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Warrington Borough Council
Planning Policy and Programmes
New Town House
Buttermarket Street
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[redacted]

Your Ref
Our Ref

29th September 2017

Dear Sirs

Warrington Local Plan Review- Preferred Development Option: Representations submitted on behalf of Ashall Homes Limited

Cushman & Wakefield has been instructed by Ashall Homes Limited (Ashall Homes hereafter) to submit representations in relation to the current consultation on Warrington Borough Council's Local Plan Preferred Development Option.

Background

Ashall Homes is a private property investment and development company that focuses on creating investment value through property development and asset management. Ashall Homes was established in Warrington in the 1930s and as such has strong local connections and interest across the Borough. Ashall Homes has an interest in approximately 32 ha (80 acres) of land to the north of Chester Road (A56), Walton.

A copy of the location plan is provided as an addendum to this letter.

Representations

The subject of these representations is to make the Council aware of Ashall Homes' land interests within the Borough and to provide comment on the Preferred Development Option for the Local Plan.

Cushman & Wakefield on behalf of Ashall Homes submitted a Call for Sites form on 5th December 2016 which included a comprehensive development statement and location plan. Whilst this was focused on Ashall Property's interest to the south of Chester Road, the development statement confirmed that *"there is an opportunity to bring forward additional land, north of Chester Road (A56) as part of a future development proposal….There is therefore the opportunity to create a more comprehensive sustainable extension to the west of Walton, which would help support the Council in meeting local housing need over the plan period*"[1].

The purpose of this representation is therefore to provide additional information to the Council on this site

[1] Paragraph 5.57, Stonecroft Development Statement

and to provide comprehensive feedback on the Council's proposals for this area of Walton.

Cushman & Wakefield has reviewed the Local Plan Preferred Development Option and notes as follows:

Housing Need

Ashall Homes agrees with the Council's proposed approach to determining the required housing need of 1,113 homes per annum on the basis that this aligns with the Council's economic growth aspirations as set out within the Cheshire and Warrington Devolution Bid, and that in order to deliver these growth objectives, the Council must release Green Belt land to meet the necessary housing requirements over the plan period.

Strategic Objectives

Ashall Homes concurs with the Council's proposed Strategic Objectives. It is considered that W2, in relation to a proposed Green Belt release, is a critical objective for the Council in order to meet the local housing need. It is acknowledged that any Green Belt release should balance meeting the Council's housing needs whilst ensuring that the revised Green Belt boundary maintains the permanence of the Green Belt in the long-term. Alongside this, the Council must also plan appropriately to ensure that the appropriate levels of supporting infrastructure are in place to release the requisite housing land, which includes for the delivery of the Warrington Western Link Road to alleviate congestion within Warrington Town Centre, whilst at the same time bringing forward the necessary land parcels for future housing and employment development.

Green Belt Release

It is considered that the Council has demonstrated that there are exceptional circumstances for releasing Green Belt land in line with Paragraphs 82 and 83 of the NPPF. The Preferred Development Option will ensure the delivery of sustainable development, supporting the needs of existing communities as well as meeting local housing need for existing and future residents in the Borough.

Ashall Homes is in agreement with the Council that the most sustainable broad spatial option (Option 2) is to focus Green Belt release on sites which are adjacent to the main urban area, alongside some incremental growth in outlying settlements such as Lymm. This approach ensures that the permanency of the Green Belt can be maintained whilst at the same time brings forward land which is required to meet local housing need and support economic growth and local services/ amenities.

Main Development Locations

The Council has set out five options to accommodate the proposed future development. Ashall Homes agrees with the Council's approach to promote Option 2 as the preferred option, given that this provides a balanced approach to delivering housing growth across the Borough and generates sufficient critical mass in key sustainable locations to provide the necessary supporting social and physical infrastructure as well as support the needs of existing communities in these locations.

Warrington South West Urban Extension Area Development Concept

Given that Ashall Homes' land interests are located within the south west of Warrington, Cushman & Wakefield has focused on reviewing the Council's Framework Plan Document for South West Warrington, which has been produced to support the release of Green Belt land and to determine potential development capacity, infrastructure requirements, constraints and opportunities.

The Council's Framework Plan Document confirms that the site has minimal constraints which would impact

the suitability of the site for residential development. The site is of a suitable topography, is within Flood Zone 1 and there are no ecological or environmental designations (including Tree Preservation Orders) which would have a bearing on the development capacity of the site.

It is acknowledged that a proportion of the site falls within the Middle COMAH Zone in relation to the Baronet Works. Notwithstanding this, in line with HSE guidance there is potential to bring forward residential development, provided that this is no greater than 30 dwellings and where density is at no more than 40 dwellings per hectare. It is considered that there is therefore scope to develop out a proportion of the site within the middle zone for residential use.

A proportion of the site is also proposed to bring forward the Warrington Western Link road, which will support the delivery of the wider south west extension area as well as serve to alleviate congestion within Warrington Town Centre. It is understood that the Council has recently selected a preferred route for the proposed Western Link Road, and the preferred Red Route option is proposed to be constructed through the eastern section of the Ashall Homes site. At this early design concept stage, it is unclear as to the required land-take for the proposed Western Link Road. Ashall Homes therefore request that the Council and their Highways/Transport Planners work closely with landowners, including Ashall Homes, to ensure that an efficient use of land can be achieved, without detrimental impact to the delivery of new homes in this area and the achievement of the Council's proposed Framework Plan.

As such, it is considered that the Council's preferred conceptual option is Option 1. Option 1 proposes the release of a proportion of the land north of Chester Road from the Green Belt (as proposed residential area parcels C2 and C3). This amounts to having potential capacity of up to 168 dwellings over both parcels. This option indicates the proposed location of the Western Link Road and the inclusion of Strategic Green Space to the eastern parcel and immediately west of the proposed Link Road.

Whilst Ashall Homes recognise the importance of this strategic infrastructure, it is considered that there could be further refinement of the proposed land use in this location, which may include increasing the area of the proposed residential parcel (C2) once a detailed design for the new Link Road is available. Ashall Homes would welcome an opportunity to work closely with the Council so that residential numbers are maximised whilst also ensuring an appropriate stand-off for the highway infrastructure.

Ashall Homes also request that the Council implement an appropriate land equalisation and/or off-set mechanism to ensure that where landowners have to forego residential uses for the greater good and to enable the achievement of the wider conceptual plan/Framework that they are suitably compensated as part of any Local Plan/ Masterplanning process. In relation to Ashall Homes site, this will include land which is required to deliver the Warrington Western Link Road as well as any stand-off and/or Strategic Green Space which is proposed.

Land at Higher Walton, Site Prospectus, Peel Holdings, December 2016 (Call for Sites Reference R18/125)

Turley on behalf of Peel Holdings (Management) Ltd in respect of land at Higher Walton, has prepared a Site Prospectus which was submitted in response to Warrington Council's Call for Sites exercise. This Prospectus included for land which is within Ashall Homes' interest, and is the subject of these representations. Peel proposes the creation of new greenspaces, which includes the creation of a new greenspace to the east of the wider development site, which corresponds with Ashall Homes' interest. Whilst it is acknowledged that the creation of a green infrastructure network will benefit the setting of the wider development parcel, there is no rationale as to why the full extent of the eastern area needs to form part of this network, albeit that some stand-off will be required to accommodate the proposed Western Link Road.

Figure 1: Peel Holdings (2016) Site Prospectus (Page 12). Ashall Homes' site is shown within the area of proposed Green Space, with indicative development parcels in white.

The Site Prospectus then goes onto outline a conceptual masterplan (Figure 2 below). Despite indicating potential development parcels in Figure 1, the proposed masterplan illustrates that a large proportion of this could be delivered as a Country Park. Peel has not consulted with Ashall Homes' on this proposed masterplan. Ashall Homes' therefore considers this concept to be an inefficient use of Green Belt land and would like to reiterate to the Council that there are no constraints (save for those previously mentioned above) which would restrict the developable area of this site. It is considered that a significant proportion of

the proposed Country Park could be brought forward for residential development, in line with the Council's Framework Plan Document for South West Warrington.

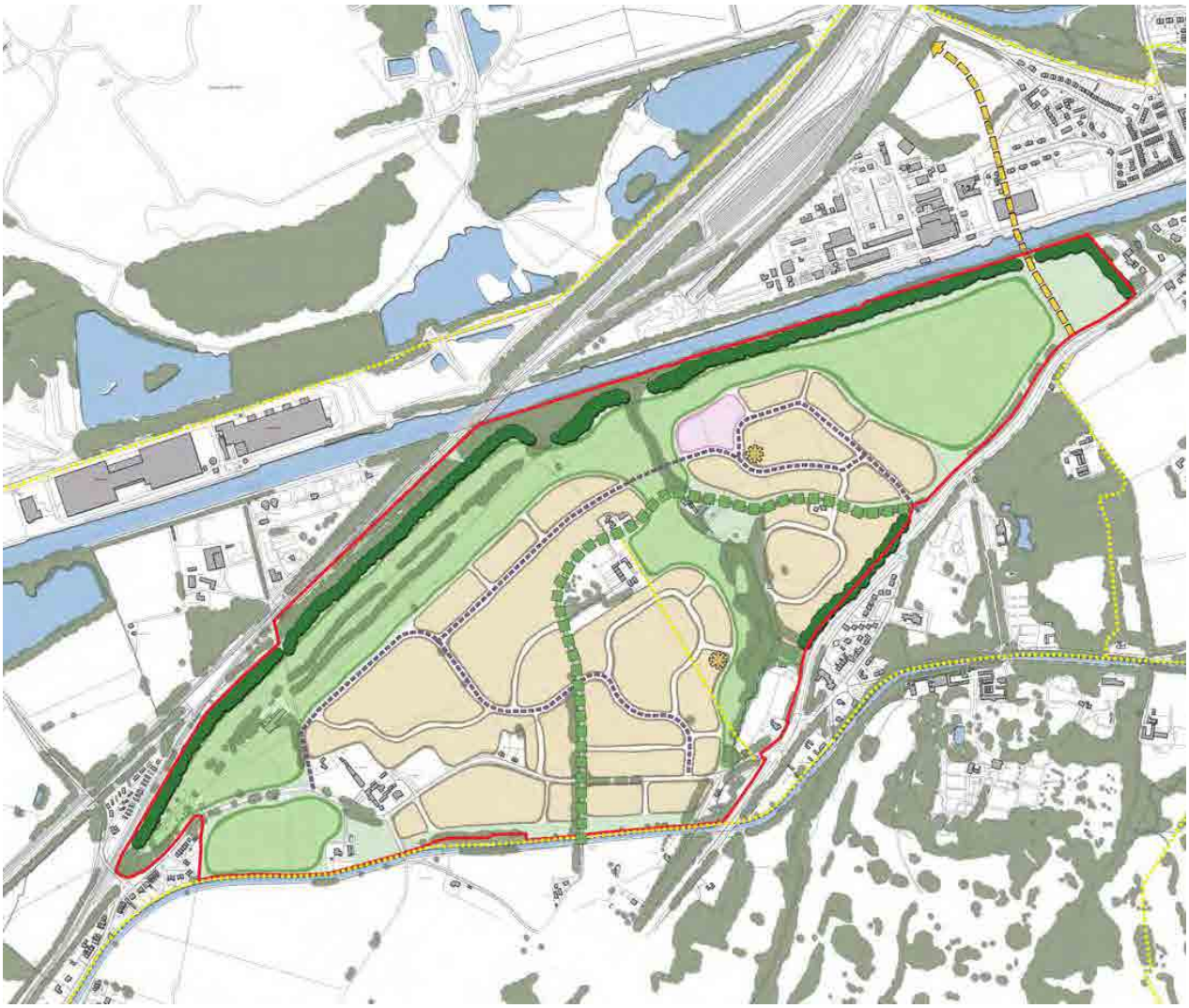

Figure 2: Peel Holdings (2016) Site Prospectus Conceptual Masterplan (Page 14).

Local Plan Review Call for Sites Proforma

The Council has undertaken an assessment of the Call for Sites submission, as set out within the Site Profomas – Central, under site reference: R18/125 in response to Peel Holdings submission in December 2016. The Council notes that the wider site is subject to some development constraints, including Listed Buildings and TPOs, these constraints are not applicable in relation to Ashall Homes' proportion of the site.

The Council notes within its assessment that the site comprises potentially contaminated land. Ashall Homes has commissioned Earth Environmental & Geotechnical to undertake a Phase 1 Geo-environmental Assessment. This Assessment has concluded that the site has been in agricultural use since 1877, and whilst there have been potentially contaminated sources within close proximity of the site, the risk of potential pollutant linkages is considered to be a low risk.

A copy of the Phase 1 Geo-environmental Assessment has been submitted as an addendum to this representations letter.

The Council's Proforma also provides a summary of the Green Belt assessment. The Council states that overall the wider parcel (WR65) makes a moderate contribution to the Green Belt. In terms of the wider parcel's contribution to the purposes of the Green Belt, we note as follows:

- Purpose 1 – to check the unrestricted sprawl of large built-up areas
  We agree with the Council's assessment that this presents a weak contribution given the durable boundary of the Manchester Ship Canal to the north and Ashall Homes considers that the boundary to the east will be sufficiently durable given that the Western Link Road is proposed in this location which will create a *"physical feature which [is] readily recognisable and likely to be permanent".*[2]

- Purpose 2 – to prevent neighbouring towns merging into one another
  We would argue that when reviewing the element of the parcel which relates to Ashall Homes' interest, this could be categorised as being weak in ensuring the prevention of the merging of Warrington and Runcorn, given that this is sited further away from the administrative boundary with Halton than the wider WR65 parcel.

- Purpose 3 – to assist in safeguarding the countryside from encroachment
  The Council considers this to be strong contribution whereas it is Ashall Homes' position that the eastern boundary will be sufficiently durable through the construction of the proposed Warrington Western Link Road, and given the parcel has now been extended further south to the A56 – Chester Road. It is Ashall Homes' conclusion therefore that the Council should re-appraise this as having a weak contribution to reflect the proposed Link Road to the eastern boundary.

- Purpose 4 – To preserve the setting and special character of historic towns
  Ashall Homes agrees with the Council that this is a weak contribution.

- Purpose 5 – to assist in urban regeneration by encouraging the recycling of derelict and other urban land
  Ashall Homes agrees with the Council that the site makes a moderate contribution to this purpose.

In conclusion therefore, and in light of the proposed Warrington Western Link Road to the east, it is considered that the Council should re-assess the site as having a weak contribution to the purposes of the Green Belt.

The proposed development site to the north of Chester Road is available, achievable and deliverable in the short to medium term and if required, could be delivered ahead of the proposed Warrington Western Link.

On this basis it is considered that the Council should re-consider their development trajectory table in paragraph 5.9 of the Preferred Development Option Consultation document. A proportion of dwellings (potentially up to 100) could be brought forward within years 0-5 of the Local Plan period on the land north of Chester Road site.

[2] Paragraph 85, National Planning Policy Framework (2012)

Conclusions

As outlined above, our representations confirm that Ashall Homes' land to the north of Chester Road, Walton is a sustainable extension to Walton and is achievable and deliverable over the first five years of the Local Plan period. On this basis, Ashall Homes is in agreement with the Council's Preferred Development Option to bring forward up to 2,000 new homes as a south west extension to Warrington and to amend the Green Belt boundary in this location.

Ashall Homes disagrees with the Council's assessment of the Call for Sites submission noting that the site is not contaminated and as a result of the proposed Warrington Western Link it can be considered to make a weak contribution to the Green Belt.

We respectfully request that Ashall Homes is kept informed as to the progress of the Warrington Local Plan Review, including being notified of any future opportunities to provide comments, so that Ashall Homes can respond appropriately as required.

I trust that the above letter of representation is clear and comprehensive, however should you have any queries, please do not hesitate to contact me.

Yours faithfully

[redacted]n & Wakefield Planning

Enc – Site Location Plan

Phase 1 Geo-Environmental Assessment

Site Location Plan – Interest identified in red (Source: Promap)

Earth Environmental
& Geotechnical

Phase 1 GeoEnvironmental Assessment

Land to the North of Chester Road

Walton

September 2017

On behalf of

Ashall Homes Ltd

Earth Environmental & Geotechnical Ltd
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Earth Environmental
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LAND TO THE NORTH OF CHESTER ROAD

WALTON

PHASE I
ENVIRONMENTAL DESK STUDY

FOR

ASHALL HOMES LTD

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business & Arts Centre
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Report No. A2220/17 **September 2017**

Report Title:	Land to the North of Chester Road Phase I Environmental Desk Study
Report Reference:	A2220/17
Client:	Ashall Homes Ltd
Issue Date:	9th September 2017
Drafted By:	[redacted]
Reviewed By:	[redacted]
Authorised By:	[redacted]

Earth Environmental & Geotechnical

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APPENDICES

Earth Environmental & Geotechnical

FIGURES

1.0 INTRODUCTION

Appointment

1.1 Earth Environmental & Geotechnical was commissioned by Ashall Homes Ltd (the client) to undertake a Phase I Environmental Desk Study on land to the north of Chester Road.

1.2 It is understood that the client intends to develop the site for a large residential estate end use comprising of low rise houses, with access roads, car parking, private gardens and landscaped soft standing areas. A proposed development plan has not been provided.

Objective

1.3 The purpose of the Desk Study is to collate available geological and environmental data for the site (and its environment) and provide a preliminary geotechnical and geo-environmental appraisal, with a site specific conceptual model. This enables a preliminary assessment of geo-environmental risks to be undertaken and, if necessary, provides information for the design of a Phase 2 Ground Investigation.

Scope

1.4 The Phase I Environmental Desk Study comprises of a site reconnaissance visit and a review of the following information sources some of which was provided by the client.

- British Geological Survey online maps.
- Google Earth imagery.
- Environment Agency online mapping data.
- Historical Ordnance Survey maps.
- The site and surrounding areas environmental, geological and mining data presented in the site specific GroundSure Reports (Appendix 1).
- Coal Authority Interactive Viewer.
- Warrington Borough Council Planning Portal.

2.0 SITE LOCATION AND DESCRIPTION

2.1 The site currently comprises farmland split by well-established hedgerows used for crop growing.

Site Location

2.2 The site is located immediately north of Chester Road, to the east of Walton town centre and approximately 2km south of Warrington town centre. The approximate National Grid Reference for the centre of the site is SJ598857 (359809, 385741), at postcode WA4 6TE.

2.3 The site occupies approximately 32ha across an irregular shaped parcel of land which slopes gently to the north. The site currently comprises farmland split by well-established hedgerows. A tarmacadam and gravel path runs from south to north in the west of the site, leading to a storage area containing several muckheaps, pallets of chopped timber, a trailer, a large stockpile of wood and a small stockpile of solidified tarmacadam. Pylons and telecommunication poles traverse the site in the northwest and centre of the site respectively.

2.4 The site is generally bound by hedgerows, mature trees and metal fencing. A small unnamed watercourse runs along the western site boundary while the Manchester Ship Canal flows west along the northern site boundary. Mill Lane and Chester Road lie adjacent to the south of the site with fields and Walton Lea Cemetery beyond these roads. Walnut Tree Farm lies beyond the eastern boundary.

2.5 The site is accessed directly off Chester Road and another access from Mill lane along the southwestern site boundary.

2.6 A location plan is shown as Figure 1, below.

Figure 1 Site Location Plan

Site Utility Services

2.7 A site service plan has been not provided by the client. The status of all services should be checked with the statutory providers prior to any development (including site investigation) commencing.

3.0 ENVIRONMENTAL SETTING

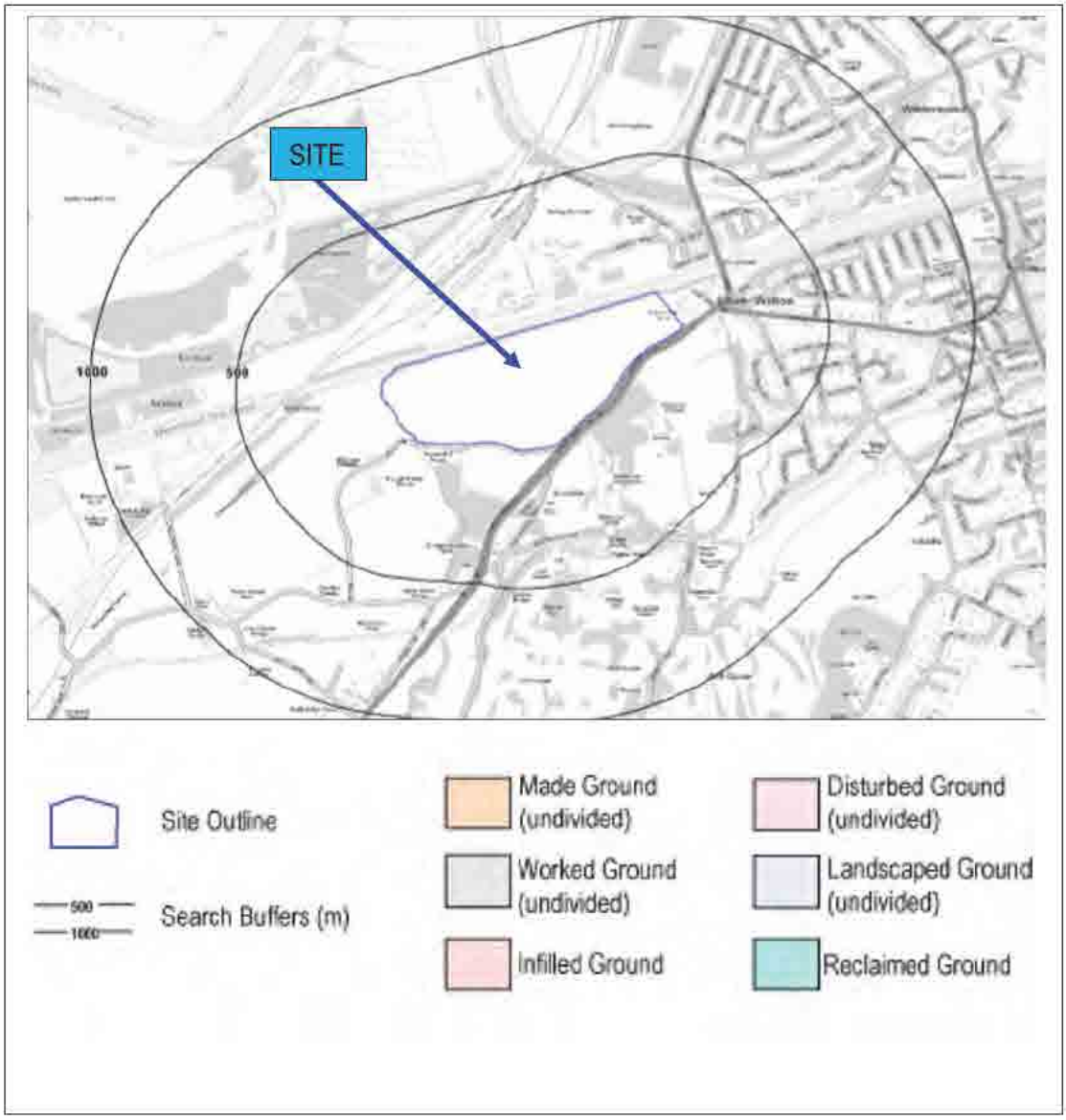
3.1 The geology of the site is covered by British Geological Survey (BGS) online data and the site specific GroundSure GeoInsight report (Appendix 1).

3.2 Environmental conditions are covered by Environment Agency (EA) and British Geological Survey (BGS) online data, and the site specific GroundSure EnviroInsight report (Appendix 1).

Geology

3.3 The BGS states that the site is not underlain by any made ground. The are no records of artificial ground located within 500m of the site. A copy of the artificial ground map is included below as Figure 2.

Figure 2 Artificial Ground Map



3.4 The majority of the site is underlain by the Shirdley Hill Sand Formation superficial deposits which consists of moderately to well-sorted, fine-grained sand with peat layers in the lower part. An area of Glaciofluvial Sheet Deposits consisting of sand and gravel with lenses of silt, clay or organic material is present along the northern boundary and in the northwest of the site. A small amount of Devensian Till superficial deposits with a mixed flow type, high maximum and low minimum permeability are present in the east of the site.

3.5 These superficial deposits are underlain by the Helsby Sandstone formation in the west of the site, consisting of fine to medium grained, locally micaceous, cross-bedded and flat-bedded sandstones. Much of the east of the site is underlain by the Tarporley Siltstone Formation which consists of interlaminated and interbedded siltstones, mudstones and sandstones in approximately equal proportions. The extreme east of the site is underlain by the Wilmslow Sandstone Formation comprising fine to medium grained, red-brown to brick red, generally pebble free, cross stratified sandstone, with sporadic siltstones.

3.6 The bedrock is separated by an inferred geological fault of unknown displacement in the centre of the site, oriented approximately northnortheast-southsouthwest and an observed fault in the east of the site, oriented approximately northnorthwest-southsoutheast which dips approximately 5^{o} to the southeast

3.7 There are no records of landslips within 500m of the site boundary.

3.8 There are 22no. boreholes recorded onsite, drilled to depths of between 4.5 and 13.5mbgl, these generally record topsoil underlain by varying depths and thicknesses of sand and clay, which in turn are underlain by red sandstone between 3.0 to 7.0mbgl depth.

3.9 The site is in an area where the hazard rating is negligible or very low with regards to; landslides, shrink-swell clays, ground dissolution of rocks, natural subsidence and collapsible deposits. However, there is a small area of moderate risk from compressible deposits along the extreme northwest boundary of the site. In addition, much of the site is regarded as low risk with regards to running sand, however again there is a small area of moderate risk along the extreme northwest boundary of the site, associated with alluvium.

3.10 With regards to the area of the site where the hazard rating is moderate in relation to compressible deposits, the BGS states:

> *'Significant potential for compressibility problems. Do not drain, load or de-water ground near the property without technical advice. For new build, consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property, possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.'*

3.11 With regards to the area of the site where the hazard rating is moderate in relation to running sands, the BGS states:

> *'Significant potential for running sand problems with relatively small changes in ground conditions. Avoid large amounts of water entering the ground (for example through pipe leakage or soak-aways). Do not dig (deep) holes into saturated ground near the property*

without technical advice. For new build, consider the consequences of soil and groundwater conditions during and after construction. For existing property, possible increase in insurance risk from running sand, for example, due to water leakage, high rainfall events or flooding.'

3.12 There are 21no. estimated background soil chemistry record located onsite.

Ground Workings

3.13 There are 14no. records of historical surface ground working features identified onsite, the majority of these are along the northern site boundary and relate to the adjacent canal and associated wharfs. However, a former sand pit has also been identified in the east of the site, dated 1897. A further 47no. historical surface ground workings are identified within 250m of the site boundary, including ponds, mill ponds, unspecified wharfs, unspecified pits, canals, unspecified ground workings, refuse heaps, unspecified heaps, sewage works, unspecified pits and another sand pits.

3.14 There is 1no. record of historical underground working features identified within 1km of the site boundary, recorded as an unidentified tunnel 998m southwest dated 1897.

3.15 There is 1no. current ground working feature identified onsite, the ceased Stockton Heath Sand Pit in the east of the site. Morley Common Sand Pit, also ceased, is also identified within 250m of the site.

3.16 There are 96.no records of historical railway features recorded within 250m of the site. These are recorded as either railway sidings or mineral railway sidings and are to the north of the site, the closest being 44m. No railway tunnels have been identified within 250m of the site boundary.

3.17 There are also 38no. records of active railway features within 250m of the site boundary. These are either unnamed or classed as the West Coast Main Line. The closest of these features is 123m to the north.

3.18 The site is not within 5km of the route of the High Speed 2 or Crossrail 1 rail projects.

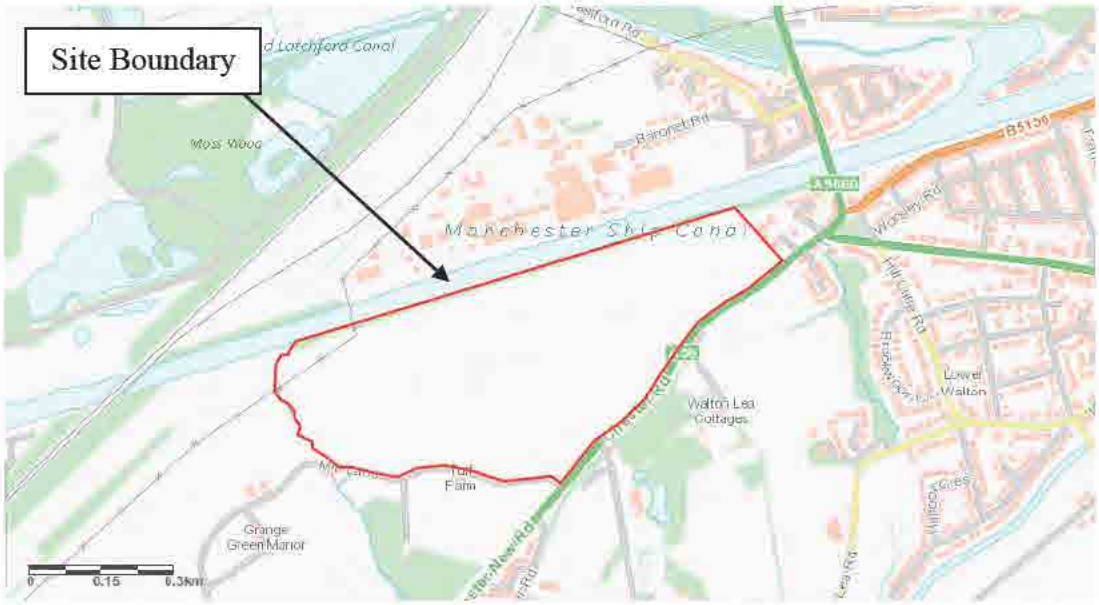
3.19 There are no underground railway lines identified within 250m of the site.

Mining and Other Underground Workings

3.20 There are no historical mining records within 1km of the site

3.21 There are no records of coal mining onsite and according to the Coal Authority Interactive Viewer, the site is not located within a coal mining development high risk area and there are no mine entries nearby.

Figure 3 Coal Mining Development High Risk Area



3.22 The nearest coal mining area to the site is approximately 975m to the north.

3.23 There are no areas of gypsum extraction, brine extraction, tin mining or clay mining within 1km of the site.

3.24 There are no non-coal cavities or natural cavities identified within 1km of the site.

3.25 There are no historical underground working features identified within 1km of the site.

Radon Potential

3.26 The site is not in a Radon Affected Area, as less than 1% of properties are above the Action Level and therefore no radon protection measures are necessary.

Hydrogeology and Hydrology

3.1 The highest underlying superficial deposits permeability is classified by the Environment Agency (EA) as a Secondary A Aquifer with an intergranular flow type and high maximum and high minimum permeability. The BGS states the following:

> *'Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.'*

3.2 The underlying Helsby Sandstone and Wilmslow Sandstone Formations are classified by the Environment Agency (EA) as Principal Aquifers. The BGS states the following:

> *'Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers.'*

3.3 The underlying Tarporley Siltstone Formation is classified by the Environment Agency (EA) as a Principal Aquifer with an intergranular flow type and high maximum and high minimum permeability.

3.4 The EA classifies the groundwater vulnerability and soil leaching potential on site as H1 for major aquifer with high leaching potential, where the BGS states:

> *'Soils which readily transmit liquid discharges because they are shallow or susceptible to rapid flow directly to rock, gravel or groundwater'.*

3.5 The EA classifies the groundwater vulnerability and soil leaching potential on site as HU for major aquifer with high leaching potential, where the BGS states:

> *'Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information'*

3.6 There are 62no. historical and active groundwater abstraction licence records for 9no. locations within 1km of the site. The nearest is located 46m north of the site and is for effluent / slurry dilution and general cooling.

3.7 There are 2no. surface water abstraction licences within 2km of the site, both relating to an active point at Appleton, 1.31km south of the site.

3.8 There are 4no. potable water abstraction licences for 2no. locations within 2km of the site, the nearest being 2no. boreholes at Hough Lane, Walton 953m south.

3.9 The majority of the site is indicated as Source Protection Zone 3, while a small proportion of the south of the site is designated as a Source Protection Zone 2.

3.10 There are 12no. detailed river network records within 500m of the site with an unnamed secondary river defining the western site boundary. The Manchester Ship Canal is 20m north of the site, a secondary river lies 95m northeast of the site and a primary river (The River Mersey) is located 349m north of the site. The Bridgewater Canal is located 338m south of the site.

3.11 There are 12no. unidentified surface water features within 250m of the site, 3no. of which are located on site and most likely associated with the unnamed secondary river along the western site boundary.

3.12 There are no biological or chemical river quality records within 1.5km of the site.

Landfill and Waste Management Activity

3.13 There are 176no. records of historical potentially infilled land identified within 500m of the site, 16no. of which are onsite and relate to the adjacent canal, associated wharfs and the former sand pit in the east of the site. Also in the vicinity are multiple ponds, mill ponds, unspecified wharfs, unspecified pits, canals, ship canals, unspecified ground workings, sand pits, disused canals, refuse heap, unspecified heaps, sewage works and sewage tanks.

3.14 There is 1no. record of a current EA landfill site within 1km of the site, Arpley Land Fill Site, Sankey Bridges located 510m northwest.

3.15 There are 2no. records of historic EA landfill sites with 1.5km of the site, the closest being 1.42km southwest of the site, licence surrendered in 2005.

3.16 There are 10no. records of Landfills from Local Authority and Historical Mapping Records within 1.5km of the study site, the closest being a refuse tip 383m northwest of the site, from 1989 mapping.

3.17 There are no BGS/DoE non-operational landfill sites within 1.5km of the site.

3.18 There is no waste treatment, transfer or disposal site within 500m of the study site.

3.19 There are 14no. records of Environment Agency/Natural Resources Wales licensed waste sites within 1.5km of the site, the closest being a waste to land recovery operation 392m W.

Industrial Land Use Information

3.20 There are 284no. records of historically potentially contaminative uses identified within 500m of the site, 4no. of which are located onsite and refer to the canal, wharfs and sandpit. Also within the vicinity are multiple ponds, unspecified mills, saw and planning mills, unspecified tanks, timber yards, smithys, railway stations, borate works, unspecified commercial/industrial sites, unspecified wharfs, unspecified pits, ship canals, unspecified groundworkings, mineral railway sidings, railway sidings, unspecified works, railway buildings, disused canals, refuse heaps, unspecified pumps and sewage works.

3.21 There are 58no. records of current potentially contaminative industrial sites identified within 250m of the site, the closest being the pylon in the northwest of the site. Also in the vicinity are electricity substations, unspecified tanks, outfall, electricity substations, Solvay works (colours, chemicals and water softening supplies), unspecified works, gas features and vehicle repair.

3.22 There are 123no. records of historical tanks identified within 250m of the site. the closest being settling tanks 60m north of the site dated 1965 and 1984.

3.23 There are 26no. records of historical energy features identified within 500m of the site, the closest being an electricity substation 126m north, dated 1993.

3.24 There are no historical petrol or fuel sites within 500m of the site.

3.25 There are no current petrol or fuel sites within 500m of the site.

3.26 There are 2no. historical garages and motor vehicle repair sites identified within 500m of the site. The closest is a garage 490m north dated 1993.

3.27 There are no National Grid high voltage underground electricity transmission cables, or high pressure gas transmission pipelines within 500m of the site.

Environmental Permits, Incidents and Registers

3.28 The Groundsure Report includes records of environmental permits, incidents and registers within 500m of the site, which are summarised in Table 1, below.

Table 1: Environmental Permits, Incidents and Registers within 500m of the site

Historic IPC Authorisations	19
Part A (1) and IPPC Authorised Activities	39
Red List Discharge Consents	None
List 1 Dangerous Substances Inventory Sites	3
List 2 Dangerous Substances Inventory Sites	3
Part A (2) and Part B Activities and Enforcements	2
Category 3 or 4 Radioactive Substance Authorisations	None
Licensed Discharge Consents	15
Water Industry Referrals	None
Planning Hazardous Substance Consents and Enforcements	1
Dangerous or Hazardous (COMAH and NIHHS) Sites	1
National Incidents Recording System (Pollution Incidents), List 2	10
National Incidents Recording System (Pollution Incidents), List 1	None
Sites Determined as Contaminated Land under Part 2A EPA1990	None

3.29 All 19no. historic IPC Authorisations relate to the Solvay Interox Ltd Baronet Works, north of the site, for the manufacture and use of organic Chemicals and for combustion processes, last dated 2001. The site permit has been revoked and the site classified as an IPPC.

3.30 Of the 39no. Part A (1) and IPPC Authorised Activities, 30no. relate to the Solvay Interox Ltd Baronet Works, to the north of the site, for a number of processes including; the disposal of > 50 t/d non-hazardous waste involving physicochemical treatment, combustion; any fuel =>50mw, organic chemicals; oxygen containing compounds e.g. alcohols, inorganic chemicals; non-metals etc. e.g. calcium carbide, inorganic chemicals; and salts e.g. ammonium chloride, last noted as effective on the 1st April 2017. The remaining 9no. authorised activities relate to Perstorp UK which shares the Baronet Road site with Solvay Interox Ltd. These processes include combustion; any fuel =>50mw, organic chemicals; oxygen containing compounds e.g. alcohols and inorganic chemicals; non-metals etc. e.g. calcium carbide. Last noted as effective on the 1st April 2017.

3.31 The List 1 Dangerous Substances Inventory Site relates to the Solvay Interox Ltd Baronet Works, 135m north of the site, receiving water from the Mersey Estuary with authorised substances being mercury and cadmium. This site is listed as active.

3.32 The List 2 Dangerous Substances Inventory Site also relates to the Solvay Interox Ltd Baronet Works, north of the site, receiving water from the Mersey Estuary with authorised substances being arsenic, copper, lead, nickel, zinc and naphthalene. This site is listed as not active.

3.33 The closest Part A (2) and Part B Activities and Enforcements relates to crematoria processes, 152m southeast of the site.

3.34 The closest licensed discharge consent is identified 40m north of the site, and is a revoked consent for process effluent from the Solvay Interox site into the Manchester Ship Canal.

3.35 The Planning Hazardous Substance Consent and Enforcement relates to the application for amendment to Hazardous Substances Consent at the Solvay Interox Ltd Baronet Works, 159m north of the site. Application number A01/43873

3.36 The Dangerous or Hazardous (COMAH and NIHHS) Sites record relates to the Solvay Interox Ltd Baronet Works which is a registered current COMAH site Top Tier Operator. Due to the close proximity of the site to the Solvay Interox Ltd works, the site falls within a HSE Consultation Zone.

Figure 4 HSE Consultation Zone

3.37 The closest NIRS list 2 pollution incident was recorded in 2003, 38m southeast of the site, the pollutant was inorganic chemicals or product and was recorded as having no impact to water, land or air quality. The closest most significant pollution incident was recorded in 2001, 306m northeast of the site, the pollutant was crude sewage and was recorded as having significant impact to water quality.

Environmentally Sensitive Sites

3.38 There are 3 records of Ancient Woodland within 2km of the site, the closest being an unnamed woodland 1.3km south of the site.

Ecology

3.39 It should be noted that an ecological assessment of the site falls outside the brief of this report and that an ecological specialist should be consulted in this regard.

Archaeology

3.40 An archaeological assessment falls outside the brief of this report. Where considered necessary, advice should be sought from an archaeological specialist in this respect.

Potential Flood Risks

3.41 Detailed assessment of flood risks is outside the scope of this report. However, 2 Environment Agency Zone 2 (Fluvial/Tidal Models) and 2 Zone 3 (Fluvial Models) floodplains lie onsite along the northern site boundary and in the west of the site. The highest risk of flooding on site is high.

3.42 There are no flood defences, areas benefitting from flood defences or areas used for flood storage within 250m of the site.

3.43 According to the BGS there are areas within 50m of the site boundary that may be susceptible to clearwater flooding. The highest susceptibility to groundwater flooding is 'limited potential' and the BGS confidence rating is low. The BGS states:

> *'Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.'*

Previous Site Investigations

3.44 Earth Environmental & Geotechnical Ltd are unaware of any previous site investigations.

4.0 SITE HISTORY

4.1 The historical development of the site has been determined by reference historical plans and Google Earth imagery. The reviewed historical plans comprise only readily available records and may be limited; however, the information available to date indicates that additional searches are unlikely to add to our understanding of the site. The earliest available historical mapping covering the site dates back to 1874.

4.2 The site history is summarised in Table 2, below, followed by selected extracts from maps and aerial photographs.

Table 2: Summary of Site History

Date	Site	Surrounding Land Use
1874-1877, 1877,	Site is farmland split into smaller sections, similar to the present layout.	Mixed rural and residential setting with mills and farms within the vicinity. 2no. small ponds are present in the extreme north of the site. Railway lines with associated sidings and embankments running southwest to northeast approximately 25m northwest of the site. The nearest track is annotated as "Old Railway (Refuge Siding)". Approximately 5m southwest from the site is Grange Mill (Flour) and an associated millpond. Grange Green Farm, 180m southwest. A small unnamed watercourse runs along the, western boundary. Approximately 25m northeast from the site is an unnamed Flour Mill and millpond. An unnamed watercourse flows north into the pond and runs north. Walton Lea and associated Glasshouses 125m southeast.
1891, 1891-1895 and1894	No significant change.	The Manchester Ship Canal runs adjacent to the northern site boundary. The River Mersey is approximately 400m to the north. Several ponds are present 115m to the south. St. Johns Church and Grave Yard, 210m south. The Bridgewater Canal is approximately 315m to the south of the site.
1897 and 1899	A very small sand pit is present in the east of the site.	Ponds in the north of the site have now been infilled. Wharf now present to the northeast of the site, north of the mill. Sand pit approximately 75m northeast opposite Manchester Ship Canal. Western watercourse outfall now annotated as a Weir.

		Railway lines now annotated as; L, & NWR Grand Junction Line and L &NW&GWJR Birkenhead line. Both Mills now annotated as Corn mills.
1905-1908, 1905-1910, 1907 and 1910	Sand pit infilled. Very small unreferenced building in the southwest of the site.	Warrington Borate Works 475m northeast of the site. Ponds to the south partially infilled. Small excavation / depression in the gardens of Walton Lea.
1925-1926, 1926, 1926-1929, 1927-1928, 1928,1938 and 1939.	No significant change. Building no longer present in the southwest of the site.	Mill to the northeast no longer annotated as a Mill. Grange Mill annotated as disused, mill pond appears to be infilled. Sand pit to the north is now infilled. Saw & Planing Mill 80m to the north, opposite the Manchester Ship Canal. Timber Yard 280m northeast. Mineral Railway running adjacent to the Manchester Ship Canal, 70m north. Warrington Borate Works demolished. Sewage Works approximately 210m south. Timber Yard 400m to the north.
1949-1954, 1958	Pylon in the northwest of the site.	Mill to the northeast annotated as Walton Mill. Additional buildings 80m north, potentially industrial. Timber Yard 400m to the north no longer present.
1961, 1962, 1962-1966, 1961-1966, 1967 and 1969	No significant change.	Large works to the north of the site, adjacent to Manchester Ship Canal, tanks present. Walton Mill now annotated as Walnut Tree Farm. Mill pond infilled. Crematorium 130m south. Area of ponds previously infilled appears to be present once more. Settling tanks, 60m to the east.
1967-1970, 1973, 1973-1977, 1975-1980, 1976-1979, 1976, 1977, 1980, 1979, 1984, 1986, 1987-1990 and 1988-1993	No significant change.	Saw Mill buildings no longer annotated as a Saw Mill.
1992-1993, 1993, 1993 - 1998	No significant change.	Saw Mill buildings demolished and replaced with works. Configuration of buildings within the large works area to the north appears to have changed slightly. Large water body annotated “Nature Reserve”, 430m north. Sand pit approximately 350m northwest.

		Settling tanks annotated as sewage works.
2002	No significant change.	Two large bodies of water present 220m to the northwest, potentially associated with sand pit on previous mapping. Drains present in the works to the north and along the rail lines to the northwest.
2010	No significant change.	Additional pond 360m northwest.
2014	No significant change.	2no. additional ponds 280m and 350m northwest.

Figure 5 OS Map Extract 1894

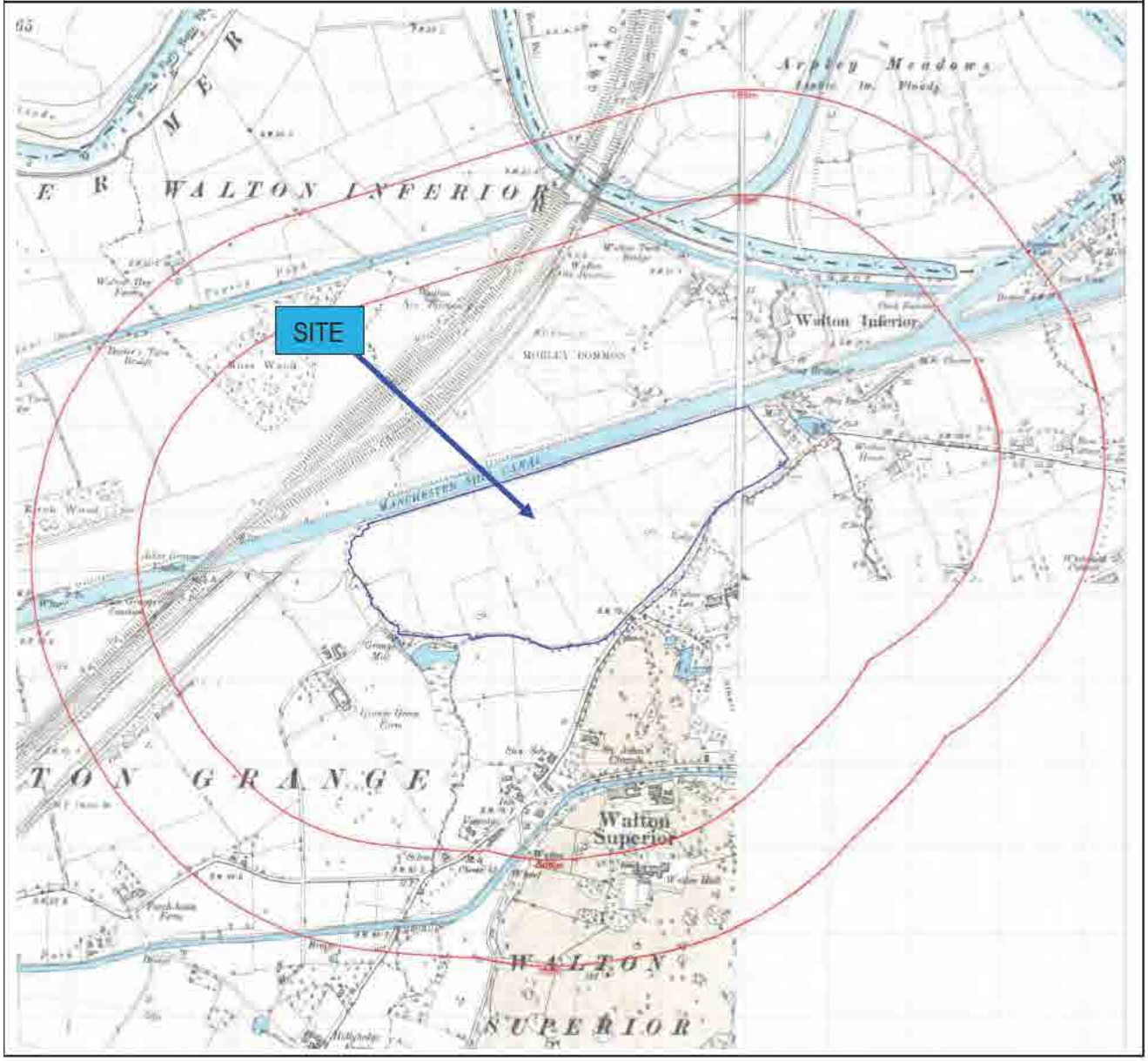


Figure 6 OS Map Extract 1897

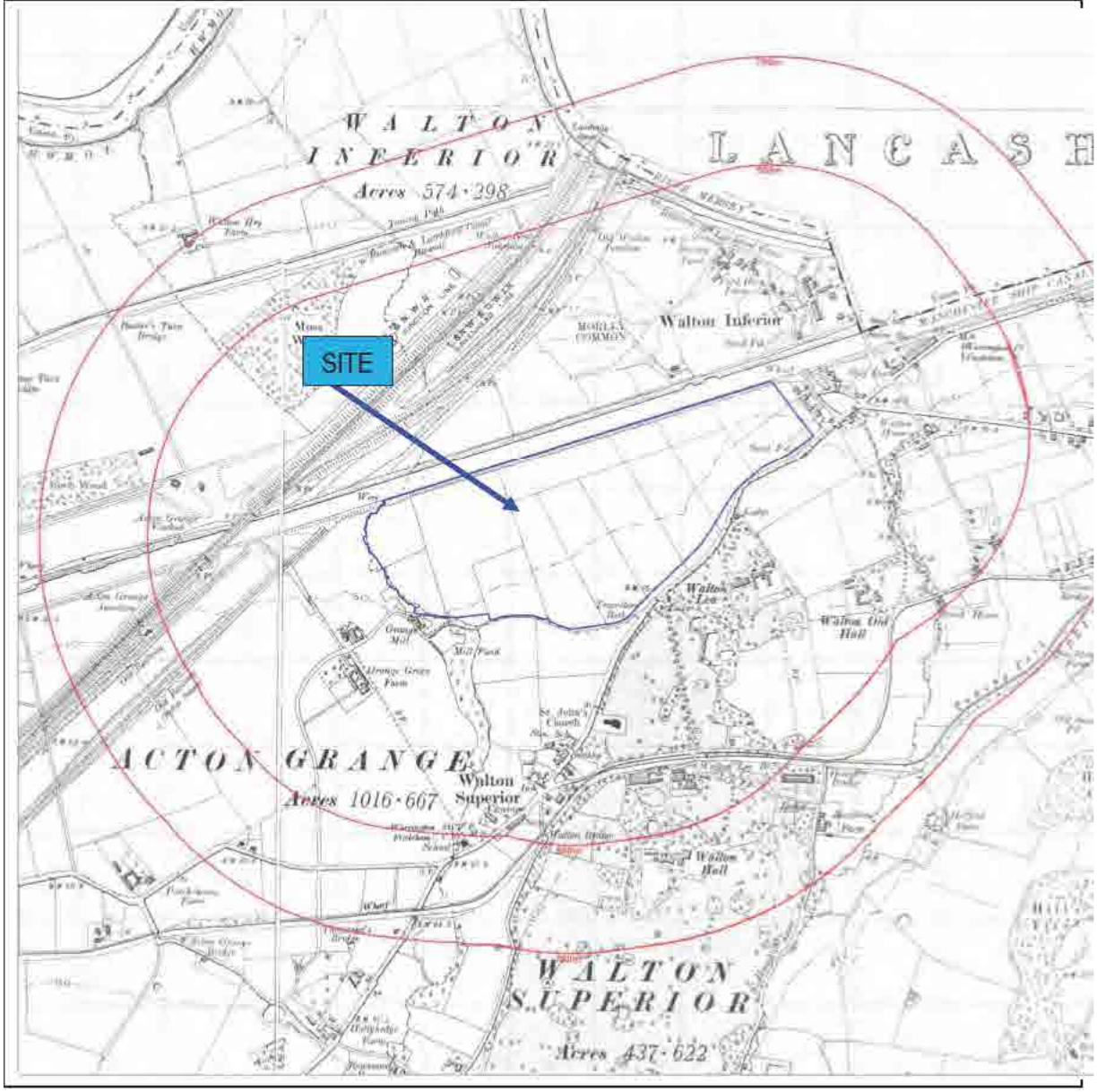


Figure 7 OS Map Extract 1949-1954

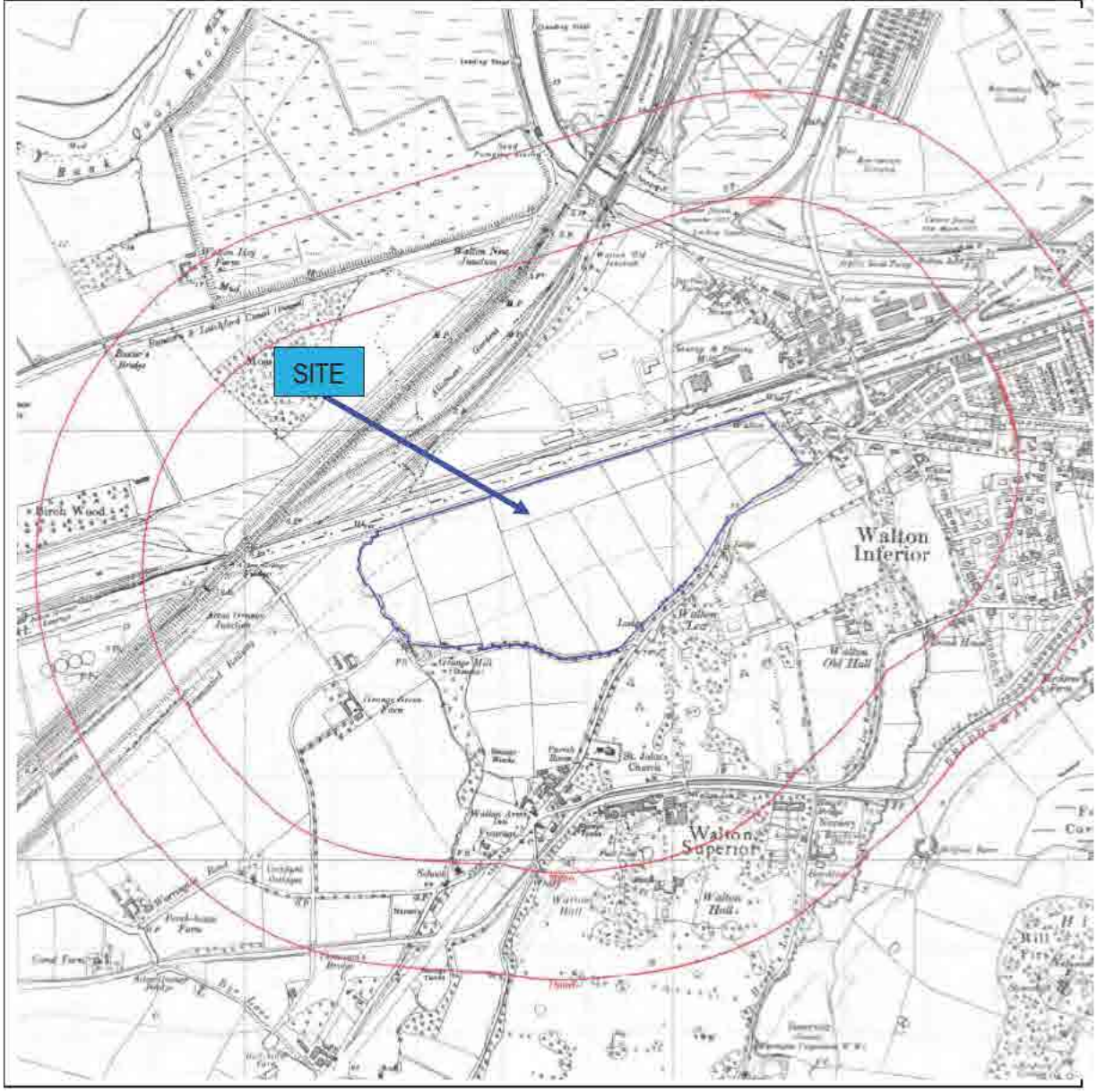


Figure 8 OS Map Extract 1987-1990

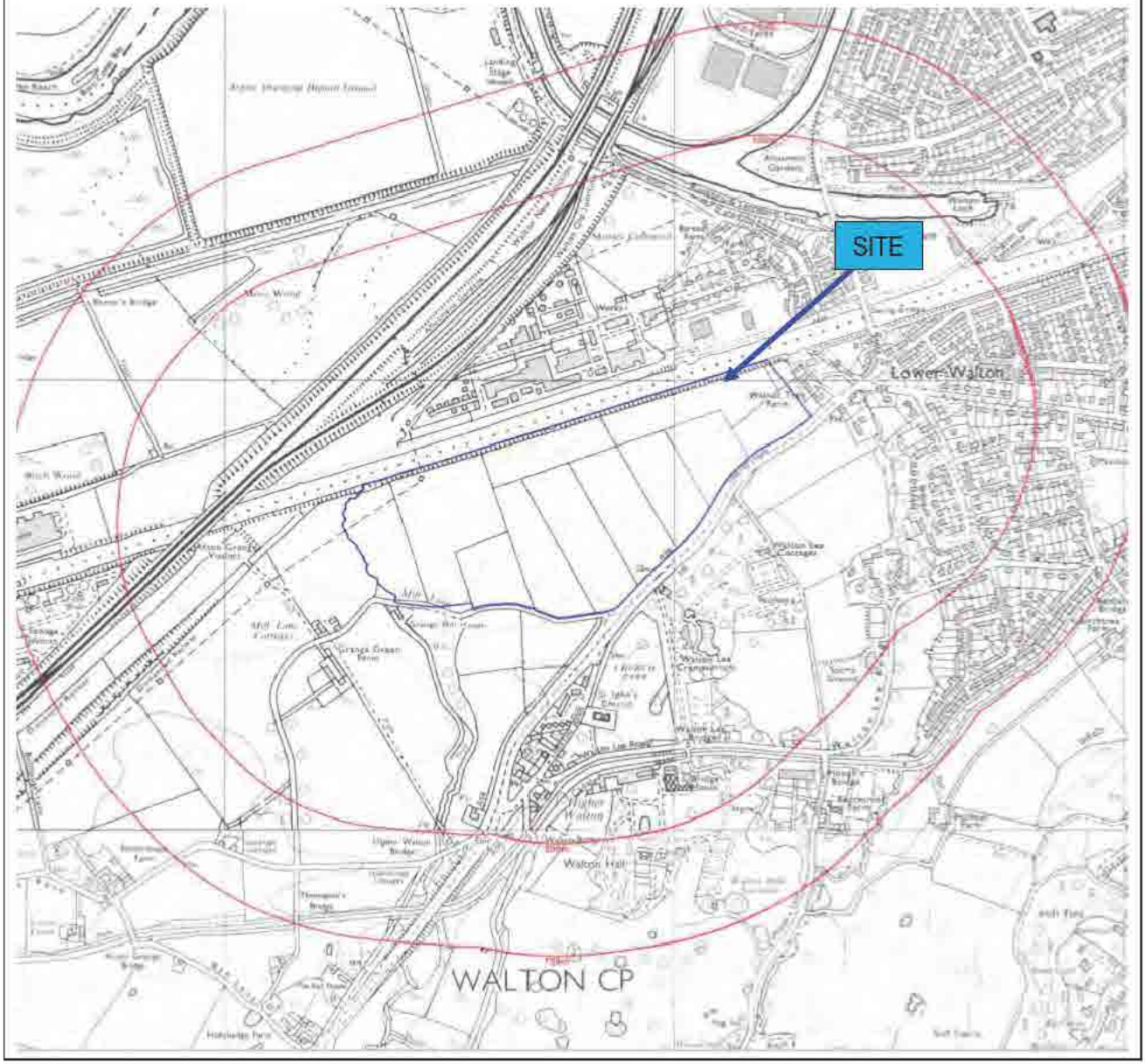


Figure 9 Google Earth Image 2017

5.0 WALKOVER SURVEY

5.1 A walkover survey was completed on the 31st August 2017. The photographs and notes from this survey are appended to this report as Appendix 2 and Appendix 3 respectively.

5.2 The site currently comprises an irregular parcel of farmland split by well-established hedgerows. Access to the site can be gained via gates along Mill Lane and Chester Road. Mature trees, shrub vegetation and small trees are present across the site boundaries.

5.3 The site slopes very gently to the north and currently has no existing structures other than a Pylon in the northwest of the site. Telecommunication poles also run from east to west in the centre of the site.

5.4 A tarmacadam and gravel path runs from the Mill Lane access gate in the south to the north of the site, leading to a storage area containing several muckheaps, pallets of chopped timber, a large stockpile of timber, trailer and a small stockpile of solidified tarmacadam.

5.5 A small unnamed watercourse runs along the western site boundary while the Manchester Ship Canal flows west along the northern site boundary. Mill Lane and Chester Road lie adjacent to the south of the site with fields and Walton Lea Cemetery beyond these roads, while Walnut Tree Farm lies beyond the eastern boundary.

5.6 Large areas of Himalayan Balsam were also observed along the western and northwestern site boundaries.

5.7 Evidence of underground services were observed in the north of the site, running east to west.

5.8 There are no tankers, electrical substation or transformers located on site.

5.9 The current site usage is considered low risk in terms of environmental pollution and ground contamination.

6.0 PRELIMINARY CONTAMINATION RISK ASSESSMENT

Introduction

6.1 The following paragraphs outline a Preliminary Risk Assessment (PRA) for the site as defined by DEFRA and the EA Model Procedures for the Management of Land Contamination, CLR11 (2004).

6.2 Table 3 provides a Preliminary Conceptual Model (PCM) which defines the site in terms of a potential pollution linkage, that is, whether a pathway exists between a contamination source and a sensitive environmental receptor (Source-Pathway-Receptor relationship).

6.3 Table 3 considers whether a pollution linkage is potentially present and provides a preliminary qualitative assessment of risk based on the information currently available. Where a possible linkage is identified, it does not necessarily mean that a significant risk exists, but indicates that further information is required through appropriate site investigation to substantiate the conceptual model.

Table 3: Preliminary Conceptual Model

6.4 The PCM/PRA is based on a potential residential end use, representing the most sensitive potential receptors.

Source	Pathway	Receptor	Linkage	Comment
The likelihood of significant ground contamination sources being present at the site, associated with historical land use and made ground, is considered LOW.	Direct contact, ingestion of soil, dermal contact, dust exposure pathways.	Current Site Users	Unlikely	The risk associated with current site users via direct exposure is considered to be LOW.
		Adjacent land users	Unlikely	There is limited potential for contact via wind-blown dust / debris. The current risk is considered LOW.
		Construction Workers	Unlikely	Standard industry working practices for working on sites will be sufficient to manage any potential risks. Therefore, the risk associated with construction workers via direct exposure is considered to be LOW.
		Future land users	Unlikely	Considering a proposed residential end use with private gardens, direct exposure is likely. The risk associated with future site users via direct exposure is considered to be LOW.

The likelihood of soluble and/or liquid and therefore mobile contaminants occurring at the site due to its past use is considered LOW.	Direct downward migration through leaching and/or mobile liquids.	Groundwater	Possible	No potential sources of mobile contamination are identified on the site. The perceived risk to groundwater is considered LOW.
	Off-site migration in groundwater or surface water flow.	Surface water	Possible	No significant sources of mobile contamination are identified associated with the site; however major contamination sources are identified close to the site. There is anticipated porous superficial deposits and underlying strata with several surface water courses in the vicinity. The perceived risk to surface water is considered MEDIUM.
		Groundwater / surface water abstractions	Possible	The site is within a groundwater source protection zone and a groundwater source protection zone within a confined aquifer. An unnamed river is located on site. There are multiple water abstraction licences in the area, however, the closest potable water abstraction is over 2kmm from the site. The risk to water abstractions is therefore considered LOW .
		Adjacent Properties	Possible	No significant sources of mobile contamination are identified, associated with the site. Anticipated porous superficial deposits and underlying strata provides the potential for infiltration and migration of mobile contaminants, if present. The preliminary risk to adjacent properties is considered LOW.
		Ecology	Unlikely	There are no ecologically vulnerable areas in close proximity to the site. The risk to ecology is therefore considered NEGLIGIBLE.
Due to the current and past land use associated with the site, the likelihood of volatile contaminants at the site due to its this is considered LOW.	Inhalation of harmful vapours (indoor and outdoor airspaces)	Current Site Users	Unlikely	The site is unoccupied; the risk associated with current site users is considered to be LOW.
		Adjacent Properties	Possible	No significant sources of mobile contamination are identified associated with the site. The potential risk to adjoining site users is therefore considered LOW.

There is a small infilled historic sand pit within the site boundary and several other infilled features in close proximity to the site. The likelihood of degradable materials with the potential to generate hazardous ground gas is therefore LOW.	Emissions from the ground collecting in confined spaces and excavations	Construction/ services maintenance workers	Unlikely	Sources of potentially degradable materials have been identified within the site boundary and within close proximity to the site. The preliminary risk is therefore considered LOW.
	Migration of gases on/off site and collecting in confined spaces on/off site.	Adjoining site users	Unlikely	No sources of potentially degradable materials have been identified within the site boundary and within close proximity to the site. Anticipated underlying porous strata provides the potential for migration of ground gases, if present. Adjacent residential properties represent sensitive receptors. The potential risk to adjoining site users is therefore considered LOW.
		Current/future site users	Unlikely	A minor source of potentially degradable materials has been identified within the site boundary and within close proximity to the site. Anticipated underlying porous strata provides the potential for migration of ground gases, if present. The proposed residential end use represents sensitive receptors. The potential risk is therefore considered LOW.
Chemicals which could prove aggressive to construction materials may be present on site.	Direct contact	Construction concrete, plastic water pipes.	Unlikely	Risks to construction materials can be identified via site investigation prior to the proposed construction works. The perceived risk is considered LOW.

Preliminary Risk Assessment

6.5 The site has been an agricultural plot of land since 1877. There has historically been a small sand pit in the east of the site, while 2no. mills and mill ponds, a wharf, sewage works and a large chemical works are in close proximity to the site. As a result, the ground may have been impacted by potentially contaminative substances which could potentially impact upon current and future users. Therefore, a number of potential pollutant linkages exist at the site, these are considered to be low risk.

6.6 Several significant pollutant linkages have been identified, with a low associated preliminary risk.

6.7 Considering the underlying Principal and Secondary Aquifers, localised impact to groundwater is possible and a medium risk to groundwater is identified, should mobile contamination be present.

6.8 A low risk has been identified with respect to the potential for the generation of hazardous ground gases.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Several significant pollutant linkages have been identified, with a low associated preliminary risk.

7.2 Considering that the proposed residential development includes private gardens, a low preliminary risk is identified with potential risks to site users and plants.

7.3 The site is in an area where the hazard rating is moderate with regard to compressible deposits and running sands.

7.4 A small area on the northern boundary of the site falls within an Environment Agency Zone 2 (Fluvial/Tidal Models) while a small proportion of the western sector within a Zone 3 (Fluvial Models) floodplain.

Recommendations

7.5 An intrusive investigation should be undertaken to establish geotechnical parameters for the design of foundations, floor slabs and pavement construction for the proposed new build and surrounding area.

7.6 As part of the geotechnical investigation, it is recommended that samples of soil and groundwater are recovered for analysis for contamination and to confirm whether there are any residual risks, particularly within the former sand pit in the eastern sector of the site.

7.7 As part of the site investigation, it is recommended that ground gas and groundwater installations and monitoring are completed to confirm whether there are any residual risks.

7.8 A Flood Risk Assessment is recommended due to the risk of flooding of the unnamed secondary River along the western boundary of the site and the canal.

7.9 An Ecological Survey will be required for planning and design purposes.

7.10 The site lies within an HSE Consultation Zone and therefore further consultation with the Health and Safety Executive (HSE) will be required.

APPENDIX 1

GROUNDSURE REPORTS

APPENDIX 2

SITE PHOTOGRAPHS

<table>
<tr><td>Earth Environmental & Geotechnical Ltd

Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk</td><td>SITE PHOTOGRAPHS

Earth Environmental & Geotechnical</td></tr>
<tr><td>Job No.: A2220/17</td><td>Site: Land to the North of Chester Road, Walton</td></tr>
<tr><td>Plate 1 Looking east along the southern site boundary.</td><td>Plate 2 Looking north along Mill Lane to the west.</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Date: 31st August 2017</td><td>Date: 31st August 2017</td></tr>
<tr><td>Plate 3 Access gate off Mill Lane, southwest of the site boundary.</td><td>Plate 4 Gravel path in the west of the site, looking north.</td></tr>
<tr><td>7.  </td><td>  </td></tr>
<tr><td>Date: 31st August 2017</td><td>Date: 31st August 2017</td></tr>
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<tr><td>Job No.: A2220/17</td><td>Site: Land to the North of Chester Road, Walton</td></tr>
<tr><td>Plate 5 Crop fields in the west of the site.</td><td>Plate 6 Stockpiled timber and muckheaps in the north of the site.</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Date: 31st August 2017</td><td>Date: 31st August 2017</td></tr>
<tr><td>Plate 7 Stockpiled solidified tarmacadam in the north of the site.</td><td>Plate 8 Pallets of timber and trailer in the north of the site.</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Date: 31st August 2017</td><td>Date: 31st August 2017</td></tr>
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<tr><td>Job No.: A2220/17</td><td>Site: Land to the North of Chester Road, Walton</td></tr>
<tr><td>Plate 9 Manchester Ship Canal along the northern site boundary.</td><td>Plate 10 Looking west along the northern site boundary</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Date: 31st August 2017</td><td>Date: 31st August 2017</td></tr>
<tr><td>Plate 11 Services in the north of the site.</td><td>Plate 12 Himalayan Balsam in the west of the site, along the watercourse.</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Date: 31st August 2017</td><td>Date: 31st August 2017</td></tr>
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<tr><td>Job No.: A2220/17</td><td>Site: Land to the North of Chester Road, Walton</td></tr>
<tr><td>Plate 13 Northern site boundary looking east.</td><td>Plate 14 North of the site looking southeast.</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Date: 31st August 2017</td><td>Date: 31st August 2017</td></tr>
<tr><td>Plate 15 Solvay Interox beyond the northern site boundary.</td><td>Plate 16 Eastern site boundary and adjacent residential dwelling.</td></tr>
<tr><td>  </td><td>  </td></tr>
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<tr><td>Plate 17 Eastern site boundary looking south.</td><td>Plate 18 Looking north from the east of the site.</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Date: 31st August 2017</td><td>Date: 31st August 2017</td></tr>
<tr><td>Plate 19 Looking west along the southern site boundary.</td><td>Plate 20 Looking northwest from the centre of the site,</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Date: 31st August 2017</td><td>Date: 31st August 2017</td></tr>
</table>

Figure 10 Site Walkover Photo Locations

APPENDIX 3

SITE WALKOVER NOTES

Earth Environmental & Geotechnical

WALK OVER SURVEY REPORT

Site: Land to the North of Chester Road, Walton **Date:** 31st August 2017

Job No: A2220 **Undertaken By:** [redacted]

Purpose of Site Walkover:
1) Provide further information for the Desk Study Report;
2) Identify potential contamination sources, pathways and receptors;
3) Identify geotechnical features and potential geohazards;

Desk Study features checked during site visit	Feature and Information required	Present	Description / Comments
Site Setting	Description required for: Town/Country/Suburb Setting Industrial/Residential/Retail Usage Current Site use (if undertaking security and access to the site)		Mixed: Agricultural west and south of the site, urban town setting east of the site and large chemical works to the north. Agricultural use. Field. No security or access issues.
Evidence of Past Activities	Are there: Any relevant street names in area? Features or relics which indicate past history?	 Yes/~~No~~ ~~Yes~~/No	The site is bordered by Mill Lane to the southwest.
Geographic Setting	Description required for: Low lying flood plain/dry valley/rolling hills etc.		Site slopes gently to the Manchester Ship Canal in the north.
Ground Conditions	Is there any evidence of: Mining, Mine entries Subsidence Landslip/slope erosion Former investigation works	 ~~Yes~~/No ~~Yes~~/No ~~Yes~~/No	

Desk Study features checked during site visit	Feature and Information required	Present	Description / Comments
Topography	Description required for: Are there apparent differences between site and surrounding area? (If yes descr be the presence of retaining walls, and slopes). Is there evidence of Made Ground / Fill on site?	~~Yes~~/No ~~Yes~~/No	
Site Boundaries and Neighbours	Description required for: Type of boundary demarcation (if any) on each side of site, usage of adjacent land and name of industrial/commercial occupiers. Note any adjacent features such as water course and other potentially environmentally sensitive uses (residential, school, infirmary, SSSI etc)		Mature trees, hedgerows and metal fencing comprise north and east site boundaries. Small watercourse and shrub vegetation borders the west of the site. The south of the site is bordered by metal fencing, well established hedgerows and mature trees. Unnamed watercourse and Manchester Ship Canal to the west and north respectively. Residential uses to the east and southwest of the site.
Vegetation	Is there any vegetation/trees on or close to side (if yes describe locations, type, maturity, etc) Is there any evidence of poor health / distress?	Yes/~~No~~ ~~Yes~~/No	Mix of mature trees, shrubs and flowers along all site boundaries and along field boundaries.
Ground Surface	Are there areas of hardstanding and estimate the split between hard and soft cover. (If yes describe locations, types and conditions). Is the any evidence of any spillages or staining?	Yes/~~No~~ ~~Yes~~/No	The site is covered by crop fields with the exception of the tarmacadam (very poor condition) / gravel path in the west of the site.

Desk Study features checked during site visit	Feature and Information required	Present	Description / Comments
Site Drainage	Are there any drain covers / soakaways (if yes describe locations)	Yes~~/No~~	Several manhole covers in the north of the site, running east to west.
	Are there any outfalls/water courses on site (note the condition of water courses in open water courses. discolouration, odour, eutrophication, oily sheen, gas bubbling water, clear or cloudy)	Yes~~/No~~	Watercourse running along western boundary discharging into the Manchester Ship Canal to the north. Water appeared clear with no sheen or odour evident.
	Where a watercourse runs alongside or crosses a site are there any differences in vis ble water quality upstream and downstream of the site?	~~Yes~~/No	
Electrical Equipment	Are there any electricity sub stations on or adjacent to the site? Are there any electrical transformers, capacitors, pylons etc on site?	Yes~~/No~~	Electricity Pylon in the northwest of the site running offsite to the north.
Buildings	Is there any evidence of asbestos construction materials e.g. roofing, insulation materials.	~~Yes~~/No	
	Do any buildings have basements?	~~Yes~~/No	
	Do any buildings have a boiler room (if yes, describe fuel type and storage arrangements)?	~~Yes~~/No	

Desk Study features checked during site visit	Feature and Information required	Present	Description / Comments
Landfilling	Is there any evidence of gas protection measures (gas membrane, gravel-filled trenches, venting pipes, etc)?	~~Yes~~/No	N/A
Process Air Emissions	Point Source: Are there any stacks / vents / cooling towers / abatement equipment? Fugitive Source: is there any stockpiled material / windblown dust / vapour process?	~~Yes~~/No Yes/~~No~~	The is a small stockpile of solidified tarmacadam and timber as well as several muckheaps in the north of the site.
Storage of fuels & Chemicals	Are there any drums / containers (if yes, describe quantity, full /empty, stored on hard standing / soft landscaping, bunding)? Are there any above ground fuel tanks (if yes, descr be locations, volumes, how many, bunding, used / disused, condition?) Is there any evidence of underground fuel tanks (fuel pumps, covers, vent pipes, how many and how large, fill point, used / disused, and condition)?	~~Yes~~/No ~~Yes~~/No ~~Yes~~/No	
Accidents	In the event of a large spillage would runoff affect any vulnerable watercourse/culverts? Are emergency procedures / equipment in place?	Yes/~~No~~ ~~Yes~~/No	A spillage could potentially run into the Manchester Ship Canal and the watercourse to the west.

Desk Study features checked during site visit	Feature and Information required	Present	Description / Comments
Waste	Are there any waste skips present on site?	~~Yes~~/No	
	Are waste storage facilities adequate?	~~Yes~~/No	
	Is there any litter/fly tipped material?	Yes/~~No~~	Muckheaps are present in the north of the site.
Atmospheric	Are there any fumes, odours originating from site or affecting site from neighbouring sites?	~~Yes~~/No	
Access / Further Investigations	If a Phase 2 Investigation is likely to be required, describe any access problems including headroom where relevant, services, overhead cables, restricted access areas, confined spaces, trafficked areas, etc that are likely to affect investigation scope/techniques.		Vehicular access is available from Chester Road and Mill lane directly onto the site.
	Identify possible site office and storage locations.	Yes/~~No~~	No buildings on site.
	Identify possible water supply		Unnamed river on site.
Site Environs	Are there any local features that could have a harmful influence e.g. landfill, industrial processes, railway land?	Yes/~~No~~	Large Solvay Interox Ltd chemical works to the north, directly opposite the Manchester Ship Canal.
	Are there any sensitive water features/courses near to the site?	Yes/~~No~~	Unnamed river flowing along western boundary and Manchester Ship Canal to the north.
Local Knowledge / Anecdotal Evidence			
Site Dimensions	Describe shape of Site in plan and measure dimensions.		The site is an irregular shaped parcel of land approximately 450m x 1km.

APPENDIX 4

REPORT LIMITATIONS

LIMITATIONS

This contract was completed by Earth Environmental & Geotechnical Ltd on the basis of a defined programme and scope of works and terms and conditions agreed with the client. This report was compiled with all reasonable skill, and care, bearing in mind the project objectives, the agreed scope of works, the prevailing site conditions, the budget and staff resources allocated to the project.

Other than that expressly contained in the above paragraph, Earth Environmental & Geotechnical Ltd provides no other representation or warranty whether express or implied, is made in relation to the services. Unless otherwise agreed this report has been prepared exclusively for the use and reliance of the client in accordance with generally accepted consulting practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon, or transferred to, by any other party without the written agreement of a Director of Earth Environmental & Geotechnical Ltd.

If a third party relies on this report, it does so wholly at its own and sole risk and Earth Environmental & Geotechnical Ltd disclaims any liability to such parties.

It is Earth Environmental & Geotechnical Ltd understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was an important factor in determining the scope and level of the services. Should the purpose for which the report is used, or the proposed use of the site change, this report will no longer be valid and any further use of, or reliance upon the report in those circumstances by the client without Earth Environmental & Geotechnical Ltd review and advice shall be at the client's sole and own risk.

The report was written in 2017 and should be read in light of any subsequent changes in legislation, statutory requirements and industry best practices. Ground conditions can also change over time and further investigations or assessment should be made if there is any significant delay in acting on the findings of this report. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of Earth Environmental & Geotechnical Ltd. In the absence of such written advice of Earth Environmental & Geotechnical Ltd, reliance on the report in the future shall be at the client's own and sole risk. Should Earth Environmental & Geotechnical Ltd be requested to review the report in the future, Earth Environmental & Geotechnical Ltd shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between Earth Environmental & Geotechnical Ltd and the client.

The observations and conclusions described in this report are based solely upon the services that were provided pursuant to the agreement between the client and Earth Environmental & Geotechnical Ltd. Earth Environmental & Geotechnical Ltd has not performed any observations, investigations, studies or testing not specifically set out or mentioned within this report.

Earth Environmental & Geotechnical Ltd is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, Earth Environmental & Geotechnical Ltd did not seek to evaluate the presence on or off the site of electromagnetic fields, lead paint, radon gas or other radioactive materials.

The services are based upon Earth Environmental & Geotechnical Ltd observations of existing physical conditions at the site gained from a walkover survey of the site together with Earth Environmental & Geotechnical Ltd interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and whilst Earth Environmental & Geotechnical Ltd have no reason to doubt the accuracy and that it has been provided in full from those it was requested from, the items relied on have not been verified.

No responsibility can be accepted for errors within third party items presented in this report. Further Earth Environmental & Geotechnical Ltd was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the services. Earth Environmental & Geotechnical Ltd is not liable for any inaccurate information, misrepresentation of data or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to Earth Environmental & Geotechnical Ltd and including the doing of any independent investigation of the information provided to Earth Environmental & Geotechnical Ltd save as otherwise provided in the terms of the contract between the client and Earth Environmental & Geotechnical Ltd.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions can also be variable and as investigation excavations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and Earth Environmental & Geotechnical Ltd] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The normal speed of investigation usually does not permit the recording of an equilibrium water level for any one water strike. Moreover, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.

Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan, but is (are) used to present the general relative locations of features on, and surrounding, the site.