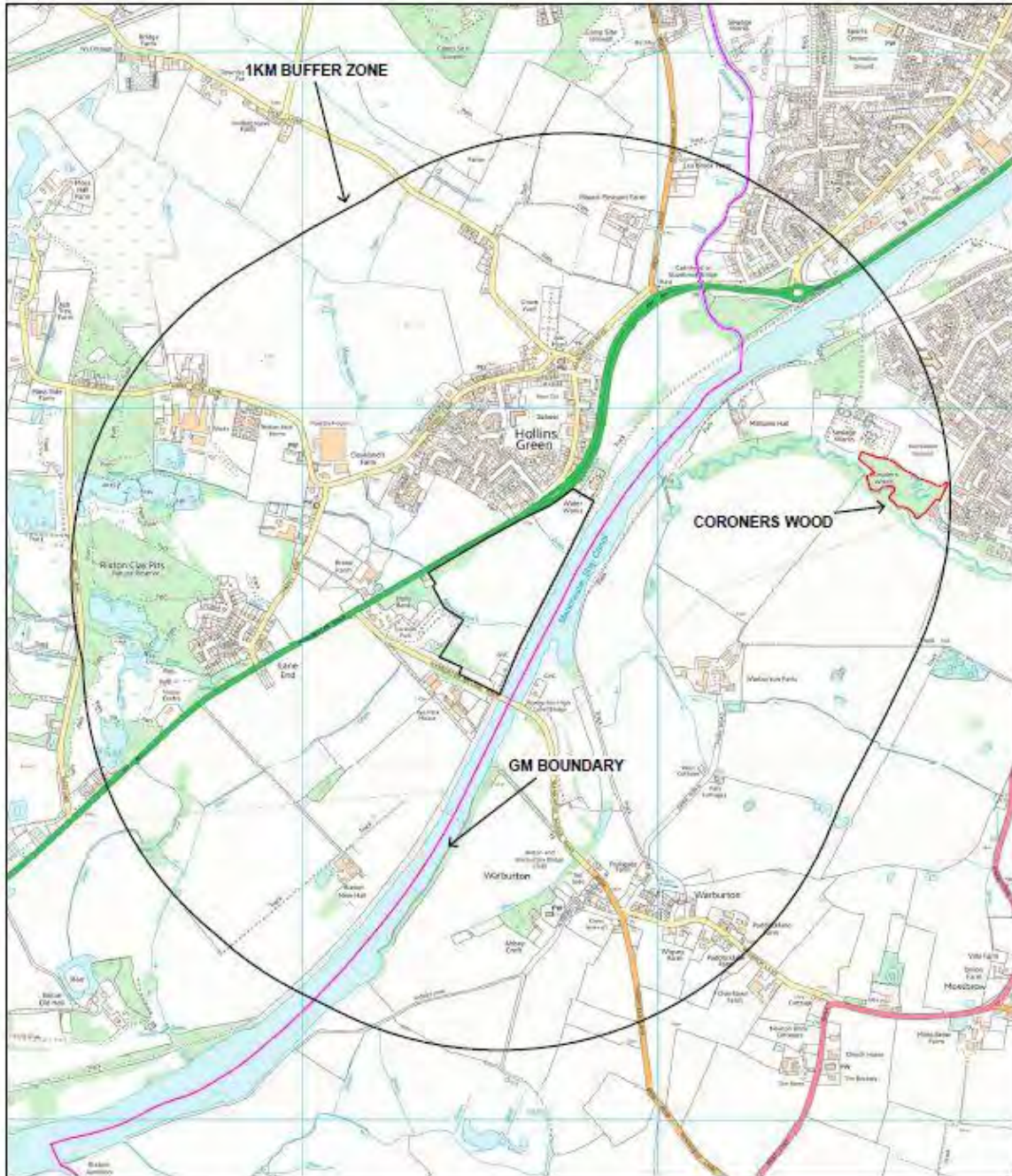
Rixton Brickworks / WA027

Map

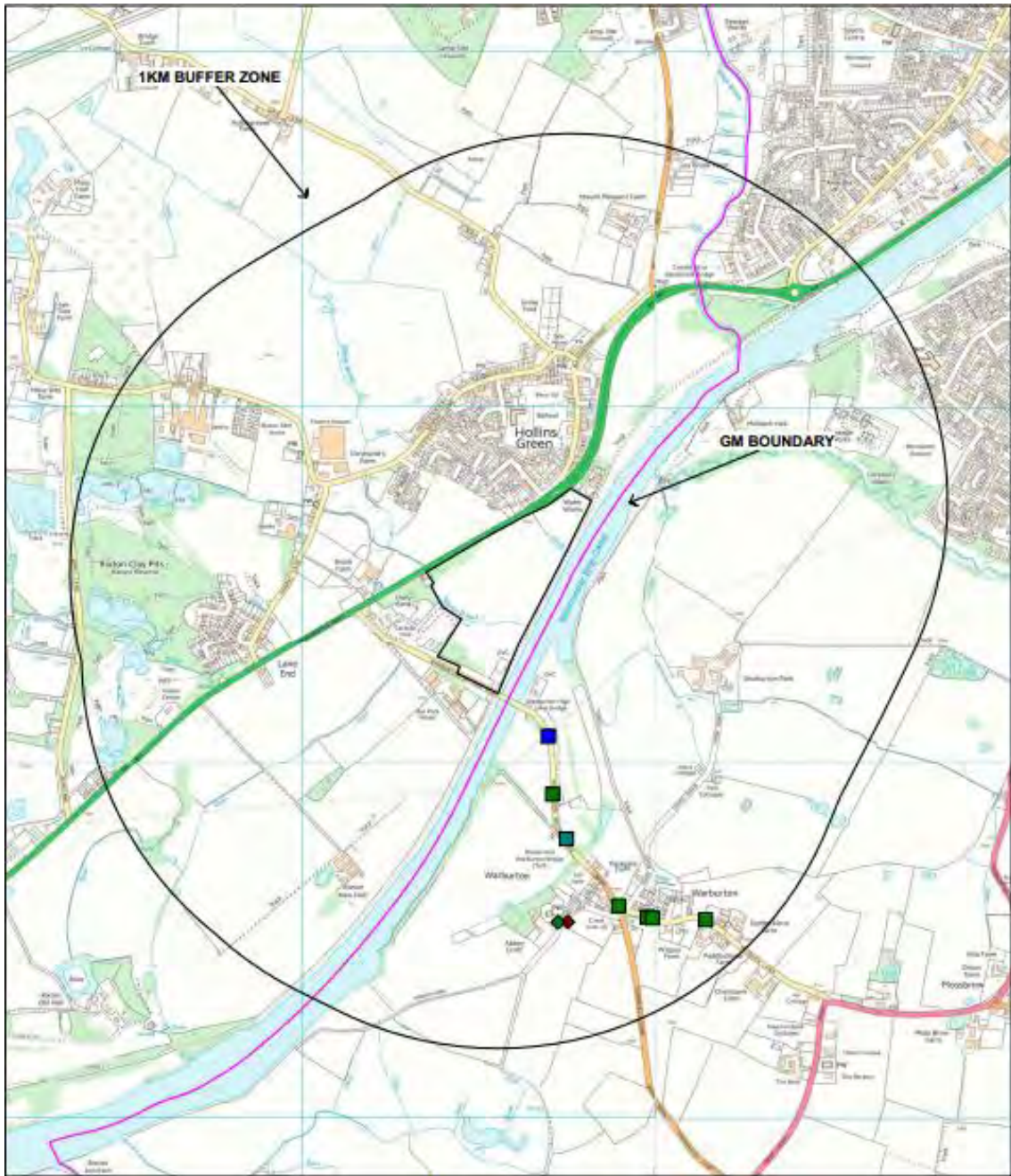


Site name	Rixton Brickworks
Site code	WA027
Authority	Warrington Local Wildlife Sites Partnership
Site centroid	SJ6859990607

Maps provided by GMEU of Site Designations and protected species within 1km



<p>KEY SITE OF BIOLOGICAL IMPORTANCE □ SBI BOUNDARY</p>	<p>GREATER MANCHESTER ECOLOGY UNIT ECOLOGICAL SEARCH - SJ6960490556 HOLLINS GREEN - MAP 1</p>	
<p>SCALE 1:10,000</p>		<p>Greater Manchester Ecology Unit</p>
<p>THE MAP IS BASED UPON ORDNANCE SURVEY MATERIAL WITH THE PERMISSION OF ORDNANCE SURVEY ON BEHALF OF THE CONTROLLER OF HM SO ©CROWN COPYRIGHT UNAUTHORISED REPRODUCTION INFRINGES CROWN COPYRIGHT AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS</p>		
<p>TAMESIDE MBC LICENCE NO LA 100022887, 2017</p>		
		<p>Telephone 0161 342 4408 Email: gmeu@tameside.gov.uk Date Produced: 06/08/2017</p>



<p>KEY</p> <p>BAT ROOSTS</p> <p>◆ BROWN LONG-EARED BA</p> <p>◆ COMMON PIPISTRELLE</p> <p>BATS OTHER SIGNS</p> <p>■ COMMON PIPISTRELLE</p> <p>■ MYOTIS SP</p> <p>■ PIPISTRELLE SP</p>	<p>GREATER MANCHESTER ECOLOGY UNIT</p> <p>ECOLOGICAL SEARCH - SJ6900490556</p> <p>HOLLINS GREEN - MAP 3</p> <p>SCALE 1:10,000</p> <p>BAT DATA COURTESY OF SOUTH LANCS BAT GROUP</p> <p>THE MAP IS BASED UPON ORDNANCE SURVEY MATERIAL WITH THE PERMISSION OF ORDNANCE SURVEY ON BEHALF OF THE CONTROLLER OF HMSO ©CROWN COPYRIGHT</p> <p>UNAUTHORISED REPRODUCTION INFRINGES CROWN COPYRIGHT AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS</p> <p>TAMESIDE MBC LICENCE NO LA100022697, 2017</p>	<p>Greater Manchester Ecology Unit</p> <p>Telephone 0161 342 4409</p> <p>Email: gmeu@tameside.gov.uk</p> <p>Date Produced: 05/09/2017</p>
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Extract of Species Data provided by RECORD within 1km

Designated Species Summary

Taxa	Designation Name	Occurrence in Cheshire tetrads between 2006-2017 (%)	Occurrence in Cheshire tetrads all years (%)
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%
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	Birds of Conservation Concern [RSPB] - Amber	23%	41%
Bluebell (<i>Hyacinthoides non-scripta</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 8	31%	69%
Bullfinch (<i>Pyrrhula pyrrhula</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Amber, NERC 541	20%	70%
Canada Goose (<i>Branta canadensis</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	26%	53%
Cinnabar (<i>Tyria jacobaeae</i>)	NERC 541, UK BAP Priority Species	13%	30%
Common Frog (<i>Rana temporaria</i>)	Wildlife and Countryside Act - Schedule 5	33%	63%
Common Lizard (<i>Zootoca vivipara</i>)	Wildlife and Countryside Act - Schedule 5, NERC 541, UK BAP Priority Species	5%	9%
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 541, UK BAP Priority Species	23%	41%
Duncock (<i>Prunella modularis</i>)	Birds of Conservation Concern [RSPB] - Amber, NERC 541	29%	84%
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%
European Otter (<i>Lutra lutra</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 5, NERC 541, 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 541, 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%
Gadwall (<i>Anas strepera</i>)	Birds of Conservation Concern [RSPB] - Amber	6%	12%

Giant Hogweed (<i>Heracleum mantegazzianum</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	5%	10%
Goldeneye (<i>Bucephala clangula</i>)	Wildlife and Countryside Act + Schedule 1, Birds of Conservation Concern [RSPB] + Amber	6%	14%
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 Woodpecker (<i>Picus viridis</i>)	Birds of Conservation Concern [RSPB] + Amber	12%	45%
Grey Wagtail (<i>Motacilla cinerea</i>)	Birds of Conservation Concern [RSPB] + Amber	14%	45%
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%
Indian Balsam (<i>Impatiens glandulifera</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	24%	36%
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%
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 Tortoiseshell (<i>Hymphalis polychloros</i>)	Wildlife and Countryside Act + Schedule 5	<1%	<1%
Latticed Heath (<i>Chiasmia clathrata</i>)	NERC S41, UK BAP Priority Species	<1%	12%
Little Grebe (<i>Tachybaptus ruficollis</i>)	Birds of Conservation Concern [RSPB] + Amber	11%	29%
Mallard (<i>Anas platyrhynchos</i>)	Birds of Conservation Concern [RSPB] + Amber	42%	82%
Mistle Thrush (<i>Turdus viscivorus</i>)	Birds of Conservation Concern [RSPB] + Amber	23%	82%
Oystercatcher (<i>Haematopus ostralegus</i>)	Birds of Conservation Concern [RSPB] + Amber	13%	23%
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%
Ruddy Duck (<i>Oxyura jamaicensis</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	3%	14%
Scaup (<i>Aythya marila</i>)	Wildlife and Countryside Act + Schedule 1, Birds of Conservation	3%	9%

	Concern [RSPB] • Red, NERC 541, UK BAP Priority Species		
Shaded Broad-bar (<i>Scotopteryx chenopodiata</i>)	NERC 541, UK BAP Priority Species	3%	18%
Shoveler (<i>Anas clypeata</i>)	Birds of Conservation Concern [RSPB] • Amber	8%	18%
Smooth Newt (<i>Lissoletrion vulgaris</i>)	Wildlife and Countryside Act • Schedule 5	14%	35%
Song Thrush (<i>Turdus philomelos</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] • Red	33%	87%
Starling (<i>Sturnus vulgaris</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] • Red, NERC 541	30%	86%
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%
Tufted Duck (<i>Aythya fuligula</i>)	Birds of Conservation Concern [RSPB] • Amber	13%	31%
White-letter Hairstreak (<i>Satyrjum w-album</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act • Schedule 5, IUCN Global Red List • Endangered, NERC 541, UK BAP Priority Species	5%	16%
Whitethroat (<i>Sylvia communis</i>)	Birds of Conservation Concern [RSPB] • Amber	17%	70%
Willow Warbler (<i>Phylloscopus trochilus</i>)	Birds of Conservation Concern [RSPB] • Amber	18%	83%
Yellow Archangel (<i>Lamium galeobdolon subsp. argentatum</i>)	Wildlife and Countryside Act Schedule 9	7%	13%
Yellowhammer (<i>Emberiza citrinella</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] • Red, NERC 541, UK BAP Priority Species	14%	77%

Detailed species provided by RECORD within 1km

Taxon group	Common name	Scientific name	Location	Grid reference	Date	Year	Abundance	Sex/Stage	Designations	Designation groups
FLOWERING PLANT	Hoary Willowherb	Epilobium parviflorum	Rixton.	SJ6889	17/05/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hoary Willowherb	Epilobium parviflorum	Hollins Green.	SJ7091	24/01/2009	2009	Present	None	IUCN LC	European/National Importance
HORSETAIL	Field Horsetail	Equisetum arvense	Warburton Bridge, vc59.	SJ6989	13/06/2009	2009	Present	None	IUCN LC	European/National Importance
HORSETAIL	Field Horsetail	Equisetum arvense	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
HORSETAIL	Field Horsetail	Equisetum arvense	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
HORSETAIL	Field Horsetail	Equisetum arvense	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
HORSETAIL	Field Horsetail	Equisetum arvense	Rixton	SJ6889	17/05/2009	2009	Present	None	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Migrant Hawker	Aeshna mixta	Rixton Clay Pits	SJ685902	04/05/2006	2006	22+	None	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Migrant Hawker	Aeshna mixta	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	06/09/2012	2012	1	Adult	IUCN LC	European/National Importance
BIRD	Lesser Redpoll	Acanthis cabaret		SJ6889	06/03/2010	2010	2	None		
BIRD	Tufted Duck	Aythya fuligula	Compartment Group B (Rixton Clay Pits)	SJ684905	24/12/2006	2006	100	None	BAm [RSPB]	European/National Importance
BIRD	Tufted Duck	Aythya fuligula	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	06/09/2012	2012	3	Adult	BAm [RSPB]	European/National Importance
BIRD	Tufted Duck	Aythya fuligula	Rixton & Woolston - CP, Pool to W of Moat Lane	SJ683907	13/01/2013	2013	Numerous	Adult	BAm [RSPB]	European/National Importance
BIRD	Tufted Duck	Aythya fuligula	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	05/12/2009	2009	33	Adult	BAm [RSPB]	European/National Importance
BIRD	Tufted Duck	Aythya fuligula	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	5	Adult	BAm [RSPB]	European/National Importance
BIRD	Tufted Duck	Aythya fuligula	Rixton Clay Pits	SJ684905	05/06/2010	2010	Two	Adult	BAm [RSPB]	European/National Importance
BIRD	Tufted Duck	Aythya fuligula	Moat Lane Pool (North)	SJ683908	05/06/2010	2010	Eight	Male	BAm [RSPB]	European/National Importance
BIRD	Tufted Duck	Aythya fuligula	Moat Lane Pool (North)	SJ683908	05/06/2010	2010	Three	Female	BAm [RSPB]	European/National Importance
BIRD	Tufted Duck	Aythya fuligula		SJ6889	30/01/2010	2010	30	None	BAm [RSPB]	European/National Importance
BIRD	Tufted Duck	Aythya fuligula	Rixton Clay Pits, Rixton and Woolston	SJ6848190165	05/12/2009	2009	Present	None	BAm [RSPB]	European/National Importance
BIRD	Tufted Duck	Aythya fuligula		SJ6890	12/06/2007	2007	Occasional	Adult	BAm [RSPB]	European/National Importance
BIRD	Kestrel	Falco tinnunculus	agricultural field off A57 nr Rixton clay pits	SJ684898	19/10/2009	2009	1	None	BAm [RSPB]	European/National Importance
BIRD	Kestrel	Falco tinnunculus	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	06/09/2012	2012	1	Adult	BAm [RSPB]	European/National Importance
BIRD	Kestrel	Falco tinnunculus	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	03/03/2012	2012	1	Adult	BAm [RSPB]	European/National Importance
BIRD	Kestrel	Falco tinnunculus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	BAm [RSPB]	European/National Importance
BIRD	Kestrel	Falco tinnunculus		SJ6890	27/06/2015	2015	1	Adult	BAm [RSPB]	European/National Importance
BIRD	Kestrel	Falco tinnunculus		SJ6889	06/03/2010	2010	4	None	BAm [RSPB]	European/National Importance



BIRD	Kestrel	Falco tinnunculus		SJ6889	27/02/2010	2010	1	None	BAm [RSPB]	European/National Importance	
BIRD	Kestrel	Falco tinnunculus	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult	BAm [RSPB]	European/National Importance	
BIRD	Kestrel	Falco tinnunculus		SJ687903	21/09/2008	2008	2	Juvenile	BAm [RSPB]	European/National Importance	
BIRD	Kestrel	Falco tinnunculus	Compartment Group B (Rixton Clay Pits)	SJ684905	24/12/2006	2006	1	None	BAm [RSPB]	European/National Importance	
BIRD	Kestrel	Falco tinnunculus		SJ6889	30/01/2010	2010	2	None	BAm [RSPB]	European/National Importance	
BIRD	Kestrel	Falco tinnunculus		SJ685901	30/07/2010	2010	1	None	BAm [RSPB]	European/National Importance	
TERRESTRIAL MAMMAL	European Otter	Lutra lutra	Rixton & Woolston - CP, Glazebrook.	SJ7091	17/04/2015	2015	1	None	LBAP, WCA5, S41, HabRegs2, UKBAP	Local Importance, European and UK Legal Protection	
TERRESTRIAL MAMMAL	European Otter	Lutra lutra	Rixton clay Pits	SJ685904	01/12/2010	2010	1	Tracks	LBAP, WCA5, S41, HabRegs2, UKBAP	Local Importance, European and UK Legal Protection	
FLOWERING PLANT	Red Dead-nettle	Lamium purpureum		SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Spear Thistle	Cirsium vulgare		SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Spear Thistle	Cirsium vulgare		SJ6890	27/06/2015	2015	Occasional	Flowering		IUCN LC	European/National Importance
FLOWERING PLANT	Spear Thistle	Cirsium vulgare	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None		IUCN LC	European/National Importance
FLOWERING PLANT	Spear Thistle	Cirsium vulgare	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		IUCN LC	European/National Importance
FLOWERING PLANT	Spear Thistle	Cirsium vulgare	Rixton	SJ6889	17/05/2009	2009	Present	None		IUCN LC	European/National Importance
FLOWERING PLANT	Spear Thistle	Cirsium vulgare		SJ6890	12/06/2007	2007	Present	Flowering		IUCN LC	European/National Importance
FLOWERING PLANT	Spear Thistle	Cirsium vulgare	A57 Hollins Green	SJ7091	07/04/2006	2006	Present	None		IUCN LC	European/National Importance
FLOWERING PLANT	Spear Thistle	Cirsium vulgare	Manchester Road	SJ6991	07/04/2006	2006	Present	None		IUCN LC	European/National Importance
FLOWERING PLANT	Dogwood	Cornus sanguinea		SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Dogwood	Cornus sanguinea	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		IUCN LC	European/National Importance
FLOWERING PLANT	Cock's-foot	Dactylis glomerata		SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Ground-elder	Aegopodium podagraria		SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Ground-elder	Aegopodium podagraria	Rixton	SJ6889	17/05/2009	2009	Present	None		IUCN LC	European/National Importance
FLOWERING PLANT	Ground-elder	Aegopodium podagraria	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Locally Frequent	Flowering		IUCN LC	European/National Importance
FLOWERING PLANT	Ground-elder	Aegopodium podagraria		SJ6890	12/06/2007	2007	Locally Frequent	Flowering		IUCN LC	European/National Importance
FLOWERING PLANT	Ground-elder	Aegopodium podagraria	Manchester Road	SJ6991	07/04/2006	2006	Present	None		IUCN LC	European/National Importance
FLOWERING PLANT	Ground-elder	Aegopodium podagraria	A57 Hollins Green	SJ7091	07/04/2006	2006	Present	None		IUCN LC	European/National Importance
FLOWERING PLANT	Common Mouse-ear	Cerastium fontanum		SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Common Mouse-ear	Cerastium fontanum	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None		IUCN LC	European/National Importance
FLOWERING PLANT	Common Mouse-ear	Cerastium fontanum	Rixton	SJ6889	17/05/2009	2009	Present	None		IUCN LC	European/National Importance
FLOWERING PLANT	Common Mouse-ear	Cerastium fontanum	A57 Hollins Green	SJ7091	07/04/2006	2006	Present	None		IUCN LC	European/National Importance
FLOWERING PLANT	Wild Cherry	Prunus avium		SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Tall Fescue	Festuca arundinacea		SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Cut-leaved Crane's-bill	Geranium dissectum		SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance



FLOWERING PLANT	Broad-leaved Dock	Rumex obtusifolius	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Broad-leaved Dock	Rumex obtusifolius	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Broad-leaved Dock	Rumex obtusifolius	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Creeping Thistle	Cirsium arvense	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Creeping Thistle	Cirsium arvense	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Garden Privet	Ligustrum ovalifolium	SJ79A	SJ7090	03/05/2007	2007	Present	None		
FLOWERING PLANT	Daisy	Bellis perennis	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Daisy	Bellis perennis		SJ6890	27/06/2015	2015	Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Daisy	Bellis perennis	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Daisy	Bellis perennis	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Daisy	Bellis perennis	Rixton	SJ6889	17/05/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Daisy	Bellis perennis	Manchester Road	SJ6991	07/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Japanese Knotweed	Fallopia japonica	SJ79A	SJ7090	03/05/2007	2007	Present	None	INNS, WCA9	Invasive Non-Native European and UK Legal Protection
FLOWERING PLANT	Japanese Knotweed	Fallopia japonica	Hollins Green	SJ7091	24/01/2009	2009	Present	None	INNS, WCA9	Invasive Non-Native European and UK Legal Protection
FLOWERING PLANT	Lesser Burdock	Arctium minus	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Lesser Burdock	Arctium minus	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Lesser Burdock	Arctium minus	Warburton Bridge VC59	SJ6989	13/06/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Lesser Burdock	Arctium minus	Warburton Bridge VC59	SJ6989	12/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Lesser Burdock	Arctium minus	Hollins Green	SJ7091	24/01/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Dove's-foot Crane's-bill	Geranium molle	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Prickly Sow-thistle	Sonchus asper	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Prickly Sow-thistle	Sonchus asper	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Tutsan	Hypericum androsaemum	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Tutsan	Hypericum androsaemum		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Beech	Fagus sylvatica	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Nipplewort	Lapsana communis	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Nipplewort	Lapsana communis	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Nipplewort	Lapsana communis		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Common Ivy	Hedera helix subsp. helix	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hybrid Oak	Quercus petraea x robur = Q. x rosacea	SJ79A	SJ7090	03/05/2007	2007	Present	None		
FLOWERING PLANT	Shepherd's-purse	Capsella bursa-pastoris	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Greater Plantain	Plantago major	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Greater Plantain	Plantago major	Rixton & Woolston -	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance

			CP, Rixton Clay Pits							
FLOWERING PLANT	Greater Plantain	Plantago major	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Greater Plantain	Plantago major	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hedge Mustard	Sisymbrium officinale	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Shining Crane's-bill	Geranium lucidum	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Ash	Fraxinus excelsior	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Ash	Fraxinus excelsior	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Ash	Fraxinus excelsior	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Ash	Fraxinus excelsior	Rixton	SJ6889	17/05/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Ash	Fraxinus excelsior	Warburton Bridge	SJ6989	12/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Ash	Fraxinus excelsior	A57 near Warburton Bridge	SJ6990	24/01/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Ash	Fraxinus excelsior	A57 Hollins Green	SJ7091	07/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Ash	Fraxinus excelsior	Manchester Road	SJ6991	24/01/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Danish Scurvygrass	Cochlearia danica	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Danish Scurvygrass	Cochlearia danica	Marsh Brook	SJ69269050	02/05/2012	2012	Frequent	None	IUCN LC	European/National Importance
FLOWERING PLANT	Danish Scurvygrass	Cochlearia danica	A57 Near Warburton Bridge	SJ6990	24/01/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Danish Scurvygrass	Cochlearia danica	A57 Hollins Green	SJ7091	07/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Sweet Cicely	Myrrhis odorata	SJ79A	SJ7090	03/05/2007	2007	Present	None		
FLOWERING PLANT	Sweet Cicely	Myrrhis odorata	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None		
FLOWERING PLANT	Garlic Mustard	Alliaria petiolata	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Garlic Mustard	Alliaria petiolata	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Garlic Mustard	Alliaria petiolata	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Garlic Mustard	Alliaria petiolata	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Garlic Mustard	Alliaria petiolata	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Garlic Mustard	Alliaria petiolata	A57 Near to Warburton Bridge	SJ6990	24/01/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Garlic Mustard	Alliaria petiolata	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Garlic Mustard	Alliaria petiolata		SJ6890	12/06/2007	2007	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Garlic Mustard	Alliaria petiolata	Manchester Road	SJ6991	07/04/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Garlic Mustard	Alliaria petiolata	A57 Hollins Green	SJ7091	07/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Few-Flowered Fumitory	Fumaria muralis subsp. boraei	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Broom	Cytisus scoparius	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Bluebell	Hyacinthoides non-scripta x hispanica = H. x massartiana	SJ79A	SJ7090	03/05/2007	2007	Present	None		
FLOWERING PLANT	Goat Willow	Salix caprea	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Goat Willow	Salix caprea	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance

FLOWERING PLANT	Russian Comfrey	<i>Symphytum officinale</i> x <i>asperum</i> = <i>S. x uplandicum</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None		
FLOWERING PLANT	Russian Comfrey	<i>Symphytum officinale</i> x <i>asperum</i> = <i>S. x uplandicum</i>	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering		
FLOWERING PLANT	Hawthorn	<i>Crataegus monogyna</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hawthorn	<i>Crataegus monogyna</i>	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hawthorn	<i>Crataegus monogyna</i>	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Hawthorn	<i>Crataegus monogyna</i>	warburton bridge vc59	SJ6989	13/06/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hawthorn	<i>Crataegus monogyna</i>	warburton bridge vc59	SJ6989	12/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hawthorn	<i>Crataegus monogyna</i>	A57 (Near Warburton Bridge)	SJ6990	24/01/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hawthorn	<i>Crataegus monogyna</i>		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Hawthorn	<i>Crataegus monogyna</i>	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Hawthorn	<i>Crataegus monogyna</i>	Manchester Road	SJ6991	07/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hawthorn	<i>Crataegus monogyna</i>	A57 at Hollins Green	SJ7091	07/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Taraxacum aggregate	Taraxacum aggregate	SJ79A	SJ7090	03/05/2007	2007	Present	None		
FLOWERING PLANT	Elder	<i>Sambucus nigra</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Elder	<i>Sambucus nigra</i>	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Elder	<i>Sambucus nigra</i>	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Elder	<i>Sambucus nigra</i>		SJ6890	27/06/2015	2015	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Elder	<i>Sambucus nigra</i>	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Bud	IUCN LC	European/National Importance
FLOWERING PLANT	Elder	<i>Sambucus nigra</i>		SJ6891	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Black Medick	<i>Medicago lupulina</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Black Medick	<i>Medicago lupulina</i>		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Lesser Trefoil	<i>Trifolium dubium</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Lesser Trefoil	<i>Trifolium dubium</i>	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Frequent	None	IUCN LC	European/National Importance
FLOWERING PLANT	Lesser Trefoil	<i>Trifolium dubium</i>	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Mugwort	<i>Artemisia vulgaris</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Mugwort	<i>Artemisia vulgaris</i>	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Mugwort	<i>Artemisia vulgaris</i>	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Mugwort	<i>Artemisia vulgaris</i>	A57 near Warburton Bridge	SJ6990	24/01/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Mugwort	<i>Artemisia vulgaris</i>	Rixton	SJ6890	17/05/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Mugwort	<i>Artemisia vulgaris</i>		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Mugwort	<i>Artemisia vulgaris</i>	Manchester Road	SJ6991	07/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Mugwort	<i>Artemisia vulgaris</i>	Hollins Green	SJ7091	24/01/2009	2009	Present	None	IUCN LC	European/National Importance



FLOWERING PLANT	Holly	Ilex aquifolium	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Holly	Ilex aquifolium	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Holly	Ilex aquifolium	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Inleaf	IUCN LC	European/National Importance
FLOWERING PLANT	Crack-willow	Salix fragilis	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Crack-willow	Salix fragilis	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Crack-willow	Salix fragilis	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Sycamore	Acer pseudoplatanus	SJ79A	SJ7090	03/05/2007	2007	Present	None		
FLOWERING PLANT	Sycamore	Acer pseudoplatanus	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None		
FLOWERING PLANT	Sycamore	Acer pseudoplatanus	Warburton Bridge	SJ6989	13/06/2009	2009	Present	None		
FLOWERING PLANT	Sycamore	Acer pseudoplatanus	Warburton Bridge	SJ6989	12/04/2006	2006	Present	None		
FLOWERING PLANT	Sycamore	Acer pseudoplatanus	A57 near Warburton Bridge	SJ6990	24/01/2009	2009	Present	None		
FLOWERING PLANT	Sycamore	Acer pseudoplatanus	A57 Hollins Green	SJ7091	07/04/2006	2006	Present	None		
FLOWERING PLANT	Procumbent Pearlwort	Sagina procumbens	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Lime	Tilia platyphyllos x cordata = T. x europaea	SJ79A	SJ7090	03/05/2007	2007	Present	None		
FLOWERING PLANT	Soft-rush	Juncus effusus	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FERN	Male-fern	Dryopteris filix-mas	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FERN	Male-fern	Dryopteris filix-mas	Rixton.	SJ6889	17/05/2009	2009	Present	None	IUCN LC	European/National Importance
FERN	Male-fern	Dryopteris filix-mas	A57 (Hollins Green)	SJ7091	07/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	False Oat-grass	Arrhenatherum elatius	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	False Oat-grass	Arrhenatherum elatius	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	False Oat-grass	Arrhenatherum elatius	Rixton	SJ6889	17/05/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	False Oat-grass	Arrhenatherum elatius	Warburton Bridge VC59	SJ6989	13/06/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Annual Meadow-grass	Poa annua	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Annual Meadow-grass	Poa annua	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Foxglove	Digitalis purpurea	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Foxglove	Digitalis purpurea	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Frequent	None	IUCN LC	European/National Importance
FLOWERING PLANT	Foxglove	Digitalis purpurea		SJ6890	27/06/2015	2015	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Foxglove	Digitalis purpurea	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Foxglove	Digitalis purpurea	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Foxglove	Digitalis purpurea		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Foxglove	Digitalis purpurea	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Red Campion	Silene dioica	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Red Campion	Silene dioica	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Red Campion	Silene dioica	Rixton & Woolston -	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance



			CP, Rixton Clay Pits.							
FLOWERING PLANT	Red Campion	<i>Silene dioica</i>		SJ6890	27/06/2015	2015	Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Red Campion	<i>Silene dioica</i>	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Red Campion	<i>Silene dioica</i>		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Red Campion	<i>Silene dioica</i>	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Bramble	<i>Rubus fruticosus</i> agg.	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Bramble	<i>Rubus fruticosus</i> agg.		SJ6890	27/06/2015	2015	Frequent	Fruiting	IUCN LC	European/National Importance
FLOWERING PLANT	Bramble	<i>Rubus fruticosus</i> agg.	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Bramble	<i>Rubus fruticosus</i> agg.	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Hemlock Water-dropwort	<i>Oenanthe crocata</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hemlock Water-dropwort	<i>Oenanthe crocata</i>	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Yellow Archangel	<i>Lamium galeobdolon</i> subsp. <i>argentalum</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	WCA9	European and UK Legal Protection
FLOWERING PLANT	Sticky Mouse-ear	<i>Cerastium glomeratum</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Sticky Mouse-ear	<i>Cerastium glomeratum</i>	Rixton	SJ6889	17/05/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Greater Celandine	<i>Chelidonium majus</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Greater Celandine	<i>Chelidonium majus</i>	Warburton	SJ6989	13/06/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Greater Celandine	<i>Chelidonium majus</i>		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Butterbur	<i>Petasites hybridus</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Butterbur	<i>Petasites hybridus</i>	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Butterbur	<i>Petasites hybridus</i>	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Butterbur	<i>Petasites hybridus</i>	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Common Nettle	<i>Urtica dioica</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Common Nettle	<i>Urtica dioica</i>	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Common Nettle	<i>Urtica dioica</i>	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Broad-leaved Willowherb	<i>Epilobium montanum</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Broad-leaved Willowherb	<i>Epilobium montanum</i>	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Broad-leaved Willowherb	<i>Epilobium montanum</i>		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Ribwort Plantain	<i>Plantago lanceolata</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Ribwort Plantain	<i>Plantago lanceolata</i>	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Frequent	None	IUCN LC	European/National Importance
FLOWERING PLANT	Ribwort Plantain	<i>Plantago lanceolata</i>	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Ribwort Plantain	<i>Plantago lanceolata</i>	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Ribwort Plantain	<i>Plantago lanceolata</i>	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Ribwort Plantain	<i>Plantago lanceolata</i>		SJ6890	12/06/2007	2007	Present	Flowering	IUCN LC	European/National Importance

FLOWERING PLANT	Cow Parsley	<i>Anthriscus sylvestris</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Cow Parsley	<i>Anthriscus sylvestris</i>	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Cow Parsley	<i>Anthriscus sylvestris</i>	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Cow Parsley	<i>Anthriscus sylvestris</i>	Rixton	SJ6889	17/05/2009	2009	59	None	IUCN LC	European/National Importance
FLOWERING PLANT	Cow Parsley	<i>Anthriscus sylvestris</i>	Warburton Bridge VC59	SJ6989	12/04/2006	2006	59	None	IUCN LC	European/National Importance
FLOWERING PLANT	Cow Parsley	<i>Anthriscus sylvestris</i>	Rixton	SJ6890	17/05/2009	2009	59	None	IUCN LC	European/National Importance
FLOWERING PLANT	Cow Parsley	<i>Anthriscus sylvestris</i>		SJ6890	12/06/2007	2007	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Cow Parsley	<i>Anthriscus sylvestris</i>	Manchester Road	SJ6991	07/04/2006	2006	59	None	IUCN LC	European/National Importance
FLOWERING PLANT	Petty Spurge	<i>Euphorbia peplus</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Wood Forget-me-not	<i>Myosotis sylvatica</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Wood Forget-me-not	<i>Myosotis sylvatica</i>	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Wood Forget-me-not	<i>Myosotis sylvatica</i>	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Indian Balsam	<i>Impatiens glandulifera</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	INNS, WCA9	Invasive Non-Native, European and UK Legal Protection
FLOWERING PLANT	Indian Balsam	<i>Impatiens glandulifera</i>	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	INNS, WCA9	Invasive Non-Native, European and UK Legal Protection
FLOWERING PLANT	Cleavers	<i>Galium aparine</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Cleavers	<i>Galium aparine</i>	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Cleavers	<i>Galium aparine</i>	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Cleavers	<i>Galium aparine</i>		SJ6890	27/06/2015	2015	Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Cleavers	<i>Galium aparine</i>	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Inleaf	IUCN LC	European/National Importance
FERN	Lady-fern	<i>Athyrium filix-femina</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FERN	Lady-fern	<i>Athyrium filix-femina</i>	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Rusty Willow	<i>Salix cinerea</i> subsp. <i>oleifolia</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Rusty Willow	<i>Salix cinerea</i> subsp. <i>oleifolia</i>	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Norway Maple	<i>Acer platanoides</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None		
FLOWERING PLANT	Norway Maple	<i>Acer platanoides</i>	Rixton	SJ6889	17/05/2009	2009	Present	None		
FLOWERING PLANT	Field Maple	<i>Acer campestre</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Field Maple	<i>Acer campestre</i>	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hairy Bitter-cress	<i>Cardamine hirsuta</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hairy Bitter-cress	<i>Cardamine hirsuta</i>	Rixton	SJ6889	17/05/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hairy Bitter-cress	<i>Cardamine hirsuta</i>	Manchester Road	SJ6991	07/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Alder	<i>Alnus glutinosa</i>	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Alder	<i>Alnus glutinosa</i>	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Alder	<i>Alnus glutinosa</i>	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance



FLOWERING PLANT	Barren Brome	Bromus sterilis	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Barren Brome	Bromus sterilis	Wrburton bridge VC59	SJ6989	13/06/2009	2009	59	None	IUCN LC	European/National Importance
FLOWERING PLANT	Barren Brome	Bromus sterilis	Manchester Road	SJ6991	07/04/2006	2006	59	None	IUCN LC	European/National Importance
FLOWERING PLANT	Meadow Buttercup	Ranunculus acris	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Meadow Buttercup	Ranunculus acris	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Frequent	None	IUCN LC	European/National Importance
FLOWERING PLANT	Meadow Buttercup	Ranunculus acris		SJ6890	27/06/2015	2015	Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Meadow Buttercup	Ranunculus acris	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Meadow Buttercup	Ranunculus acris		SJ6890	12/06/2007	2007	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Meadow Buttercup	Ranunculus acris	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Wall Speedwell	Veronica arvensis	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Creeping Buttercup	Ranunculus repens	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Creeping Buttercup	Ranunculus repens	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Abundant	None	IUCN LC	European/National Importance
FLOWERING PLANT	Creeping Buttercup	Ranunculus repens		SJ6890	27/06/2015	2015	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Creeping Buttercup	Ranunculus repens	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Creeping Buttercup	Ranunculus repens	Rixton & Woolston - CP, Rixton Clay Pits	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Creeping Buttercup	Ranunculus repens	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Groundsel	Senecio vulgaris	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Cuckooflower	Cardamine pratensis	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Cuckooflower	Cardamine pratensis	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Cuckooflower	Cardamine pratensis	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Cuckooflower	Cardamine pratensis	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Cuckooflower	Cardamine pratensis		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Cuckooflower	Cardamine pratensis	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Hogweed	Heracleum sphondylium	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hogweed	Heracleum sphondylium	Rixton & Woolston - CP, Rixton Clay Pits	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Hogweed	Heracleum sphondylium	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hogweed	Heracleum sphondylium	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Hogweed	Heracleum sphondylium		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Common Ragwort	Senecio jacobaea	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Common Ragwort	Senecio jacobaea	Rixton & Woolston - CP, Rixton Clay Pits	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Common Ragwort	Senecio jacobaea	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance



FLOWERING PLANT	Rosebay Willowherb	Chamerion angustifolium	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Rosebay Willowherb	Chamerion angustifolium	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Rosebay Willowherb	Chamerion angustifolium	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Rosebay Willowherb	Chamerion angustifolium	A57 near Warburton Bridge	SJ6990	24/01/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Rosebay Willowherb	Chamerion angustifolium		SJ6890	12/06/2007	2007	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Rosebay Willowherb	Chamerion angustifolium	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Rosebay Willowherb	Chamerion angustifolium	A57 Hollins Green	SJ7091	07/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Rosebay Willowherb	Chamerion angustifolium	Manchester Road	SJ6991	24/01/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Red Fescue	Festuca rubra agg.	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Red Fescue	Festuca rubra agg.	Rixton	SJ6889	17/05/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Red Fescue	Festuca rubra agg.	Warburton Bridge VC59	SJ6989	12/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Red Fescue	Festuca rubra agg.	Manchester Road	SJ6991	07/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Red Fescue	Festuca rubra agg.	Hollins Green.	SJ7091	24/01/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Herb-Robert	Geranium robertianum	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Herb-Robert	Geranium robertianum		SJ6890	27/06/2015	2015	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Herb-Robert	Geranium robertianum	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Herb-Robert	Geranium robertianum	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Herb-Robert	Geranium robertianum		SJ6890	12/06/2007	2007	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Herb-Robert	Geranium robertianum	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Aspen	Populus tremula	SJ79A	SJ7090	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Aspen	Populus tremula	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
MOSS	Pointed Spear-moss	Calliergonella cuspidata	Rixton & Woolston - CP, A57 Hollins Green	SJ7091	07/04/2006	2006	Present	None		
BIRD	Sparrowhawk	Accipiter nisus	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	06/09/2012	2012	1	Adult		
BIRD	Sparrowhawk	Accipiter nisus		SJ6889	30/01/2010	2010	3	None		
BIRD	Long-tailed Tit	Aegithalos caudatus	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	06/09/2012	2012	10	Adult		
BIRD	Long-tailed Tit	Aegithalos caudatus	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	03/03/2012	2012	8	Adult		
BIRD	Long-tailed Tit	Aegithalos caudatus	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	05/12/2009	2009	10	Adult		
BIRD	Long-tailed Tit	Aegithalos caudatus	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	10	None		
BIRD	Long-tailed Tit	Aegithalos caudatus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
BIRD	Long-tailed Tit	Aegithalos caudatus	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult		
BIRD	Long-tailed Tit	Aegithalos caudatus	Rixton Claypits	SJ68469036	04/03/2006	2006	Present	None		
INSECT - BUTTERFLY	Small Tortoiseshell	Aglais urticae	Compartment C37, Rixton	SJ684905	06/09/2012	2012	1	Adult		



			Clay Pits, Rixton Clay Pits						
INSECT - BUTTERFLY	Small Tortoiseshell	Aglais urticae	Rixton & Woolston - CP, Rixton Claypits	SJ685905	17/07/2014	2014	10	Adult	
INSECT - BUTTERFLY	Small Tortoiseshell	Aglais urticae	Rixton & Woolston - CP, Rixton Claypits	SJ685905	16/09/2014	2014	1	Adult	
INSECT - BUTTERFLY	Small Tortoiseshell	Aglais urticae	Rixton & Woolston - CP, Rixton Claypits	SJ685905	03/09/2014	2014	1	Adult	
INSECT - BUTTERFLY	Small Tortoiseshell	Aglais urticae	Rixton & Woolston - CP, Rixton Claypits	SJ6890	04/09/2013	2013	15	None	
INSECT - BUTTERFLY	Small Tortoiseshell	Aglais urticae	Rixton & Woolston - CP, Rixton Claypits	SJ6890	28/02/2013	2013	1	None	
INSECT - BUTTERFLY	Small Tortoiseshell	Aglais urticae	Rixton Claypits	SJ6890	22/03/2012	2012	1	None	
INSECT - BUTTERFLY	Small Tortoiseshell	Aglais urticae	Rixton Claypits	SJ6890	09/10/2012	2012	1	None	
INSECT - BUTTERFLY	Small Tortoiseshell	Aglais urticae	Rixton Claypits	SJ6890	01/09/2012	2012	19	None	
INSECT - BUTTERFLY	Small Tortoiseshell	Aglais urticae	Rixton Claypits	SJ6890	23/08/2011	2011	12	None	
INSECT - BUTTERFLY	Small Tortoiseshell	Aglais urticae	Rixton & Woolston - CP, Rixton Claypits	SJ6890	17/10/2013	2013	1	None	
INSECT - BUTTERFLY	Green-veined White	Pieris napi	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	06/09/2012	2012	1	Adult	
INSECT - BUTTERFLY	Green-veined White	Pieris napi	Rixton Clay Pits	SJ684905	05/06/2010	2010	2	Adult	
INSECT - BUTTERFLY	Green-veined White	Pieris napi	Rixton Claypits	SJ6890	04/08/2012	2012	122	None	
INSECT - BUTTERFLY	Green-veined White	Pieris napi	Rixton Claypits	SJ6890	24/03/2012	2012	1	None	
INSECT - BUTTERFLY	Green-veined White	Pieris napi	Rixton Claypits	SJ6890	19/09/2012	2012	1	None	
INSECT - BUTTERFLY	Green-veined White	Pieris napi	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	
INSECT - BUTTERFLY	Green-veined White	Pieris napi	Rixton & Woolston - CP, Rixton Claypits	SJ685905	17/09/2014	2014	1	Adult	
INSECT - BUTTERFLY	Green-veined White	Pieris napi	Rixton & Woolston - CP, Rixton Claypits	SJ685905	15/04/2014	2014	1	Adult	
INSECT - BUTTERFLY	Green-veined White	Pieris napi	Rixton & Woolston - CP, Rixton Claypits	SJ685905	08/04/2014	2014	63	Adult	
INSECT - BUTTERFLY	Green-veined White	Pieris napi	Rixton & Woolston - CP, Rixton Claypits	SJ6890	01/08/2013	2013	262	None	
INSECT - BUTTERFLY	Green-veined White	Pieris napi	Rixton & Woolston - CP, Rixton Claypits	SJ6890	27/04/2013	2013	1	None	
INSECT - BUTTERFLY	Green-veined White	Pieris napi	Rixton Claypits	SJ6890	26/07/2011	2011	77	None	
INSECT - BUTTERFLY	Green-veined White	Pieris napi	Rixton & Woolston - CP, Rixton Claypits	SJ6890	04/10/2013	2013	2	None	
INSECT - BUTTERFLY	Green-veined White	Pieris napi	Rixton Nature Reserve	SJ686904	31/07/2010	2010	5	Adult	
BIRD	Buzzard	Buteo buteo	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	06/09/2012	2012	4	Adult	
BIRD	Buzzard	Buteo buteo		SJ685902	03/03/2012	2012	1	None	
BIRD	Buzzard	Buteo buteo	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	1	Adult	
BIRD	Buzzard	Buteo buteo	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	03/03/2012	2012	2	Adult	
BIRD	Buzzard	Buteo buteo	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	
BIRD	Buzzard	Buteo buteo		SJ6889	27/02/2010	2010	3	None	
BIRD	Buzzard	Buteo buteo		SJ6889	06/03/2010	2010	8	None	

BIRD	Buzzard	Buteo buteo		SJ6890	27/06/2015	2015	1	Adult		
BIRD	Buzzard	Buteo buteo	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	05/12/2009	2009	1	Adult		
BIRD	Buzzard	Buteo buteo		SJ6889	30/01/2010	2010	4	None		
BIRD	Buzzard	Buteo buteo		SJ685901	31/07/2010	2010	Present	None		
BIRD	Buzzard	Buteo buteo		SJ6890	12/06/2007	2007	Occasional	Adult		
BIRD	Buzzard	Buteo buteo	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Adult		
BIRD	Buzzard	Buteo buteo	Rixton & Woolston - CP, Holcroft Lane	SJ700914	30/01/2014	2014	1	Adult		
BIRD	Goldfinch	Carduelis carduelis	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	06/09/2012	2012	8	Adult		
BIRD	Goldfinch	Carduelis carduelis	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	3	Adult		
BIRD	Goldfinch	Carduelis carduelis	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	03/03/2012	2012	5	Adult		
BIRD	Goldfinch	Carduelis carduelis	Rixton Clay Pits	SJ684905	05/06/2010	2010	2	Adult		
BIRD	Greenfinch	Chloris chloris	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	06/09/2012	2012	3	Adult		
BIRD	Greenfinch	Chloris chloris	Rixton Clay Pits	SJ684905	05/06/2010	2010	2	Adult		
INSECT - DRAGONFLY (ODONATA)	Azure Damselfly	Coenagrion puella	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	06/09/2012	2012	10	Adult	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Azure Damselfly	Coenagrion puella	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Azure Damselfly	Coenagrion puella		SJ687905	03/06/2014	2014	1	Adult Male	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Azure Damselfly	Coenagrion puella	Rixton Nature Reserve	SJ686904	31/07/2010	2010	1	Adult	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Azure Damselfly	Coenagrion puella		SJ685901	11/04/2011	2011	Present	Nymph	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Azure Damselfly	Coenagrion puella	Rixton Clay pits	SJ685907	31/05/2011	2011	1	None	IUCN LC	European/National Importance
BIRD	Jay	Garrulus glandarius	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	06/09/2012	2012	2	Adult		
BIRD	Jay	Garrulus glandarius	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	05/12/2009	2009	2	Adult		
BIRD	Jay	Garrulus glandarius	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
BIRD	Jay	Garrulus glandarius	Rixton Clay Pits, Rixton and Woolston	SJ6848190165	05/12/2009	2009	1	None		
BIRD	Swallow	Hirundo rustica	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	06/09/2012	2012	5	Adult	BAm [RSPB]	European/National Importance
BIRD	Swallow	Hirundo rustica	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	2	Adult	BAm [RSPB]	European/National Importance
BIRD	Swallow	Hirundo rustica	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult	BAm [RSPB]	European/National Importance
BIRD	Swallow	Hirundo rustica	Rixton Clay Pits	SJ684905	05/06/2010	2010	3	Adult	BAm [RSPB]	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Common Darter	Sympetrum striolatum	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	06/09/2012	2012	2	Adult	IUCN LC	European/National Importance
INSECT - DRAGONFLY	Common Darter	Sympetrum striolatum	Rixton Nature Reserve	SJ686904	31/07/2010	2010	1	Adult	IUCN LC	European/National Importance

Y (ODONATA)										
INSECT - DRAGONFL Y (ODONATA)	Common Darter	Sympetrum striolatum	Rixton Nature Reserve	SJ686904	31/07/2010	2010	1	Nymph	IUCN LC	European/Na tional Importance
BIRD	Chaffinch	Fringilla coelebs	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	03/03/2012	2012	3	Adult		
BIRD	Chaffinch	Fringilla coelebs	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	4	Adult		
BIRD	Chaffinch	Fringilla coelebs	Rixton Clay Pits	SJ684905	05/06/2010	2010	3	Adult Male		
BIRD	Chaffinch	Fringilla coelebs	Rixton Clay Pits	SJ684905	05/06/2010	2010	3	Male		
TERRESTRI AL MAMMAL	European Rabbit	Oryctolagus cuniculus	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	03/03/2012	2012	1	Adult		
TERRESTRI AL MAMMAL	European Rabbit	Oryctolagus cuniculus	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	05/06/2010	2010	2	Adult		
TERRESTRI AL MAMMAL	European Rabbit	Oryctolagus cuniculus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
TERRESTRI AL MAMMAL	European Rabbit	Oryctolagus cuniculus	Hollinfare	SJ6989119	02/05/2012	2012	1	None		
TERRESTRI AL MAMMAL	European Rabbit	Oryctolagus cuniculus	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult		
TERRESTRI AL MAMMAL	European Rabbit	Oryctolagus cuniculus	Rixton Claypits	SJ68481901 65	16/07/2008	2008	1	None		
TERRESTRI AL MAMMAL	European Rabbit	Oryctolagus cuniculus	Rixton Clay Pits, Rixton and Woolston	SJ68481901 65	05/12/2009	2009	1	None		
BIRD	Willow Tit	Poecile montana	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	06/09/2012	2012	1	Adult		
BIRD	Willow Tit	Poecile montana		SJ6889	30/01/2010	2010	1	None		
BIRD	Nuthatch	Sitta europaea	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	06/09/2012	2012	1	Adult		
BIRD	Nuthatch	Sitta europaea	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	03/03/2012	2012	2	Adult		
BIRD	Nuthatch	Sitta europaea		SJ684903	31/07/2010	2010	Present	None		
BIRD	Nuthatch	Sitta europaea	Rixton Clay Pits	SJ684905	05/06/2010	2010	One	Adult		
BIRD	Nuthatch	Sitta europaea	Rixton Claypits	SJ68469036	04/03/2006	2006	2	None		
BIRD	Oystercatche r	Haematopus ostralegus	Moat Lane Pool (North)	SJ683908	05/06/2010	2010	2	Adult	BAm [RSPB]	European/Na tional Importance
BIRD	Oystercatche r	Haematopus ostralegus	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult	BAm [RSPB]	European/Na tional Importance
BIRD	Grey Heron	Ardea cinerea	Rixton & Woolston - CP, Pool to W of Moat Lane	SJ683907	13/01/2013	2013	1	Adult		
BIRD	Grey Heron	Ardea cinerea	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	05/12/2009	2009	2	Adult		
BIRD	Grey Heron	Ardea cinerea	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	03/03/2012	2012	1	Adult		
BIRD	Grey Heron	Ardea cinerea	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
BIRD	Grey Heron	Ardea cinerea		SJ6890	12/06/2007	2007	Occasional	Adult		
BIRD	Little Grebe	Tachybaptus ruficollis	Rixton & Woolston - CP, Pool to W of Moat Lane	SJ683907	13/01/2013	2013	1	Adult	BAm [RSPB]	European/Na tional Importance
BIRD	Little Grebe	Tachybaptus ruficollis		SJ6889	06/03/2010	2010	1	None	BAm [RSPB]	European/Na tional Importance



BIRD	Mallard	Anas platyrhynchos	Rixton & Woolston - CP, Pool to W of Moat Lane	SJ683907	13/01/2013	2013	Numerous	Adult	BAm [RSPB]	European/National Importance
BIRD	Mallard	Anas platyrhynchos	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	03/03/2012	2012	10	Adult	BAm [RSPB]	European/National Importance
BIRD	Mallard	Anas platyrhynchos	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	05/12/2009	2009	30	Adult	BAm [RSPB]	European/National Importance
BIRD	Mallard	Anas platyrhynchos	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	4	Adult	BAm [RSPB]	European/National Importance
BIRD	Mallard	Anas platyrhynchos	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	5	None	BAm [RSPB]	European/National Importance
BIRD	Mallard	Anas platyrhynchos	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult	BAm [RSPB]	European/National Importance
BIRD	Mallard	Anas platyrhynchos	Moat Lane Pool (North)	SJ683908	05/06/2010	2010	2	Adult	BAm [RSPB]	European/National Importance
BIRD	Mallard	Anas platyrhynchos	Rixton Clay Pits, Rixton and Woolston	SJ6848190165	05/12/2009	2009	Present	None	BAm [RSPB]	European/National Importance
BIRD	Mallard	Anas platyrhynchos	Rixton Claypits	SJ68489043	04/03/2006	2006	Present	None	BAm [RSPB]	European/National Importance
BIRD	Mallard	Anas platyrhynchos	Rixton Claypits	SJ68539031	04/03/2006	2006	Present	None	BAm [RSPB]	European/National Importance
BIRD	Mallard	Anas platyrhynchos		SJ6890	12/06/2007	2007	Occasional	Adult	BAm [RSPB]	European/National Importance
BIRD	Mute Swan	Cygnus olor	Rixton & Woolston - CP, Pool to W of Moat Lane	SJ683907	13/01/2013	2013	1 Or 2	Adult		
BIRD	Mute Swan	Cygnus olor		SJ6890	12/06/2007	2007	Occasional	Adult		
BIRD	Coot	Fulica atra	Rixton & Woolston - CP, Pool to W of Moat Lane	SJ683907	13/01/2013	2013	Numerous	Adult		
BIRD	Coot	Fulica atra	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	05/12/2009	2009	10	Adult		
BIRD	Coot	Fulica atra	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	4	None		
BIRD	Coot	Fulica atra	Rixton & Woolston - CP, Rixton Clay Pits	SJ688902	11/07/2015	2015	Present	None		
BIRD	Coot	Fulica atra	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult		
BIRD	Coot	Fulica atra	Compartment Group B (Rixton Clay Pits)	SJ684905	24/12/2006	2006	69	Adult		
BIRD	Coot	Fulica atra	Rixton Clay Pits, Rixton and Woolston	SJ6848190165	05/12/2009	2009	Present	None		
BIRD	Coot	Fulica atra	Rixton Claypits	SJ68489043	04/03/2006	2006	Present	None		
BIRD	Coot	Fulica atra	Rixton Claypits	SJ68539031	04/03/2006	2006	Present	None		
BIRD	Coot	Fulica atra		SJ6890	12/06/2007	2007	Occasional	Adult		
BIRD	Canada Goose	Branta canadensis	Rixton & Woolston - CP, Pool to W of Moat Lane	SJ683907	13/01/2013	2013	Numerous	Adult	INNS, WCA9	Invasive Non-Native, European and UK Legal Protection
BIRD	Canada Goose	Branta canadensis	Rixton Claypits	SJ684905	24/12/2006	2006	3	None	INNS, WCA9	Invasive Non-Native, European and UK Legal Protection
BIRD	Canada Goose	Branta canadensis	Compartment Group B (Rixton Clay Pits)	SJ684905	24/12/2006	2006	3	Adult	INNS, WCA9	Invasive Non-Native, European and UK Legal Protection
BIRD	Canada Goose	Branta canadensis	Rixton Claypits	SJ684905	24/12/2006	2006	3	Adult	INNS, WCA9	Invasive Non-Native, European and UK

										Legal Protection
BIRD	Canada Goose	<i>Branta canadensis</i>		SJ6890	12/06/2007	2007	Occasional	Adult	INNS, WCA9	Invasive Non-Native, European and UK Legal Protection
BIRD	Coal Tit	<i>Pariparus ater</i>	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	03/03/2012	2012	1	Adult		
INSECT - TRUE BUG (HEMIPTERA)	<i>Cymus glandicolor</i>	<i>Cymus glandicolor</i>	Rixton & Woolston - CP, Rixton Claypits, on grasslands	SJ686902	11/08/2012	2012	2	Adult		
INSECT - TRUE FLY (DIPTERA)	<i>Sphagina clunipes</i>	<i>Sphagina clunipes</i>	Rixton & Woolston - CP, Rixton Claypits, wood	SJ687902	05/07/2013	2013	1	Female		
INSECT - TRUE FLY (DIPTERA)	<i>Helophilus pendulus</i>	<i>Helophilus pendulus</i>	Rixton & Woolston - CP, Rixton Claypits	SJ687902	05/07/2013	2013	1	Adult		
INSECT - TRUE FLY (DIPTERA)	<i>Helophilus pendulus</i>	<i>Helophilus pendulus</i>	Rixton & Woolston - CP, Rixton Claypits	SJ686901	07/09/2013	2013	1	Male		
INSECT - TRUE FLY (DIPTERA)	<i>Sphaerophoria scripta</i>	<i>Sphaerophoria scripta</i>	Rixton & Woolston - CP, Rixton Claypits	SJ685901	05/07/2013	2013	1	Male		
INSECT - TRUE FLY (DIPTERA)	<i>Neoscia tenur</i>	<i>Neoscia tenur</i>	Rixton & Woolston - CP, Rixton Claypits	SJ685901	05/07/2013	2013	1	Female		
INSECT - TRUE FLY (DIPTERA)	<i>Parhelophilus versicolor</i>	<i>Parhelophilus versicolor</i>	Rixton & Woolston - CP, Rixton Claypits	SJ685901	05/07/2013	2013	1	Male		
INSECT - TRUE FLY (DIPTERA)	<i>Parhelophilus frutetorum</i>	<i>Parhelophilus frutetorum</i>	Rixton & Woolston - CP, Rixton Claypits, car park	SJ688902	05/07/2013	2013	1	Male		
INSECT - TRUE FLY (DIPTERA)	<i>Xylota segnis</i>	<i>Xylota segnis</i>	Rixton & Woolston - CP, Rixton Claypits, car park	SJ688902	05/07/2013	2013	1	Adult		
INSECT - TRUE FLY (DIPTERA)	<i>Episyrphus balteatus</i>	<i>Episyrphus balteatus</i>	Rixton & Woolston - CP, Rixton Claypits, car park	SJ688902	05/07/2013	2013	1	Adult		
INSECT - TRUE FLY (DIPTERA)	<i>Syrpita pipiens</i>	<i>Syrpita pipiens</i>	Rixton & Woolston - CP, Rixton Claypits, car park	SJ688902	05/07/2013	2013	1	Adult		
INSECT - BEETLE (COLEOPTERA)	Gorse Weevil	<i>Exapion (Ulapium) ulicis</i>	Rixton Clay Pits	SJ686904	05/04/2009	2009	2	Adult		
INSECT - BEETLE (COLEOPTERA)	Perapion (Perapion) hydrolapathi	<i>Perapion (Perapion) hydrolapathi</i>	Rixton Clay Pits	SJ686904	22/06/2009	2009	1	Adult		
INSECT - BEETLE (COLEOPTERA)	<i>Oxystoma subulatum</i>	<i>Oxystoma subulatum</i>	Rixton Clay Pits	SJ686904	22/06/2009	2009	1	Adult		
INSECT - BEETLE (COLEOPTERA)	<i>Oxystoma subulatum</i>	<i>Oxystoma subulatum</i>	Rixton Clay Pits	SJ686904	02/08/2009	2009	1	Adult		
BIRD	Bullfinch	<i>Pyrrhula pyrrhula</i>	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	03/03/2012	2012	1	Adult	LBAP, BAm [RSPB], S41	Local Importance, European/National Importance, European and UK Legal Protection
BIRD	Bullfinch	<i>Pyrrhula pyrrhula</i>	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	05/12/2009	2009	1	Adult	LBAP, BAm [RSPB], S41	Local Importance, European/National Importance, European and UK Legal Protection
BIRD	Bullfinch	<i>Pyrrhula pyrrhula</i>		SJ6889	27/02/2010	2010	1	None	LBAP, BAm [RSPB], S41	Local Importance, European/National Importance, European and UK Legal Protection
BIRD	Bullfinch	<i>Pyrrhula pyrrhula</i>	Rixton Clay Pits, Rixton and Woolston	SJ6848190165	05/12/2009	2009	2	None	LBAP, BAm [RSPB], S41	Local Importance, European/National Importance, European and UK Legal Protection
BIRD	Goldcrest	<i>Regulus regulus</i>	Compartment C37, Rixton Clay Pits,	SJ684905	03/03/2012	2012	1	Adult		



			Rixton Clay Pits							
TERRESTRIAL MAMMAL	European Mole	Talpa europaea	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	03/03/2012	2012	1	Adult		
TERRESTRIAL MAMMAL	European Mole	Talpa europaea	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
BIRD	Song Thrush	Turdus philomelos	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	03/03/2012	2012	1	Male	LBAP, BRd [RSPB]	Local Importance, European/National Importance
BIRD	Song Thrush	Turdus philomelos	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	LBAP, BRd [RSPB]	Local Importance, European/National Importance
BIRD	Song Thrush	Turdus philomelos	Rixton Clay Pits	SJ684905	05/06/2010	2010	2	None	LBAP, BRd [RSPB]	Local Importance, European/National Importance
BIRD	Song Thrush	Turdus philomelos		SJ6889	30/01/2010	2010	8	None	LBAP, BRd [RSPB]	Local Importance, European/National Importance
BIRD	Song Thrush	Turdus philomelos		SJ6890	12/06/2007	2007	Occasional	Adult	LBAP, BRd [RSPB]	Local Importance, European/National Importance
BIRD	Mistle Thrush	Turdus viscivorus	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	03/03/2012	2012	2	Adult	BAm [RSPB]	European/National Importance
BIRD	Mistle Thrush	Turdus viscivorus	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	12/05/2009	2009	1	Adult	BAm [RSPB]	European/National Importance
INSECT - BUTTERFLY	Large White	Pieris brassicae	Rixton Claypits	SJ6890	24/08/2012	2012	6	None		
INSECT - BUTTERFLY	Large White	Pieris brassicae	Rixton Claypits	SJ6890	18/06/2012	2012	1	None		
INSECT - BUTTERFLY	Large White	Pieris brassicae	Rixton Clay Pits	SJ684905	05/06/2010	2010	1	Adult		
INSECT - BUTTERFLY	Large White	Pieris brassicae	Rixton Claypits	SJ6890	07/09/2012	2012	1	None		
INSECT - BUTTERFLY	Large White	Pieris brassicae	Rixton & Woolston - CP, Rixton Claypits	SJ685905	07/12/2014	2014	15	Adult		
INSECT - BUTTERFLY	Large White	Pieris brassicae	Rixton & Woolston - CP, Rixton Claypits	SJ685905	18/11/2014	2014	1	Adult		
INSECT - BUTTERFLY	Large White	Pieris brassicae	Rixton & Woolston - CP, Rixton Claypits	SJ685905	29/04/2014	2014	1	Adult		
INSECT - BUTTERFLY	Large White	Pieris brassicae	Rixton & Woolston - CP, Rixton Claypits	SJ685905	13/05/2012	2012	2	None		
INSECT - BUTTERFLY	Large White	Pieris brassicae	Rixton & Woolston - CP, Rixton Claypits	SJ6890	07/08/2013	2013	60	None		
INSECT - BUTTERFLY	Large White	Pieris brassicae	Rixton & Woolston - CP, Rixton Claypits	SJ6890	23/04/2013	2013	1	None		
INSECT - BUTTERFLY	Large White	Pieris brassicae	Rixton Claypits	SJ6890	13/07/2011	2011	7	None		
INSECT - BUTTERFLY	Large White	Pieris brassicae	The right hand path after the car park	SJ68469069	14/08/2010	2010	2	None		
INSECT - BUTTERFLY	Large White	Pieris brassicae	Rixton & Woolston - CP, Rixton Claypits	SJ6890	03/10/2013	2013	1	None		
INSECT - BUTTERFLY	Large White	Pieris brassicae	Rixton & Woolston - CP, Rixton Claypits	SJ6890	07/10/2013	2013	1	None		
INSECT - BUTTERFLY	Large White	Pieris brassicae	The right hand path after the car park	SJ68589067	14/08/2010	2010	4	None		
INSECT - BUTTERFLY	Large White	Pieris brassicae	The right hand path after the car park	SJ68489069	14/08/2010	2010	2	None		
INSECT - BUTTERFLY	Large White	Pieris brassicae	Rixton & Woolston - CP, Rixton Claypits	SJ685905	13/05/2013	2013	2	None		
BIRD	Delichon urbicum subsp. urbicum	Delichon urbicum subsp. urbicum	Rixton Clay Pits	SJ684905	05/06/2010	2010	1	Adult		
INSECT - BUTTERFLY	Common Blue	Polyommatus icarus	Rixton Clay Pits	SJ684905	05/06/2010	2010	15	Adult		



INSECT - BUTTERFLY	Common Blue	Polyommatus icarus	Rixton & Woolston - CP, Rixton Clay Pits	SJ688902	11/07/2015	2015	Present	None		
INSECT - BUTTERFLY	Common Blue	Polyommatus icarus	Rixton & Woolston - CP, Rixton Clay Pits	SJ685905	09/11/2014	2014	1	Adult		
INSECT - BUTTERFLY	Common Blue	Polyommatus icarus	Rixton & Woolston - CP, Rixton Clay Pits	SJ685905	15/05/2014	2014	1	Adult		
INSECT - BUTTERFLY	Common Blue	Polyommatus icarus	Rixton & Woolston - CP, Rixton Clay Pits	SJ685905	08/04/2014	2014	42	Adult		
INSECT - BUTTERFLY	Common Blue	Polyommatus icarus	Rixton & Woolston - CP, Rixton Clay Pits	SJ6890	21/09/2013	2013	1	None		
INSECT - BUTTERFLY	Common Blue	Polyommatus icarus	Rixton & Woolston - CP, Rixton Clay Pits	SJ6890	07/08/2013	2013	74	None		
INSECT - BUTTERFLY	Common Blue	Polyommatus icarus	Rixton & Woolston - CP, Rixton Clay Pits	SJ6890	03/06/2013	2013	1	None		
INSECT - BUTTERFLY	Common Blue	Polyommatus icarus	Rixton Nature Reserve	SJ686904	31/07/2010	2010	2	Adult		
INSECT - BUTTERFLY	Orange-tip	Anthocharis cardamines	Rixton Clay Pits	SJ684905	05/06/2010	2010	2	Male		
INSECT - BUTTERFLY	Orange-tip	Anthocharis cardamines	Rixton & Woolston - CP, Rixton Clay Pits	SJ685905	13/05/2012	2012	8	None		
INSECT - BUTTERFLY	Orange-tip	Anthocharis cardamines	Rixton & Woolston - CP, Rixton Clay Pits	SJ685905	17/04/2014	2014	49	Adult		
INSECT - BUTTERFLY	Orange-tip	Anthocharis cardamines	Rixton & Woolston - CP, Rixton Clay Pits	SJ685905	04/01/2014	2014	1	Adult		
INSECT - BUTTERFLY	Orange-tip	Anthocharis cardamines	Rixton & Woolston - CP, Rixton Clay Pits	SJ6890	07/05/2013	2013	19	None		
INSECT - BUTTERFLY	Orange-tip	Anthocharis cardamines	Rixton & Woolston - CP, Rixton Clay Pits	SJ6890	19/04/2013	2013	1	None		
INSECT - BUTTERFLY	Orange-tip	Anthocharis cardamines	Rixton Clay Pits	SJ6890	19/04/2011	2011	37	None		
INSECT - BUTTERFLY	Orange-tip	Anthocharis cardamines	Rixton Clay Pits	SJ6890	26/03/2012	2012	1	None		
INSECT - BUTTERFLY	Orange-tip	Anthocharis cardamines	Rixton Clay Pits	SJ6890	12/05/2012	2012	6	None		
INSECT - BUTTERFLY	Orange-tip	Anthocharis cardamines	Rixton & Woolston - CP, Rixton Clay Pits	SJ685905	13/05/2013	2013	8	None		
INSECT - BUTTERFLY	Painted Lady	Vanessa cardui	Rixton Clay Pits	SJ684905	05/06/2010	2010	1	Adult		
INSECT - BUTTERFLY	Painted Lady	Vanessa cardui	Rixton Clay Pits	SJ6890	24/08/2012	2012	1	None		
INSECT - BUTTERFLY	Painted Lady	Vanessa cardui	Rixton & Woolston - CP, Rixton Clay Pits	SJ685905	31/07/2014	2014	1	Adult		
INSECT - BUTTERFLY	Painted Lady	Vanessa cardui	Rixton & Woolston - CP, Rixton Clay Pits	SJ685905	08/04/2014	2014	3	Adult		
INSECT - BUTTERFLY	Painted Lady	Vanessa cardui	Rixton & Woolston - CP, Rixton Clay Pits	SJ6890	21/09/2013	2013	1	None		
INSECT - BUTTERFLY	Painted Lady	Vanessa cardui	Rixton & Woolston - CP, Rixton Clay Pits	SJ6890	14/05/2013	2013	1	None		
INSECT - BUTTERFLY	Painted Lady	Vanessa cardui	Rixton Clay Pits	SJ6890	26/09/2011	2011	1	None		
TERRESTRIAL MAMMAL	Eastern Grey Squirrel	Sciurus carolinensis	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	05/06/2010	2010	1	Adult	WCA9	European and UK Legal Protection
TERRESTRIAL MAMMAL	Eastern Grey Squirrel	Sciurus carolinensis		SJ6890	12/06/2007	2007	Occasional	Adult	WCA9	European and UK Legal Protection
BIRD	Fieldfare	Turdus pilaris	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	12/05/2009	2009	30	Adult	WCA1, BRd [RSPB]	European and UK Legal Protection, European/National Importance
FLOWERING PLANT	Creeping Cinquefoil	Potentilla reptans	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Creeping Cinquefoil	Potentilla reptans	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance

FLOWERING PLANT	Creeping Cinquefoil	Potentilla reptans		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
BIRD	Grey Wagtail	Motacilla cinerea	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	1	Adult	BAm [RSPB]	European/National Importance
FLOWERING PLANT	Skullcap	Scutellaria galericulata	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Skullcap	Scutellaria galericulata		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Wood Avens	Geum urbanum	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Wood Avens	Geum urbanum		SJ6890	27/06/2015	2015	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Wood Avens	Geum urbanum	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Wood Avens	Geum urbanum		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Bittersweet	Solanum dulcamara	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Bittersweet	Solanum dulcamara		SJ6890	27/06/2015	2015	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Bittersweet	Solanum dulcamara	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Bittersweet	Solanum dulcamara		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Bittersweet	Solanum dulcamara	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Yellow Iris	Iris pseudacorus	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Frequent	None	IUCN LC	European/National Importance
FLOWERING PLANT	Yellow Iris	Iris pseudacorus		SJ6890	27/06/2015	2015	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Yellow Iris	Iris pseudacorus	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Locally Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Yellow Iris	Iris pseudacorus	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	1	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Yellow Iris	Iris pseudacorus		SJ6890	12/06/2007	2007	Locally Frequent	Flowering	IUCN LC	European/National Importance
BIRD	Great Spotted Woodpecker	Dendrocopos major	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	12/05/2009	2009	1	Adult		
BIRD	Great Spotted Woodpecker	Dendrocopos major	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	03/03/2012	2012	1	Adult		
BIRD	Great Spotted Woodpecker	Dendrocopos major	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
BIRD	Great Spotted Woodpecker	Dendrocopos major	Rixton Clay Pits	SJ684905	05/06/2010	2010	2	Adult		
BIRD	Great Spotted Woodpecker	Dendrocopos major		SJ6890	12/06/2007	2007	Occasional	Adult		
BIRD	Gadwall	Anas strepera	Compartment C37, Rixton Clay Pits, Rixton Clay Pits	SJ684905	03/03/2012	2012	8	Adult	BAm [RSPB]	European/National Importance
BIRD	Shoveler	Anas clypeata	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	05/12/2009	2009	2	Adult	BAm [RSPB]	European/National Importance
BIRD	Shoveler	Anas clypeata	Rixton Claypits	SJ68539031	04/03/2006	2006	Present	None	BAm [RSPB]	European/National Importance
FLOWERING PLANT	Common Bird's-foot-trefoil	Lotus corniculatus	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Frequent	None	IUCN LC	European/National Importance
FLOWERING PLANT	Common Bird's-foot-trefoil	Lotus corniculatus		SJ6890	27/06/2015	2015	Locally Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Common Bird's-foot-trefoil	Lotus corniculatus	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Locally Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Common Bird's-foot-trefoil	Lotus corniculatus		SJ6890	12/06/2007	2007	Locally Frequent	Flowering	IUCN LC	European/National Importance



FLOWERING PLANT	Common Bird's-foot-trefoil	Lotus corniculatus	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	1	Flowering	IUCN LC	European/National Importance
BIRD	Blackcap	Sylvia atricapilla	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	4	Adult Male		
BIRD	Blackcap	Sylvia atricapilla	Rixton & Woolston - CP, Rixton Clay Pits	SJ688902	11/07/2015	2015	Present	None		
BIRD	Blackcap	Sylvia atricapilla	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult		
BIRD	Blackcap	Sylvia atricapilla	Rixton Clay Pits	SJ684905	05/06/2010	2010	1	Male		
FLOWERING PLANT	Bush Vetch	Vicia sepium	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Bush Vetch	Vicia sepium	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Bush Vetch	Vicia sepium	Rixton & Woolston - CP, Rixton Clay Pits	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Bush Vetch	Vicia sepium	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Celery-leaved Buttercup	Ranunculus sceleratus	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Celery-leaved Buttercup	Ranunculus sceleratus	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Celery-leaved Buttercup	Ranunculus sceleratus		SJ6890	12/06/2007	2007	Present	Flowering	IUCN LC	European/National Importance
BIRD	Chiffchaff	Phylloscopus collybita	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	3	Adult Male		
BIRD	Chiffchaff	Phylloscopus collybita	Rixton & Woolston - CP, Rixton Clay Pits	SJ688902	11/07/2015	2015	Present	None		
BIRD	Chiffchaff	Phylloscopus collybita	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult		
BIRD	Chiffchaff	Phylloscopus collybita	Moat Lane Pool (North)	SJ683908	05/06/2010	2010	2	Adult Male		
BIRD	Chiffchaff	Phylloscopus collybita	Rixton Clay Pits	SJ684905	05/06/2010	2010	Two	Male		
BIRD	Chiffchaff	Phylloscopus collybita	Moat Lane Pool(North)	SJ683908	05/06/2010	2010	One	Male		
BIRD	Chiffchaff	Phylloscopus collybita		SJ6890	12/06/2007	2007	Occasional	Adult		
TERRESTRIAL MAMMAL	Brown Rat	Rattus norvegicus	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	1	Adult		
FLOWERING PLANT	Common Vetch	Vicia sativa	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Common Vetch	Vicia sativa		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Curled Dock	Rumex crispus	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Frequent	None	IUCN LC	European/National Importance
FLOWERING PLANT	Curled Dock	Rumex crispus	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Curled Dock	Rumex crispus		SJ6890	12/06/2007	2007	Present	Flowering	IUCN LC	European/National Importance
INSECT - HYMENOPTERAN	Early Bumble Bee	Bombus (Pyrobombus) pratorum	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	1	Worker		
INSECT - HYMENOPTERAN	Early Bumble Bee	Bombus (Pyrobombus) pratorum	Rixton Claypits	SJ6848190165	16/07/2008	2008	1	None		
FLOWERING PLANT	Greater Spearwort	Ranunculus lingua	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hedge Woundwort	Stachys sylvatica	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hedge Woundwort	Stachys sylvatica		SJ6890	27/06/2015	2015	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Hedge Woundwort	Stachys sylvatica	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance



FLOWERING PLANT	Hedge Woundwort	Stachys sylvatica	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Hedge Woundwort	Stachys sylvatica	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Hedge Woundwort	Stachys sylvatica		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Hedge Woundwort	Stachys sylvatica	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Giant Hogweed	Heracleum mantegazzianum	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Frequent	None	INNS, WCA9	Invasive Non-Native, European and UK Legal Protection
BIRD	House Martin	Delichon urbicum	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	1	Adult	BAm [RSPB]	European/National Importance
BIRD	House Martin	Delichon urbicum	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	BAm [RSPB]	European/National Importance
BIRD	House Martin	Delichon urbicum		SJ6890	27/06/2015	2015	Few	Adult	BAm [RSPB]	European/National Importance
FLOWERING PLANT	Marsh Thistle	Cirsium palustre	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Marsh Thistle	Cirsium palustre		SJ6890	27/06/2015	2015	Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Marsh Thistle	Cirsium palustre	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Marsh Thistle	Cirsium palustre		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Marsh Thistle	Cirsium palustre	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Meadow Crane's-bill	Geranium pratense	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None		
FLOWERING PLANT	Meadow Crane's-bill	Geranium pratense	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
FLOWERING PLANT	Meadow Crane's-bill	Geranium pratense		SJ6890	12/06/2007	2007	Occasional	Flowering		
FLOWERING PLANT	Oxeye Daisy	Leucanthemum vulgare	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Oxeye Daisy	Leucanthemum vulgare		SJ6890	27/06/2015	2015	Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Oxeye Daisy	Leucanthemum vulgare	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Oxeye Daisy	Leucanthemum vulgare		SJ6890	12/06/2007	2007	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Ragged-Robin	Silene flos-cuculi	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Frequent	None		
FLOWERING PLANT	Ragged-Robin	Silene flos-cuculi		SJ6890	27/06/2015	2015	Locally Frequent	Flowering		
FLOWERING PLANT	Ragged-Robin	Silene flos-cuculi	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering		
FLOWERING PLANT	Ragged-Robin	Silene flos-cuculi	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Locally Frequent	Flowering		
FLOWERING PLANT	Ragged-Robin	Silene flos-cuculi		SJ6890	12/06/2007	2007	Locally Frequent	Flowering		
FLOWERING PLANT	Ragged-Robin	Silene flos-cuculi	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	1	Flowering		
FLOWERING PLANT	Red Clover	Trifolium pratense	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Abundant	None	IUCN LC	European/National Importance
FLOWERING PLANT	Red Clover	Trifolium pratense	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Red Clover	Trifolium pratense	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Red Clover	Trifolium pratense		SJ6890	27/06/2015	2015	Occasional	Flowering	IUCN LC	European/National Importance

FLOWERING PLANT	Red Clover	Trifolium pratense	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Red Clover	Trifolium pratense		SJ6890	12/06/2007	2007	Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Red Clover	Trifolium pratense	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Frequent	Flowering	IUCN LC	European/National Importance
BIRD	Reed Warbler	Acrocephalus scirpaceus	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	1	Adult Male		
BIRD	Reed Warbler	Acrocephalus scirpaceus	Rixton Clay Pits	SJ684905	05/06/2010	2010	One	Male		
BIRD	Rook	Corvus frugilegus	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	2	Adult		
FLOWERING PLANT	Silverweed	Potentilla anserina	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None		
FLOWERING PLANT	Silverweed	Potentilla anserina	Rixton & Woolston - CP, Rixton Clay Pits	SJ688902	11/07/2015	2015	Present	None		
FLOWERING PLANT	Silverweed	Potentilla anserina		SJ6890	12/06/2007	2007	Occasional	Flowering		
FLOWERING PLANT	Silverweed	Potentilla anserina	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering		
FLOWERING PLANT	Southern Marsh-orchid	Dactylorhiza praetermissa	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance
BIRD	Swift	Apus apus	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	4	Adult	BAm [RSPB]	European/National Importance
BIRD	Swift	Apus apus	Rixton Clay Pits	SJ684905	05/06/2010	2010	Three	Adult	BAm [RSPB]	European/National Importance
BIRD	Swift	Apus apus		SJ6890	12/06/2007	2007	Occasional	Adult	BAm [RSPB]	European/National Importance
BIRD	Swift	Apus apus	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Adult	BAm [RSPB]	European/National Importance
FLOWERING PLANT	Tufted Vetch	Vicia cracca	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Tufted Vetch	Vicia cracca		SJ6890	27/06/2015	2015	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Tufted Vetch	Vicia cracca	Rixton & Woolston - CP, Rixton Clay Pits	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Tufted Vetch	Vicia cracca		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Tufted Vetch	Vicia cracca	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	White Clover	Trifolium repens	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	Abundant	None	IUCN LC	European/National Importance
FLOWERING PLANT	White Clover	Trifolium repens	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	White Clover	Trifolium repens	Rixton & Woolston - CP, Rixton Clay Pits	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	White Clover	Trifolium repens	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	White Clover	Trifolium repens		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
BIRD	Whitethroat	Sylvia communis	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	2	Adult Male	BAm [RSPB]	European/National Importance
BIRD	Whitethroat	Sylvia communis	Rixton & Woolston - CP, Rixton Clay Pits	SJ688902	11/07/2015	2015	Present	None	BAm [RSPB]	European/National Importance
BIRD	Whitethroat	Sylvia communis	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult	BAm [RSPB]	European/National Importance
BIRD	Whitethroat	Sylvia communis		SJ6890	12/06/2007	2007	Occasional	Adult	BAm [RSPB]	European/National Importance
BIRD	Willow Warbler	Phylloscopus trochilus	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	14/06/2015	2015	1	Adult Male	BAm [RSPB]	European/National Importance

BIRD	Willow Warbler	Phylloscopus trochilus	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult	BAm [RSPB]	European/National Importance
BIRD	Willow Warbler	Phylloscopus trochilus		SJ6890	12/06/2007	2007	Occasional	Adult	BAm [RSPB]	European/National Importance
INSECT - BUTTERFLY	Speckled Wood	Pararge aegeria subsp. tircis	Rixton Claypits	SJ6890	15/10/2012	2012	1	None		
INSECT - BUTTERFLY	Speckled Wood	Pararge aegeria subsp. tircis	Rixton Claypits	SJ6890	01/09/2012	2012	17	None		
INSECT - BUTTERFLY	Speckled Wood	Pararge aegeria subsp. tircis	Rixton Claypits	SJ6890	22/05/2012	2012	1	None		
INSECT - BUTTERFLY	Purple Hairstreak	Favonius quercus	Rixton Claypits	SJ6890	03/09/2012	2012	1	None		
INSECT - BUTTERFLY	Purple Hairstreak	Favonius quercus	Rixton Claypits	SJ6890	22/07/2012	2012	13	None		
INSECT - BUTTERFLY	Purple Hairstreak	Favonius quercus	Rixton Claypits	SJ6890	07/07/2012	2012	1	None		
INSECT - BUTTERFLY	Purple Hairstreak	Favonius quercus	Rixton & Woolston - CP, Rixton Claypits	SJ685905	17/07/2014	2014	1	Adult		
INSECT - BUTTERFLY	Purple Hairstreak	Favonius quercus	Rixton & Woolston - CP, Rixton Claypits	SJ685905	22/09/2014	2014	1	Adult		
INSECT - BUTTERFLY	Purple Hairstreak	Favonius quercus	Rixton & Woolston - CP, Rixton Claypits	SJ685905	31/08/2014	2014	7	Adult		
INSECT - BUTTERFLY	Purple Hairstreak	Favonius quercus	Rixton & Woolston - CP, Rixton Claypits	SJ6890	16/07/2013	2013	1	None		
INSECT - BUTTERFLY	Purple Hairstreak	Favonius quercus	Rixton & Woolston - CP, Rixton Claypits	SJ6890	01/08/2013	2013	13	None		
INSECT - BUTTERFLY	Purple Hairstreak	Favonius quercus	Rixton Claypits	SJ6890	13/07/2011	2011	95	None		
INSECT - TRUE FLY (DIPTERA)	Herina frondescentiae	Herina frondescentiae	Rixton Claypits	SJ684901	03/06/2014	2014	1 Or 2	None		
INSECT - TRUE FLY (DIPTERA)	Herina frondescentiae	Herina frondescentiae	Rixton Claypits	SJ684902	03/06/2014	2014	2 Or 3	None		
INSECT - TRUE FLY (DIPTERA)	Herina frondescentiae	Herina frondescentiae	Rixton & Woolston - CP, Rixton Claypits	SJ685905	03/06/2014	2014	Present	Adult		
INSECT - TRUE FLY (DIPTERA)	Stratiomys potamida	Stratiomys potamida	Rixton Claypits	SJ684901	20/07/2014	2014	Present	None		
INSECT - TRUE FLY (DIPTERA)	Stratiomys potamida	Stratiomys potamida	Compartment C37, Rixton Clay Pits, Rixton Claypits	SJ686904	20/07/2014	2014	1	None		
INSECT - TRUE FLY (DIPTERA)	Nemotelus nigrinus	Nemotelus nigrinus	Rixton Claypits	SJ684901	03/06/2014	2014	Present	None		
INSECT - TRUE FLY (DIPTERA)	Rhagio scolopaceus	Rhagio scolopaceus	Rixton Claypits	SJ684901	03/06/2014	2014	Present	None		
INSECT - TRUE FLY (DIPTERA)	Rhagio scolopaceus	Rhagio scolopaceus	Rixton & Woolston - CP, Rixton Claypits	SJ685905	13/05/2012	2012	Abundant	Male		
INSECT - TRUE FLY (DIPTERA)	Rhagio scolopaceus	Rhagio scolopaceus	Rixton Clay Pits	SJ685906	03/06/2014	2014	1	None		
INSECT - TRUE FLY (DIPTERA)	Rhagio scolopaceus	Rhagio scolopaceus	Rixton & Woolston - CP, Rixton Claypits	SJ685905	13/05/2012	2012	1	None		
TERRESTRIAL MAMMAL	European Water Vole	Arvicola amphibius	Rixton Clay Pits	SJ684901	04/06/2009	2009	Present	None	LBAP, WCA5, S41, UKBAP	Local Importance, European and UK Legal Protection
TERRESTRIAL MAMMAL	European Water Vole	Arvicola amphibius	Rixton Clay Pits	SJ684903	22/06/2011	2011	1	None	LBAP, WCA5, S41, UKBAP	Local Importance, European and UK Legal Protection
INSECT - BUTTERFLY	Red Admiral	Vanessa atalanta	Rixton Claypits	SJ6890	01/03/2012	2012	1	None		
INSECT - BUTTERFLY	Red Admiral	Vanessa atalanta	Rixton Claypits	SJ6890	13/09/2012	2012	1	None		
INSECT - BUTTERFLY	Red Admiral	Vanessa atalanta	Rixton Claypits	SJ6890	22/07/2012	2012	2	None		
INSECT - BUTTERFLY	Red Admiral	Vanessa atalanta	Rixton & Woolston - CP, Rixton Clay Pits	SJ688902	11/07/2015	2015	Present	None		
INSECT - BUTTERFLY	Red Admiral	Vanessa atalanta	Rixton & Woolston - CP, Rixton Claypits	SJ685905	06/11/2014	2014	1	Adult		
INSECT - BUTTERFLY	Red Admiral	Vanessa atalanta	Rixton & Woolston - CP, Rixton Claypits	SJ685905	17/07/2014	2014	7	Adult		

INSECT - BUTTERFLY	Red Admiral	Vanessa atalanta	Rixton & Woolston - CP, Rixton Claypits	SJ685905	18/11/2014	2014	1	Adult		
INSECT - BUTTERFLY	Red Admiral	Vanessa atalanta	Rixton & Woolston - CP, Rixton Claypits	SJ6890	10/11/2013	2013	1	None		
INSECT - BUTTERFLY	Red Admiral	Vanessa atalanta	Rixton & Woolston - CP, Rixton Claypits	SJ6890	01/08/2013	2013	5	None		
INSECT - BUTTERFLY	Red Admiral	Vanessa atalanta	Rixton Claypits	SJ6890	13/07/2011	2011	6	None		
INSECT - BUTTERFLY	Red Admiral	Vanessa atalanta	The right hand path after the car park	SJ68469069	14/08/2010	2010	1	None		
INSECT - BUTTERFLY	Red Admiral	Vanessa atalanta	Rixton Claypits	SJ6890	12/07/2012	2012	2	None		
INSECT - BUTTERFLY	Hedge Brown	Pyronia tithonus subsp. britanniae	Rixton Claypits	SJ6890	04/08/2012	2012	101	None		
INSECT - BUTTERFLY	Hedge Brown	Pyronia tithonus subsp. britanniae	Rixton Claypits	SJ6890	12/07/2012	2012	1	None		
INSECT - BUTTERFLY	Hedge Brown	Pyronia tithonus subsp. britanniae	The right hand path after the car park	SJ68489069	14/08/2010	2010	3	None		
INSECT - BUTTERFLY	White-letter Hairstreak	Satyrrium w-album	Rixton Claypits	SJ6890	22/07/2012	2012	6	None	LBAP, WCA5, IUCN En, S41, UKBAP	Local Importance, European and UK Legal Protection, European/National Importance
INSECT - BUTTERFLY	White-letter Hairstreak	Satyrrium w-album	Rixton & Woolston - CP, Rixton Claypits	SJ685905	31/08/2014	2014	1	Adult	LBAP, WCA5, IUCN En, S41, UKBAP	Local Importance, European and UK Legal Protection, European/National Importance
INSECT - BUTTERFLY	White-letter Hairstreak	Satyrrium w-album	Rixton Claypits	SJ6890	13/07/2011	2011	5	None	LBAP, WCA5, IUCN En, S41, UKBAP	Local Importance, European and UK Legal Protection, European/National Importance
INSECT - BUTTERFLY	White-letter Hairstreak	Satyrrium w-album	Rixton Claypits	SJ6890	21/07/2012	2012	1	None	LBAP, WCA5, IUCN En, S41, UKBAP	Local Importance, European and UK Legal Protection, European/National Importance
INSECT - BUTTERFLY	White-letter Hairstreak	Satyrrium w-album	Rixton Nature Reserve	SJ686904	31/07/2010	2010	3	Adult	LBAP, WCA5, IUCN En, S41, UKBAP	Local Importance, European and UK Legal Protection, European/National Importance
INSECT - BUTTERFLY	Small Skipper	Thymelicus sylvestris	Rixton Claypits	SJ6890	22/07/2012	2012	11	None		
INSECT - BUTTERFLY	Small Skipper	Thymelicus sylvestris	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - BUTTERFLY	Small Skipper	Thymelicus sylvestris	Rixton & Woolston - CP, Rixton Claypits	SJ685905	17/07/2014	2014	79	Adult		
INSECT - BUTTERFLY	Small Skipper	Thymelicus sylvestris	Rixton & Woolston - CP, Rixton Claypits	SJ6890	12/07/2013	2013	63	None		
INSECT - BUTTERFLY	Small Skipper	Thymelicus sylvestris	Rixton & Woolston - CP, Rixton Claypits	SJ6890	07/07/2013	2013	1	None		
INSECT - BUTTERFLY	Small Skipper	Thymelicus sylvestris	Rixton Claypits	SJ6890	13/07/2011	2011	20	None		
INSECT - BUTTERFLY	Small Skipper	Thymelicus sylvestris	Rixton Claypits	SJ6890	07/07/2012	2012	1	None		
INSECT - BUTTERFLY	Common Blue	Polyommatus icarus subsp. mariscolore	Rixton Claypits	SJ6890	19/09/2012	2012	1	None		
INSECT - BUTTERFLY	Common Blue	Polyommatus icarus subsp. mariscolore	Rixton Claypits	SJ6890	23/05/2012	2012	1	None		
INSECT - BUTTERFLY	Common Blue	Polyommatus icarus subsp. mariscolore	Rixton Claypits	SJ6890	27/05/2012	2012	31	None		
INSECT - TRUE FLY (DIPTERA)	Chrysops relictus	Chrysops relictus	Rixton & Woolston - CP, Rixton Claypits, near Visitors Centre	SJ686901	11/08/2012	2012	1	Adult		

INSECT - TRUE FLY (DIPTERA)	Chrysops relictus	Chrysops relictus	Rixton & Woolston - CP, Rixton Claypits, car park	SJ687902	05/07/2013	2013	1	Female		
INSECT - TRUE FLY (DIPTERA)	Tipula oleracea	Tipula oleracea	Rixton & Woolston - CP, Rixton Claypits, near Visitors Centre	SJ686901	11/08/2012	2012	1	Adult Male		
INSECT - TRUE FLY (DIPTERA)	Tipula oleracea	Tipula oleracea	Rixton & Woolston - CP, Rixton Claypits, on grasslands	SJ686902	11/08/2012	2012	1	Adult Female		
TERRESTRIAL MAMMAL	Fallow Deer	Dama dama	manchester rd vis centre	SJ686901	02/11/2011	2011	1	None		
INSECT - BEETLE (COLEOPTERA)	7-spot Ladybird	Coccinella septempunctata		SJ686901	07/09/2013	2013	1	Adult		
INSECT - BEETLE (COLEOPTERA)	7-spot Ladybird	Coccinella septempunctata	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Larvae		
INSECT - BEETLE (COLEOPTERA)	7-spot Ladybird	Coccinella septempunctata		SJ684903	03/06/2014	2014	1	Adult		
INSECT - BEETLE (COLEOPTERA)	7-spot Ladybird	Coccinella septempunctata		SJ68569016	05/12/2009	2009	20	Adult		
INSECT - BEETLE (COLEOPTERA)	7-spot Ladybird	Coccinella septempunctata	Rixton & Woolston - CP, Cornfield annual patch on roadside verge	SJ699913	05/09/2013	2013	Present	Adult		
INSECT - BEETLE (COLEOPTERA)	Cream-spot Ladybird	Calvia quatuordecimguttata		SJ686901	07/09/2013	2013	1	Adult		
INSECT - BEETLE (COLEOPTERA)	14-spot Ladybird	Propylea quatuordecimpunctata		SJ686901	07/09/2013	2013	1	Adult		
INSECT - BEETLE (COLEOPTERA)	14-spot Ladybird	Propylea quatuordecimpunctata	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Larvae		
INSECT - BEETLE (COLEOPTERA)	14-spot Ladybird	Propylea quatuordecimpunctata	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - BEETLE (COLEOPTERA)	14-spot Ladybird	Propylea quatuordecimpunctata		SJ684903	03/06/2014	2014	1	Adult		
INSECT - BEETLE (COLEOPTERA)	14-spot Ladybird	Propylea quatuordecimpunctata	Rixton & Woolston - CP, Cornfield annual patch on roadside verge	SJ699913	05/09/2013	2013	Present	Adult		
INSECT - TRUE FLY (DIPTERA)	Microchrysa flavicornis	Microchrysa flavicornis	Rixton & Woolston - CP, Rixton Claypits	SJ686901	07/09/2013	2013	1	Female		
INSECT - TRUE FLY (DIPTERA)	Molophilus appendiculatus	Molophilus appendiculatus	Rixton & Woolston - CP, Rixton Claypits	SJ686901	07/09/2013	2013	1	Male		
INSECT - TRUE FLY (DIPTERA)	Molophilus griseus	Molophilus griseus	Rixton & Woolston - CP, Rixton Claypits	SJ686901	07/09/2013	2013	2	Male		
INSECT - TRUE FLY (DIPTERA)	Tipula paludosa	Tipula paludosa	Rixton & Woolston - CP, Rixton Claypits	SJ686901	07/09/2013	2013	1	Female		
INSECT - TRUE BUG (HEMIPTERA)	Common Flower Bug	Anthrenus nemorum	Rixton & Woolston - CP, Rixton Claypits	SJ686901	07/09/2013	2013	1	Male		
INSECT - TRUE BUG (HEMIPTERA)	Common Flower Bug	Anthrenus nemorum	Rixton & Woolston - CP, Rixton Claypits	SJ686901	07/09/2013	2013	1	Female		
INSECT - TRUE BUG (HEMIPTERA)	Common Flower Bug	Anthrenus nemorum	Rixton & Woolston - CP, Area 4, Rixton Claypits	SJ684909	25/03/2015	2015	1	Female		
INSECT - TRUE BUG (HEMIPTERA)	Deraeocoris (Knightocapsus) lutescens	Deraeocoris (Knightocapsus) lutescens	Rixton & Woolston - CP, Rixton Claypits	SJ686901	07/09/2013	2013	1	Female		
INSECT - TRUE BUG (HEMIPTERA)	Common Green Capsid	Lygocoris (Lygocoris) pabulinus	Rixton & Woolston - CP, Rixton Claypits	SJ686901	07/09/2013	2013	2	Male		
INSECT - TRUE BUG (HEMIPTERA)	Bracken Bug	Monalocoris (Monalocoris) filicis	Rixton & Woolston - CP, Rixton Claypits	SJ686901	07/09/2013	2013	1	Female		
INSECT - TRUE BUG (HEMIPTERA)	Orthops (Orthops) campestris	Orthops (Orthops) campestris	Rixton & Woolston - CP, Rixton Claypits	SJ686901	07/09/2013	2013	1	Male		
INSECT - TRUE BUG	Temnostethus	Temnostethus	Rixton & Woolston -	SJ686901	07/09/2013	2013	1	Male		



(HEMIPTER A)	(Montandoniella) pusillus	(Montandoniella) pusillus	CP, Rixton Claypits							
INSECT - TRUE BUG (HEMIPTER A)	Green Shieldbug	Palomena prasina	Rixton & Woolston - CP, Rixton Claypits	SJ686901	07/09/2013	2013	1	Adult		
BIRD	Robin	Erithacus rubecula	Rixton Clay Pits, Rixton, Warrington	SJ68629016	05/12/2009	2009	1	Adult		
BIRD	Robin	Erithacus rubecula	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
BIRD	Robin	Erithacus rubecula	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult		
BIRD	Robin	Erithacus rubecula	Rixton Clay Pits, Rixton and Woolston	SJ6848190165	05/12/2009	2009	1	None		
INSECT - BUTTERFLY	Small White	Pieris rapae	Rixton Claypits	SJ6890	19/10/2012	2012	1	None		
INSECT - BUTTERFLY	Small White	Pieris rapae	Rixton Claypits	SJ6890	24/08/2012	2012	3	None		
INSECT - BUTTERFLY	Small White	Pieris rapae	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - BUTTERFLY	Small White	Pieris rapae	Rixton & Woolston - CP, Rixton Claypits	SJ685905	09/12/2014	2014	1	Adult		
INSECT - BUTTERFLY	Small White	Pieris rapae	Rixton & Woolston - CP, Rixton Claypits	SJ685905	07/12/2014	2014	1	Adult		
INSECT - BUTTERFLY	Small White	Pieris rapae	Rixton & Woolston - CP, Rixton Claypits	SJ685905	17/07/2014	2014	7	Adult		
INSECT - BUTTERFLY	Small White	Pieris rapae	Rixton & Woolston - CP, Rixton Claypits	SJ6890	01/08/2013	2013	57	None		
INSECT - BUTTERFLY	Small White	Pieris rapae	Rixton & Woolston - CP, Rixton Claypits	SJ6890	17/05/2013	2013	1	None		
INSECT - BUTTERFLY	Small White	Pieris rapae	Rixton Claypits	SJ6890	26/07/2011	2011	2	None		
INSECT - BUTTERFLY	Small White	Pieris rapae	The right hand path after the car park	SJ68469069	14/08/2010	2010	6	None		
INSECT - BUTTERFLY	Small White	Pieris rapae	Rixton & Woolston - CP, Rixton Claypits	SJ6890	17/10/2013	2013	1	None		
INSECT - BUTTERFLY	Small White	Pieris rapae	The right hand path after the car park	SJ68589067	14/08/2010	2010	4	None		
INSECT - BUTTERFLY	Small White	Pieris rapae	The right hand path after the car park	SJ68489069	14/08/2010	2010	5	None		
FLOWERING PLANT	American Willowherb	Epilobium ciliatum		SJ6890	27/06/2015	2015	Occasional	Flowering		
FLOWERING PLANT	Yellow-rattle	Rhinanthus minor		SJ6890	27/06/2015	2015	Occasional	Fruiting	IUCN LC	European/National Importance
FLOWERING PLANT	Yellow-rattle	Rhinanthus minor	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Yellow-rattle	Rhinanthus minor	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
INSECT - BUTTERFLY	Comma	Polygonia c-album	Rixton Claypits	SJ6890	15/10/2012	2012	1	None		
INSECT - BUTTERFLY	Comma	Polygonia c-album	Rixton Claypits	SJ6890	22/07/2012	2012	3	None		
INSECT - BUTTERFLY	Comma	Polygonia c-album	Rixton Claypits	SJ6890	23/03/2012	2012	1	None		
INSECT - BUTTERFLY	Comma	Polygonia c-album	Rixton & Woolston - CP, Rixton Claypits	SJ685905	17/07/2014	2014	6	Adult		
INSECT - BUTTERFLY	Comma	Polygonia c-album	Rixton & Woolston - CP, Rixton Claypits	SJ685905	03/09/2014	2014	1	Adult		
INSECT - BUTTERFLY	Comma	Polygonia c-album	Rixton & Woolston - CP, Rixton Claypits	SJ685905	11/05/2014	2014	1	Adult		
INSECT - BUTTERFLY	Comma	Polygonia c-album	Rixton & Woolston - CP, Rixton Claypits	SJ6890	17/10/2013	2013	1	None		
INSECT - BUTTERFLY	Comma	Polygonia c-album	Rixton & Woolston -	SJ6890	07/08/2013	2013	5	None		



			CP, Rixton Claypits							
INSECT - BUTTERFLY	Comma	Polygonia c-album	Rixton & Woolston - CP, Rixton Claypits	SJ6890	16/04/2013	2013	1	None		
INSECT - BUTTERFLY	Comma	Polygonia c-album	Rixton Claypits	SJ6890	19/04/2011	2011	3	None		
INSECT - BUTTERFLY	Comma	Polygonia c-album	Rixton Claypits	SJ6890	13/07/2011	2011	3	None		
INSECT - BUTTERFLY	Comma	Polygonia c-album	The right hand path after the car park	SJ68489069	14/08/2010	2010	1	None		
FLOWERING PLANT	Northern Marsh-orchid	Dactylorhiza purpurella		SJ6890	27/06/2015	2015	Locally Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Northern Marsh-orchid	Dactylorhiza purpurella	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Locally Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Northern Marsh-orchid	Dactylorhiza purpurella		SJ6890	12/06/2007	2007	Locally Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Northern Marsh-orchid	Dactylorhiza purpurella	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	1	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Crested Dog's-tail	Cynosurus cristatus		SJ6890	27/06/2015	2015	Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Crested Dog's-tail	Cynosurus cristatus	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Crested Dog's-tail	Cynosurus cristatus	Warburton Bridge vc59	SJ6989	13/06/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Crested Dog's-tail	Cynosurus cristatus		SJ6890	12/06/2007	2007	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Crested Dog's-tail	Cynosurus cristatus	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Cyperus Sedge	Carex pseudocyperus		SJ6890	27/06/2015	2015	Locally Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Cyperus Sedge	Carex pseudocyperus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Cyperus Sedge	Carex pseudocyperus	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Locally Abundant	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Cyperus Sedge	Carex pseudocyperus		SJ6890	12/06/2007	2007	Locally Abundant	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Cyperus Sedge	Carex pseudocyperus	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Yorkshire-fog	Holcus lanatus		SJ6890	27/06/2015	2015	Abundant	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Selfheal	Prunella vulgaris		SJ6890	27/06/2015	2015	Locally Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Selfheal	Prunella vulgaris	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Selfheal	Prunella vulgaris	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Selfheal	Prunella vulgaris		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Yellow-wort	Blackstonia perfoliata		SJ6890	27/06/2015	2015	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Yellow-wort	Blackstonia perfoliata	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Yellow-wort	Blackstonia perfoliata	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Yellow-wort	Blackstonia perfoliata		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Rose	Rosa		SJ6890	27/06/2015	2015	Occasional	Flowering		
FLOWERING PLANT	Marsh-bedstraw	Galium palustre		SJ6890	27/06/2015	2015	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Marsh-bedstraw	Galium palustre	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance



FLOWERING PLANT	Marsh-bedstraw	Galium palustre	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Marsh-bedstraw	Galium palustre		SJ6890	12/06/2007	2007	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Meadow Vetchling	Lathyrus pratensis		SJ6890	27/06/2015	2015	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Meadow Vetchling	Lathyrus pratensis	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Meadow Vetchling	Lathyrus pratensis	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Meadow Vetchling	Lathyrus pratensis		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Meadow Vetchling	Lathyrus pratensis	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Hemp-agrimony	Eupatorium cannabinum		SJ6890	27/06/2015	2015	Occasional	Inleaf	IUCN LC	European/National Importance
FLOWERING PLANT	Hemp-agrimony	Eupatorium cannabinum	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hemp-agrimony	Eupatorium cannabinum	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Forget-Me-Not	Myosotis		SJ6890	27/06/2015	2015	Occasional	Flowering		
FLOWERING PLANT	Indet. Comfrey	Symphytum		SJ6890	27/06/2015	2015	Occasional	Flowering		
FLOWERING PLANT	Bee Orchid	Ophrys apifera		SJ6890	27/06/2015	2015	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Eyebright	Euphrasia		SJ6890	27/06/2015	2015	Occasional	Flowering		
FLOWERING PLANT	Honeysuckle	Lonicera periclymenum		SJ6890	27/06/2015	2015	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Honeysuckle	Lonicera periclymenum	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Honeysuckle	Lonicera periclymenum	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Honeysuckle	Lonicera periclymenum		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Gorse	Ulex europaeus		SJ6890	27/06/2015	2015	Occasional	Fruiting	IUCN LC	European/National Importance
FLOWERING PLANT	Gorse	Ulex europaeus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Gorse	Ulex europaeus	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Gorse	Ulex europaeus		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Gorse	Ulex europaeus	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Garden Angelica	Angelica archangelica	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None		
INSECT - BEETLE (COLEOPTERA)	Water Ladybird	Anisosticta novemdecim punctata	Rixton & Woolston - CP, Rixton Claypits, Area 3	SJ684902	25/03/2015	2015	1	Adult Male		
INSECT - BEETLE (COLEOPTERA)	Water Ladybird	Anisosticta novemdecim punctata		SJ68569016	05/12/2009	2009	1	Adult		
INSECT - TRUE FLY (DIPTERA)	Lonchoptera lutea	Lonchoptera lutea	Rixton & Woolston - CP, Area 3, Rixton Claypits	SJ684902	25/03/2015	2015	1	Female		
INSECT - TRUE FLY (DIPTERA)	Lispocephala erythrocerata	Lispocephala erythrocerata	Rixton & Woolston - CP, Area 3, Rixton Claypits	SJ684902	25/03/2015	2015	2	Female		
INSECT - TRUE FLY (DIPTERA)	Lispocephala erythrocerata	Lispocephala erythrocerata	Rixton & Woolston - CP, Area 4, Rixton Claypits	SJ684909	25/03/2015	2015	1	Female		

INSECT - BEETLE (COLEOPTERA)	Haliplus (Haliplus) obliquus	Haliplus (Haliplus) obliquus		SJ685901	11/04/2011	2011	Present	None		
INSECT - TRUE FLY (DIPTERA)	Oplodontha viridula	Oplodontha viridula	Rixton & Woolston - CP, Rixton Claypits	SJ685901	05/07/2013	2013	1	Male		
INSECT - BUTTERFLY	Holly Blue	Celastrina argiolus subsp. britanna	Rixton Claypits	SJ6890	24/08/2012	2012	6	None		
INSECT - BUTTERFLY	Holly Blue	Celastrina argiolus subsp. britanna	Rixton Claypits	SJ6890	08/05/2012	2012	1	None		
INSECT - BUTTERFLY	Holly Blue	Celastrina argiolus subsp. britanna	Rixton Claypits	SJ6890	26/07/2011	2011	4	None		
FLOWERING PLANT	Osier	Salix viminalis	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Osier	Salix viminalis	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Silver Birch	Betula pendula	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Silver Birch	Betula pendula	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Wild Angelica	Angelica sylvestris	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Wild Angelica	Angelica sylvestris	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Wild Angelica	Angelica sylvestris	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Wild Angelica	Angelica sylvestris		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Cat's-ear	Hypochaeris radicata	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Cat's-ear	Hypochaeris radicata	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Cat's-ear	Hypochaeris radicata		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
INSECT - BUTTERFLY	Brimstone	Gonepteryx rhamni	Rixton Claypits	SJ6890	24/03/2012	2012	1	None		
INSECT - BUTTERFLY	Brimstone	Gonepteryx rhamni	Rixton Claypits	SJ6890	07/09/2012	2012	1	None		
INSECT - BUTTERFLY	Brimstone	Gonepteryx rhamni	Rixton & Woolston - CP, Rixton Claypits	SJ685905	28/08/2014	2014	1	Adult		
INSECT - BUTTERFLY	Brimstone	Gonepteryx rhamni	Rixton & Woolston - CP, Rixton Claypits	SJ685905	15/04/2014	2014	8	Adult		
INSECT - BUTTERFLY	Brimstone	Gonepteryx rhamni	Rixton & Woolston - CP, Rixton Claypits	SJ685905	03/09/2014	2014	1	Adult		
INSECT - BUTTERFLY	Brimstone	Gonepteryx rhamni	Rixton & Woolston - CP, Rixton Claypits	SJ6890	07/05/2013	2013	6	None		
INSECT - BUTTERFLY	Brimstone	Gonepteryx rhamni	Rixton & Woolston - CP, Rixton Claypits	SJ6890	16/04/2013	2013	1	None		
INSECT - BUTTERFLY	Brimstone	Gonepteryx rhamni	Rixton Claypits	SJ6890	19/04/2011	2011	2	None		
INSECT - BUTTERFLY	Brimstone	Gonepteryx rhamni	Rixton & Woolston - CP, Rixton Claypits	SJ6890	08/10/2013	2013	1	None		
FERN	Bracken	Pteridium aquilinum	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	White Dead-nettle	Lamium album	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Apple	Malus pumila	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None		
FLOWERING PLANT	Reed Canary-grass	Phalaris arundinacea	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Reed Canary-grass	Phalaris arundinacea	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Greater Stitchwort	Stellaria holostea	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance

FLOWERING PLANT	Common Sorrel	Rumex acetosa	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
INSECT - TRUE BUG (HEMIPTERA)	Liocoris tripustulatus	Liocoris tripustulatus	Rixton & Woolston - CP, Rixton Claypits, near Visitors Centre	SJ687902	11/08/2012	2012	1	Adult		
INSECT - TRUE FLY (DIPTERA)	Tipula lateralis	Tipula lateralis	Rixton & Woolston - CP, Rixton Claypits, on grasslands	SJ686902	11/08/2012	2012	1	Adult Male		
INSECT - TRUE FLY (DIPTERA)	Molophilus obscurus	Molophilus obscurus	Rixton & Woolston - CP, Rixton Claypits, on grasslands	SJ686902	11/08/2012	2012	3	Adult Male		
INSECT - TRUE FLY (DIPTERA)	Phylidorea ferruginea	Phylidorea ferruginea	Rixton & Woolston - CP, Rixton Claypits, on grasslands	SJ686902	11/08/2012	2012	1	Adult Male		
INSECT - TRUE FLY (DIPTERA)	Prionocera turcica	Prionocera turcica	Rixton & Woolston - CP, Rixton Claypits, on grasslands	SJ686902	11/08/2012	2012	2	Adult Male		
INSECT - TRUE FLY (DIPTERA)	Tipula couckeii	Tipula couckeii	Rixton & Woolston - CP, Rixton Claypits, on grasslands	SJ686902	11/08/2012	2012	1	Adult Female		
INSECT - TRUE FLY (DIPTERA)	Chloromyia formosa	Chloromyia formosa	Rixton & Woolston - CP, Rixton Claypits, car park	SJ687902	05/07/2013	2013	1	Female		
INSECT - TRUE BUG (HEMIPTERA)	Forest Bug	Pentatoma rufipes	Rixton & Woolston - CP, Rixton Claypits, car park	SJ687902	05/07/2013	2013	1	None		
INSECT - TRUE BUG (HEMIPTERA)	Forest Bug	Pentatoma rufipes	Rixton & Woolston - CP, Rixton Claypits, car park	SJ687902	05/07/2013	2013	1	Final Instar		
INSECT - TRUE FLY (DIPTERA)	Beris morrisii	Beris morrisii	Rixton & Woolston - CP, as above	SJ686902	03/06/2014	2014	3	None		
INSECT - MOTH	Cinnabar	Tyria jacobaeae	Rixton & Woolston - CP, Rixton Claypits, car park	SJ687902	11/08/2012	2012	1	Larvae	S41, UKBAP	European and UK Legal Protection
INSECT - MOTH	Cinnabar	Tyria jacobaeae	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Larvae	S41, UKBAP	European and UK Legal Protection
INSECT - MOTH	Cinnabar	Tyria jacobaeae	Rixton Clay pits	SJ685907	31/05/2011	2011	1	None	S41, UKBAP	European and UK Legal Protection
INSECT - MOTH	Cinnabar	Tyria jacobaeae		SJ686901	03/06/2014	2014	1	Adult	S41, UKBAP	European and UK Legal Protection
INSECT - HYMENOPTERAN	Vestal Cuckoo Bee	Bombus (Psithyrus) vestalis	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
FLOWERING PLANT	Wild Teasel	Dipsacus fullonum	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Common Blue Damselfly	Enallagma cyathigerum	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Female	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Common Blue Damselfly	Enallagma cyathigerum		SJ6890	27/06/2015	2015	Many	Adult	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Common Blue Damselfly	Enallagma cyathigerum		SJ6890	12/06/2007	2007	Occasional	Adult	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Common Blue Damselfly	Enallagma cyathigerum	Rixton Nature Reserve	SJ686904	31/07/2010	2010	1	Adult	IUCN LC	European/National Importance
FLOWERING PLANT	Bog-myrtle	Myrica gale	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Common Knapweed	Centaurea nigra	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Common Knapweed	Centaurea nigra	Rixton	SJ6889	17/05/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Common Knapweed	Centaurea nigra	Warburton Bridge	SJ6989	12/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Common Knapweed	Centaurea nigra	Warburton Bridge	SJ6990	24/01/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Common Knapweed	Centaurea nigra	Hollins Green	SJ7091	24/01/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Red Bartsia	Odontites vernus	Rixton & Woolston -	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance



			CP, Rixton Clay Pits.							
FLOWERING PLANT	Wych Elm	Ulmus glabra	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Greater Burdock	Arcium lappa	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Greater Burdock	Arcium lappa	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Greater Bird's-foot-trefoil	Lotus pedunculatus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Greater Bird's-foot-trefoil	Lotus pedunculatus	Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Jointed Rush	Juncus articulatus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Southern Hawker	Aeshna cyanea	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Southern Hawker	Aeshna cyanea		SJ68519018	31/07/2010	2010	Present	None	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Southern Hawker	Aeshna cyanea	Rixton Nature Reserve	SJ686904	31/07/2010	2010	1	Adult	IUCN LC	European/National Importance
FERN	Hart's-tongue	Phyllitis scolopendrium	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FERN	Hart's-tongue	Phyllitis scolopendrium	Rixton & Woolston - CP, Rixton Claypits, Area 1	SJ685904	25/03/2015	2015	Frequent	Inleaf	IUCN LC	European/National Importance
FERN	Hart's-tongue	Phyllitis scolopendrium	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Inleaf	IUCN LC	European/National Importance
FERN	Hart's-tongue	Phyllitis scolopendrium		SJ6890	12/06/2007	2007	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Wood-sedge	Carex sylvatica	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Eyebright	Euphrasia nemorosa	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Eyebright	Euphrasia nemorosa	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Eyebright	Euphrasia nemorosa		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Grey Alder	Alnus incana	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
FLOWERING PLANT	Colt's-foot	Tussilago farfara	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Colt's-foot	Tussilago farfara	Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Amphibious Bistort	Persicaria amphibia	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Amphibious Bistort	Persicaria amphibia	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Yellow Water-lily	Nuphar lutea	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Redshank	Persicaria maculosa	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Slender Rush	Juncus tenuis	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
FLOWERING PLANT	Common Dog-violet	Viola riviniana	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance



FLOWERING PLANT	Thyme-leaved Speedwell	Veronica serpyllifolia	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Purple Moor-grass	Molinia caerulea	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hedge Bindweed	Calystegia sepium	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Hedge Bindweed	Calystegia sepium	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Hedge Bindweed	Calystegia sepium		SJ6890	12/06/2007	2007	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Monk's-hood	Aconitum napellus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - MOTH	Shaded Broad-bar	Scotopteryx chenopodiata	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	S41, UKBAP	European and UK Legal Protection
INSECT - BUTTERFLY	Speckled Wood	Pararge aegeria	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - BUTTERFLY	Speckled Wood	Pararge aegeria	Rixton & Woolston - CP, Rixton Claypits	SJ685905	10/03/2014	2014	1	Adult		
INSECT - BUTTERFLY	Speckled Wood	Pararge aegeria	Rixton & Woolston - CP, Rixton Claypits	SJ685905	09/08/2014	2014	42	Adult		
INSECT - BUTTERFLY	Speckled Wood	Pararge aegeria	Rixton & Woolston - CP, Rixton Claypits	SJ685905	15/04/2014	2014	1	Adult		
INSECT - BUTTERFLY	Speckled Wood	Pararge aegeria	Rixton & Woolston - CP, Rixton Claypits	SJ685905	13/05/2012	2012	1	None		
INSECT - BUTTERFLY	Speckled Wood	Pararge aegeria	Rixton & Woolston - CP, Rixton Claypits	SJ6890	06/05/2013	2013	1	None		
INSECT - BUTTERFLY	Speckled Wood	Pararge aegeria	Rixton Claypits	SJ6890	23/08/2011	2011	30	None		
INSECT - BUTTERFLY	Speckled Wood	Pararge aegeria	Rixton & Woolston - CP, Rixton Claypits	SJ6890	04/09/2013	2013	38	None		
INSECT - BUTTERFLY	Speckled Wood	Pararge aegeria	Compartment C37, Rixton Clay Pits	SJ685905	03/06/2014	2014	1	Adult		
INSECT - BUTTERFLY	Speckled Wood	Pararge aegeria		SJ6890	27/06/2015	2015	Few	Adult		
INSECT - BUTTERFLY	Speckled Wood	Pararge aegeria	Rixton & Woolston - CP, Rixton Claypits	SJ6890	30/09/2013	2013	1	None		
INSECT - BUTTERFLY	Speckled Wood	Pararge aegeria	Rixton & Woolston - CP, Rixton Claypits	SJ685905	13/05/2013	2013	1	None		
FLOWERING PLANT	Bog Stitchwort	Stellaria alsine	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Creeping Soft-grass	Holcus mollis	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Brooklime	Veronica beccabunga	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
INSECT - HYMENOPTERAN	Honey Bee	Apis mellifera	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - BEETLE (COLEOPTERA)	Common Red Soldier Beetle	Rhagonycha fulva	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - BEETLE (COLEOPTERA)	Common Red Soldier Beetle	Rhagonycha fulva	Rixton Nature Reserve	SJ686904	31/07/2010	2010	10	Adult		
FLOWERING PLANT	False Fox-sedge	Carex otrubae	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	False Fox-sedge	Carex otrubae	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	False Fox-sedge	Carex otrubae		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	False Fox-sedge	Carex otrubae	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance

INSECT - TRUE BUG (HEMIPTERA)	Grypocoris (Lophyromiris) stysi	Grypocoris (Lophyromiris) stysi	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - HYMENOPTERAN	Large Red Tailed Bumble Bee	Bombus (Melanobombus) lapidarius	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
FLOWERING PLANT	Hard Rush	Juncus inflexus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hard Rush	Juncus inflexus	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	1	Flowering	IUCN LC	European/National Importance
INSECT - BUTTERFLY	Hedge Brown	Pyronia tithonus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - BUTTERFLY	Hedge Brown	Pyronia tithonus	Rixton & Woolston - CP, Rixton Claypits	SJ685905	17/07/2014	2014	286	Adult		
INSECT - BUTTERFLY	Hedge Brown	Pyronia tithonus	Rixton & Woolston - CP, Rixton Claypits	SJ685905	07/01/2014	2014	1	Adult		
INSECT - BUTTERFLY	Hedge Brown	Pyronia tithonus	Rixton & Woolston - CP, Rixton Claypits	SJ6890	26/07/2013	2013	504	None		
INSECT - BUTTERFLY	Hedge Brown	Pyronia tithonus	Rixton & Woolston - CP, Rixton Claypits	SJ6890	25/06/2013	2013	1	None		
INSECT - BUTTERFLY	Hedge Brown	Pyronia tithonus	Rixton Claypits	SJ6890	26/07/2011	2011	198	None		
INSECT - BUTTERFLY	Hedge Brown	Pyronia tithonus	The right hand path after the car park	SJ68469069	14/08/2010	2010	3	None		
INSECT - BUTTERFLY	Hedge Brown	Pyronia tithonus	Rixton Nature Reserve	SJ686904	31/07/2010	2010	4	Adult		
FLOWERING PLANT	Zigzag Clover	Trifolium medium	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Zigzag Clover	Trifolium medium	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Zigzag Clover	Trifolium medium		SJ6890	12/06/2007	2007	Present	Flowering	IUCN LC	European/National Importance
INSECT - MOTH	Latticed Heath	Chiasmia clathrata	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	S41, UKBAP	European and UK Legal Protection
INSECT - MOTH	Silver Y	Autographa gamma	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - HYMENOPTERAN	Robin's Pin-Cushion Gall	Diplolepis rosae	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
FLOWERING PLANT	Dog-rose	Rosa canina	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Field-rose	Rosa arvensis	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Field-rose	Rosa arvensis	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Field-rose	Rosa arvensis		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
LICHEN	Physcia airolia	Physcia airolia	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Tufted Hair-Grass	Deschampsia cespitosa	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Water Figwort	Scrophularia auriculata	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Water Figwort	Scrophularia auriculata	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
HARVESTMAN (OPILIONES)	Dicranopalpus ramosus	Dicranopalpus ramosus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
FLOWERING PLANT	Gypsywort	Lycopus europaeus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance

FLOWERING PLANT	Blackthorn	Prunus spinosa	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Blackthorn	Prunus spinosa	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
MOSS	Atrichum undulatum var. undulatum	Atrichum undulatum var. undulatum	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
FLOWERING PLANT	Sweet Chestnut	Castanea sativa	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Sweet Chestnut	Castanea sativa	Warburton	SJ6989	13/06/2009	2009	Present	None	IUCN LC	European/National Importance
INSECT - ORTHOPTERAN	Common Green Grasshopper	Omocestus viridulus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - MOTH	Clouded Border	Lomaspilis marginata	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
ACARINE (ACARI)	Aceria nalepai	Aceria nalepai	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - BEETLE (COLEOPTERA)	Leptura quadrifasciata	Leptura quadrifasciata	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - TRUE BUG (HEMIPTERA)	Meadow Plant Bug	Leptopterna dolabrata	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - TRUE FLY (DIPTERA)	Oxycera rara	Oxycera rara	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
FLOWERING PLANT	Sneezewort	Achillea ptarmica	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Water Mint	Mentha aquatica	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Water Mint	Mentha aquatica	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Locally Abundant	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Water Mint	Mentha aquatica		SJ6890	12/06/2007	2007	Locally Abundant	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Water Mint	Mentha aquatica	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	1	Flowering	IUCN LC	European/National Importance
BIRD	Carriion Crow	Corvus corone	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
BIRD	Carriion Crow	Corvus corone	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult		
INSECT - DRAGONFLY (ODONATA)	Blue-tailed Damselfly	Ischnura elegans	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Blue-tailed Damselfly	Ischnura elegans	Compartment C37, Rixton Clay Pits	SJ685905	03/06/2014	2014	1	Adult Male	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Blue-tailed Damselfly	Ischnura elegans	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Blue-tailed Damselfly	Ischnura elegans	Rixton Nature Reserve	SJ686904	31/07/2010	2010	1	Adult	IUCN LC	European/National Importance
INSECT - HYMENOPTERAN	Common Carder Bee	Bombus (Thoracobombus) pascuorum	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - HYMENOPTERAN	Common Carder Bee	Bombus (Thoracobombus) pascuorum	Rixton Clay Pits.	SJ684905	16/07/2014	2014	>2	Worker		
INSECT - HYMENOPTERAN	Common Carder Bee	Bombus (Thoracobombus) pascuorum	Rixton Claypits	SJ6848190165	16/07/2008	2008	1	None		
INSECT - HYMENOPTERAN	Common Carder Bee	Bombus (Thoracobombus) pascuorum	Rixton Claypits	SJ6848190165	16/07/2008	2008	1	Male		
INSECT - DRAGONFLY (ODONATA)	Emperor Dragonfly	Anax imperator	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance



INSECT - DRAGONFLY (ODONATA)	Emperor Dragonfly	Anax imperator	Rixton Claypits	SJ685907	22/06/2010	2010	Present	Adult Male	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Emperor Dragonfly	Anax imperator	Rixton Claypits	SJ685907	22/06/2010	2010	Present	Adult Female	IUCN LC	European/National Importance
BIRD	Reed Bunting	Emberiza schoeniclus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Male	LBAP, BAm [RSPB], S41, UKBAP	Local Importance, European/National Importance, European and UK Legal Protection
BIRD	Reed Bunting	Emberiza schoeniclus	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult	LBAP, BAm [RSPB], S41, UKBAP	Local Importance, European/National Importance, European and UK Legal Protection
BIRD	Reed Bunting	Emberiza schoeniclus	Rixton Clay Pits	SJ684905	05/06/2010	2010	2	Male	LBAP, BAm [RSPB], S41, UKBAP	Local Importance, European/National Importance, European and UK Legal Protection
INSECT - DRAGONFLY (ODONATA)	Black Darter	Sympetrum danae	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Four-spotted Chaser	Libellula quadrimaculata	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Four-spotted Chaser	Libellula quadrimaculata	Rixton Clay pits	SJ685907	31/05/2011	2011	1	None	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Four-spotted Chaser	Libellula quadrimaculata	Rixton Claypits	SJ685907	22/06/2010	2010	Present	Adult Male	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Four-spotted Chaser	Libellula quadrimaculata	Rixton Claypits	SJ685907	22/06/2010	2010	Present	Adult Female	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Four-spotted Chaser	Libellula quadrimaculata	Rixton Claypits	SJ685907	27/05/2010	2010	4	None	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Banded Demoiselle	Calopteryx splendens	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Brown Hawker	Aeshna grandis	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Brown Hawker	Aeshna grandis	Rixton Nature Reserve	SJ686904	31/07/2010	2010	1	Adult	IUCN LC	European/National Importance
INSECT - BEETLE (COLEOPTERA)	Alder Leaf Beetle	Agelastica alni	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - BEETLE (COLEOPTERA)	Alder Leaf Beetle	Agelastica alni		SJ686906	03/06/2014	2014	Present	Adult		
INSECT - BEETLE (COLEOPTERA)	Alder Leaf Beetle	Agelastica alni		SJ6890	27/06/2015	2015	Few	Adult		
INSECT - BEETLE (COLEOPTERA)	Alder Leaf Beetle	Agelastica alni	Rixton Clay Pits, Rixton, Warrington	SJ686904	08/05/2010	2010	1	Adult		
INSECT - BEETLE (COLEOPTERA)	Alder Leaf Beetle	Agelastica alni	Rixton Nature Reserve	SJ686904	31/07/2010	2010	2	Larvae		
INSECT - BEETLE (COLEOPTERA)	Alder Leaf Beetle	Agelastica alni	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	1	Adult		
FLOWERING PLANT	Yarrow	Achillea millefolium	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Yarrow	Achillea millefolium	Rixton	SJ6889	17/05/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Yarrow	Achillea millefolium	A57 Hollins Green	SJ7091	07/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Yarrow	Achillea millefolium	Manchester Road	SJ6991	07/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Ivy	Hedera helix	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Black Bryony	Dioscorea communis	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance



FLOWERING PLANT	Meadowsweet	Filipendula ulmaria	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Meadowsweet	Filipendula ulmaria		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Dandelion	Taraxacum officinale agg.	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering		
AMPHIBIAN	Common Frog	Rana temporaria	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	WCA5	European and UK Legal Protection
AMPHIBIAN	Common Frog	Rana temporaria		SJ6890	27/06/2015	2015	1	Adult	WCA5	European and UK Legal Protection
AMPHIBIAN	Common Frog	Rana temporaria		SJ6890	12/06/2007	2007	Occasional	Adult	WCA5	European and UK Legal Protection
AMPHIBIAN	Common Toad	Bufo bufo	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Juvenile	WCA5, S41, UKBAP	European and UK Legal Protection
INSECT - HYMENOPTERAN	White/Buff-tailed Bumblebee workers	Bombus lucorum/terrestris	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
AMPHIBIAN	Smooth Newt	Lissotriton vulgaris	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	WCA5	European and UK Legal Protection
BIRD	Woodpigeon	Columba palumbus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
BIRD	Woodpigeon	Columba palumbus		SJ6889	05/02/2010	2010	350	None		
BIRD	Woodpigeon	Columba palumbus		SJ6889	30/01/2010	2010	1300	None		
BIRD	Woodpigeon	Columba palumbus	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult		
BIRD	Woodpigeon	Columba palumbus		SJ6890	12/06/2007	2007	Occasional	Adult		
BIRD	Woodpigeon	Columba palumbus	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Adult		
INSECT - TRUE BUG (HEMIPTERA)	Pondskater	Gerris	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
FLOWERING PLANT	Hazel	Corylus avellana	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hazel	Corylus avellana	Rixton	SJ6889	17/05/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Hazel	Corylus avellana	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Inleaf	IUCN LC	European/National Importance
FLOWERING PLANT	Bulrush	Typha latifolia	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Bulrush	Typha latifolia	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Bulrush	Typha latifolia	Visitor Centre area, Rixton Clay Pits, Rixton, Warrington	SJ68619013	20/09/2011	2011	Local	Fruiting	IUCN LC	European/National Importance
FLOWERING PLANT	Bulrush	Typha latifolia		SJ6890	12/06/2007	2007	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Bulrush	Typha latifolia		SJ6890	08/06/2010	2010	Present	Bud	IUCN LC	European/National Importance
FLOWERING PLANT	Hairy Tare	Vicia hirsuta	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Giant Bellflower	Campanula latifolia	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
BIRD	Moorhen	Gallinula chloropus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
BIRD	Moorhen	Gallinula chloropus	Rixton Claypits	SJ68489043	04/03/2006	2006	Present	None		
BIRD	Moorhen	Gallinula chloropus	Rixton Claypits	SJ68539031	04/03/2006	2006	Present	None		
BIRD	Moorhen	Gallinula chloropus		SJ6890	12/06/2007	2007	Occasional	Adult		



INSECT - BEETLE (COLEOPTERA)	Harlequin Ladybird	Harmonia axyridis	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - BEETLE (COLEOPTERA)	Harlequin Ladybird	Harmonia axyridis		SJ685906	03/06/2014	2014	1	Adult		
FLOWERING PLANT	Imperforate St John's-wort	Hypericum maculatum	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
INSECT - MOTH	Narrow-bordered Five-spot Burnet	Zygaena lonicerae	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
FUNGUS	Blackening Waxcap	Hygrocybe conica	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
FLOWERING PLANT	Lady's Bedstraw	Galium verum	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Wood Dock	Rumex sanguineus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Wood Dock	Rumex sanguineus	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FERN	Scaly Male-fern	Dryopteris affinis	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FERN	Scaly Male-fern	Dryopteris affinis	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Inleaf	IUCN LC	European/National Importance
FLOWERING PLANT	Great Willowherb	Epilobium hirsutum	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Great Willowherb	Epilobium hirsutum	Warburton Bridge VCS9	SJ6989	13/06/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Great Willowherb	Epilobium hirsutum	A57 near Warburton Bridge	SJ6990	24/01/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Great Willowherb	Epilobium hirsutum		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Great Willowherb	Epilobium hirsutum	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Great Willowherb	Epilobium hirsutum	Hollins Green	SJ7091	24/01/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Great Willowherb	Epilobium hirsutum	Manchester Road	SJ6991	07/04/2006	2006	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Remote Sedge	Carex remota	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Remote Sedge	Carex remota	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Remote Sedge	Carex remota		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Remote Sedge	Carex remota	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Pendulous Sedge	Carex pendula	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Dog's Mercury	Mercurialis perennis	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Dog's Mercury	Mercurialis perennis	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Locally Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Dog's Mercury	Mercurialis perennis		SJ6890	12/06/2007	2007	Locally Frequent	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Raspberry	Rubus idaeus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Fruiting	IUCN LC	European/National Importance
FLOWERING PLANT	Perforate St John's-wort	Hypericum perforatum	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Perforate St John's-wort	Hypericum perforatum	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance

INSECT - BUTTERFLY	Meadow Brown	Maniola jurtina	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - BUTTERFLY	Meadow Brown	Maniola jurtina	Rixton & Woolston - CP, Rixton Claypits	SJ685905	07/12/2014	2014	285	Adult		
INSECT - BUTTERFLY	Meadow Brown	Maniola jurtina	Rixton & Woolston - CP, Rixton Claypits	SJ685905	06/11/2014	2014	1	Adult		
INSECT - BUTTERFLY	Meadow Brown	Maniola jurtina	Rixton & Woolston - CP, Rixton Claypits	SJ6890	24/09/2013	2013	1	None		
INSECT - BUTTERFLY	Meadow Brown	Maniola jurtina	Rixton & Woolston - CP, Rixton Claypits	SJ6890	07/08/2013	2013	279	None		
INSECT - BUTTERFLY	Meadow Brown	Maniola jurtina	Rixton & Woolston - CP, Rixton Claypits	SJ6890	23/06/2013	2013	1	None		
INSECT - BUTTERFLY	Meadow Brown	Maniola jurtina	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult		
INSECT - BUTTERFLY	Meadow Brown	Maniola jurtina		SJ6890	27/06/2015	2015	10	Adult		
INSECT - BUTTERFLY	Meadow Brown	Maniola jurtina	The right hand path after the car park	SJ68469069	14/08/2010	2010	4	None		
INSECT - BUTTERFLY	Meadow Brown	Maniola jurtina	Rixton Nature Reserve	SJ686904	31/07/2010	2010	5	Adult		
INSECT - BUTTERFLY	Meadow Brown	Maniola jurtina	The right hand path after the car park	SJ68489069	14/08/2010	2010	2	None		
INSECT - BUTTERFLY	Meadow Brown	Maniola jurtina		SJ6890	12/06/2007	2007	Occasional	Adult		
INSECT - MOTH	Six-spot Burnet	Zygaena filipendulae	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
INSECT - MOTH	Six-spot Burnet	Zygaena filipendulae		SJ6890	27/06/2015	2015	Few	Adult		
INSECT - MOTH	Six-spot Burnet	Zygaena filipendulae	Rixton Clay pits	SJ685907	31/05/2011	2011	1	None		
INSECT - MOTH	Six-spot Burnet	Zygaena filipendulae	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	1	Larvae		
INSECT - MOTH	Six-spot Burnet	Zygaena filipendulae	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Pupa/Pupal Cocoon		
FLOWERING PLANT	Field Forget-me-not	Myosotis arvensis	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Common Fleabane	Pulicaria dysenterica	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Common Fleabane	Pulicaria dysenterica	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Inleaf	IUCN LC	European/National Importance
FLOWERING PLANT	Common Fleabane	Pulicaria dysenterica	Visitor Centre area, Rixton Clay Pits, Rixton, Warrington	SJ68619015	20/09/2011	2011	Locally Frequent	None	IUCN LC	European/National Importance
FLOWERING PLANT	Common Centaury	Centaurium erythraea	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Common Centaury	Centaurium erythraea	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Common Centaury	Centaurium erythraea		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Black-tailed Skimmer	Orthetrum cancellatum	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Male	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Black-tailed Skimmer	Orthetrum cancellatum	Rixton Claypits	SJ685907	22/06/2010	2010	Present	Adult Male	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Black-tailed Skimmer	Orthetrum cancellatum	Rixton Claypits	SJ685907	22/06/2010	2010	Present	Adult Female	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Black-tailed Skimmer	Orthetrum cancellatum	Rixton Claypits	SJ685907	27/05/2010	2010	1	Female	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Black-tailed Skimmer	Orthetrum cancellatum	Rixton Claypits	SJ685907	27/05/2010	2010	Present	None	IUCN LC	European/National Importance



FLOWERING PLANT	Glaucous Sedge	Carex flacca	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Tormentil	Potentilla erecta	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Tormentil	Potentilla erecta		SJ6890	27/06/2015	2015	Locally Frequent	Flowering	IUCN LC	European/National Importance
BONY FISH (ACTINOPTERYGII)	Rudd	Scardinius erythrophthalmus	Rixton & Woolston - CP, Rixton Clay Pits.	SJ688902	11/07/2015	2015	Present	None		
FLOWERING PLANT	Common Vetch	Vicia sativa subsp. segetalis	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Sweet Vernal-grass	Anthoxanthum odoratum	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Sweet Vernal-grass	Anthoxanthum odoratum	Warburton	SJ6989	13/06/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Pedunculate Oak	Quercus robur	Rixton & Woolston - CP, SJ69V	SJ6890	03/05/2007	2007	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Pedunculate Oak	Quercus robur	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Inleaf	IUCN LC	European/National Importance
INSECT - TRUE FLY (DIPTERA)	Diastata adusta	Diastata adusta	Rixton & Woolston - CP, Rixton Claypits, Area 1	SJ685906	25/03/2015	2015	1	Adult Male		
INSECT - TRUE FLY (DIPTERA)	Ptychoptera contaminata	Ptychoptera contaminata	Rixton & Woolston - CP, Rixton Claypits	SJ686904	30/08/2015	2015	1	Female		
INSECT - TRUE FLY (DIPTERA)	Helina evecta	Helina evecta	Rixton & Woolston - CP, Area 1, Rixton Claypits	SJ685906	25/03/2015	2015	1	Male		
INSECT - BEETLE (COLEOPTERA)	Orange Ladybird	Halyzia sedecimguttata	Rixton & Woolston - CP, Rixton Claypits, Area 4	SJ684909	25/03/2015	2015	1	Adult		
INSECT - TRUE BUG (HEMiptERA)	Birch Catkin Bug	Kleidocerys resedae	Rixton & Woolston - CP, Area 4, Rixton Claypits	SJ684909	25/03/2015	2015	1	Male		
INSECT - BEETLE (COLEOPTERA)	Cantharis nigra	Cantharis nigra	Rixton Clay Pits	SJ686904	22/06/2009	2009	1	Adult		
INSECT - BEETLE (COLEOPTERA)	Thistle Tortoise Beetle	Cassida rubiginosa	Rixton Clay Pits	SJ686904	22/06/2009	2009	1	Adult		
INSECT - BEETLE (COLEOPTERA)	Thistle Tortoise Beetle	Cassida rubiginosa	Rixton Clay Pits	SJ686904	02/08/2009	2009	1	Adult		
INSECT - BEETLE (COLEOPTERA)	Altica lythri	Altica lythri	Rixton Clay Pits	SJ686904	22/06/2009	2009	1	Adult		
INSECT - BEETLE (COLEOPTERA)	Altica lythri	Altica lythri	Rixton Nature Reserve	SJ686904	31/07/2010	2010	2	Adult		
INSECT - BEETLE (COLEOPTERA)	Blue Willow Beetle	Phratora vulgatissima	Rixton Clay Pits	SJ686904	22/06/2009	2009	2	Adult		
INSECT - BEETLE (COLEOPTERA)	Brown Willow Beetle	Galerucella lineola	Rixton Clay Pits	SJ686904	05/04/2009	2009	4	Adult		
INSECT - BEETLE (COLEOPTERA)	Hypera (Hypera) nigrirostris	Hypera (Hypera) nigrirostris	Rixton Clay Pits	SJ686904	22/06/2009	2009	1	Adult		
INSECT - BEETLE (COLEOPTERA)	Dorytomus rufatus	Dorytomus rufatus	Rixton Clay Pits	SJ686904	22/06/2009	2009	2	Adult		
INSECT - BEETLE (COLEOPTERA)	Trichosirocalus troglodytes	Trichosirocalus troglodytes	Rixton Clay Pits	SJ686904	22/06/2009	2009	1	Adult		
INSECT - BEETLE (COLEOPTERA)	Meadow Cranesbill Weevil	Zacladus geranii	Rixton Clay Pits	SJ686904	02/08/2009	2009	2	Adult		
INSECT - BEETLE (COLEOPTERA)	Ocys harpaloides	Ocys harpaloides	Rixton Clay Pits	SJ686904	05/04/2009	2009	2	Adult		
INSECT - BEETLE (COLEOPTERA)	Carabus (Carabus) granulatus	Carabus (Carabus) granulatus	Rixton Clay Pits	SJ686904	16/04/2009	2009	1	Adult		
INSECT - BEETLE (COLEOPTERA)	Bembidion (Philochthus) biguttatum	Bembidion (Philochthus) biguttatum	Rixton Clay Pits	SJ686904	22/06/2009	2009	1	Adult		



INSECT - BUTTERFLY	Clouded Yellow	Colias croceus	Rixton & Woolston - CP, Rixton Claypits	SJ685905	09/08/2014	2014	1	Adult		
INSECT - BUTTERFLY	Clouded Yellow	Colias croceus	Rixton & Woolston - CP, Rixton Claypits	SJ685905	31/08/2014	2014	3	Adult		
INSECT - BUTTERFLY	Clouded Yellow	Colias croceus	Rixton & Woolston - CP, Rixton Claypits	SJ685905	16/06/2014	2014	1	Adult		
INSECT - BUTTERFLY	Clouded Yellow	Colias croceus	Rixton & Woolston - CP, Rixton Claypits	SJ6890	15/08/2013	2013	1	None		
INSECT - TRUE FLY (DIPTERA)	Leucozona lucorum	Leucozona lucorum	Rixton & Woolston - CP, Rixton Claypits	SJ685905	13/05/2012	2012	1	None		
INSECT - TRUE FLY (DIPTERA)	Eristalis tenax	Eristalis tenax	Rixton & Woolston - CP, Rixton Claypits	SJ685905	13/05/2012	2012	1	None		
INSECT - BUTTERFLY	Small Copper	Lycaena phlaeas	Rixton & Woolston - CP, Rixton Claypits	SJ685905	10/02/2014	2014	1	Adult		
INSECT - BUTTERFLY	Small Copper	Lycaena phlaeas	Rixton & Woolston - CP, Rixton Claypits	SJ685905	29/04/2014	2014	1	Adult		
INSECT - BUTTERFLY	Small Copper	Lycaena phlaeas	Rixton & Woolston - CP, Rixton Claypits	SJ685905	08/04/2014	2014	3	Adult		
INSECT - BUTTERFLY	Small Copper	Lycaena phlaeas	Rixton & Woolston - CP, Rixton Claypits	SJ6890	07/08/2013	2013	10	None		
INSECT - BUTTERFLY	Small Copper	Lycaena phlaeas	Rixton & Woolston - CP, Rixton Claypits	SJ6890	25/05/2013	2013	1	None		
INSECT - BUTTERFLY	Small Copper	Lycaena phlaeas	Rixton Claypits	SJ6890	23/08/2011	2011	5	None		
INSECT - BUTTERFLY	Small Copper	Lycaena phlaeas	The right hand path after the car park	SJ68469069	14/08/2010	2010	3	None		
INSECT - BUTTERFLY	Small Copper	Lycaena phlaeas	Rixton & Woolston - CP, Rixton Claypits	SJ6890	07/10/2013	2013	1	None		
INSECT - BUTTERFLY	Small Copper	Lycaena phlaeas	Rixton Nature Reserve	SJ686904	31/07/2010	2010	1	Adult		
INSECT - BUTTERFLY	Holly Blue	Celastrina argiolus	Rixton & Woolston - CP, Rixton Claypits	SJ685905	05/02/2014	2014	1	Adult		
INSECT - BUTTERFLY	Holly Blue	Celastrina argiolus	Rixton & Woolston - CP, Rixton Claypits	SJ685905	31/08/2014	2014	2	Adult		
INSECT - BUTTERFLY	Holly Blue	Celastrina argiolus	Rixton & Woolston - CP, Rixton Claypits	SJ685905	09/12/2014	2014	1	Adult		
INSECT - BUTTERFLY	Holly Blue	Celastrina argiolus	Rixton & Woolston - CP, Rixton Claypits	SJ685905	13/05/2012	2012	1	None		
INSECT - BUTTERFLY	Holly Blue	Celastrina argiolus	Rixton & Woolston - CP, Rixton Claypits	SJ6890	07/08/2013	2013	3	None		
INSECT - BUTTERFLY	Holly Blue	Celastrina argiolus	Rixton & Woolston - CP, Rixton Claypits	SJ6890	25/05/2013	2013	1	None		
INSECT - BUTTERFLY	Holly Blue	Celastrina argiolus	Rixton & Woolston - CP, Rixton Claypits	SJ685905	13/05/2013	2013	1	None		
INSECT - MOTH	Green Long-horn	Adela reaumurella	Rixton & Woolston - CP, Rixton Claypits	SJ685905	13/05/2012	2012	1	None		
INSECT - DRAGONFLY (ODONATA)	Large Red Damselfly	Pyrrhosoma nymphula	Rixton & Woolston - CP, Rixton Claypits	SJ685905	13/05/2012	2012	1	None	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Large Red Damselfly	Pyrrhosoma nymphula	Rixton Clay pits	SJ685907	31/05/2011	2011	1	None	IUCN LC	European/National Importance
INSECT - TRUE FLY (DIPTERA)	St Marks Fly	Bibio marci	Rixton & Woolston - CP, Rixton Claypits	SJ685905	13/05/2012	2012	2	Male		
INSECT - TRUE FLY (DIPTERA)	Tipula lunata	Tipula lunata	Rixton & Woolston - CP, Rixton Claypits	SJ685905	13/05/2012	2012	1	Male		
BIRD	Lapwing	Vanellus vanellus		SJ6889	27/02/2010	2010	36	None	LBAP, BRd [RSPB], S41, UKBAP	Local Importance, European/National Importance, European and UK Legal Protection
BIRD	Lapwing	Vanellus vanellus		SJ6889	06/03/2010	2010	20	None	LBAP, BRd [RSPB], S41, UKBAP	Local Importance, European/National Importance, European and UK Legal Protection

										UK Legal Protection
BIRD	Lapwing	Vanellus vanellus		SJ6890	12/06/2007	2007	Occasional	Adult	LBAP, BRd [RSPB], S41, UKBAP	Local Importance, European/National Importance, European and UK Legal Protection
BIRD	Goldeneye	Bucephala clangula		SJ6889	05/02/2010	2010	2	None	WCA1, BAm [RSPB]	European and UK Legal Protection, European/National Importance
BIRD	Goldeneye	Bucephala clangula		SJ6889	30/01/2010	2010	1	Adult Male	WCA1, BAm [RSPB]	European and UK Legal Protection, European/National Importance
BIRD	Black-headed Gull	Chroicocephalus ridibundus		SJ6889	05/02/2010	2010	200	None	BAm [RSPB]	European/National Importance
BIRD	Black-headed Gull	Chroicocephalus ridibundus		SJ6890	12/06/2007	2007	Occasional	Adult	BAm [RSPB]	European/National Importance
BIRD	Green Woodpecker	Picus viridis		SJ6889	30/01/2010	2010	1	None	BAm [RSPB]	European/National Importance
BIRD	Green Woodpecker	Picus viridis		SJ685901	31/07/2010	2010	Present	None	BAm [RSPB]	European/National Importance
BIRD	Siskin	Spinus spinus		SJ6889	30/01/2010	2010	10	None		
BIRD	Feral Pigeon/Rock Dove	Feral Pigeon/Rock Dove		SJ6889	30/01/2010	2010	35	None		
BIRD	Starling	Sturnus vulgaris		SJ6889	30/01/2010	2010	60	None	LBAP, BRd [RSPB], S41	Local Importance, European/National Importance, European and UK Legal Protection
FLOWERING PLANT	Bramble	Rubus tuberculatus	Whatcroft	SJ6889	22/09/2007	2007	Present	Flowering		
FLOWERING PLANT	Horse-chestnut	Aesculus hippocastanum	Rixton & Woolston - CP, rixton	SJ6889	17/05/2009	2009	Present	None		
FLOWERING PLANT	Horse-chestnut	Aesculus hippocastanum	rixton	SJ6889	17/05/2009	2009	Present	None		
BIRD	Common (Mealy) Redpoll	Acanthis flammea		SJ6889	06/03/2010	2010	2	None		
FLOWERING PLANT	Lesser Soft-Brome	Bromus hordeaceus	Rixton	SJ6889	17/05/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Creeping Bent	Agrostis stolonifera	Rixton	SJ6889	17/05/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Purple-loosestrife	Lythrum salicaria	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Purple-loosestrife	Lythrum salicaria		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Common Spotted-orchid	Dactylorhiza fuchsii	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Common Spike-rush	Eleocharis palustris	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Common Spike-rush	Eleocharis palustris	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
HORSETAIL	Marsh Horsetail	Equisetum palustre	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	None	IUCN LC	European/National Importance
FLOWERING PLANT	Marsh Woundwort	Stachys palustris	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Wild Strawberry	Fragaria vesca	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Common Figwort	Scrophularia nodosa	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance

FLOWERING PLANT	Common Figwort	Scrophularia nodosa		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Common Figwort	Scrophularia nodosa	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
BIRD	Jackdaw	Corvus monedula	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult		
BIRD	Jackdaw	Corvus monedula		SJ6890	12/06/2007	2007	Occasional	Adult		
FLOWERING PLANT	Wavy Bittercress	Cardamine flexuosa	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Tufted Forget-me-not	Myosotis laxa	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Tufted Forget-me-not	Myosotis laxa		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Water Forget-me-not	Myosotis scorpioides	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Water Forget-me-not	Myosotis scorpioides		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Common Comfrey	Symphytum officinale	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Common Comfrey	Symphytum officinale		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
INSECT - BEETLE (COLEOPTERA)	Wasp Beetle	Clytus arietis		SJ686906	03/06/2014	2014	1	Adult		
FLOWERING PLANT	Smooth Hawk's-beard	Crepis capillaris	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
INSECT - TRUE FLY (DIPTERA)	Coenosia tigrina	Coenosia tigrina	Car Park	SJ687902	03/06/2014	2014	1	Adult Female		
INSECT - TRUE FLY (DIPTERA)	Opomyza germinationis	Opomyza germinationis		SJ686902	03/06/2014	2014	1	Adult Male		
INSECT - TRUE FLY (DIPTERA)	Opomyza germinationis	Opomyza germinationis		SJ684901	03/06/2014	2014	1	Adult Female		
INSECT - TRUE FLY (DIPTERA)	Opomyza germinationis	Opomyza germinationis		SJ685906	03/06/2014	2014	1	Adult Male		
INSECT - TRUE FLY (DIPTERA)	Opomyza germinationis	Opomyza germinationis		SJ685905	03/06/2014	2014	1	Adult Female		
FLOWERING PLANT	Ribbed Melilot	Mellilotus officinalis	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering		
FLOWERING PLANT	Wild Teasel	Dipsacus fullonum	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering		
FLOWERING PLANT	Wild Teasel	Dipsacus fullonum		SJ6890	08/06/2010	2010	Present	Bud		
FLOWERING PLANT	Wild Teasel	Dipsacus fullonum		SJ6890	12/06/2007	2007	Occasional	Flowering		
FLOWERING PLANT	Wood Speedwell	Veronica montana	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Reed Sweet-grass	Glyceria maxima	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Water Dock	Rumex hydrolapathum	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Water Dock	Rumex hydrolapathum		SJ6890	12/06/2007	2007	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Bog Pondweed	Potamogeton polygonifolius	Compartment C37, Rixton Clay Pits	SJ6890	23/06/2009	2009	Occasional	Inleaf	IUCN LC	European/National Importance

			Rixton & Woolston - CP							
FLOWERING PLANT	Lesser Spearwort	Ranunculus flammula	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Dog Rose	Rosa canina agg.	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering		
FLOWERING PLANT	Dog Rose	Rosa canina agg.		SJ6890	12/06/2007	2007	Occasional	Flowering		
BIRD	Cormorant	Phalacrocorax carbo	Rixton & Woolston - CP, Rixton Clay Pits	SJ684905	05/12/2009	2009	1	Adult		
BIRD	Cormorant	Phalacrocorax carbo	Rixton Clay Pits, Rixton and Woolston	SJ6848190165	05/12/2009	2009	1	None		
INSECT - BUTTERFLY	Common Blue	Polyommatus icarus subsp. icarus	Rixton Claypits	SJ6890	04/05/2011	2011	25	None		
BIRD	Great Crested Grebe	Podiceps cristatus	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult		
BIRD	Great Crested Grebe	Podiceps cristatus		SJ6889	30/01/2010	2010	1	None		
BIRD	Dunnock	Prunella modularis	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult	BAm [RSPB], S41	European/National Importance, European and UK Legal Protection
BIRD	Blackbird	Turdus merula	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult		
BIRD	Blackbird	Turdus merula	Rixton Clay Pits, Rixton and Woolston	SJ6848190165	05/12/2009	2009	Present	None		
BIRD	Blackbird	Turdus merula		SJ6890	12/06/2007	2007	Occasional	Adult		
SPIDER (ARANEAE)	Enoplognath a ovata	Enoplognath a ovata	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult		
FLOWERING PLANT	Three-nerved Sandwort	Moehringia trinervia	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
INSECT - BUTTERFLY	Meadow Brown	Maniola jurtina subsp. splendida	Rixton Claypits	SJ6890	13/07/2011	2011	127	None		
INSECT - BUTTERFLY	Meadow Brown	Maniola jurtina subsp. splendida	Rixton Claypits	SJ6890	04/08/2012	2012	138	None		
INSECT - BUTTERFLY	Meadow Brown	Maniola jurtina subsp. splendida	Rixton Claypits	SJ6890	18/06/2012	2012	1	None		
INSECT - TRUE FLY (DIPTERA)	Xylota sylvorum	Xylota sylvorum	Rixton Nature Reserve	SJ686904	31/07/2010	2010	1	Adult		
INSECT - BEETLE (COLEOPTERA)	Anotylus rugosus	Anotylus rugosus	Rixton Clay Pits	SJ686904	02/08/2009	2009	1	Adult		
INSECT - BEETLE (COLEOPTERA)	Stenus (Hypostenus) similis	Stenus (Hypostenus) similis	Rixton Clay Pits	SJ686904	02/08/2009	2009	3	Adult		
INSECT - BEETLE (COLEOPTERA)	Stenus (Hypostenus) similis	Stenus (Hypostenus) similis	Rixton Clay Pits	SJ686904	22/06/2009	2009	1	Adult		
INSECT - BEETLE (COLEOPTERA)	Stenus (Hypostenus) similis	Stenus (Hypostenus) similis	Rixton Nature Reserve	SJ686904	31/07/2010	2010	1	Adult		
INSECT - BEETLE (COLEOPTERA)	Stenus (Hypostenus) fulvicornis	Stenus (Hypostenus) fulvicornis	Rixton Clay Pits	SJ686904	02/08/2009	2009	1	Adult		
FLOWERING PLANT	Ivy-leaved Duckweed	Lemna trisulca	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Inleaf	IUCN LC	European/National Importance
FLOWERING PLANT	Ivy-leaved Duckweed	Lemna trisulca		SJ6890	12/06/2007	2007	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Ivy-leaved Duckweed	Lemna trisulca	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Present	Flowering	IUCN LC	European/National Importance

FLOWERING PLANT	Goat's-beard	Tragopogon pratensis	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Goat's-beard	Tragopogon pratensis		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
INSECT - HYMENOPTERAN	Small Garden Bumble Bee	Bombus (Megabombus) hortorum	Rixton Clay Pits.	SJ684905	16/07/2014	2014	1	Worker		
TERRESTRIAL MAMMAL	Eurasian Common Shrew	Sorex araneus		SJ6889	06/03/2010	2010	1	Dead		
BIRD	Barn Owl	Tyto alba	Machester rd verge Rixton	SJ68448991	28/03/2010	2010	1	None	LBAP, WCA1, BAm [RSPB], WCA9	Local Importance, European and UK Legal Protection, European/National Importance
FLOWERING PLANT	Common Bistort	Persicaria bistorta	warburton	SJ6989	13/06/2009	2009	Present	None	IUCN LC	European/National Importance
FLOWERING PLANT	Common Water-Starwort	Callitriche stagnalis	Warburton Bridge	SJ6989	13/06/2009	2009	Present	None		
FLOWERING PLANT	Meadow Foxtail	Alopecurus pratensis	Warburton Bridge VC59	SJ6989	13/06/2009	2009	59	None	IUCN LC	European/National Importance
INSECT - HYMENOPTERAN	Buff-Tailed Bumble Bee	Bombus (Bombus) terrestris		SJ6890	12/06/2007	2007	Occasional	Adult		
AMPHIBIAN	Great Crested Newt	Triturus cristatus	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Adult	LBAP, WCA5, S41, HabRegs2, UKBAP	Local Importance, European and UK Legal Protection
AMPHIBIAN	Great Crested Newt	Triturus cristatus		SJ684901	28/03/2010	2010	600	None	LBAP, WCA5, S41, HabRegs2, UKBAP	Local Importance, European and UK Legal Protection
FLOWERING PLANT	Water-plantain	Alisma plantago-aquatica	Compartment C37, Rixton Clay Pits, Rixton & Woolston - CP	SJ6890	23/06/2009	2009	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Water-plantain	Alisma plantago-aquatica		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Water-plantain	Alisma plantago-aquatica	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
INSECT - BUTTERFLY	Small Copper	Lycaena phlaeas subsp. hibernica	Rixton Claypits	SJ6890	24/08/2012	2012	2	None		
INSECT - MOTH	Old Lady	Mormo maura		SJ685901	30/07/2010	2010	2	None		
INSECT - MOTH	Ruby Tiger	Phragmatobia fuliginosa		SJ685901	30/07/2010	2010	Present	None		
INSECT - BEETLE (COLEOPTERA)	Curculio	Curculio	Rixton Nature Reserve	SJ686904	31/07/2010	2010	2	Adult		
INSECT - BEETLE (COLEOPTERA)	Curculio	Curculio	Rixton Clay Pits	SJ686904	02/08/2009	2009	1	Adult		
INSECT - BEETLE (COLEOPTERA)	Heterocerus fenestratus	Heterocerus fenestratus	Rixton Nature Reserve	SJ686904	31/07/2010	2010	1	Adult		
INSECT - BEETLE (COLEOPTERA)	Cereal Leaf Beetle	Oulema rufocyanea	Rixton Nature Reserve	SJ686904	31/07/2010	2010	1	Adult		
INSECT - TRUE FLY (DIPTERA)	Scaeva pyrastris	Scaeva pyrastris	Rixton Nature Reserve	SJ686904	31/07/2010	2010	1	Adult		
INSECT - BEETLE (COLEOPTERA)	Oxystoma cerdo	Oxystoma cerdo	Rixton Clay Pits	SJ686904	22/06/2009	2009	5	Adult		
INSECT - BEETLE (COLEOPTERA)	Oxystoma cerdo	Oxystoma cerdo	Rixton Clay Pits	SJ686904	02/08/2009	2009	1	Adult		
INSECT - BEETLE (COLEOPTERA)	Neocrepidodera transversa	Neocrepidodera transversa	Rixton Clay Pits	SJ686904	22/06/2009	2009	2	Adult		
INSECT - BEETLE (COLEOPTERA)	Dorytomus taeniatus	Dorytomus taeniatus	Rixton Clay Pits	SJ686904	22/06/2009	2009	6	Adult		
INSECT - BEETLE (COLEOPTERA)	Bembidion (Trepanes) articulatum	Bembidion (Trepanes) articulatum	Rixton Nature Reserve	SJ686904	31/07/2010	2010	2	Adult		
INSECT - BEETLE (COLEOPTERA)	Bembidion (Philochthus) lunulatum	Bembidion (Philochthus) lunulatum	Rixton Nature Reserve	SJ686904	31/07/2010	2010	2	Adult		
BIRD	Collared Dove	Streptopelia decaocto	Rixton Clay Pits	SJ684905	05/06/2010	2010	Two	Adult		



BIRD	Scaup	<i>Aythya marila</i>	Rixton Clay Pits	SJ684905	05/06/2010	2010	2	Adult	WCA1, BRd [RSPB], S41, UKBAP	European and UK Legal Protection, European/National Importance
BIRD	Scaup	<i>Aythya marila</i>	Moat Lane Pool (North)	SJ683908	05/06/2010	2010	11	Adult	WCA1, BRd [RSPB], S41, UKBAP	European and UK Legal Protection, European/National Importance
INSECT - BEETLE (COLEOPTERA)	<i>Bembidion (Nepha) illigeri</i>	<i>Bembidion (Nepha) illigeri</i>	Rixton Nature Reserve	SJ686904	31/07/2010	2010	1	Adult		
INSECT - BEETLE (COLEOPTERA)	<i>Ocypus (Matidus) brunripes</i>	<i>Ocypus (Matidus) brunripes</i>	Rixton Clay Pits	SJ686904	05/04/2009	2009	1	Adult		
INSECT - BEETLE (COLEOPTERA)	<i>Hypera (Hypera) plantaginis</i>	<i>Hypera (Hypera) plantaginis</i>	Rixton Clay Pits	SJ686904	02/08/2009	2009	4	Adult		
INSECT - BEETLE (COLEOPTERA)	<i>Ceutorhynchus typhae</i>	<i>Ceutorhynchus typhae</i>	Rixton Clay Pits	SJ686904	02/08/2009	2009	2	Adult		
INSECT - BEETLE (COLEOPTERA)	<i>Crepidodera fulvicornis</i>	<i>Crepidodera fulvicornis</i>	Rixton Clay Pits	SJ686904	22/06/2009	2009	2	Adult		
INSECT - BEETLE (COLEOPTERA)	Willow Flea Beetle	<i>Crepidodera aurata</i>	Rixton Clay Pits	SJ686904	22/06/2009	2009	3	Adult		
INSECT - BEETLE (COLEOPTERA)	<i>Pterostichus (Pseudomasus) nigrita</i>	<i>Pterostichus (Pseudomasus) nigrita</i>	Rixton Clay Pits	SJ686904	02/08/2009	2009	1	Adult		
INSECT - TRUE BUG (HEMIPTERA)	Blue Shieldbug	<i>Zicrona caerulea</i>	Rixton Nature Reserve	SJ686904	31/07/2010	2010	1	Adult		
INSECT - DRAGONFLY (ODONATA)	Emerald Damselfly	<i>Lestes sponsa</i>	Rixton Nature Reserve	SJ686904	31/07/2010	2010	1	Adult	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Common Hawker	<i>Aeshna juncea</i>	Rixton Nature Reserve	SJ686904	31/07/2010	2010	1	Nymph	IUCN LC	European/National Importance
MOLLUSC	Great Pond Snail	<i>Lymnaea stagnalis</i>		SJ685901	11/04/2011	2011	Present	None		
MOLLUSC	Wandering Snail	<i>Radix peregra</i>		SJ685901	11/04/2011	2011	Present	None		
MOLLUSC	Great Ramshorn Snail	<i>Planorbis corneus</i>		SJ685901	11/04/2011	2011	Present	None		
INSECT - MAYFLY (EPHEMEROPTERA)	<i>Cloeon dipterum</i>	<i>Cloeon dipterum</i>		SJ685901	11/04/2011	2011	Present	None		
INSECT - MOTH	Brown China-mark	<i>Elophila nymphaeata</i>		SJ685901	11/04/2011	2011	Present	None		
INSECT - TRUE BUG (HEMIPTERA)	<i>Hesperocorixa sahlbergi</i>	<i>Hesperocorixa sahlbergi</i>		SJ685901	11/04/2011	2011	Present	None		
INSECT - TRUE BUG (HEMIPTERA)	<i>Hesperocorixa linnaei</i>	<i>Hesperocorixa linnaei</i>		SJ685901	11/04/2011	2011	Present	None		
INSECT - TRUE BUG (HEMIPTERA)	Water Scorpion	<i>Nepa cinerea</i>		SJ685901	11/04/2011	2011	Present	None		
INSECT - CADDIS FLY (TRICHOPTERA)	<i>Limnephilus marmoratus</i>	<i>Limnephilus marmoratus</i>		SJ685901	11/04/2011	2011	Present	Larvae		
INSECT - DRAGONFLY (ODONATA)	Broad-bodied Chaser	<i>Libellula depressa</i>	Rixton Claypits	SJ685907	22/06/2010	2010	Present	Adult Male	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Broad-bodied Chaser	<i>Libellula depressa</i>	Rixton Claypits	SJ685907	22/06/2010	2010	Present	Adult Female	IUCN LC	European/National Importance
INSECT - DRAGONFLY (ODONATA)	Broad-bodied Chaser	<i>Libellula depressa</i>	Rixton Claypits	SJ685907	27/05/2010	2010	1	Male	IUCN LC	European/National Importance
INSECT - TRUE BUG (HEMIPTERA)	<i>Chilacis typhae</i>	<i>Chilacis typhae</i>	Visitor Centre area, Rixton Clay Pits, Rixton, Warrington	SJ68619013	20/09/2011	2011	4	Adult		
INSECT - BEETLE (COLEOPTERA)	<i>Leiopus nebulosus</i>	<i>Leiopus nebulosus</i>		SJ685903	06/07/2011	2011	1	None		
REPTILE	Common Lizard	<i>Zootoca vivipara</i>	rixton clay pits	SJ685902	26/08/2009	2009	2	None	WCA5, S41, UKBAP	European and UK Legal Protection
INSECT - BUTTERFLY	Large Tortoiseshell	<i>Nymphalis polychloros</i>	The right hand path after the car park	SJ68489069	14/08/2010	2010	5	None	WCA5	European and UK Legal Protection
BIRD	Common Tern	<i>Sterna hirundo</i>	Moat Lane Pool, North	SJ683908	05/06/2010	2010	One	Adult	BAm [RSPB]	European/National Importance

BIRD	Lesser Whitethroat	<i>Sylvia curruca</i>	Moat Lane Poll, North	SJ683908	05/06/2010	2010	One	Male		
BIRD	Great Tit	<i>Parus major</i>	Rixton Claypits	SJ68419039	04/03/2006	2006	Present	None		
BIRD	Great Tit	<i>Parus major</i>	Rixton Claypits	SJ68469036	04/03/2006	2006	Present	None		
BIRD	Blue Tit	<i>Cyanistes caeruleus</i>	Rixton Claypits	SJ68419039	04/03/2006	2006	Present	None		
BIRD	Treecreeper	<i>Certhia familiaris</i>	Rixton Claypits	SJ68469036	04/03/2006	2006	Present	None		
FLOWERING PLANT	Smooth Sow-thistle	<i>Sonchus oleraceus</i>		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FERN	Broad Buckler-fern	<i>Dryopteris dilatata</i>		SJ6890	08/06/2010	2010	Present	Spores	IUCN LC	European/National Importance
FLOWERING PLANT	Wild Marjoram	<i>Origanum vulgare</i>		SJ6890	12/06/2007	2007	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Bluebell	<i>Hyacinthoides non-scripta</i>		SJ6890	12/06/2007	2007	Occasional	Flowering	LBAP, WCA8, IUCN LC	Local Importance, European and UK Legal Protection, European/National Importance
FLOWERING PLANT	Fine-leaved Water-dropwort	<i>Oenanthe aquatica</i>		SJ6890	12/06/2007	2007	Present	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Fine-leaved Water-dropwort	<i>Oenanthe aquatica</i>	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
BIRD	Ruddy Duck	<i>Oxyura jamaicensis</i>		SJ6890	12/06/2007	2007	Occasional	Adult	INNS, WCA9	Invasive Non-Native, European and UK Legal Protection
BIRD	Yellowhammer	<i>Emberiza citrinella</i>		SJ6890	12/06/2007	2007	Occasional	Adult	LBAP, BRd [RSPB], S41, UKBAP	Local Importance, European/National Importance, European and UK Legal Protection
BIRD	Wren	<i>Troglodytes troglodytes</i>		SJ6890	12/06/2007	2007	Occasional	Adult		
BIRD	Wren	<i>Troglodytes troglodytes</i>	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Adult		
BIRD	Garden Warbler	<i>Sylvia borin</i>		SJ6890	12/06/2007	2007	Occasional	Adult		
BIRD	House Sparrow	<i>Passer domesticus</i>		SJ6890	12/06/2007	2007	Occasional	Adult	LBAP, BRd [RSPB], S41, UKBAP	Local Importance, European/National Importance, European and UK Legal Protection
BIRD	House Sparrow	<i>Passer domesticus</i>	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Adult	LBAP, BRd [RSPB], S41, UKBAP	Local Importance, European/National Importance, European and UK Legal Protection
FLOWERING PLANT	Common Sedge	<i>Carex nigra</i>	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	Occasional	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Compact Rush	<i>Juncus conglomeratus</i>	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	1	Flowering	IUCN LC	European/National Importance
FLOWERING PLANT	Heath Wood-rush	<i>Luzula multiflora</i>	Compartment C37, Rixton Clay Pits	SJ6890	08/06/2010	2010	1	Flowering	IUCN LC	European/National Importance
MOSS	Capillary Thread-moss	<i>Bryum capillare</i>	A57 Hollins Green	SJ7091	07/04/2006	2006	Present	None		
FLOWERING PLANT	Butterfly-bush	<i>Buddleja davidii</i>	Rixton & Woolston - CP, Rixton and Glazebrook Community Hall, Manchester Road, Hollins Green, Rixton	SJ69829113	10/01/2015	2015	Local	None		
BIRD	Pied Wagtail	<i>Motacilla alba subsp. yarrellii</i>	Rixton & Woolston - CP, Rixton and Glazebrook Community Hall, Manchester Road, Hollins Green, Rixton	SJ69829112	10/01/2015	2015	1	Adult		

N.B: All above records are Field Records. The data source for all records is RECORD.

Wildlife Site Citations

Site Boundary Report

Local Sites

Local Wildlife Sites

Rixton Brickworks / WA027

Map



Site name	Rixton Brickworks
Site code	WA027
Authority	Warrington Local Wildlife Sites Partnership
Site centroid	SJ6059990607

Regionally Important Geodiversity Sites

There are no Cheshire Regionally Important Geodiversity Sites within this search area.

Statutory Sites

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

Other Sites of Conservation Interest

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

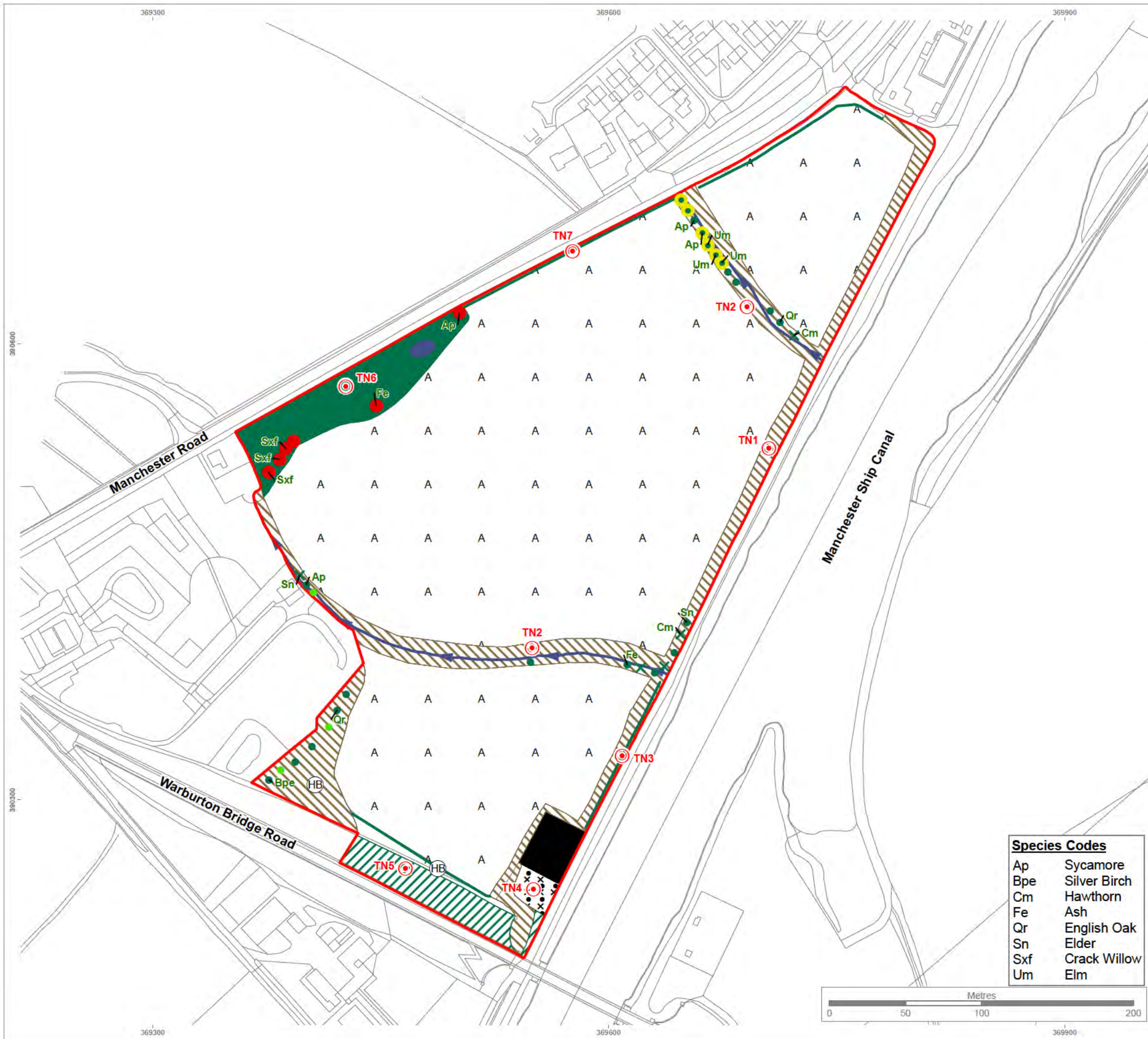


<p>KEY</p> <p>SITE OF BIOLOGICAL IMPORTANCE</p> <p> SBI BOUNDARY</p>	<p>GREATER MANCHESTER ECOLOGY UNIT ECOLOGICAL SEARCH - SJ0960490556 HOLLINS GREEN - MAP 1</p> <p>SCALE 1:10,000</p> <p>THE MAP IS BASED UPON ORDNANCE SURVEY MATERIAL WITH THE PERMISSION OF ORDNANCE SURVEY ON BEHALF OF THE CONTROLLER OF HMSO ©CROWN COPYRIGHT UNAUTHORISED REPRODUCTION INFRINGES CROWN COPYRIGHT AND MAY LEAD TO PROSECUTION OR CIVIL PROCEEDINGS</p> <p>TAMESIDE MBC LICENCE NO LA100022697, 2017</p>	<p>Greater Manchester Ecology Unit</p> <p>Telephone 0161 342 4409 Email: gmeu@tameside.gov.uk Date Produced: 05/09/2017</p>
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N.B: The citations for these sites have not been purchased as due to their distance form site, based on current plans, no impacts are predicted.

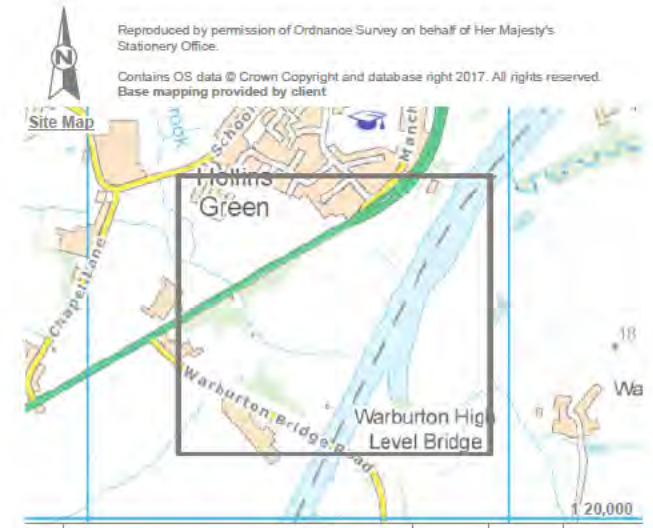
DRAWINGS

G6296.01.001 - Phase 1 Habitat Plan
G6296.01.002 - Ecological Constraints Plan
251G - 01 GMSF Illustrative Masterplan



KEY

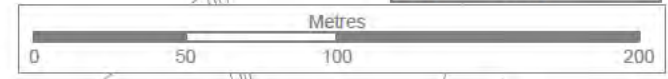
- Site Boundary
- HB Himalayan Balsam
- Target Notes
- X Scattered Scrub
- Scattered Broad-leaved Trees
- Scattered Coniferous Trees
- Broad-leaved Tree with Low Bat Potential
- Broad-leaved Tree with High Bat Potential
- Running Water
- Species-poor Intact Hedge
- Semi-natural Broad-leaved Woodland
- Plantation Broad-leaved Woodland
- Tall Ruderal
- Standing Water
- Arable
- Buildings
- Bare Ground/Ephemeral Mix



Rev	Description	Drawn	Approved	Date

Species Codes

Ap	Sycamore
Bpe	Silver Birch
Cm	Hawthorn
Fe	Ash
Qr	English Oak
Sn	Elder
Sxf	Crack Willow
Um	Elm



THE ENVIRONMENT PARTNERSHIP

Genesis Centre, Birchwood Science Park, Warrington WA3 7BH
Tel 01925 844004 e-mail tep@tep.uk.com www.tep.uk.com

Project:
Peel Sites, Warrington - Hollins Green

Title:
Phase 1 Habitat Survey

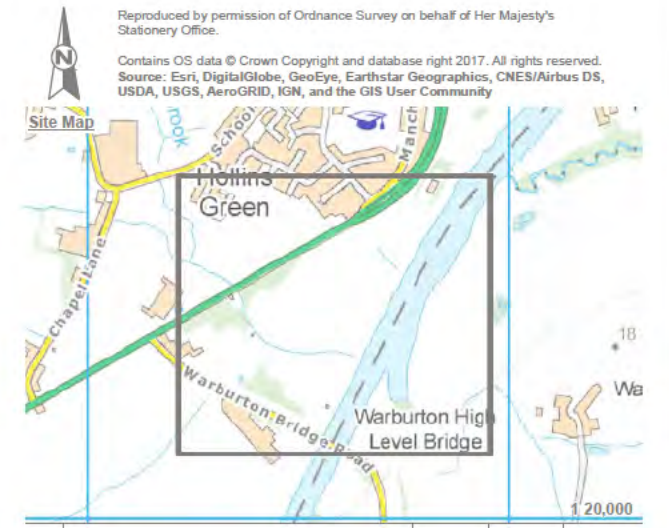
Drawing Number:
G6612.01.001

Drawn	Checked	Approved	Scale	Date
RE	JS	IH	1:2,500 @ A3	06/09/2017



KEY

- Site Boundary
- High Constraint
- Moderate Constraint
- Low Constraint



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Rev	Description	Drawn	Approved	Date

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Project:
Peel Sites, Warrington - Hollins Green

Title:
Ecological Constraints Plan

Drawing Number:
G6612.01.002

Drawn	Checked	Approved	Scale	Date
RE	JS	IH	1:2,500 @ A3	06/09/2017



KEY:

-  Site boundary
-  Existing buildings
-  Existing vegetation
-  Proposed woodland planting
-  Proposed avenue trees
-  Green infrastructure
-  Proposed development area
-  Potential focal square
-  Proposed primary road
-  Proposed vehicular access
-  Proposed footpaths



**Land off Manchester Road,
 Hollins Green**

Conceptual Masterplan and Vision

Total Area: 12.24ha
 Development Area : 6.63ha
 Spine Road Area: 0.78ha
 Green Infrastructure: 4.83ha

Potential Yield
 @30 dph 199 units
 @35 dph 232 units

Drwg No: 630CF-05C
 Drawn by: AH
 Rev by: AH
 QM Status: Checked
 Scale: 1: 5,000 @ A3

Date: 22.09.17
 Checker: CAW
 Rev checker: CAW
 Product Status:
 Confidential Review

NOTE:

Land at Hollins Green Development Prospectus

Warrington Local Plan Review



September 2017



Turley

**RANDALL
THORP** 

Client

Peel Holdings (Management) Ltd

Our reference

PEEM3056

Date of issue

September 2017

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1. Introduction

This Development Prospectus has been prepared on behalf of Peel Holdings (Management) Ltd in respect of Land between Manchester Road and Warburton Bridge Road, Hollins Green. It sets out a vision and masterplan for the sustainable development of the site and its allocation through the emerging Warrington Local Plan. It also presents an assessment of the site's suitability for development as proposed.

This prospectus is submitted in response to Warrington Council's Preferred Development Option (PDO) consultation on the Local Plan. It should be read in conjunction with the report entitled Representations to Warrington Local Plan (Regulation 18 consultation) ('main representations') submitted by Peel and dated September 2017.

This prospectus builds on the document entitled 'Site Prospectus' submitted in December 2016 which accompanied a 'Call for Sites' submission to the Local Plan.

Context

This prospectus is presented in the context of an acknowledged requirement that Warrington will need to identify a suitable and sustainable portfolio of Green Belt sites to meet its future housing needs over the period 2017 to 2037. Peel agrees with this conclusion as set out in its main representations report. The main representation report provides general comments on the Local Plan Preferred Development Option document published by the Council in July 2017 and the associated evidence base. It considers the following:

- The proposed strategic housing requirement;
- The adequacy of the identified non-Green Belt land supply to deliver this requirement and the scale of Green Belt release needed to meet the housing requirement;
- The future spatial distribution of residential development and the type and range of development sites needed to meet the Borough's development needs.

Land at Hollins Green

The site is located to immediately adjacent to the settlement of Hollins Green. Hollins Green is located within the eastern part of the Borough, close to its boundary with Salford. The site is well related to the settlement, with part of the northern boundary defined by the settlement boundary. The site extends to c.12 ha in total and currently comprises agricultural land.

The site is presently designated as Green Belt land within the Warrington Unitary Development Plan (June 2005), Peel consider that the site would represent a sustainable

location for residential development, capable of making a significant contribution to meeting the housing needs of Warrington over the emerging plan period. Peel therefore proposes that the site be released from the Green Belt and allocated for residential development through the Local Plan.

This prospectus demonstrates that the site represents a sustainable opportunity capable of accommodating a sustainable addition to Hollins Green which would support its future sustainability and viability as a settlement. The initial concepts show a layout which is wholly integrated with the existing settlement of Hollins Green.

Having regard to this context, the prospectus goes on to consider how the site could be developed in a manner which ensures the role and integrity of the wider Green Belt is maintained and endures over the long term, consistent with the requirements of the National Planning Policy Framework ('the Framework').

The remainder of the document is structured as follows:

- Overview of the relevant strategic and planning policy context;
- Description of the site and its context;
- An overview of the opportunities and constraints presented by the site;
- An assessment of the contribution of the site to the Green Belt;
- Initial proposals, including the site analysis and design process that has informed them;
- An assessment of site deliverability;
- Summary of the benefits that development will secure;
- An assessment of the proposals, to demonstrate that development of the site is sustainable and achievable; and
- Summary and conclusion



2. Strategic Context and Development Needs

National Planning Policy: National Planning Policy Framework

Sustainable development is at the heart of the National Planning Policy Framework ('the Framework'). In planning for sustainable development, Local Planning Authorities should meet objectively assessed needs (OANs), including for housing and affordable housing, with sufficient flexibility to adapt to rapid change.

LPAs should maintain a deliverable five-year supply of housing and identify a supply of specific, developable sites or broad locations for growth beyond this timescale.

Green Belt boundaries may be altered (but only in exceptional circumstances) through the preparation or review of Local Plans. Consideration must be given to the permanence of the Green Belt when drawing the boundaries, avoiding the need for further alterations at the end of the plan period. Boundaries should, inter alia, reflect the Local Plan strategy for meeting sustainable development requirements and should reflect physical features that are 'readily recognisable and likely to be permanent'.

Warrington Local Plan

The Warrington Local Plan (WLP) Review consultation invites comments on the preferred development option for the Local Plan, the published evidence base and the Council's initial conclusions on development needs to be met over the proposed plan period.

The WLP recognises the need for Green Belt release in order to accommodate the borough's housing and economic requirements. The main representations submitted on behalf of Peel deal with the questions of the extent and location of Green Belt release.

Peel welcomes the progression of the WLP. The realisation of the Warrington New City aspiration sits at the heart of this and underpins the spatial strategy and growth ambitions set out. Warrington New City is about the town realising its full potential; its transformation from a New Town into a New City at the heart of the Northern Powerhouse, capitalising on its strategic position 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

The figure to the right shows the proposed development site at Hollins Green in this strategic context.

KEY:

-  Urban area
-  Primary employment areas in Warrington
-  Warrington city centre
-  Key future growth areas
-  Manchester Ship Canal
-  Motorway
-  A580 East Lancashire Road
-  Railway line
-  Indicative proposed HS2 route
-  Potential strategic housing sites (green belt release)



Securing a sustainable future for the settlements of Warrington

Evidence prepared by Turley (see main planning representation) sets out a case for supporting an increased level of growth within the outlying settlements of the Borough to underpin their long term sustainability as places to live and supporting the realisation of New City, providing the quality and choices of housing which Warrington and its settlements need to thrive.

More generally, Peel's main planning representations have set out a case for a reconsideration of the level of growth which the Outlying Settlements should accommodate to secure a sustainable future for these locations. The evidence presented as part of this proposition is summarised below:

A changing local demographic profile

Census data indicates a changing age profile in many of the outlying settlements. With the exception of Lymm (which has accommodated new housing), the outlying settlements have accommodated only 139 additional economically active residents over the decade to 2011. Northern settlements in particular have largely remained static in this regard, with the settlements of Croft, Culcheth and Burtonwood all showing a decline in the size of their economically active population. This changing age profile will have significant implications for the vibrancy of individual settlements, the ability to sustain employment with a local labour force, and the vitality of social infrastructure.

Housing under Delivery

Over the past decade, the outlying settlements have accommodated only 5% of new build sales in the borough. This data highlights a declining contribution over this period. In 2007, outlying settlements accommodated around one in ten (11%) new build sales, falling to only 2% in 2016. This suggests an increasingly imbalanced development profile in the borough. Planning Practice Guidance recognises that local imbalances between housing supply and demand can manifest in worsening market signals, such as increasing house prices or deterioration in the relationship between earnings and housing costs.

Affordability

In the outlying settlements, an average of £290,016 was paid for housing in the calendar year of 2016, which is some 55% higher than the average price paid elsewhere in the borough (£187,328) – primarily consisting of the Warrington urban area. High house prices can inhibit the formation of new households, force local residents to move elsewhere or generate an additional need for affordable housing, where households are unable to access market housing.

Local service provision (sub heading)

The growth of the outlying settlements is critical to ensuring the long term sustainability of service provision and securing the vitality and viability of local and neighbourhood centres through providing increased local spending capacity. This is critical to securing a sustainable future for all settlements.

Economic Drivers

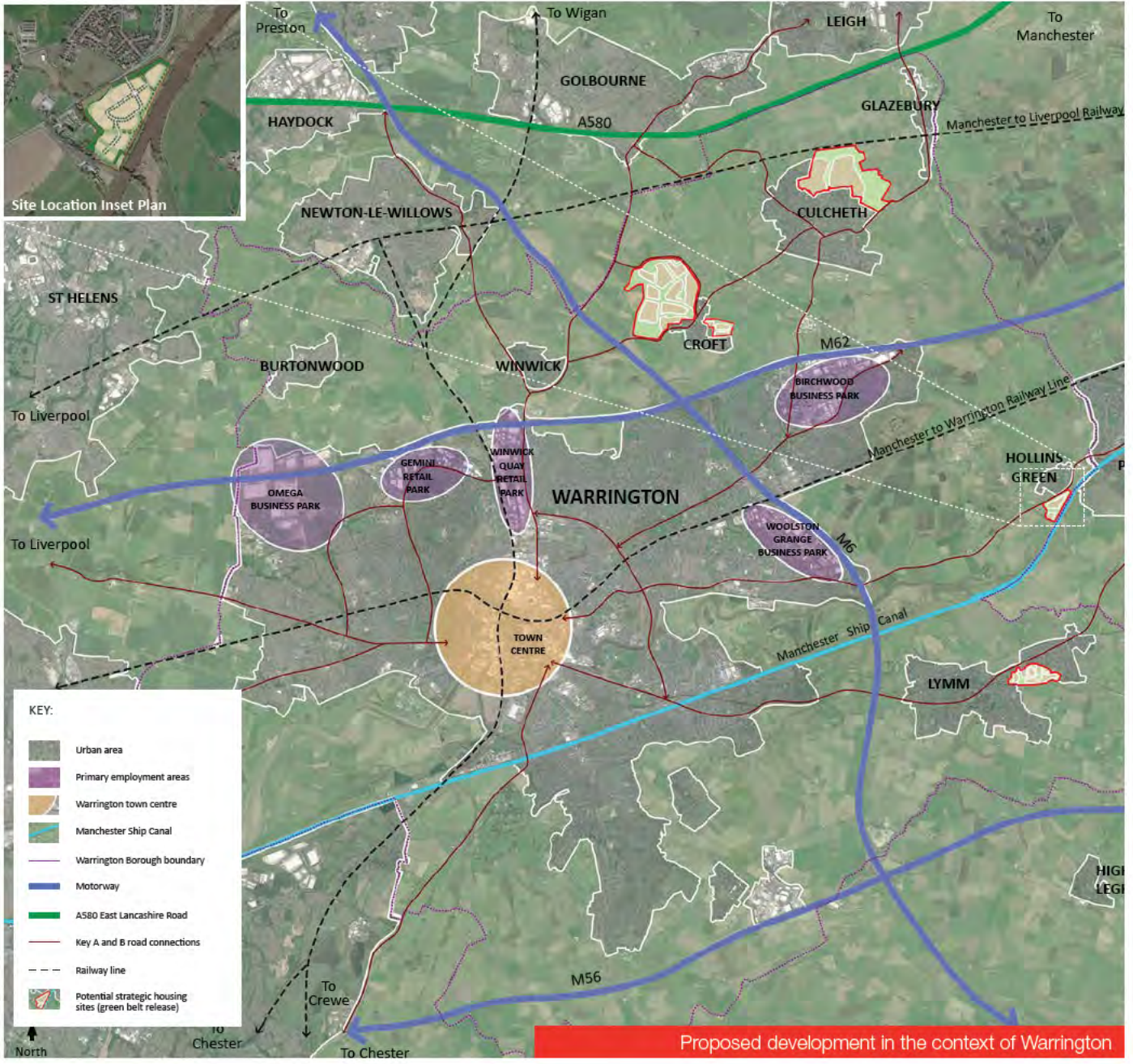
Consideration must also be given to the Borough's economic geography and the proposed spatial distribution of new housing. An increased focus on residential development in the north of the Borough would realise significant sustainability benefits through a more effective co-location of housing and employment and strategic transport connections in north of the Borough (e.g. Omega, Birchwood Park and strategic road connections within Liverpool, Manchester and employment locations beyond Warrington, such as Trafford Park and Parkside). This has the potential to reduce travel and congestion on the local and strategic road network in and around Warrington.

Summary

The evidence shows that in the outlying settlements there is a significant level of locally derived housing need which is required to solve the challenges faced by the settlements.

Due to the absence of brownfield land within the outlying settlements, an additional supply of land is required on the edge of these settlements through the targeted release of Green Belt sites. The local housing need in these settlements reinforces the 'exceptional circumstances' to justify a review of the Green Belt around these settlements.

The site presented in this prospectus can meet a notable proportion of local needs in the outlying settlements. The subsequent sections of this prospectus show that the removal of this site from the Green Belt and its allocation for residential development is both suitable and deliverable.



3. Local Context and Site Sustainability

Warrington Borough 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. It has its own plans and aspirations for growth.

The main town in the Borough is Warrington and its surrounding urban area. Hollins Green is a small settlement to the east of the urban area of Warrington, very close to the eastern boundary of the borough. It lies a short distance (c.300m) from the urban area of Salford. It lies immediately north of the A57 which runs east-west and connects Hollins Green to M6 (and runs between Warrington and Salford).

The Site and its surroundings

The site encompasses a broadly triangular area of land to the south of Hollins Green. The site is divided into three fields by a ditch to the north and a small brook to the south. The land is currently used for agricultural purposes.

The site is bordered by the Manchester Ship Canal to the east, the A57 Manchester Road to the north, a caravan park to the west and Warburton Bridge Road to the south.

The A57 passes just north of the site, connecting Warrington and Manchester. Regular bus services serve Hollins Green between Manchester and Warrington. Glazebrook railway station is 1.5km to the north of the village and provides access to services between Manchester, Warrington and Liverpool.

The proposed location is well related to existing facilities serving the established local residential area, including one primary school and a pre-school, a post office, public transport routes, two pubs and a range of recreational facilities.

The area falls within the 'undulating enclosed farmland' of Winwick, Culcheth, Glazebrook and Rixton, described in the Warrington Landscape Character Assessment (2007) as 'undulating farmland with a medium to large scale field pattern'.

A former clay extraction site, known as Rixton Clay Pits is located 0.75km west of the site and is now a nature reserve and a Site of Special Scientific Interest.







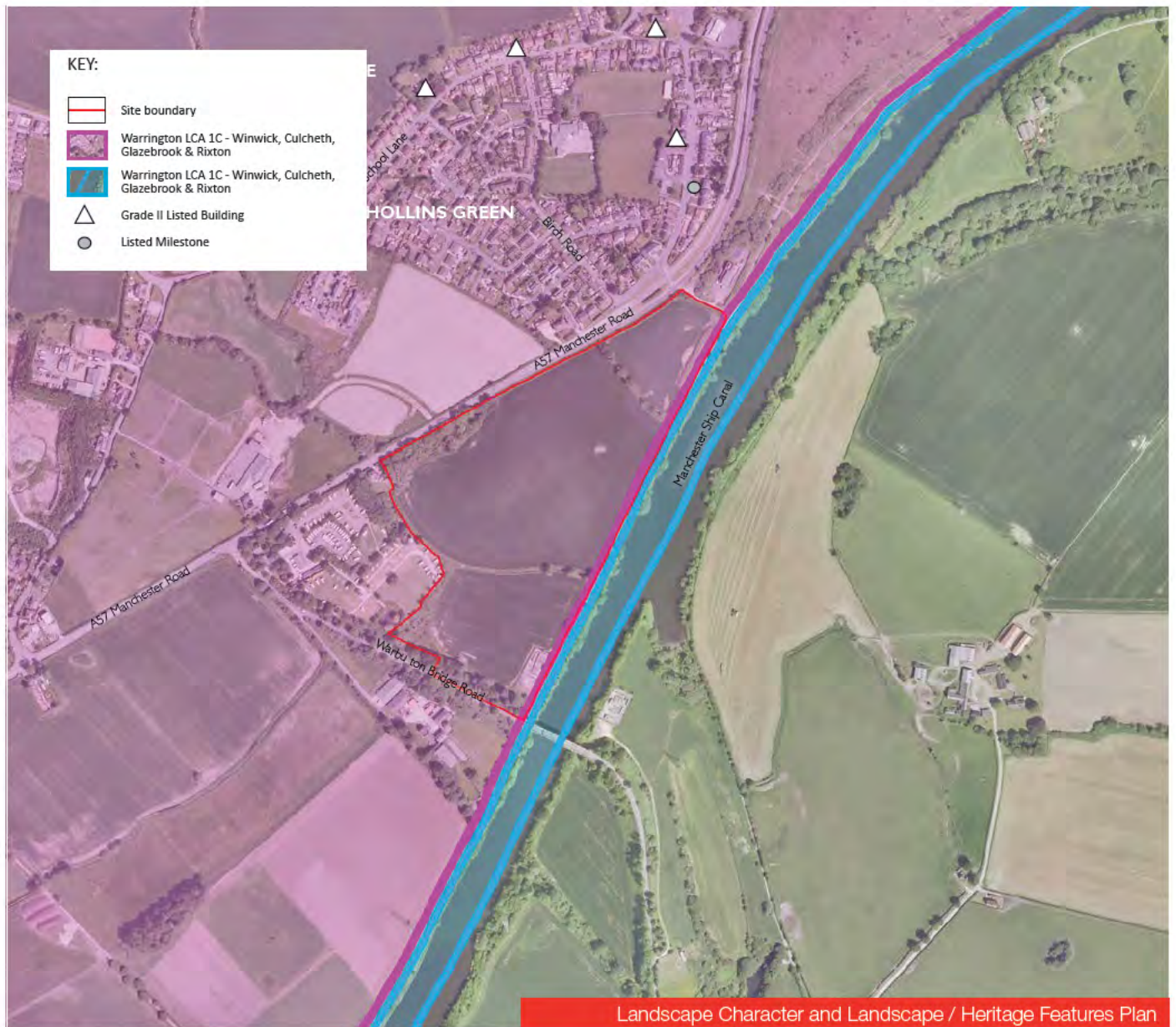
4. Opportunities and Constraints

The plans below have been prepared to show the opportunities and constraints relevant to development of the site. They have been informed by site visits and by 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 presented in the technical appendix to this prospectus.



- | | | | |
|--|---|---|--|
| Site boundary | Contours | Extent of flood risk on site (Flood zone 2) | Potential links to locally walked routes |
| Existing buildings within/ bounding the site | Retain existing vegetation within site where possible | Sensitive boundaries | |
| Public Right of Way | Existing water bodies/ watercourses | Local high pressure mains | |
| Locally walked routes | Manchester Ship Canal | Potential site access | |

Site Features Plan



5. Green Belt Assessment

Hollins Green is inset from the Green Belt, with the existing settlement boundaries defined by the extent of built development.

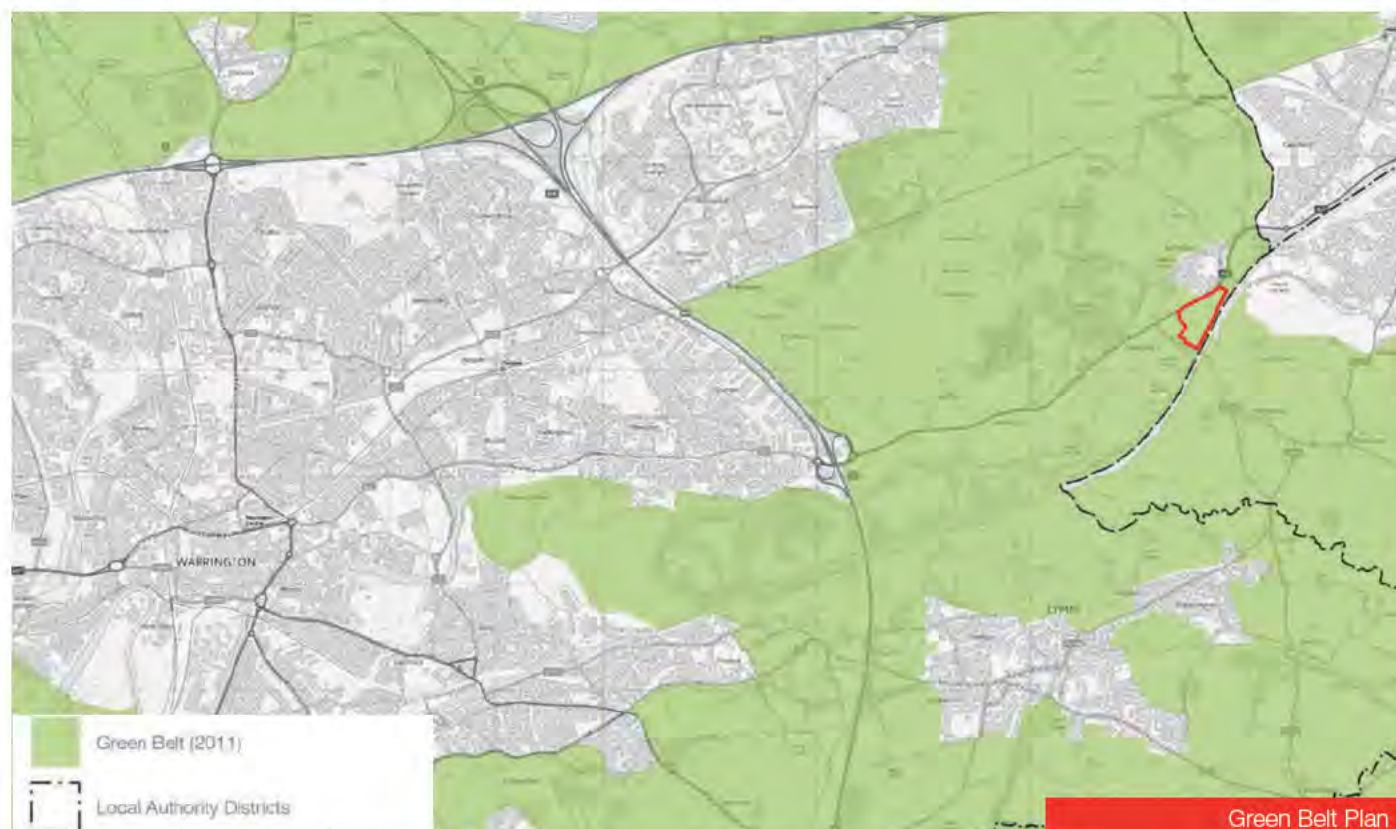
The Warrington Green Belt Assessment considers the site as part of much larger parcels of land (ref. HG5). It makes an assessment of the site's Green Belt contribution based on a methodology which Peel consider to contain a number of flaws (as critiqued in Section 5 of the representations to the Local Plan). The Green Belt review initially concluded that this parcel makes a strong contribution to the Green Belt. Peel's December 2016 representations provided a number of comments on the conclusions reached with respect to the contribution which this site makes to the Green Belt. Peel's submission demonstrates that the site forms part of a wider parcel of land which would, if redrawn along genuinely durable boundaries as is the expressed intention of the review, make an overall weak contribution to the Green Belt.

In considering the release of any site from the Green Belt and its allocation for development, alongside understanding the general Green Belt sensitivity of the site, it is necessary to have regard to the likely form and layout of the proposed development. This will enable a full understanding of impact to be established.

Of relevance in this regard is the following:

- The form of development envisaged for this site has been informed by a detailed analysis of the site and its context, including its position as part of the new proposed boundary of the settlement.
- The site has robust defensible boundaries on all sides and is wholly enclosed by features that serve to permanently contain the site. These are to be further strengthened for example by the addition of a woodland planting to the northern and western boundaries.
- The provision of a substantial amount of open space along the Manchester Ship Canal corridor limits the extent to which encroachment will occur.

It is noted that the Council has revised its conclusion on the Green Belt contribution made by the parcel within which this site is located from 'strong' to 'moderate'. This is supported by Peel.



6. The Proposals

The land off Manchester Road, Hollins Green site has the essential components of a high quality place. It has a strong landscape framework and can form a logical and sustainable extension of the existing community.

The conceptual masterplan takes its cue from the existing landscape features both within and around the site; vegetation, landform, views, ecology, drainage and built form. The key opportunities of the site are explained through the following 'placemaking concept' steps.

1. Retain existing landscape features

- Existing trees, hedgerows and watercourses within the site will be preserved and set within the publicly accessible greenspaces where possible.

2. Greenspace 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.
- Creation of focal green overlooking the Manchester Ship Canal, with a linear greenspace extending along the frontage of the canal.
- Creation of a wide landscape buffer alongside Manchester Road. This will include the existing woodland and hedgerow, along with new tree planting and potential noise mitigation features.



3. Enhance connections

- Creation of green footpath corridors following the existing watercourses through the site and a new footpath along the canal frontage, which links to the existing pedestrian routes in the surrounding area.

4. Development parcels

- Creation of secure development blocks where the housing is orientated to maximise attractive views over the surrounding area and internal open spaces - providing natural surveillance and an attractive outlook for residents.



The Masterplan

KEY:



Site boundary



Existing buildings



Existing vegetation



Proposed woodland planting



Proposed avenue trees



Green infrastructure



Proposed development area



Potential focal square



Proposed primary road



Proposed vehicular access



Proposed footpaths





7. Suitability

This section demonstrates that the site is suitable to accommodate residential development.

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

- Ecological Appraisal (The Environmental Partnership)
- Preliminary Drainage Strategy (Shepherd Gilmour)
- Flood Risk Advice (Shepherd Gilmour)
- Landscape Sensitivity Assessment (Randall Thorp)
- Health and Safety Check (Shepherd Gilmour)
- Transport Appraisal (i-Transport)
- Utilities Infrastructure Assessment (Shepherd Gilmour)

These are provided in a separate technical appendix to this prospectus. They are summarised below.

Environment

Ecology

An initial high level Ecological Appraisal has been carried out to identify the ecological potential constraints and opportunities and the development potential of the site.

Rixton Clay Pits is the closest nationally protected site and lies approximately 700m south west of site. Rixton Clay Pits is designated as a Special Area of Conservation (SAC), Site of Special Scientific Interest (SSSI), and as a Local Nature Reserve for its population of great crested newts and rich mosaic of wet grassland and woodland. Given the lack of connectivity between the site and Rixton Clay Pits, it is unlikely to be negatively impact by development opportunities. Owing to the distances (>1km) of other statutory or non-statutory nature conservation designations in the wider area, and taking account of the residential nature of the development proposals, it is very unlikely the development would result in any adverse effects on these sites.

The majority of the site has been identified as being of low ecological constraint, consisting of three arable fields which have been recently ploughed and offer little opportunity to local wildlife. The Ecological Appraisal has identified some features of high and medium ecological value, such as plantation woodland, semi-natural broadleaved woodland, hedgerows, and drainage ditches. The masterplan will retain those features of highest ecological value and will provide buffers to ensure such habitats continue to function as wildlife corridors for a range of species. Where possible the masterplan will retain less sensitive habitats, but if removal is unavoidable, mitigation or compensate will be provided

In terms of protected species, the site has potential to provide habitats for small numbers of nesting birds, bat roosts and habitat for foraging and commuting bats, nearby ponds to support populations of great crested newts, and habitat for badgers, water voles, and otters. These species can be accommodated by the adoption of relatively simple design principles which will be informed by future detailed survey work.

There are opportunities to increase the biodiversity of the site through tree and hedgerow planting, drainage design, and provision of new habitat. The retained areas of habitat will also maintained and enhanced to further provide opportunities to both wildlife and the local community. The development can also secure the removal of non-native invasive species (such as Himalayan balsam) recorded within the site boundary which will enhance existing green corridors by removing species that exclude native vegetation.

There are no ecological reasons to prevent the site being allocated for residential development.



Flood Risk	<p>A desktop flood risk assessment has been carried out. The majority of the site is located within Flood Zone 2 and some part are in Flood Zone 1 as identified by the Environment Agency. The site is therefore within an area considered to have a low to medium risk of flooding and is sequentially preferable to areas identified with a higher risk of flooding. At the detailed design stage, the risk of flooding will need to be considered and if necessary appropriate mitigation provided.</p> <p>There is no flood risk reason to prevent the site being allocated for residential development.</p>
Landscape	<p>An appraisal has been carried out to evaluate the landscape character and assess the value and sensitivity of an established Study Area which includes the site. Following this, the appraisal uses the outcome of the sensitivity assessment to assess the sensitivity of the site and to advise on its development potential.</p> <p>The appraisal states that there is nothing to indicate that there is anything about the landscape character of the study area which should be considered remarkable or out of the ordinary with the exception of Rixton Clay Pits which is located 500m away from Hollins Green and Woolston SSSI which is located over 1km from Hollins Green. .</p> <p>The site is located immediately south of the settlement of Hollins Green. It is generally flat and well enclosed on all sides by mature vegetation, the Manchester Ship Canal to the south, the A57 to the north, and the Hollybank Caravan Park and Warburton Bridge Road to the south west.</p> <p>The masterplan demonstrates that the site would be developed whilst preserving and enhancing the existing landscape features. New woodland areas could be introduced to the site boundary creating an attractive landscape setting and green corridors. A network of new footpaths and cycle routes could be incorporated into the design through the green corridors improving wildlife connectivity and enhancing recreational routes.</p> <p>The appraisal concludes that there is no reason why a well-designed development that preserves the existing landscape features and provide a green infrastructure network, and responds sensitively to the setting of the existing conservation area to the west of the site would have any significant effects on the site, the character of Hollins Green or the wider landscape of the Study Area.</p> <p>There is no landscape reason to prevent the site being allocated for residential development.</p>
Trees and Hedgerows	<p>The development can be designed to retain the boundary hedges and trees and where necessary supplement them with new tree planting. Trees can be retained within open space and footpath links. Development of the site will ensure that the trees are managed for the future and that they are retained as long term landscape features.</p> <p>There are no arboricultural reasons to prevent the site being allocated for residential development.</p>
Land Quality	<p>The site has been in agricultural use. The land has not been put to any specific uses that might pose insurmountable contamination risk in its current state, or if it were to be developed.</p> <p>There is no contamination reason to prevent the site being allocated for residential development.</p>
Health and Safety	<p>A preliminary consultation with the Health and Safety Executive (HSE) indicated that a Local High Pressure main passes through the centre of the site and this is considered to be a major accident hazard pipeline. The site masterplan has been prepared to accord with the HSE safety zoning. Consequently, the proposed housing will be located in the middle and outer zones, which will comply with the HSE guidelines.</p> <p>There is no health and safety reason to prevent the site being allocated for residential development.</p>

Infrastructure

Highways	<p>An initial transport appraisal has been carried out to identify the potential constraints and opportunities relating to highways and the development potential of the site</p> <p>A range of facilities and services will be available locally within walking and/or cycling distance of the site. These include the primary school, post office, public houses and play area. Doctors, dentist and pharmacy in Cadishead can be accessed on foot or by using local bus services. Buses are available to Lymm and Culcheth High Schools and there is a frequent bus service from Hollins Green providing connection to Warrington, Irlam, the Trafford Centre and Manchester. Rail services can be accessed at Irlam with connections to a range of destinations.</p> <p>The appraisal confirms that access to the site is proposed off Manchester Road and feasibility level designs have been produced and the capacity of these considered. This will operate satisfactorily without giving rise to unacceptable residual highways effects on the local network. Site access is deliverable and achievable</p> <p>The development will generate up to 150 vehicles (two-way) in the peak hours. The traffic flows are likely to be spread to the east and west of the site. Around 90 vehicles per hour could use the A57 Manchester/ Warburton Bridge Road junction, with this traffic spread over the three arms at the traffic signals. The development traffic therefore adds one vehicle every 40 seconds to the junction, c. two vehicles every cycle of the traffic signals. It is unlikely that such an increase will result in significant increases in queues and delays.</p> <p>On this basis it is concluded that, in accordance with the NPPF, development should not be prevented on transport grounds as the residual cumulative impacts of development will not be severe.</p> <p>There is no highways reason to prevent the site being allocated for residential development.</p>
Drainage and Sewerage	<p>A preliminary drainage strategy has been prepared. This confirms that the site is greenfield and that any surface water is likely to discharge into local watercourses.</p> <p>The masterplan will be designed to limit surface water to the greenfield run-off rate, and attenuate surface water volumes on site, including an allowance for climate change. Attenuation will be provided either above ground (i.e. swales, ponds and detention basins) or below ground (i.e. oversized pipes or geocellular modules). By restricting discharge rates, the post-development discharge rate will mimic the existing conditions.</p> <p>United Utilities (UU) asset plans indicate a network of foul and surface water sewers located in close proximity to the site. It is likely that any foul drainage generated by the development will connect into the nearby treatment works and pumping station. Further consultation will be conducted with UU.</p> <p>There is no drainage or sewerage reason to prevent the site being allocated for residential development.</p>
Utilities	<p>An initial assessment of utilities in the area has identified that existing electricity, gas, water, and telecommunications connections are available in the surrounding area and the proposed development can connect to those without adversely impacting on the provision to the wider community. Some minor works will be necessary to deliver services to the site, however this would not be insurmountable or hinder the delivery of the development.</p> <p>The provision of services will not constrain the development of the site.</p>

Suitability Conclusion

This technical assessment demonstrates that the site is not affected by any insurmountable constraints. The masterplan as presented is therefore fully deliverable.

8. Benefits

Site: Land off Manchester Road, Hollins Green
Proposed development: c.230 residential dwellings

Construction Phase¹



Operational Phase¹



¹ All impacts net additional

² GVA (Gross Value Added) measures 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.

9. Sustainable and Achievable

New Homes for Hollins Green

The site could form a sustainable residential extension to Hollins Green, with c.230 dwellings delivered. They would be of mixed tenure (including affordable housing), size and type, with a focus on good quality family housing whilst making a positive contribution to the long term sustainability of Hollins Green and its local services and infrastructure.

The concept masterplan provides a framework which responds to its context. It proposed development set within a network of publicly accessible greenspaces, and which capitalises on the proximity to the Manchester Ship Canal. Enhanced boundary buffer planting will reinforce the site boundaries and strengthen the existing green setting of the site. This will provide an attractive setting for the residential development.

A Sustainable Opportunity

A sustainability checklist, based on the themes set out in the Warrington Local Plan Sustainability Appraisal is provided at Appendix 1. This demonstrates that the proposal represents sustainable development, having regard to the economic, social and environmental dimensions of sustainability.

Delivery

Peel has a proven track record of promoting land to facilitate development and growth and working with house-builders (ranging from small to national) to ensure that important development is delivered.

An initial assessment of the site has identified that there are no environmental issues that would preclude delivery of the site. The site does not require the provision of significant or unusual infrastructure to enable it to be delivered. It is also situated in a strong market area, which experiences high demand for new homes. The site is therefore readily deliverable over the plan period.





10. Summary and Conclusions

This development prospectus sets out a vision and masterplan for the sustainable development of land at Manchester Road, Hollins Green. It is submitted as part of Peel's representations to the Warrington Local Plan Preferred Development Options Consultation on the Local Plan.

It demonstrates that the site represents a sustainable opportunity capable of accommodating a desirable and high quality residential development, forming a sustainable residential extension to Hollins Green and protecting and enhancing local service provision. Existing natural features will be retained and enhanced within and surrounding the site, particularly along the canal frontage.

The concept masterplan presented within the document provides a framework which responds to its context. It demonstrates that site is capable of accommodating around 230 new homes (including affordable housing), with a focus on good quality family housing and can therefore make a substantial contribution to Warrington's housing requirement.

Appendix 1: Sustainability Checklist

(Based on sustainability themes set out in the Local Plan Sustainability Appraisal)



Economy and Regeneration

Strengthen the local economy and ensure sustainable economic growth	The site will generate numerous temporary and permanent economic benefits as set out in this Site Prospectus.
Improve the education and skills of the population overall	The construction phase will provide an opportunity for skills and training to be offered to local residents.
Reduce poverty, deprivation and social exclusion and secure economic inclusion	The provision and supporting of jobs and the generation will contribute to achieving this objective.

Health and Wellbeing

Improve physical and mental health and reduce health inequalities	The site will incorporate areas of open space, including a green corridor adjacent to the canal, and a network of walking / cycling routes (which allow access to the surrounding countryside). These facilities will contribute to physical and mental health wellbeing for future residents and others in Hollins Green.
Reduce crime, disorder and the fear of crime	The detailed site layout and design of development can contribute to achieving this objective.
Enable groups to contribute to decision making and encourage a sense of community identity and welfare.	The development will provide a range of housing types and tenure, and a new linear park, offering the opportunity for a mixed and socially inclusive community.
Provide, protect or enhance leisure opportunities, recreation facilities, green infrastructure and access to the countryside	The new linear park, open space and walking / cycling routes proposed can be used for recreation and which allow access to the surrounding countryside.

Accessibility

Reduce the need to travel, especially by car, improve choice and the use of more sustainable modes	<p>The site is located immediately adjacent to an established settlement (Hollins Green). By providing good linkages between the site and the surrounding area future residents will have access to a range of facilities and services present in the town without the need to travel by car.</p> <p>Hollins Green is accessible by bus with regular bus services serve the town, running between Warrington town centre and other local settlements.</p>
Protect and enhance accessibility for all the essential services and facilities.	An increase in population in Hollins Green will support existing services and facilities, with potential for improved facilities and further investment in the future.

Housing

Ensure access to good quality, sustainable, affordable housing	The site presents a sustainable and achievable development opportunity comprising residential development and a large country park. It is capable of accommodating around 230 homes of mixed tenure (including affordable housing), size and type, with a focus on good quality family housing. It will make a very important contribution to meeting Warrington's housing requirement and meeting the need for new homes in Hollins Green.
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Natural Resources

Ensure the sustainable and prudent use and management of natural resources including the promotion of natural resources including the promotion of sustainable drainage and water conservation.

The concept masterplan provides a framework which responds to its context. Existing landscape features will be retained through the development and enhanced where possible. The development will provide the opportunity to enhance ecological value of the site and incorporate SUDs.

Protect, manage and improve local environmental quality including land, air and controlled waters and reduce the risk of flooding.

Any future development will be subject to a rigorous assessment of the environmental impact of the development to ensure that it does not result in any unacceptable environmental effects. Initial appraisals presented in the technical appendix demonstrate that the site is not affected by any insurmountable environmental constraints. Initial appraisals presented in the technical appendix demonstrate that the site is not affected by any insurmountable constraints.

Built and natural heritage

Protect and enhance places and buildings of historic cultural and archaeological value.

By responding to its context through a rigorous process of site analysis, the masterplan achieves a layout which is sympathetic to its position at the edge of the settlement. The canal-side context of the site is reflected in the proposed masterplan.

Protect and improve the quality and character of places, landscapes, townscapes and wider countryside whilst maintaining and strengthening local distinctiveness and sense of place.

Additional safeguards over the quality and character of the development, including the public realm, can be achieved with detailed site layout and design. The masterplan present an appropriate framework for this.

Ensure high quality and sustainable design for buildings, spaces and the public realm that is appropriate to the locality.

There are no heritage assets close to the site.

Biodiversity and Geodiversity

Protect and enhance biodiversity and geodiversity.

The supporting ecological appraisal provided within the technical appendix to this prospectus demonstrates that the site's ecological value is limited. The development provides the opportunity to enhance the site's ecological value through a careful and considered design approach and inclusion of features which will promote this.

Climate Change and resource use

Limit, mitigate and adapt to the impacts of climate change. Increase energy efficiency and production of renewable energy.

The site offers the potential to incorporate sustainable drainage measures (subject to further assessment) and to ensure that the development will not be susceptible to the effects of climate change.

Minimise waste and maximise reuse, recovery and recycling.

Development will seek to minimise the use of resources as far as possible and the construction process will be subject to a Site Waste Management Plan.

