

Land North West of Croft
Technical Appendix

Peel Holdings (Management) Ltd

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THE
ENVIRONMENT
PARTNERSHIP



LAND NORTH WEST OF CROFT WARRINGTON PRELIMINARY ECOLOGICAL ASSESSMENT

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APPENDICES

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G6929.01.003 Phase 1 Habitat Map

Executive Summary

- 1.1 TEP was commissioned by Peel Land and Property (Peel) in May 2018 to carry out an ecological assessment of Land North West of Croft, Warrington, to inform release of this site for development as part of the new Warrington Local Plan.
- 1.2 The site is located to the north west of Croft. It is a large area dominated by arable fields separated by hedgerows or tree lines in places. It contains a number of ponds and Cockshot Brook flows along the north western boundary and through the south western corner of the site. Within the site boundary are several areas comprising residential housing and associated gardens, a pub and car park and small areas of commercial development. The site is bounded by minor roads on three sides, with open arable land dominating the area to the west and wider landscape.
- 1.3 A constraints and opportunities report was produced by TEP for this site in September 2017 and also included an extended Phase 1 Habitat Survey and desktop assessment. This Ecological Assessment is based on the findings of those surveys, as well as survey information from recently accessed land parcels.
- 1.4 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 Land North West of Croft.
- 1.5 No impacts on any statutory or local wildlife sites are anticipated.
- 1.6 An Arboricultural Report has been produced by TEP. All recommendations made in this report will be adhered to in order to prevent impacts on retained trees/woodland. Woodland, ponds, hedgerows and mature trees should be retained where possible, but any losses will be mitigated through the creation of replacement habitat on site.
- 1.7 New crossings through hedgerows, treelines and across watercourses are to be installed. These will be designed so as to impose minimal impacts on protected species and habitats. Any losses will be mitigated within the new green spaces on site.
- 1.8 Several non-native invasive species have been recorded on site. A management plan will be produced detailing measures required to prevent their spread during development and an update survey for invasive species will be completed prior to any works on site.
- 1.9 There are trees and buildings on site which may support roosting bats, and there is some scope for foraging and commuting bats, mostly associated with Cockshot Brook in the west of the site. Further survey will be undertaken to determine the use of the site by foraging, commuting and roosting bats. Should bats be present, and likely to be impacted by development, mitigation measures and/or a licence from Natural England may be required. It is envisaged that any mitigation required can be accommodated on-site within retained open greenspace.

- 1.10 There are a number of ponds on site which will be subject to further detailed survey to confirm the presence or absence of great crested newts. If great crested newts are identified on site it is likely a licence will be required from Natural England. It is envisaged that any mitigation required can be accommodated on-site within retained open greenspace.
- 1.11 Water vole and otter surveys will be undertaken to inform any development within close proximity to the banks of Cockshot Brook. Should either of these species be present, suitable mitigation measures will be required and a licence may be needed from Natural England. It is envisaged that any mitigation required can be accommodated on-site within retained open greenspace.
- 1.12 Further survey will be undertaken to confirm the presence or absence of badger prior to submitting a detailed planning application. It is envisaged that any mitigation required can be accommodated on-site within retained open greenspace.
- 1.13 The habitats present on site are suitable to support nesting birds. If vegetation clearance cannot be undertaken outside the nesting bird season (March - August inclusive) checks must first be undertaken by a suitably qualified ecologist. Surveys to confirm the value of the site to wintering birds will also be undertaken, and appropriate mitigation designed, if required.
- 1.14 A Reasonable Avoidance Method Statement will be produced detailing how harm to both brown hare and hedgehog will be avoided during works.
- 1.15 Biodiversity enhancement measures suitable for this site are set out in Section 7.32.

2.0 Introduction

- 2.1 TEP was commissioned by Peel in May 2018 to carry out an ecological assessment of Land North West of Croft, to inform potential future residential development of the site.
- 2.2 Warrington Council is currently undertaking a review of their local plan. As part of this there has been a call for sites which are capable of supporting new residential development. Peel considers that this site would represent a sustainable location for residential development, capable of making a very significant contribution to meeting the housing needs of Warrington over the emerging plan period.
- 2.3 TEP undertook a constraints and opportunities assessment for this site in September 2017 (Ref: 6612.05.002). This included an extended Phase 1 Habitat Survey and desk based assessment. An Arboricultural Constraints report has also been produced for the site (TEP Ref: 6929.02.004) and should be read in conjunction with this report. Site proposals are included at Appendix A.
- 2.4 The assessment has been informed by the following surveys:
- Desk based assessment;
 - Extended Phase 1 habitat survey; and
 - Ground-based inspection of trees for bat roost potential.
- 2.5 The objectives of this assessment are to:
- Describe the existing vegetation and give an overview of the habitats present;
 - Identify any features of conservation value such as designated sites and protected or notable habitats and species within the site or the wider zone of influence;
 - Advise on further survey or mitigation requirements that may be needed to inform the evolving proposal; and
 - Outline opportunities for biodiversity enhancement in line with the requirements of the National Planning Policy Framework.

3.0 Site Overview

- 3.1 The site is located to the north west of Croft. It is a large area dominated by arable fields separated by hedgerows or tree lines in places. There is a small area of semi-improved neutral grassland in the south west of the site and Cockshot Brook flows west to east through this corner. Another brook runs along the north western boundary and flows southward into Cockshot Brook. The site also contains a number of ponds. Within the site boundary are several areas comprising residential housing and associated gardens, a pub and car park and small areas of commercial development.
- 3.2 The site is bounded by Stone Pit Lane to the north, Heath Lane to the east, Lord Street and Smith Brow to the south. Arable land lies along the western boundary and dominates the surrounding landscape. The site location is displayed in Figure 1.



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

4.0 Methods

Desk Based Assessment

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

Table 1. Desk Based Assessment Information Sources

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

Limitations

- 4.2 Species records can provide a useful indication of the species present within the search area, although the absence of a given species from the dataset cannot be taken to represent actual absence.
- 4.3 A minor change to the redline boundary has taken place following the production of the desk based assessment in 2017. However, this is not considered to affect the assessment of the current redline boundary.

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

Extended Phase 1 Habitat Survey

- 4.4 A Phase 1 Habitat Survey was completed by TEP senior ecologist Ian Holland in September 2017 using the standard JNCC Phase 1 Habitat assessment method (2010)². This method records the habitat types present in and immediately surrounding the site, based on the JNCC descriptions. Plant species are identified in accordance with Stace (2010)³ and recorded as target notes using the DAFOR⁴ scale. Two additional areas of the site was also surveyed by TEP ecologist Damian Young in June 2018.
- 4.5 The survey method was extended through the additional recording of specific features indicating the presence, or potential presence, of protected species or other species of nature conservation significance, including invasive species, in accordance with Guidelines for Preliminary Baseline Ecological Appraisal (CIEEM, 2013⁵).

Limitations

- 4.6 Both site surveys were undertaken during the optimum time period of April to October. However, several areas of the site could not be physically accessed at the time of the surveys, so the habitats and potential for protected species in these areas has been assessed through interpretation of aerial photography only. However, as the majority of the site was surveyed, this limitation is not considered to significantly affect the findings of this report. These areas will be surveyed prior to submission of a planning application.

Bats

Ground-based Inspection of Trees

- 4.7 A ground-based inspection of trees was carried out alongside the Phase 1 Habitat Survey, looking for signs of bat activity and features suitable for roosting in accordance with Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition) (Collins, 2016)⁶.
- 4.8 Potential roost features (PRF) include rot holes, splits, snags and flaking or lifted bark. Ivy cover can be suitable for roosting, for example, where the stems are overlapping and matted to form a crevice feature beneath. Ivy cover that is not sufficiently established to offer roosting opportunities, but which may mask other suitable features on a tree, is noted separately as a potential constraint.
- 4.9 Each tree was then categorised, based on the findings of the inspection. In parallel with this, the proposed working areas were considered for their value to support foraging and dispersal by bats, taking into account the habitats present, their position in the wider landscape of the estate and connectivity to surrounding habitat features. The categories used are as listed in Table 2 (based on Collins, 2016, Table 4.1).

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

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

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

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

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

- 4.10 The findings of the daytime inspections are used to determine the scope of any further nocturnal surveys to ascertain whether a roost is present and, if so, the species and status.

Limitations

- 4.11 The surveys were undertaken in June and September when the trees were still in leaf, which limits the surveyor's ability to see small cracks and crevices within the tree canopy.

Table 2. Categorisation of Trees and Habitats for Bats

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

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

Water Vole/ Otter

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

Badger

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

Limitations

- 4.14 As previously mentioned, several areas of the site could not be physically accessed at the time of the surveys, so it is possible that badger setts could be present in these areas. However, these areas will be surveyed prior to submission of a planning application.

5.0 Results

Planning Context

- 5.1 Relevant extracts of local planning policy are provided in the desk study (Appendix B). In summary, the site lies within the greenbelt in the Warrington Borough Council Local Plan Core Strategy (adopted July 2014).
- 5.2 Ecological policies relevant to the site include Policy QE5 'Biodiversity and Geodiversity', which sets out the council's aim to protect and, where, possible enhance sites of recognised nature and geological value, and Policy QE6 'Environment and Amenity Protection' which states that the council will only support development which would not lead to an adverse impact on the environment or amenity of future occupiers or those currently occupying adjoining or nearby properties, or does not have an unacceptable impact on the surrounding area.

Designated Sites

- 5.3 There are two European protected sites within 10km. These are Manchester Mosses Special Area of Conservation (SAC), which is composed of a number of different sites and is designated for its degraded raised bog habitat which is still capable of natural regeneration. The closest part of this, Holcroft Moss, lies approximately 3.8km south east of the site. The other site is Rixton Clay Pits SAC which lies approximately 5.9km to the south east and is designated for its populations of great crested newt. Due to their distance from the Croft site and reasons for designation, no impacts are anticipated on either site.
- 5.4 There are no nationally designated sites within 1km.
- 5.5 Two Local Wildlife Sites (LWS) were identified within 1km in the desktop data provided by rECOrd. These are Croft Grasslands LWS which is located approximately 230m to the south east beyond Lord Street and residential development, and Houghton Green Pool LWS which lies approximately 480m to the south west on the far side of the M6 motorway.
- 5.6 The site falls within two SSSI Impact Risk Zones (IRZ), but it is not clear exactly which site these are associated with as there are a number within close proximity. IRZs highlight the potential for effects on designated sites if certain types of development are planned within a specified radius. Although residential development is not highlighted as of concern, potentially relevant categories include:
- Discharges - any discharge of water or liquid waste over 20m³/day to ground or to surface water.

Habitats and Flora

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

- Traditional orchards - there is a small block identified as traditional orchard within the east of the site, which was not accessed. However, the confidence in this classification is low.
- Deciduous woodland is present close to the south west corner of the site.

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

- Protected species: Large flowered hemp-nettle *Galeopsis speciosa* (IUCN red list),
- Non-native invasive species: Himalayan cotoneaster *Cotoneaster simonsii*, wall cotoneaster *Cotoneaster horizontalis*, montbretia *Crocsmia x crocosmiifolia*, Himalayan balsam *Impatiens glandulifera* and Canadian goldenrod *Solidago canadensis*.

5.9 Habitats present in and around the site are described below and illustrated in TEP drawing G6929.01.003. Target notes are provided in Appendix C.

Arable habitat

5.10 The site is dominated by large arable fields which had been recently ploughed and reseeded at the time of the survey in September 2017. In June 2018 the fields in the south west were sown largely with rape *Brassica napus* or barley *Hordeum distichon*.

Hedgerows and Trees

5.11 The arable fields are separated by hedgerows or treelines in places, although many of these appear to have been removed and replaced by fences. The majority of the hedgerows are species poor and dominated by hawthorn *Crataegus monogyna* (TNs 4, 6, 8, 18, 20). Other woody species recorded within the hedgerows include ash *Fraxinus excelsior*, holly *Ilex aquifolium* and elder *Sambucus nigra*.

5.12 Some of the hedgerows in the eastern part of the site are more diverse. Particularly the one adjacent to the car park by the General Elliot pub which contains seven native woody species: hawthorn, hazel *Corylus avellana*, blackthorn *Prunus spinosa*, holly, goat willow *Salix caprea*, field rose *Rosa arvensis* and dog rose *Rosa canina* agg. (TN1). Another hedgerow in the south east, bordering residential gardens, also has a mix of native and non-native species including English oak *Quercus robur*, crack willow *Salix fragilis*, butterfly bush *Buddleja davidii*, and a pine species (TN5).

5.13 There are a number of tree lines and scattered trees within the site composed mainly of oak and ash trees.

Semi natural broadleaf woodland

5.14 There are two small blocks of semi natural broadleaf woodland in the site. One in the far north, which is dominated by sycamore *Acer pseudoplatanus*, with occasional English oak, goat willow and crack willow (TN12). This area looks like it may hold water in wetter months. The other area is also dominated by sycamore and is in the east of the site adjacent to the General Elliot pub (TN3). This area also has English oak and hawthorn, with bramble *Rubus fruticosus* agg and rhododendron *Rhododendron ponticum* in the understorey. Male fern *Dryopteris filix-mas* and red campion *Silene dioica* are present in the ground flora, but only rarely.

- 5.15 The woodland and hedgerows qualify as important habitats under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. There are also several areas within the site which are covered by Tree Preservation Orders (TPOs).

Grassland Habitats

- 5.16 There is very little grassland habitat within the site other than an improved grassland buffer around some of the arable fields. This is dominated by perennial rye grass *Lolium perenne* with other species indicative of nutrient enrichment such as common nettle *Urtica dioica*, and broadleaf dock *Rumex obtusifolius* (TN2).
- 5.17 One small patch of marshy grassland was recorded next to a pond (TN7). This contained abundant reed canary-grass *Phalaris arundinacea*, with frequent false oat grass *Arrhenatherum elatius* and soft rush *Juncus effusus*. Other species recorded in this area included yellow flag iris *Iris pseudacorus*, bistort *Persicaria bistorta* and red clover *Trifolium pratense*.
- 5.18 In the far south west of the site is also a small area of species poor semi-improved neutral grassland (TN29) with abundant Yorkshire fog *Holcus lanatus*, perennial rye-grass, annual meadow grass *Poa annua* and rough meadow grass *Poa trivialis*.

Wetland Habitats

- 5.19 There is both standing and running water within the site. Two ponds were recorded during the survey, one at TN7 surrounded by the marshy grassland, and one large permanent pond surrounded by vegetation in an arable field in the west of the site which contains abundant great willowherb *Epilobium hirsutum* and frequent bittersweet *Solanum dulcamara*, amongst other species (TN24). There also appear to be a number of additional ponds in the areas of the site not accessed for survey.
- 5.20 Cockshot Brook runs along the north western boundary of the site and through the south western corner (TNs 10 and 28). A flowing ditch with a line of tall ruderal vegetation was also recorded at TN9 in the north west of the site.

Other Habitats

- 5.21 The areas of the site that could not be accessed at the time of the survey appear to be dominated by residential housing and associated gardens, but also contain a pub and car park and small areas of commercial development. There also appear to be ponds, numerous trees and some hedgerows, as well as some areas of hardstanding.

Protected and Invasive Flora

- 5.22 Several non-native invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981, as amended, were recorded on site. The most abundant of these was Himalayan balsam *Impatiens glandulifera*, which was noted along the watercourses at TNs 9, 10 and 28. Rhododendron is present in the woodland by the pub (TN3) and variegated archangel *Lamiastrum galeobdolon argentatum* was noted in one of the hedgerows (TN4). Other Schedule 9 species recorded on site include cotoneaster species and montbretia. The locations of these are shown in the Phase 1 Habitat plan (G6929.01.003)

Connectivity with the Wider Landscape

- 5.23 The site is bounded by minor roads to the north, south and east, although these would not be significant barriers to movement into and out of the site. The western side of the site has more direct habitat connections to the wider area via Cockshot Brook and treelines.

Fauna

Bats

- 5.24 Common pipistrelle *Pipistrellus pipistrellus* has been recorded within 1km of the site, and a number of trees within the site have been identified as having potential to support roosting bats. These vary in classification from low to high potential. It is possible that there are additional roosting trees in areas of the site not previously accessed. There are also numerous buildings within the site which could provide suitable roosting opportunities for bats, but it is not known if any of these will be affected by the proposals.
- 5.25 Although the site is not considered to be of high value to foraging or commuting bats, due to the lack of significant wooded areas and poor quality linear features, the small blocks of trees, hedgerows and treelines are likely to be used by any bats roosting locally. The main feature likely to be of value is the wooded Cockshot Brook in the west of the site.

Amphibians

- 5.26 There are no records of great crested newts (GCN) within 1km of the site, but there are records of common frog and common toad. There are also a number of ponds within the site which could support breeding amphibians, including GCN (TN24). There is also suitable habitat which offers some foraging and hibernation potential, although this is limited due to the heavily managed and improved nature of arable land.

Otter and water vole

- 5.27 No records of otter *Lutra lutra* were been returned within 1km of the site but there are records of water vole *Arvicola amphibius*, although these are from Partridge Lakes approximately 1km to the north east and there are no habitat connections to the site.
- 5.28 Cockshot Brook provides suitable habitat to support water voles and may offer some foraging or commuting potential for otters, although this is considered unlikely.

Badger

- 5.29 There are records of badger *Meles meles* within 1km of the site but no evidence of this species, such as snuffle holes, latrines or setts, was found on site. However, there is habitat suitable to support this species on and directly adjacent to site, albeit limited, and several areas of the site were not accessed for survey.

Birds

- 5.30 Extensive bird records have been recorded within 1km of the site including birds listed under Birds of Conservation Concern, S41 priority species and those listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). Schedule 1 birds include fieldfare *Turdus pilaris* and redwing *Turdus iliacus* which could use the site during the winter. The small blocks of woodland, hedgerows and trees could also provide nesting opportunities for a variety of local birds.
- 5.31 The site also has potential to support wintering birds given its large size, open flight lines and arable crops. Pink footed geese *Anser brachyrhynchus* have been recorded within 1km of the site.

Other Fauna

- 5.32 No significant records of invertebrates were returned within 1km. The site lacks any significant areas of flowering plants suitable to support an important invertebrate population, so invertebrates are not considered further in this report.
- 5.33 Although there are two records of common lizard *Zootoca vivipara* within 1km of the site, due to the habitats present and limited connectivity to suitable habitats, reptiles are not considered likely to be present. This group is therefore not considered further in this report.
- 5.34 The site has potential to support both brown hare *Lepus europaeus* and hedgehog *Erinaceus europaeus*, which have both been recorded within 1km.

6.0 Discussion and Conclusions

6.1 This section discusses the potential impacts on ecological receptors associated with the proposed development plan (Appendix A). Consideration is given to the 'mitigation hierarchy', i.e. that impacts are first avoided or, where this is not practicable, mitigated and, as a final resort, compensated (off-set).

6.2 The illustrative masterplan (Ref: 630DB-17) includes areas of residential development, potential primary and secondary schools and retail, commercial, medical facilities. It also includes several connecting green spaces including Cockshot Park in the north west, Central Green and Northern Green in the centre of the site, Village Green in the east and Smithy's Green in the far south west. There are also proposed green corridors, including along the western site boundary.

Designated Sites

6.3 Due to their distance from the Croft site and reasons for designation, no impacts are anticipated on any internationally designated sites. Similarly, no impacts are anticipated on the two local wildlife sites within 1km due to the distance and poor connectivity between these areas and the site.

6.4 The site lies within two SSSI IRZs. Although residential development is not identified as of concern, if run off of surface water to ground or nearby watercourses exceeds 20m³ per day the council should consult with Natural England to discuss the potential impacts.

Habitats and Flora

6.5 The habitats of highest importance on site are the woodland blocks, hedgerows and ponds. These are S41 habitats of principal importance. However, the two small blocks of woodland appear to be retained within the proposals as shown at Appendix A, as do the majority of hedgerows, although there will be some loss of hedgerow for site access in the north east, south east. Any hedgerow loss will be mitigated for during the final design within areas of green open space. The pond at TN24 will be lost to development, a new pond will be included within the final site layout to mitigate for this loss.

6.6 The existing watercourses and tree lines are also of high ecological value as they offer foraging, commuting and breeding opportunity for a range of species. These habitats are to be retained but road and bridge crossing points will be required across Cockshot Brook for site access in the south west. A possible future link to the A579 in the north west of the site has also been identified, which will also require a crossing of Cockshot Brook. These will be carefully designed to minimise impacts on features of ecological value and any losses will be mitigated as discussed in Section 7.0.

6.7 The areas of grassland and arable crops across the site are to be lost to development, however these are of little ecological value.

6.8 A number of non-native invasive species have been recorded on site. A management plan for removal of these species will be produced.

6.9 No protected plant species were recorded on site.

Fauna

Bats

- 6.10 All British bats are European protected species, afforded full protection under the Conservation of Habitats & Species Regulations 2010 (as amended) and partial protection under the Wildlife and Countryside Act 1981(as amended). Bats are protected from killing or injury, and from disturbance at the place of rest. Bat roosts are also protected from obstruction, damage or destruction (whether or not a bat is in occupation at the time).
- 6.11 There are a number of trees on site with low, moderate and high potential to support roosting bats. Further survey of these trees will be undertaken as detailed in Section 7.0.
- 6.12 There are also a number of buildings within areas of the site which have not been physically accessed. If any of these will be affected by the proposals, they will subject to further survey to determine their potential to support roosting bats prior to submittal of a detailed planning application. Survey details are discussed in Section 7.0
- 6.13 The trees, hedgerows, small blocks of woodland and wooded Cockshot Brook offer foraging and commuting potential for bats. Bat activity surveys will be undertaken to determine the use of the site by the local bat population as discussed in Section 7.0.

Amphibians

- 6.14 Great crested newts (GCN) and their habitats are protected under the Conservation of Habitats & Species Regulations 2010 (as amended) and the Wildlife & Countryside Act 1981 (as amended).
- 6.15 There are a number of ponds on site which will be subject to further survey to determine the presence or absence of GCN as discussed in Section 7.0. Common toad may also be present on site and will need to be considered at the site clearance stage.

Water vole and otter

- 6.16 The otter is a European protected species (EPS) and is also partially protected under Schedule 5 of the Wildlife and Countryside Act 1981. The water vole is fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 and is a priority conservation species.
- 6.17 Cockshot Brook has potential to support breeding water vole, and may be used for foraging and commuting by otter, although this is considered unlikely. Further survey for these species will be undertaken as detailed in Section 7.0.

Badger

- 6.18 Badgers are fully protected under 'The Protection of Badgers Act 1992'. No evidence of badger was identified on site, but there are habitats suitable for sett building and providing foraging opportunities for badger, and there are records in the surrounding area. There are also areas of the site which have not been surveyed for badger due to access limitations. Further survey for this species will be undertaken prior to development as detailed in Section 7.0.

Birds

- 6.19 Native nesting birds, their nests and eggs are protected under the Wildlife & Countryside Act 1981 (as amended) from damage and destruction, from the time of nest construction to fledging of the young. To avoid any contravention of wildlife legislation, vegetation clearance or lopping of trees should not be carried out in the nesting period (generally considered to be between March to August inclusive, although some species nest outside this period).
- 6.20 The site also has potential to support protected wintering bird species. Further survey for wintering birds will be undertaken as detailed in Section 7.0.

Other

- 6.21 The site has suitable habitat to support both brown hare and hedgehog and records of both species have been returned on site. A Reasonable Avoidance Method Statement (RAMS) will be produced to ensure no negative effects on these species during site clearance works.

7.0 Recommendations

- 7.1 This section sets out appropriate recommendations for impact avoidance, mitigation and enhancement. Any requirement for further surveys is also described, where relevant.
- 7.2 The site is currently being considered for release in the new Warrington local plan. This information relates to further survey, mitigation, avoidance and enhancement measures required should the site be taken forward for a detailed planning application.
- 7.3 These recommendations are based on the existing masterplan shown in Appendix A.

Habitats and Flora

- 7.4 The habitats of highest importance on site are the woodland blocks, hedgerows and ponds. These are largely being retained but any unavoidable loss will be mitigated for by the creation of replacement habitats. Where hedgerow removal is required for site access, any loss will be mitigated by the creation of new species rich hedgerows within the green spaces and links that will be provided across the site. A new pond will also be created to compensate for the loss of one pond in the west of the site. The new pond will be designed in accordance with wildlife friendly design principles. Specific crossing points of hedgerows will be informed by detailed ecological and arboricultural surveys to minimise any potential for impacts.
- 7.5 An Arboricultural Report has been produced by TEP. Recommendations made in this report must be adhered to in order to ensure retained woodland and scattered mature trees on and directly adjacent to site are suitably protected throughout the development.
- 7.6 A number of mature trees may also be affected by development. Replacement native tree planting will be undertaken to mitigate for the loss of any trees on site at a rate of at least two for one.
- 7.7 New bridge and road crossings will be required across Cockshot Brook. These will be designed with wildlife in mind, avoiding mature trees and other features of ecological value where possible. Their placement will also take into account the results of the water vole and otter survey as discussed below.

Invasive Species

- 7.8 A number of invasive species (Himalayan balsam, cotoneaster species, variegated archangel, rhododendron and montbretia) are present in the site. These species are listed under Schedule 9 of the Wildlife and Countryside Act 1981, as amended, which makes it an offence to grow or otherwise cause these species to spread in the wild. A site specific management plan will be produced detailing the management and removal of these species prior to development and this will be included within the Construction Environmental Management Plan (CEMP). An update survey for invasive species will also be undertaken prior to site clearance works to confirm their extent and distribution at that time.

Bats

- 7.9 There are a number of trees with bat roosting potential on site. Prior to submission of a detailed planning application, an updated ground based assessment of trees will be undertaken to confirm their status at that time.
- 7.10 Trees with moderate or high potential should ideally be retained. However if removal is necessary these will first be climbed, if possible, under supervision of a licensed bat consultant, to further investigate potential roosting features using an endoscope.
- 7.11 If an aerial survey is inconclusive, or not feasible, or trees are confirmed as having moderate or high potential to support roosting bats, dusk emergence or dawn re-entry surveys will be undertaken. Trees with moderate potential will be subject to two surveys and those with high potential will be subject to three surveys in line with advice provided in the Bat Conservation Trust Guidelines 2016. Should dusk emergence or dawn re-entry surveys be required these can only be undertaken between May and August.
- 7.12 If roosting bats are confirmed, and a tree requires removal, a licence would first need to be gained from Natural England. If removal under licence is required there is considered to be adequate space on site to undertake any required mitigation works.
- 7.13 Any trees identified as containing low potential to support roosting bats, can be felled under the supervision of a licensed bat consultant.
- 7.14 If any existing buildings within the site boundary will be affected by development proposals, they will also be subject to further assessment to determine their potential value to roosting bats prior to submission of a planning application. This will initially take the form of a daytime external and internal assessment by a licensed bat consultant. If the buildings are found to have potential to support roosting bats, further survey will be required.
- 7.15 Buildings with low potential will be subject to one dusk emergence or dawn re-entry survey, those with moderate potential will be subject to two surveys and those with high potential will be subject to three surveys. If roosting is confirmed in any buildings to be lost a licence will be required from Natural England.
- 7.16 Other than Cockshot Brook in the west of the site, which is wooded along its banks and provides a potentially good foraging and commuting route for any bats roosting within the site or the surrounding area, the majority of the site is considered likely to be of low value to bats. This is due to the abundance of low diversity arable habitat, lack of significant wooded areas and other strong linear features, as the majority of hedgerows have been removed and replaced with fences. However, further survey will be undertaken prior to development to determine the importance of the site to bats.
- 7.17 As the site is considered of low value to bats, one transect survey visit per season will be undertaken (April/May, June to August and September/October). If higher levels of bat activity than anticipated are recorded, further surveys may be required. Static monitoring will also be undertaken at one location per transect, per season, and must record for five consecutive nights in suitable weather conditions.

- 7.18 If important bat foraging and commuting routes are identified on site a detailed mitigation strategy will be required prior to development. This should include details on retention of important habitats, creation of suitable mitigation measures and details on a suitable lighting strategy for the site.
- 7.19 Should on-site mitigation be required it is envisaged that there will be adequate space for any mitigation within the areas of green open space to be retained on site.

Great Crested Newt

- 7.20 There are a number of ponds on site which will require further survey prior to development. Initially eDNA assessment of any of the ponds within influencing distance of the site will be undertaken. This involves water samples being collected from the pond by a suitably licensed ecologist and sent to a lab for testing. This survey would confirm the presence or absence of GCN only. This survey can be undertaken between 15th April and 30th June only.
- 7.21 Should the eDNA analysis confirm the presence of GCN then traditional surveys involving bottle trapping, egg searching and torchlight survey will be required. A total of six surveys are required across March to June to confirm the population size, with three surveys during the peak season of mid-April to mid-May.
- 7.22 If GCN are found to be present on site a licence will be required from Natural England to enable works. There have recently been a number of new policies introduced by Natural England in relation to GCN mitigation. The most appropriate method for mitigating newts on site should be reviewed at the time of submittal for planning.
- 7.23 Should on-site mitigation be required it is envisaged that there will be adequate space for any mitigation within the areas of green open space to be retained on site.
- 7.24 It is also likely that common toad and other common amphibians will be present on site. As part of the CEMP an amphibian Reasonable Avoidance Method Statement will be produced to prevent harm to amphibians during site clearance works.

Water vole and otter

- 7.25 The majority of development on site will contain at least a 5m buffer between the banks of the watercourse and closest development, avoiding any potential impacts. However, road and bridge crossings are required across Cockshot Brook to create site access. To ensure there are no adverse impacts on water vole or otter, a detailed survey of the watercourses will be undertaken to inform siting of any new crossings.
- 7.26 Water vole surveys, which require two site visits, should be undertaken one between mid-April and June and the other between July and September with the surveys undertaken at least two months apart. Otter surveys can be undertaken at any time of year.
- 7.27 If any evidence of water vole or otter is found, the first step will be to adjust the crossing location to avoid any impacts. The bridge will also be designed in such a way as to not limit commuting for water vole along the watercourse. If this is not possible and these species are likely to be directly impacted by development, a licence may be required from Natural England.

Badger

- 7.28 No evidence of badger was recorded on site, however, badgers are highly transient and there are suitable habitats on site to support this species. Therefore, further survey to confirm the presence or absence of badgers on site will be undertaken prior to submitting a detailed planning application.
- 7.29 No development will take place within 30m of a badger sett. Where this is not possible the activity status of each sett entrance must first be established. The activity survey involves monitoring each hole identified on site for a period of four weeks using sand traps, hair traps and camera traps to determine if the holes are in use. If holes are found to be present within 30m of development, and are found to be active during the monitoring period, they may then need to be closed under licence from Natural England.
- 7.30 Should on-site mitigation be required it is envisaged that there will be adequate space for any mitigation within the areas of green open space to be retained on site.

Birds

- 7.31 To avoid adverse impact on birds, any vegetation clearance, or lopping of trees, should be completed outside of the nesting period (typically taken to be March to August inclusive). Where this is not practicable, a nesting bird check must be carried out by a suitably qualified ecologist a maximum of 24 hours in advance of works to confirm no active nests are present. In the event that an active nest is identified, works within the surrounding area (radius dependent on species and context) must halt until the chicks have fledged.
- 7.32 Given the size of the site, the habitats present and the clear flight lines, the site is considered suitable for supporting wintering bird species. A full winter bird survey will be undertaken prior to submitting a detailed planning application. Winter bird surveys can comprise two surveys per month between September to April. Surveys will cover the entire site as well as land within 100m of the site boundary. Each survey will take place for one hour either side of high tide, when birds are more likely to be feeding/roosting on farmland.
- 7.33 Should an important population of wintering birds be identified on site then mitigation will be required. Details of suitable mitigation can only be provided following completion of the surveys.

Hedgehog and Brown hare

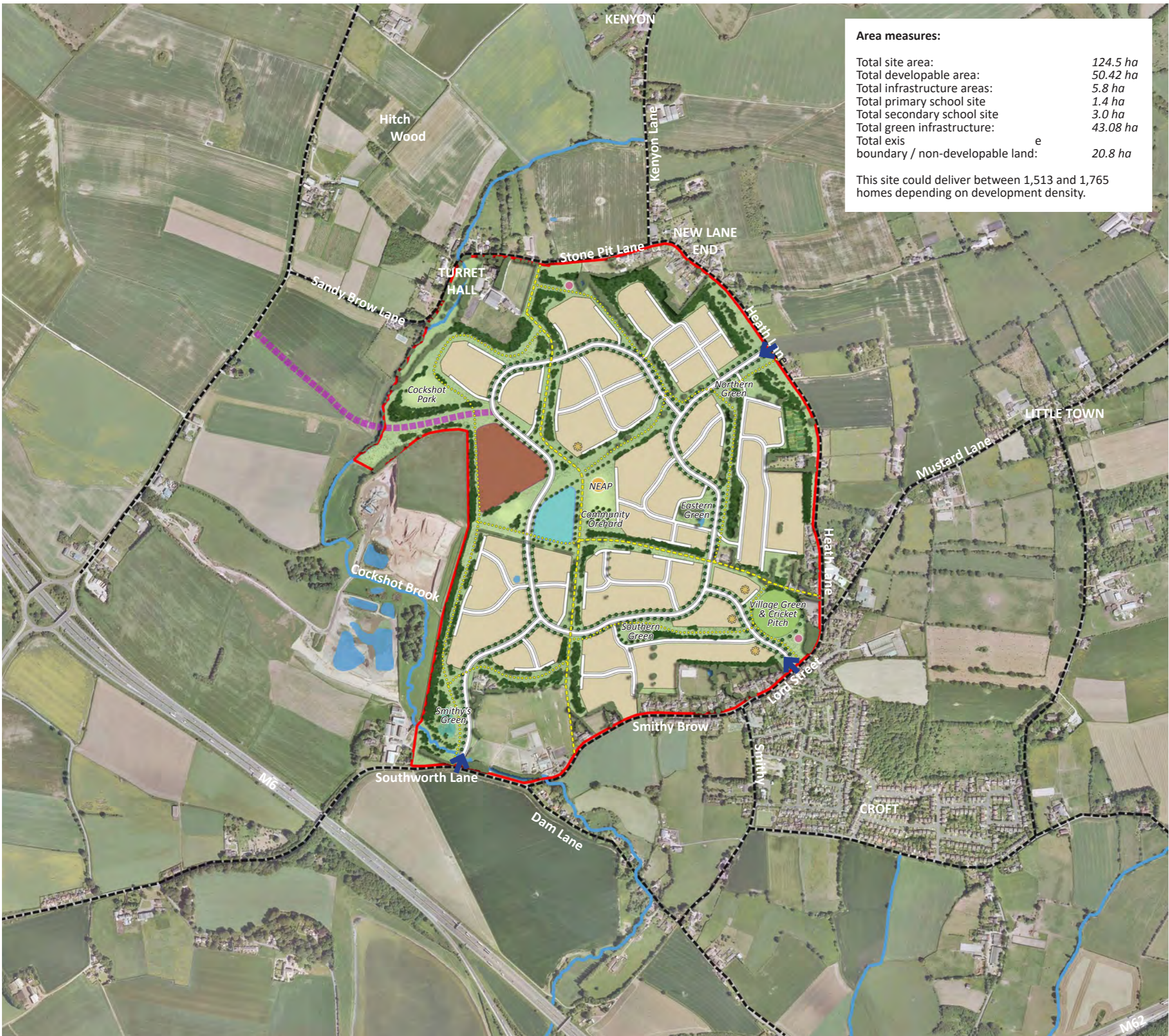
- 7.34 There is potential for both brown hare and hedgehog to use this site. A Reasonable Avoidance Method Statement (RAMS) will be produced to ensure that there are no negative impacts on either of these species during site clearance works. This will be included within the CEMP for the site.

Biodiversity Enhancement

- 7.35 Potential biodiversity enhancement measures which could be implemented on the site include:

- Installing a selection of bird boxes on the site will enhance nesting opportunities for a range of birds.
- Enhancement of roosting opportunities could be provided via the installation of bat boxes around the site. A range of bat boxes could be installed on retained trees or, where feasible, within the structure of the new build.
- A new pond, designed specifically for wildlife, should be incorporated into the masterplan in the west of the site. Ideally this would have direct habitat links to other existing and retained ponds within the site.
- Landscaping proposals should consider provision of pockets of wildflower/grassland planting. The new planting mix should include an appropriate native grassland/wildflower seed mix which should enhance the ecological value of the site.
- Any ornamental/landscape planting should aim to include berry-bearing and nectar rich species which are native or of known wildlife value. These can provide a foraging resource for a range of wildlife species including invertebrates, and will also provide a foraging resource for birds and bats.

APPENDIX A: Proposed Development



Area measures:

Total site area:	124.5 ha
Total developable area:	50.42 ha
Total infrastructure areas:	5.8 ha
Total primary school site:	1.4 ha
Total secondary school site:	3.0 ha
Total green infrastructure:	43.08 ha
Total exis boundary / non-developable land:	20.8 ha

This site could deliver between 1,513 and 1,765 homes depending on development density.

- KEY:**
- Site boundary
 - Exis egeta
 - Exis atercourses & waterbodies
 - Exis t
 - Exis ts of way
 - Exis oads
 - Proposed vehicular access
 - Proposed development area
 - Proposed primary road
 - Proposed secondary road
 - Poten onday school loca
 - Poten y school loca
 - Proposed focal green spaces
 - Proposed key pedestrian & cycle links within green corridors
 - Proposed retail / commercial / medical
 - Poten e link to A579
 - Proposed SuDS
 - Proposed allotments
 - Proposed LEAP
 - Proposed NEAP

NB: Masterplan subject to change following detailed survey work



Land North West of Cr
Illustra e Masterplan

Drwg No: 630DB-17	Date: 21.06.18
Drawn by: AH	Checker: DL
Rev by:	Rev checker:
QM Status: Checked	Product Status:
Scale: 1:5000 @ A3	Con eview

APPENDIX B: Desk Based Assessment

**Desk Based Ecology Assessment
Land North West of Croft, Warrington (WA3 7DS)
Approximate Central Grid Reference: SJ 62760 94186**

Contents

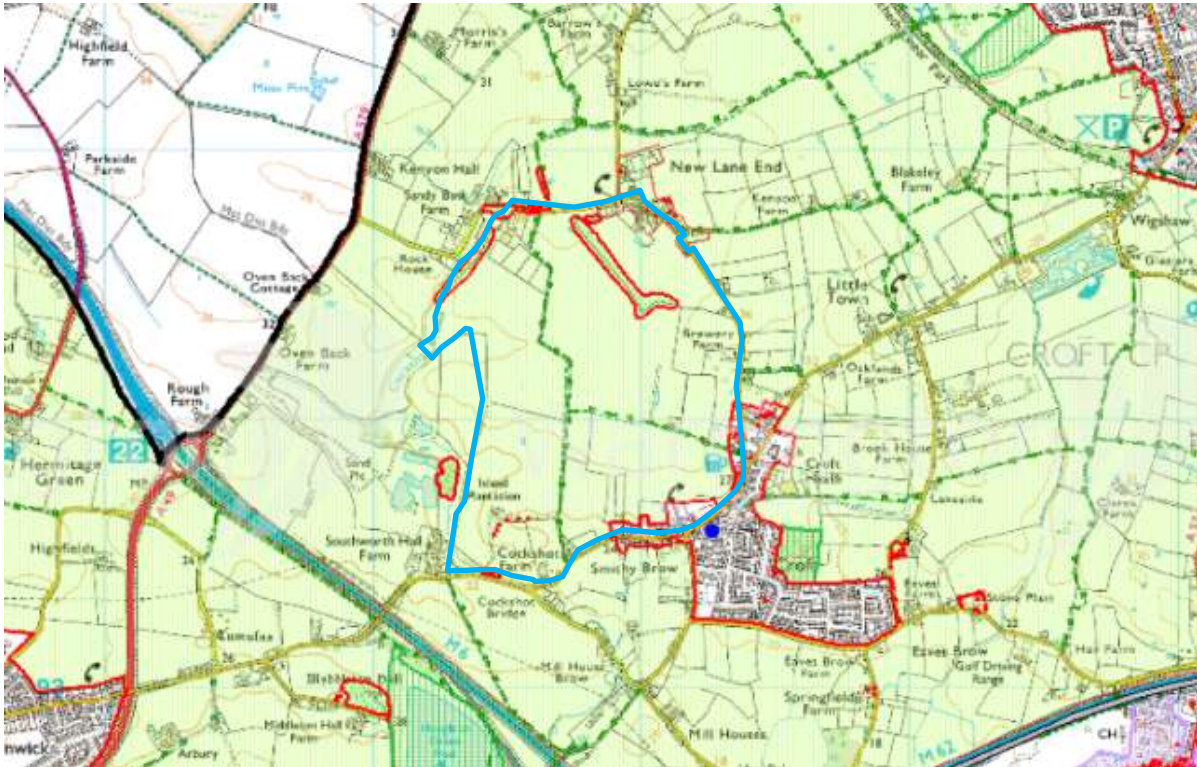
- **Site location plan**
- **Extracts of relevant planning policies from local plan**
- **International site designations**
- **National site designations**
- **Habitat inventory records**
- **Local species records**
- **Local Wildlife Site Boundaries**

Site location plan



Contains Ordnance Survey data © Crown copyright and database right 2017

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



— Site location

Local Plan Core Strategy ✓

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

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

Conservation Areas ✓

- Conservation Areas
 - Region
 - Region

Tree Preservation Orders ✓

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

Extracts of relevant planning policies and supplementary planning guidance

Policy CS 1

Overall Spatial Strategy - Delivering Sustainable Development

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

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

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

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

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

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

Policy CS 5

Overall Spatial Strategy - Green Belt

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

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

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

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

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

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

Policy CS 6

Overall Spatial Strategy – Strategic Green Links

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

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

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

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

Policy QE 3

Green Infrastructure

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

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

Policy QE 5

Biodiversity and Geodiversity

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

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

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

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

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

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

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

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

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

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

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

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

Policy QE 6

Environment and Amenity Protection

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

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

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

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

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

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

Policy CC 1

Inset and Green Belt Settlements

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

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

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

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

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

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

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

Policy CC 2

Protecting the Countryside

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

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

MAGIC Map 10km search zone for international designated wildlife sites – Map



MAGIC Map 10km search zone for international designated wildlife sites – Report

Special Areas of Conservation (England)

Name

RIXTON CLAY PITS

Reference

UK0030265

Hectares

13.5

Hyperlink

<http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?eucode=UK0030265>

Name

MANCHESTER MOSSES

Reference

UK0030200

Hectares

171.52

Hyperlink

<http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?eucode=UK0030200>

MAGIC Map 1km search zone for national designated wildlife sites –

There are no national designated sites within 1km

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? IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:

All Planning Applications

Infrastructure

Airports, helipads and other aviation proposals.

Wind & Solar Energy

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, livestock & poultry units with floorspace > 500m², slurry lagoons > 750m² & manure stores > 3500t).

Combustion

General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.

Waste

Composting

Discharges

Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location).

Water Supply

Notes

GUIDANCE - How to use the Impact Risk Zones

[/Metadata for magic/SSSI IRZ User Guidance MAGIC.pdf](#)

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF THE CATEGORIES BELOW? 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, livestock & poultry units with floorspace > 500m², 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 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location).

Water Supply

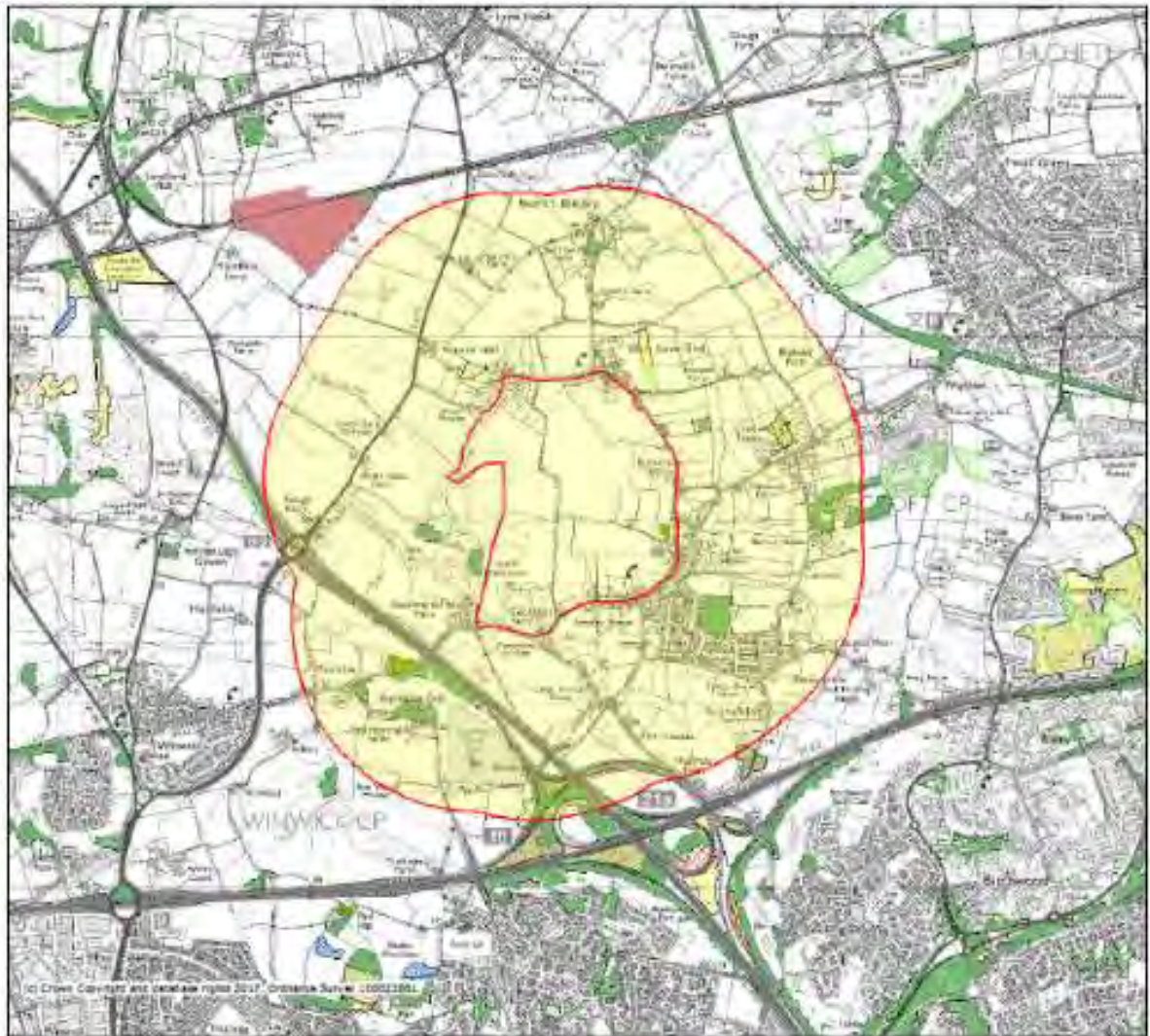
Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.

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



Extract of Species Data Provided by RECORD within 1km

Designated Species Summary

Taxa	Designation Name	Occurrence in Cheshire tetrad between 2006-2017 (%)	Occurrence in Cheshire tetrad all years (%)
Arctic Tern (<i>Sterna paradisaea</i>)	Birds of Conservation Concern [RSPB] - Amber	1%	8%
Black Tern (<i>Chlidonias niger</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	<1%	9%
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	Birds of Conservation Concern [RSPB] - Amber	23%	41%
Black-necked Grebe (<i>Podiceps nigricollis</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	2%	4%
Brown Hare (<i>Lepus europaeus</i>)	Local Biodiversity Action Plan Species, NERC S41, UK BAP Priority Species	21%	80%
Bullfinch (<i>Pyrrhula pyrrhula</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Amber, NERC S41	20%	70%
Canada Goose (<i>Branta canadensis</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	26%	53%
Canadian Goldenrod (<i>Solidago canadensis</i>)	Invasive Non-Native Species	2%	7%
Cinnabar (<i>Tyria jacobaeae</i>)	NERC S41, UK BAP Priority Species	13%	30%
Common Frog (<i>Rana temporaria</i>)	Wildlife and Countryside Act - Schedule 5	33%	63%
Common Gull (<i>Larus canus</i>)	Birds of Conservation Concern [RSPB] - Amber	9%	25%
Common Lizard (<i>Zootoca vivipara</i>)	Wildlife and Countryside Act - Schedule 5, NERC S41, UK BAP Priority Species	5%	9%
Common Toad (<i>Bufo bufo</i>)	Wildlife and Countryside Act - Schedule 5, NERC S41, UK BAP Priority Species	23%	41%
Corn Bunting (<i>Emberiza calandra</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Red, NERC S41	2%	38%
Dot Moth (<i>Melanchnra persicariae</i>)	NERC S41, UK BAP Priority Species	3%	14%
Dunlin (<i>Calidris alpina</i>)	Birds of Conservation Concern [RSPB] - Red	5%	15%
Dunnock (<i>Prunella modularis</i>)	Birds of Conservation Concern [RSPB] - Amber, NERC S41	29%	84%
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 Water Vole (<i>Arvicola amphibius</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 5, NERC S41, UK BAP Priority Species	13%	52%
Fieldfare (<i>Turdus pilaris</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Red	19%	39%
Gadwall (<i>Anas strepera</i>)	Birds of Conservation Concern [RSPB] - Amber	6%	12%
Golden Plover (<i>Pluvialis apricaria</i>)	Birds of Conservation Concern [RSPB] - Amber	5%	17%
Goldeneye (<i>Bucephala clangula</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	6%	14%
Great Black-backed Gull (<i>Larus marinus</i>)	Birds of Conservation Concern [RSPB] - Amber	6%	16%
Green Sandpiper (<i>Tringa ochropus</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	5%	17%
Greenshank (<i>Tringa nebularia</i>)	Wildlife and Countryside Act - Schedule 1	3%	12%
Grey Partridge (<i>Perdix perdix</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Red, NERC S41, UK BAP Priority Species	8%	60%
Grey Wagtail (<i>Motacilla cinerea</i>)	Birds of Conservation Concern [RSPB] - Amber	14%	45%
Heath Dog-violet (<i>Viola canina</i>)	IUCN Global Red List - Near Threatened	<1%	4%
Herring Gull (<i>Larus argentatus</i>)	Birds of Conservation Concern [RSPB] - Red	11%	33%
Himalayan Cotoneaster (<i>Cotoneaster simonsii</i>)	Wildlife and Countryside Act Schedule 9	1%	3%
Hobby (<i>Falco subbuteo</i>)	Wildlife and Countryside Act - Schedule 1	9%	17%
House Martin (<i>Delichon urbicum</i>)	Birds of Conservation Concern [RSPB] - Amber	23%	67%
House Sparrow (<i>Passer domesticus</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Red, NERC S41, UK BAP Priority Species	35%	84%
Indian Balsam (<i>Impatiens glandulifera</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	24%	36%
Keroplatus testaceus (<i>Keroplatus testaceus</i>)	Nationally Scarce	<1%	<1%
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>Nymphalis</i>)	Wildlife and Countryside Act -	<1%	<1%

polychloros)	Schedule 5		
Large-flowered Hemp-nettle (<i>Galeopsis speciosa</i>)	IUCN Global Red List - Vulnerable	1%	8%
Lesser Black-backed Gull (<i>Larus fuscus</i>)	Birds of Conservation Concern [RSPB] - Amber	12%	29%
Little Grebe (<i>Tachybaptus ruficollis</i>)	Birds of Conservation Concern [RSPB] - Amber	11%	29%
Little Ringed Plover (<i>Charadrius dubius</i>)	Wildlife and Countryside Act - Schedule 1	3%	13%
Mallard (<i>Anas platyrhynchos</i>)	Birds of Conservation Concern [RSPB] - Amber	42%	82%
Meadow Pipit (<i>Anthus pratensis</i>)	Birds of Conservation Concern [RSPB] - Amber	13%	45%
Merlin (<i>Falco columbarius</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	6%	14%
Mistle Thrush (<i>Turdus viscivorus</i>)	Birds of Conservation Concern [RSPB] - Amber	23%	82%
Montbretia (<i>Crocasmia pottsii</i> x <i>auraea</i> = <i>C. x crocosmiiflora</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	6%	14%
Oystercatcher (<i>Haematopus ostralegus</i>)	Birds of Conservation Concern [RSPB] - Amber	13%	23%
Peregrine (<i>Falco peregrinus</i>)	Wildlife and Countryside Act - Schedule 1	11%	19%
Pink-footed Goose (<i>Anser brachyrhynchus</i>)	Birds of Conservation Concern [RSPB] - Amber	8%	15%
Pipistrelle (<i>Pipistrellus pipistrellus</i>)	Local Biodiversity Action Plan Species, Wildlife and Countryside Act - Schedule 5, Conservation (Habs and Sp) Regulations 2010 - Schedule 2	27%	54%
Pochard (<i>Aythya ferina</i>)	Birds of Conservation Concern [RSPB] - Amber	6%	19%
Redshank (<i>Tringa totanus</i>)	Birds of Conservation Concern [RSPB] - Amber	9%	22%
Redwing (<i>Turdus iliacus</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Red	18%	38%
Reed Bunting (<i>Emberiza schoeniclus</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Amber, NERC S41, UK BAP Priority Species	19%	73%
Ringed Plover (<i>Charadrius hiaticula</i>)	Birds of Conservation Concern [RSPB] - Amber	4%	15%
Ringlet (<i>Aphantopus hyperantus</i>)	Local Biodiversity Action Plan Species	14%	15%
Ruddy Duck (<i>Oxyura jamaicensis</i>)	Invasive Non-Native Species, Wildlife and Countryside Act Schedule 9	3%	14%
Sand Martin (<i>Riparia riparia</i>)	Birds of Conservation Concern [RSPB] - Amber	7%	35%

Shoveler (<i>Anas clypeata</i>)	Birds of Conservation Concern [RSPB] - Amber	8%	18%
Skylark (<i>Alauda arvensis</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Red, NERC S41	20%	85%
Slavonian Grebe (<i>Podiceps auritus</i>)	Wildlife and Countryside Act - Schedule 1, Birds of Conservation Concern [RSPB] - Amber	<1%	3%
Snipe (<i>Gallinago gallinago</i>)	Birds of Conservation Concern [RSPB] - Amber	13%	54%
Song Thrush (<i>Turdus philomelos</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Red	33%	87%
Starling (<i>Sturnus vulgaris</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Red, NERC S41	30%	86%
Stock Dove (<i>Columba oenas</i>)	Birds of Conservation Concern [RSPB] - Amber	10%	65%
Swallow (<i>Hirundo rustica</i>)	Birds of Conservation Concern [RSPB] - Amber	44%	87%
Swift (<i>Apus apus</i>)	Birds of Conservation Concern [RSPB] - Amber	22%	81%
Teal (<i>Anas crecca</i>)	Birds of Conservation Concern [RSPB] - Amber	11%	28%
Tree Sparrow (<i>Passer montanus</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Red, NERC S41, UK BAP Priority Species	10%	72%
Tufted Duck (<i>Aythya fulgula</i>)	Birds of Conservation Concern [RSPB] - Amber	13%	31%
Wall Cotoneaster (<i>Cotoneaster horizontalis</i>)	Wildlife and Countryside Act Schedule 9	2%	6%
West European Hedgehog (<i>Erinaceus europaeus</i>)	NERC S41, UK BAP Priority Species	24%	44%
Wheatear (<i>Oenanthe oenanthe</i>)	Birds of Conservation Concern [RSPB] - Amber	8%	32%
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 Wagtail (<i>Motacilla flava</i>)	Birds of Conservation Concern [RSPB] - Red, NERC S41	5%	54%
Yellowhammer (<i>Emberiza citrinella</i>)	Local Biodiversity Action Plan Species, Birds of Conservation Concern [RSPB] - Red, NERC S41, UK BAP Priority Species	14%	77%

Species Report

AMPHIBIAN

[Map](#)



Common Toad (*Bufo bufo*) (1)

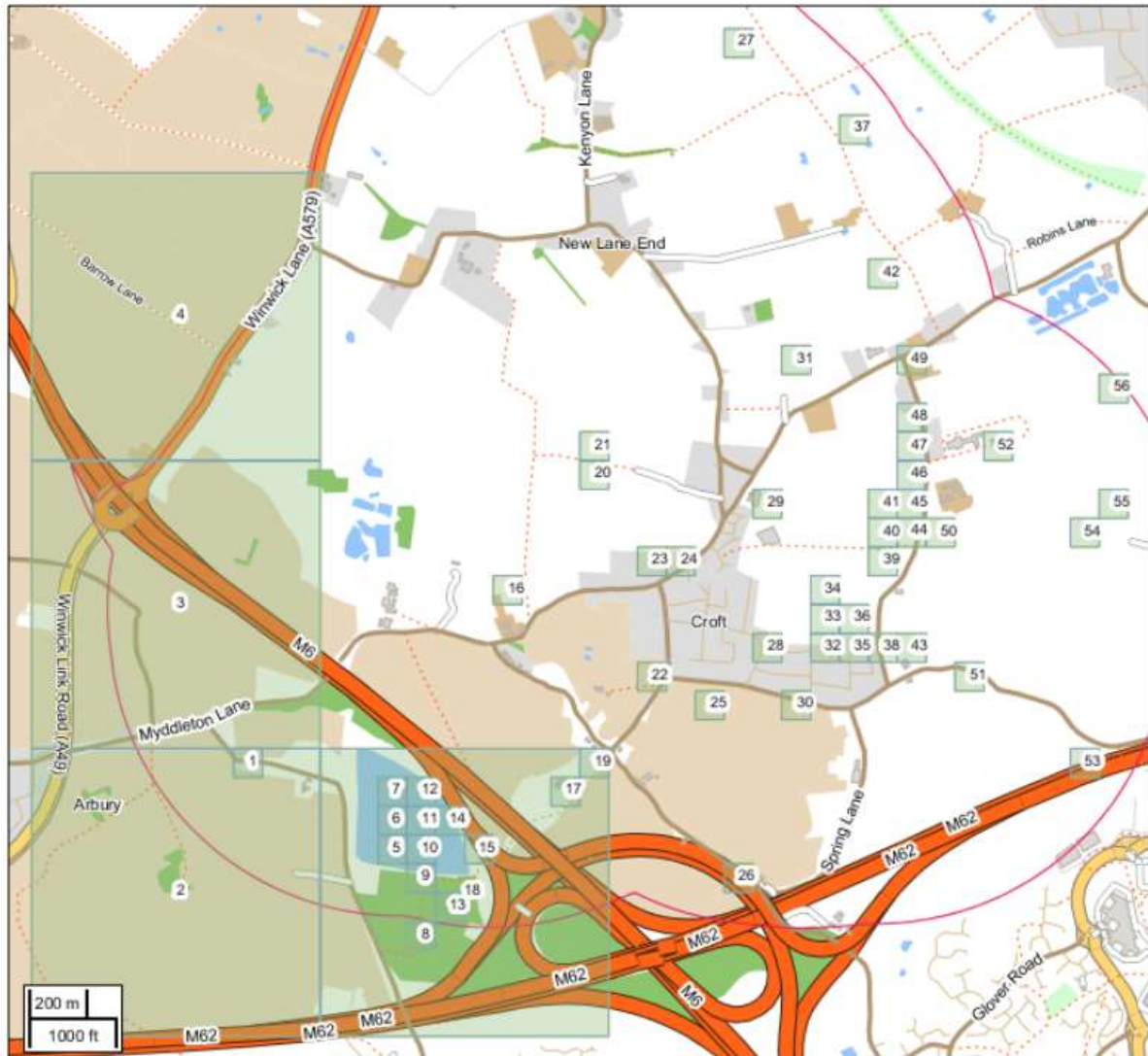
RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
M6 Junction 21a	SJ619933	1	14/05/2008- 26/09/2008	None	Present	Field Record

Common Frog (*Rana temporaria*) (1,2,3,4)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
M6 Junction 21a	SJ619933	1	14/05/2008- 26/09/2008	None	Present	Field Record
M62 j11-12 (westbound)	SJ640930	4	14/05/2008- 26/09/2008	None	1	Field Record
Croft, Garden, Wadeson Way	SJ637933	3	11/03/2013	Egg/Ovum	Present	Field Record
Croft, Wadeson Way - garden	SJ637933	3	16/04/2012	Adult	1	Field Record
Garden, Wadeson Way	SJ636933	2	08/08/2010	Adult	1	Field Record



Green Sandpiper (*Tringa ochropus*) (7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	15/04/2012	None	1	Field Record

Goldeneye (*Bucephala clangula*) (7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	29/02/2012	None	1	Field Record
	SJ622928	7	25/02/2012	None	1	Field Record

House Martin (*Delichon urbicum*) (9)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ623925	9	30/06/2012	Adult	1	Field Record

Dunlin (*Calidris alpina*) (7, 11)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ623927	11	19/04/2013	Adult Male	1	Field Record
	SJ622928	7	06/02/2012	None	2	Field Record

Lesser Black-backed Gull (*Larus fuscus*) (7, 10)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ623926	10	28/03/2013	Adult	5 Approx	Field Record
	SJ622928	7	22/02/2014	Adult	1	Field Record

Great Black-backed Gull (*Larus marinus*) (7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	04/02/2012	None	3	Field Record

Bullfinch (*Pyrrhula pyrrhula*) (2)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ6192	2	11/01/2012	None	3	Field Record

Golden Plover (*Pluvialis apricaria*) (2, 7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
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SJ6192	2	13/12/2012	None	2	Field Record
SJ622928	7	06/02/2012	None	26	Field Record

Meadow Pipit (*Anthus pratensis*) (2,7,18)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ6192	2	02/04/2012	None	2	Field Record
	SJ6192	2	13/12/2012	None	53	Field Record
	SJ6292	18	28/12/2006	None	13	Field Record
	SJ6292	18	28/12/2006	None	13	Field Record
	SJ622928	7	02/04/2012	None	2	Field Record

Grey Wagtail (*Motacilla cinerea*) (3,45)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Winwick, Houghton Green Pool	SJ6193	3	18/02/2011	None	1	Field Record
Croft, Off Lady Lane	SJ640938	45	15/03/2016	Adult	1	Field Record

Black-necked Grebe (*Podiceps nigricollis*) (3,6,7,11)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Pool	SJ6193	3	26/07/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	09/04/2011	None	4	Field Record
Houghton Green Pool	SJ6193	3	06/04/2011	None	4	Field Record
Houghton Green Pool	SJ6193	3	05/04/2011	None	6	Field Record
Houghton Green Pool	SJ6193	3	02/04/2011	None	5	Field Record
Houghton Green Pool	SJ6193	3	01/04/2011	None	5	Field Record
Houghton Green Pool	SJ6193	3	26/03/2011	None	4	Field Record
Houghton Green Pool	SJ6193	3	20/03/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	19/03/2011	None	1	Field Record
	SJ622928	7	16/08/2012	None	1	Field Record
Houghton Green	SJ622927	6	20/03/2009	None	2	Field Record

PS, Warrington						
	SJ623927	11	23/03/2011	Adult	4	Field Record
	SJ623927	11	17/04/2011	Adult	3	Field Record

Black Tern (*Chlidonias niger*) (3)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Pool	SJ6193	3	13/09/2011	None	2	Field Record
Houghton Green Pool	SJ6193	3	11/09/2011	None	1	Field Record

Merlin (*Falco columbarius*) (3)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Pool	SJ6193	3	02/02/2011	None	Present	Field Record

Canada Goose (*Branta canadensis*) (3,7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Pool	SJ6193	3	08/09/2011	None	2	Field Record
Houghton Green Pool	SJ6193	3	26/07/2011	None	4	Field Record
	SJ622928	7	26/06/2012	None	21	Field Record
Hought Green Pool SINC - pond	SJ622928	7	15/07/2012	None	20	Field Record
	SJ622928	7	25/02/2012	None	2	Field Record

Greenshank (*Tringa nebularia*) (3)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Pool	SJ6193	3	07/09/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	31/08/2011	None	1	Field Record

Hobby (*Falco subbuteo*) (3)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Pool	SJ6193	3	08/09/2011	None	1	Field Record

Gadwall (*Anas strepera*) (3)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Pool	SJ6193	3	04/06/2011	None	4	Field Record
Houghton Green Pool	SJ6193	3	27/08/2011	None	8	Field Record
Winwick, Houghton Green Pool	SJ6193	3	17/02/2011	None	9	Field Record
Houghton Green Pool	SJ6193	3	19/08/2011	None	6	Field Record

Corn Bunting (*Emberiza calandra*) (2,3,7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Pool	SJ6193	3	30/05/2011	None	3	Field Record
Arbury	SJ6193	3	05/06/2011	None	1	Field Record
Winwick	SJ6192	2	26/04/2012	None	2	Field Record
	SJ622928	7	26/06/2012	None	2	Field Record
	SJ6192	2	23/04/2012	None	1	Field Record

Common Gull (*Larus canus*) (2,3,7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Pool	SJ6193	3	17/09/2011	None	2	Field Record
Houghton Green Pool	SJ6193	3	27/08/2011	None	2	Field Record
Houghton Green Pool	SJ6193	3	31/07/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	07/09/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	13/09/2011	None	3	Field Record
Houghton Green Pool	SJ6193	3	14/09/2011	None	4	Field Record
	SJ6192	2	21/09/2012	None	5	Field Record
	SJ622928	7	11/09/2012	None	2	Field Record
	SJ622928	7	04/02/2012	None	9	Field Record
	SJ622928	7	28/01/2012	None	6	Field Record
	SJ622928	7	14/01/2012	None	9	Field Record
	SJ622928	7	05/03/2012	None	2	Field Record
	SJ622928	7	03/03/2012	None	6	Field Record

SJ622928	7	20/02/2012	None	3	Field Record
SJ622928	7	18/02/2012	None	8	Field Record

Little Grebe (*Tachybaptus ruficollis*) (3,6)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Pool	SJ6193	3	09/09/2011	None	7	Field Record
Houghton Green Pool	SJ6193	3	31/08/2011	None	5	Field Record
Houghton Green Pool	SJ6193	3	27/08/2011	None	4	Field Record
Houghton Green Pool	SJ6193	3	19/08/2011	None	3	Field Record
Houghton Green Pool	SJ6193	3	07/09/2011	None	5	Field Record
Houghton Green Pool	SJ6193	3	13/09/2011	None	3	Field Record
Houghton Green Pool	SJ6193	3	25/09/2011	None	4	Field Record
Houghton Green Pool	SJ6193	3	14/09/2011	None	3	Field Record
Houghton Green Pool	SJ62239278	6	29/09/2007	Adult	2	Field Record

House Sparrow (*Passer domesticus*) (2,3,7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	29/02/2012	None	26	Field Record
Houghton Green Pool	SJ6193	3	30/05/2011	None	20	Field Record
Houghton Green Pool	SJ6193	3	08/09/2011	None	60	Field Record
Houghton Green Pool	SJ6193	3	27/08/2011	None	175	Field Record
Houghton Green Pool	SJ6193	3	02/02/2011	None	30	Field Record
Arbury	SJ6193	3	25/09/2011	None	10	Field Record
Arbury	SJ6193	3	03/08/2011	None	25	Field Record
Houghton Green Pool	SJ6193	3	31/07/2011	None	71	Field Record
	SJ6192	2	02/04/2012	None	42	Field Record
	SJ6192	2	13/12/2012	None	19	Field Record
	SJ6192	2	16/08/2012	None	20	Field Record

	SJ6192	2	17/08/2012	None	12	Field Record
	SJ6192	2	11/01/2012	None	15	Field Record
Winwick	SJ6192	2	26/04/2012	None	20	Field Record
	SJ6192	2	23/04/2012	None	2	Field Record
	SJ6192	2	24/04/2012	None	57	Field Record
Winwick	SJ6192	2	25/04/2012	None	12	Field Record

Kestrel (*Falco tinnunculus*) (2,3,7,15,33,36,40,52,53)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	23/04/2012	None	Present	Field Record
Houghton Green Pool	SJ6193	3	02/02/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	10/09/2011	None	2	Field Record
Houghton Green Pool	SJ6193	3	30/05/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	07/09/2011	None	2	Field Record
Houghton Green Pool	SJ6193	3	27/08/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	31/07/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	08/09/2011	None	2	Field Record
Houghton Green Pool	SJ6193	3	14/09/2011	None	Present	Field Record
Houghton Green Pool	SJ6193	3	03/08/2011	None	2	Field Record
Arbury	SJ6193	3	05/06/2011	None	Present	Field Record
	SJ6192	2	21/09/2012	None	1	Field Record
	SJ6192	2	13/12/2012	None	1	Field Record
	SJ6192	2	16/08/2012	None	2	Field Record
	SJ6192	2	22/09/2012	None	1	Field Record
Croft, Battlefiled	SJ638934	36	03/10/2012	None	1	Field Record
Culcheth, Glazebury & Croft - CP	SJ639937	40	18/03/2011	Adult	1	Field Record
Croft, HMS Gosling site	SJ643940	52	19/01/2013	Adult	1	Field Record
	SJ622928	7	11/09/2012	None	1	Field Record
	SJ622928	7	10/01/2012	None	1	Field Record

Culcheth, Glazebury & Croft - CP, By M6	SJ625926	15	26/12/2011	Adult	2	Field Record
Hey Farm Barn	SJ64699295	53	15/10/2011	None	1	Field Record
	SJ622928	7	06/02/2012	None	1	Field Record
	SJ622928	7	12/04/2012	None	1	Field Record
Battlefield*****	SJ637934	33	14/01/2012	Adult	1	Field Record
Winwick	SJ6192	2	26/04/2012	None	3	Field Record
	SJ639937	40	18/03/2011	Adult	1	Field Record

Little Ringed Plover (*Charadrius dubius*) (3,7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	25/04/2012	None	7	Field Record
	SJ622928	7	21/04/2012	None	1	Field Record
Houghton Green Pool	SJ6193	3	04/06/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	29/07/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	28/05/2011	None	2	Field Record
Houghton Green Pool	SJ6193	3	06/04/2011	None	2	Field Record
Houghton Green Pool	SJ6193	3	26/07/2011	None	2	Field Record
	SJ622928	7	16/08/2012	None	1	Field Record
	SJ622928	7	26/06/2012	None	3	Field Record
	SJ622928	7	12/04/2012	None	2	Field Record
	SJ622928	7	16/04/2012	None	7	Field Record
	SJ622928	7	11/04/2012	None	2	Field Record
	SJ622928	7	04/04/2012	None	2	Field Record
	SJ622928	7	15/04/2012	None	3	Field Record

Arctic Tern (*Sterna paradisaea*) (3,7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	25/04/2012	None	3	Field Record
Houghton Green Pool	SJ6193	3	09/09/2011	None	3	Field Record

Dunnoek (*Prunella modularis*) (2,3,7,36)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	09/05/2012	None	3	Field Record
Radley Plantation	SJ6193	3	29/08/2011	None	4	Field Record
Houghton Green Pool	SJ6193	3	12/02/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	30/05/2011	None	1	Field Record
Winwick	SJ6192	2	26/04/2012	None	4	Field Record
	SJ6192	2	16/08/2012	None	1	Field Record
	SJ622928	7	29/02/2012	None	2	Field Record
Battlefield	SJ638934	36	03/02/2012	Adult	1	Field Record
	SJ6192	2	02/04/2012	None	2	Field Record
	SJ6192	2	23/04/2012	None	1	Field Record
Winwick	SJ6192	2	25/04/2012	None	3	Field Record
	SJ6192	2	24/04/2012	None	5	Field Record

Mallard (*Anas platyrhynchos*) (2,3,5,7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	09/05/2012	None	1	Field Record
Houghton Green Pool	SJ6193	3	02/02/2011	None	55	Field Record
Houghton Green Pool	SJ6193	3	19/08/2011	None	70	Field Record
Houghton Green Pool	SJ6193	3	31/07/2011	None	27	Field Record
Houghton Green Pool	SJ6193	3	04/06/2011	None	4	Field Record
Houghton Green Pool	SJ6193	3	07/09/2011	None	66	Field Record
Houghton Green Pool	SJ6193	3	31/08/2011	None	42	Field Record
Houghton Green Pool	SJ6193	3	27/08/2011	None	82	Field Record
Winwick, Houghton Green Pool	SJ6193	3	17/02/2011	None	41	Field Record
Houghton Green Pool	SJ6193	3	12/02/2011	None	19	Field Record
Houghton Green Pool	SJ6193	3	13/09/2011	None	68	Field Record
Houghton Green Pool	SJ6193	3	25/09/2011	None	65	Field Record

Houghton Green Pool	SJ6193	3	17/09/2011	None	71	Field Record
Houghton Green Pool	SJ6193	3	03/08/2011	None	40	Field Record
Houghton Green Pool	SJ6193	3	26/07/2011	None	23	Field Record
Houghton Green Pool	SJ6193	3	08/09/2011	None	65	Field Record
	SJ6192	2	02/04/2012	None	1	Field Record
	SJ6192	2	21/09/2012	None	3	Field Record
	SJ622928	7	10/01/2012	None	57	Field Record
	SJ622928	7	04/02/2012	None	64	Field Record
	SJ622928	7	14/01/2012	None	48	Field Record
	SJ622928	7	28/01/2012	None	49	Field Record
	SJ622928	7	03/03/2012	None	21	Field Record
	SJ622928	7	29/02/2012	None	29	Field Record
	SJ622928	7	20/02/2012	None	28	Field Record
	SJ622928	7	18/02/2012	None	48	Field Record
	SJ622928	7	06/02/2012	None	66	Field Record
	SJ622928	7	11/09/2012	None	66	Field Record
	SJ622928	7	28/03/2013	Adult	10 Approx	Field Record
	SJ6192	2	23/04/2012	None	8	Field Record
	SJ622926	5	22/02/2014	Adult	8	Field Record
	SJ622926	5	08/02/2011	None	Present	Field Record

Herring Gull (*Larus argentatus*) (2,3,7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	03/03/2012	None	12	Field Record
Houghton Green Pool	SJ6193	3	26/07/2011	None	1	Field Record
	SJ6192	2	10/01/2012	None	1	Field Record
	SJ622928	7	14/01/2012	None	8	Field Record
	SJ622928	7	18/02/2012	None	10	Field Record

Grey Partridge (*Perdix perdix*) (2,3,7,9,11,12,18,30,44,46,55,56)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Croft	SJ647938	55	10/01/2010	Adult	12	Field Record

	SJ622928	7	14/05/2012	None	2	Field Record
Houghton Green Pool	SJ6193	3	14/09/2011	None	57	Field Record
Houghton Green Pool	SJ6193	3	30/05/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	13/09/2011	None	16	Field Record
Houghton Green Pool	SJ6193	3	10/09/2011	None	16	Field Record
Houghton Green Pool	SJ6193	3	25/09/2011	None	37	Field Record
Arbury	SJ6193	3	03/08/2011	None	16	Field Record
Houghton Green Pool	SJ6193	3	31/07/2011	None	15	Field Record
Houghton Green Pool	SJ6193	3	08/09/2011	None	67	Field Record
	SJ6192	2	02/04/2012	None	2	Field Record
Winwick	SJ6192	2	25/04/2012	None	2	Field Record
	SJ647938	55	10/01/2010	Adult	12	Field Record
Croft	SJ640937	44	14/06/2015	Adult	2	Field Record
	SJ623928	12	04/04/2015	Adult	2	Field Record
	SJ623928	12	30/06/2012	Adult	2	Field Record
	SJ623927	11	10/09/2015	Adult	12	Field Record
	SJ623927	11	15/08/2015	Adult	8	Field Record
	SJ623925	9	22/04/2012	Adult	2	Field Record
Croft, Stubble field	SJ636931	30	13/11/2016	Adult	9	Field Record
Willow / Birch Natural Regeneration, Peel Hall Area - Comp 12	SJ6292	18	28/12/2006	Adult	4	Field Record
	SJ622928	7	20/02/2012	None	2	Field Record
	SJ622928	7	06/02/2012	None	16	Field Record
Croft, Fields W of Lady Lane	SJ640939	46	08/01/2012	Adult	8	Field Record
	SJ6478294202	56	2007	None	7	Field Record
Croft, Lady Lane	SJ640939	46	25/04/2014	Adult	2	Field Record

Fieldfare (*Turdus pilaris*) (2,3,7,17,22,26,32)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Croft, Garden,	SJ637933	32	13/01/2010	Adult	1	Field Record

Wadeson Way						
Houghton Green Pool	SJ6193	3	11/02/2011	None	47	Field Record
Houghton Green Pool	SJ6193	3	02/02/2011	None	30	Field Record
Winwick, Houghton Green Pool	SJ6193	3	17/02/2011	None	35	Field Record
	SJ6192	2	13/12/2012	None	27	Field Record
Culcheth, Glazebury & Croft - CP, Chadwick Avenue	SJ637933	32	05/11/2013	Adult	12 Approx	Field Record
Croft, Fields along Smithy Lane	SJ631932	22	28/03/2013	Adult	6 Approx	Field Record
	SJ622928	7	06/02/2012	None	4	Field Record
Garden, Wadeson Way	SJ637933	32	13/01/2010	Adult	1	Field Record
Culcheth, Glazebury & Croft - CP	SJ628928	17	02/02/2014	Adult	15 Approx	Field Record
Croft, Hop-pole Kennels	SJ634925	26	26/12/2013	Adult	9	Field Record

Lapwing (*Vanellus vanellus*) (2,3,6,7,11,12,13,14,18,37,41)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	20/10/2014	Adult	9	Field Record
	SJ622928	7	14/05/2012	None	6	Field Record
	SJ622928	7	09/05/2012	None	2	Field Record
	SJ622928	7	23/04/2012	None	Present	Field Record
	SJ622928	7	21/04/2012	None	2	Field Record
Houghton Green Pool	SJ6193	3	20/03/2011	None	3	Field Record
Houghton Green Pool	SJ6193	3	30/05/2011	None	2	Field Record
Houghton Green Pool	SJ6193	3	05/04/2011	None	2	Field Record
Houghton Green Pool	SJ6193	3	27/08/2011	None	18	Field Record
Houghton Green Pool	SJ6193	3	03/08/2011	None	1	Field Record
Winwick, Houghton Green Pool	SJ6193	3	17/02/2011	None	70	Field Record

Houghton Green Pool	SJ6193	3	26/07/2011	None	1	Field Record
Winwick	SJ6192	2	25/04/2012	None	2	Field Record
	SJ6192	2	13/12/2012	None	26	Field Record
Croft	SJ639938	41	04/08/2012	Adult	10	Field Record
	SJ622928	7	16/04/2012	None	2	Field Record
	SJ622928	7	04/02/2012	None	17	Field Record
	SJ624927	14	22/04/2012	Adult	1	Field Record
	SJ623928	12	17/03/2012	Adult	2	Field Record
	SJ622927	6	04/04/2015	Adult	2	Field Record
	SJ622928	7	10/01/2012	None	1	Field Record
	SJ622928	7	03/03/2012	None	16	Field Record
	SJ622928	7	29/02/2012	None	102	Field Record
	SJ622928	7	18/02/2012	None	59	Field Record
	SJ622928	7	06/02/2012	None	192	Field Record
	SJ622928	7	02/04/2012	None	1	Field Record
Adjacent field	SJ624924	13	28/03/2013	Adult	2	Field Record
Houghton Green Pool, Delph lane, Warrington	SJ6227792754	6	31/05/2013	Adult	8	Field Record
Near Kenyon Farm	SJ638951	37	02/05/2011	Adult	1	Field Record
	SJ623927	11	02/02/2014	Adult	50 Approx	Field Record
	SJ623927	11	20/01/2014	Adult	18	Field Record
	SJ623927	11	16/01/2014	Adult	27	Field Record
	SJ6292	18	08/02/2011	None	12	Field Record

Mistle Thrush (*Turdus viscivorus*) (2,3,7,19,21,23,24,31,42,46,47,49)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Croft, In tree on Lord St	SJ632936	24	14/11/2014	Adult	1	Field Record
Croft, Lady Lane	SJ640940	47	18/12/2011	Adult	1	Field Record
Radley Plantation	SJ6193	3	22/03/2011	None	2	Field Record
Houghton Green Pool	SJ6193	3	27/08/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	02/02/2011	None	3	Field Record
Houghton Green	SJ6193	3	11/02/2011	None	2	Field Record

Pool						
	SJ6192	2	13/12/2012	None	5	Field Record
Croft, Smithy Brow, garden opposite bus stop	SJ631936	23	04/01/2013	Adult	1	Field Record
	SJ622928	7	29/02/2012	None	1	Field Record
	SJ622928	7	02/04/2012	None	3	Field Record
Croft, Fields W of Lady Lane	SJ640939	46	14/01/2012	Adult	1	Field Record
Croft	SJ639946	42	10/06/2013	Adult	1	Field Record
Croft, N of Mustard Lane	SJ636943	31	18/12/2011	Adult	1	Field Record
Winwick	SJ6192	2	26/04/2012	None	1	Field Record
Croft	SJ629929	19	28/03/2013	Adult	2	Field Record
Croft, Lady Lane	SJ640943	49	28/11/2014	Adult	1	Field Record
	SJ629940	21	02/05/2011	Adult	1	Field Record

Black-headed Gull (*Chroicocephalus ridibundus*) (3,5,7,10,18,41)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Willow / Birch Natural Regeneration, Peel Hall Area - Comp 12	SJ6292	18	28/12/2006	None	35	Field Record
Houghton Green Pool	SJ6193	3	07/09/2011	None	12	Field Record
Houghton Green Pool	SJ6193	3	31/08/2011	None	24	Field Record
Houghton Green Pool	SJ6193	3	31/07/2011	None	5	Field Record
Houghton Green Pool	SJ6193	3	14/09/2011	None	138	Field Record
Houghton Green Pool	SJ6193	3	13/09/2011	None	46	Field Record
Arbury	SJ6193	3	25/09/2011	None	260	Field Record
Houghton Green Pool	SJ6193	3	17/09/2011	None	214	Field Record
Houghton Green Pool	SJ6193	3	09/04/2011	None	61	Field Record
Houghton Green Pool	SJ6193	3	19/08/2011	None	30	Field Record
Arbury	SJ6193	3	03/08/2011	None	150	Field Record
Croft	SJ639938	41	04/08/2012	Adult	Several	Field Record
	SJ623926	10	28/03/2013	Adult	20 Approx	Field Record

SJ622928	7	22/02/2014	Adult	C. 60	Field Record
SJ622926	5	08/02/2011	None	150	Field Record

Wheatear (*Oenanthe oenanthe*) (7,11)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	21/04/2012	None	2	Field Record
	SJ623927	11	19/04/2013	Adult Male	1	Field Record

Stock Dove (*Columba oenas*) (2,3,7,18)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Willow / Birch Natural Regeneration, Peel Hall Area - Comp 12	SJ6292	18	28/12/2006	None	7	Field Record
	SJ622928	7	09/05/2012	None	2	Field Record
	SJ622928	7	21/04/2012	None	5	Field Record
Houghton Green Pool	SJ6193	3	11/02/2011	None	4	Field Record
Radley Plantation	SJ6193	3	29/08/2011	None	8	Field Record
Houghton Green Pool	SJ6193	3	07/09/2011	None	5	Field Record
Arbury	SJ6193	3	03/08/2011	None	4	Field Record
Houghton Green Pool	SJ6193	3	31/07/2011	None	4	Field Record
	SJ6192	2	02/04/2012	None	Present	Field Record
	SJ6192	2	22/09/2012	None	3	Field Record
	SJ622928	7	28/03/2012	None	1	Field Record

Slavonian Grebe (*Podiceps auritus*) (7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Flash	SJ622928	7	13/02/2006	None	1	Field Record

Pink-footed Goose (*Anser brachyrhynchus*) (2)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ6192	2	13/12/2012	None	120	Field Record

Snipe (*Gallinago gallinago*) (46)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Croft, By road on small area of wet ground in the snow	SJ640939	46	09/01/2010	Adult	1	Field Record

Shoveler (*Anas clypeata*) (7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	06/02/2012	None	5	Field Record

Yellow Wagtail (*Motacilla flava*) (11)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ623927	11	19/04/2013	Adult	1	Field Record

Redwing (*Turdus iliacus*) (1,3,7,17,22,25,38,51)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Croft, Horse paddocks on New Lane	SJ633931	25	28/12/2014	Adult	Abundant	Field Record
Houghton Green Pool	SJ6193	3	12/02/2011	None	8	Field Record
Croft, Cross Lane	SJ642932	51	02/02/2013	Adult	Small Flock	Field Record
Croft, Fields along Smithy Lane	SJ631932	22	28/03/2013	Adult	6 Approx	Field Record
	SJ622928	7	29/02/2012	None	3	Field Record
Croft, Field next to Lady Lane	SJ639933	38	27/01/2014	Adult	30 At Least	Field Record
Croft	SJ628928	17	20/01/2014	Adult	6	Field Record
Culcheth, Glazebury & Croft - CP	SJ628928	17	02/02/2014	Adult	40 Approx	Field Record
	SJ617929	1	24/02/2011	None	2	Field Record

Pochard (*Aythya ferina*) (3,5,7,11)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	02/05/2012	None	2	Field Record
Houghton Green Pool	SJ6193	3	08/09/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	14/09/2011	None	2	Field Record

Houghton Green Pool	SJ6193	3	13/09/2011	None	1	Field Record
	SJ622928	7	04/02/2012	None	9	Field Record
	SJ622928	7	14/01/2012	None	5	Field Record
	SJ623927	11	06/01/2012	None	6	Field Record
	SJ622928	7	09/05/2012	None	4	Field Record
	SJ622928	7	29/02/2012	None	2	Field Record
	SJ622928	7	18/02/2012	None	9	Field Record
	SJ622928	7	06/02/2012	None	13	Field Record
	SJ622926	5	22/02/2014	Adult Male	1	Field Record
	SJ622926	5	08/02/2011	None	Present	Field Record

Yellowhammer (*Emberiza citrinella*) (2,3,7,27)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Culcheth, Glazebury & Croft - CP, Kenyon	SJ634954	27	15/07/2012	Adult Male	1	Field Record
Houghton Green Pool	SJ6193	3	31/07/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	30/05/2011	None	1	Field Record
Winwick	SJ6192	2	26/04/2012	None	4	Field Record
	SJ622928	7	02/04/2012	None	6	Field Record
Winwick	SJ6192	2	25/04/2012	None	4	Field Record

Peregrine (*Falco peregrinus*) (18)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Willow / Birch Natural Regeneration, Peel Hall Area - Comp 12	SJ6292	18	28/12/2006	Adult Male	1	Field Record

Tree Sparrow (*Passer montanus*) (2,3,7,47,54)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Pool	SJ6193	3	30/05/2011	None	2	Field Record
Winwick	SJ6192	2	27/04/2012	None	3	Field Record
Winwick	SJ6192	2	26/04/2012	None	7	Field Record

Winwick	SJ6192	2	25/04/2012	None	6	Field Record
	SJ6192	2	23/04/2012	None	4	Field Record
Croft, Lady Lane	SJ640940	47	17/04/2016	Adult	Several	Field Record
	SJ622928	7	02/04/2012	None	10	Field Record
	SJ6467693794	54	2007	None	Present	Field Record

Ringed Plover (*Charadrius hiaticula*) (3,7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Pool	SJ6193	3	26/07/2011	None	1	Field Record
	SJ622928	7	03/03/2012	None	2	Field Record
	SJ622928	7	25/02/2012	None	2	Field Record

Starling (*Sturnus vulgaris*) (2,3,7,16,18)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Pool	SJ6193	3	30/05/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	11/02/2011	None	90	Field Record
Houghton Green Pool	SJ6193	3	27/08/2011	None	3	Field Record
Houghton Green Pool	SJ6193	3	02/02/2011	None	65	Field Record
Houghton Green Pool	SJ6193	3	22/09/2011	None	140	Field Record
Houghton Green Pool	SJ6193	3	08/09/2011	None	Present	Field Record
Arbury	SJ6193	3	25/09/2011	None	30	Field Record
	SJ6192	2	22/09/2012	None	180	Field Record
	SJ6192	2	02/04/2012	None	2	Field Record
	SJ6192	2	11/01/2012	None	17	Field Record
	SJ6192	2	21/09/2012	None	32	Field Record
	SJ6192	2	24/04/2012	None	2	Field Record
	SJ622928	7	29/02/2012	None	20	Field Record
	SJ622928	7	06/02/2012	None	70	Field Record
	SJ622928	7	02/04/2012	None	5	Field Record
	SJ6265193584	16	2007	None	45	Field Record
	SJ6292	18	08/02/2011	None	30	Field Record

Ruddy Duck (*Oxyura jamaicensis*) (3,7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Pool	SJ6193	3	04/06/2011	None	1	Field Record
	SJ622928	7	29/02/2012	None	1	Field Record

Whitethroat (*Sylvia communis*) (3,29,34)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Pool	SJ6193	3	30/05/2011	None	3	Field Record
Arbury	SJ6193	3	03/08/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	31/07/2011	None	3	Field Record
Houghton Green Pool	SJ6193	3	29/07/2011	None	4	Field Record
"Battlefield"	SJ635938	29	29/04/2011	Adult Male	Several	Field Record
Battlefield	SJ637935	34	04/05/2009	Adult Male	Present	Auditory Record
Battlefield	SJ637935	34	04/05/2009	Adult Male	1	Auditory Record

Song Thrush (*Turdus philomelos*) (2,3,7,22,35,38)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Pool	SJ6193	3	30/05/2011	None	3	Field Record
Houghton Green Pool	SJ6193	3	31/07/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	12/02/2011	None	3	Field Record
Radley Plantation	SJ6193	3	05/06/2011	None	4	Field Record
	SJ6192	2	11/01/2012	None	3	Field Record
	SJ6192	2	13/12/2012	None	2	Field Record
	SJ6192	2	24/04/2012	None	1	Field Record
Croft, Fields along Smithy Lane	SJ631932	22	28/03/2013	Adult	3	Field Record
	SJ622928	7	29/02/2012	None	2	Field Record
	SJ622928	7	02/04/2012	None	1	Field Record
Winwick	SJ6192	2	26/04/2012	None	1	Field Record
Croft, Wadeson Way	SJ638933	35	24/01/2010	Adult	1	Field Record

Croft, Lady Lane	SJ639933	38	01/07/2014	Adult Male	1	Auditory Record
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Tufted Duck (*Aythya fuligula*) (3,5,7,10,11,18)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Houghton Green Pool	SJ6193	3	17/09/2011	None	32	Field Record
Houghton Green Pool	SJ6193	3	31/08/2011	None	37	Field Record
Houghton Green Pool	SJ6193	3	27/08/2011	None	31	Field Record
Houghton Green Pool	SJ6193	3	07/09/2011	None	36	Field Record
Houghton Green Pool	SJ6193	3	12/02/2011	None	45	Field Record
Houghton Green Pool	SJ6193	3	19/08/2011	None	25	Field Record
Houghton Green Pool	SJ6193	3	29/07/2011	None	32	Field Record
Houghton Green Pool	SJ6193	3	26/07/2011	None	14	Field Record
	SJ622928	7	11/09/2012	None	24	Field Record
	SJ622928	7	10/01/2012	None	28	Field Record
	SJ622928	7	04/02/2012	None	2	Field Record
	SJ622928	7	28/01/2012	None	16	Field Record
	SJ622928	7	14/01/2012	None	21	Field Record
	SJ623926	10	28/03/2013	Adult	4 Approx	Field Record
	SJ623927	11	06/01/2012	None	23	Field Record
Willow / Birch Natural Regeneration, Peel Hall Area - Comp 12	SJ6292	18	28/12/2006	None	10	Field Record
	SJ622928	7	03/03/2012	None	17	Field Record
	SJ622928	7	29/02/2012	None	10	Field Record
	SJ622928	7	18/02/2012	None	31	Field Record
	SJ622928	7	17/03/2012	None	13	Field Record
	SJ622926	5	22/02/2014	Adult Male	1	Field Record
	SJ622926	5	08/02/2011	None	30	Field Record

Teal (*Anas crecca*) (3,7,18)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
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Houghton Green Pool	SJ6193	3	09/09/2011	None	2	Field Record
Houghton Green Pool	SJ6193	3	02/02/2011	None	15	Field Record
Houghton Green Pool	SJ6193	3	31/08/2011	None	2	Field Record
Houghton Green Pool	SJ6193	3	27/08/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	14/09/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	07/09/2011	None	2	Field Record
	SJ622928	7	04/02/2012	None	3	Field Record
Burtonwood & Winwick - CP	SJ6292	18	19/01/2006	None	65	Field Record
	SJ622928	7	06/02/2012	None	3	Field Record

Redshank (*Tringa totanus*) (2,3,7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	21/04/2012	None	1	Field Record
Houghton Green Pool	SJ6193	3	20/03/2011	None	1	Field Record
	SJ6192	2	21/09/2012	None	1	Field Record
	SJ622928	7	03/03/2012	None	1	Field Record
	SJ622928	7	11/04/2012	None	2	Field Record
	SJ622928	7	28/03/2013	Adult	2	Field Record
	SJ622928	7	04/04/2012	None	2	Field Record
	SJ622928	7	13/02/2006	None	5	Field Record

Skylark (*Alauda arvensis*) (2,3,4,7,8,9,20,50)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	23/04/2012	None	1	Field Record
Houghton Green Pool	SJ6193	3	20/03/2011	None	3	Field Record
Houghton Green Pool	SJ6193	3	30/05/2011	None	1	Field Record
Houghton Green Pool	SJ6193	3	10/09/2011	None	5	Field Record
Arbury	SJ6193	3	05/06/2011	None	1	Field Record
	SJ6192	2	02/04/2012	None	2	Field Record

	SJ6192	2	21/09/2012	None	11	Field Record
	SJ6192	2	26/06/2012	None	6	Field Record
Winwick	SJ6192	2	26/04/2012	None	5	Field Record
Culcheth, Glazebury & Croft - CP, Over field to NE of parish church	SJ641937	50	18/03/2011	Adult	1	Field Record
	SJ623923	8	08/02/2011	None	3	Field Record
	SJ622928	7	26/06/2012	None	4	Field Record
Croft	SJ629939	20	16/03/2015	Adult Male	1	Auditory Record
	SJ6192	2	23/04/2012	None	5	Field Record
Winwick	SJ6192	2	25/04/2012	None	3	Field Record
Over field to S	SJ623925	9	23/03/2011	Adult	1	Field Record
Over field to NE of parish church	SJ641937	50	18/03/2011	Adult	1	Field Record
Warrington	SJ6194	4	27/05/2009	None	Present	Field Record

Oystercatcher (*Haematopus ostralegus*) (3,6,7,11,12,45)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	03/03/2012	None	2	Field Record
Houghton Green Pool	SJ6193	3	19/03/2011	None	1	Field Record
Winwick, Houghton Green Pool	SJ6193	3	15/02/2011	None	1	Field Record
Croft, Off Lady Lane	SJ640938	45	15/03/2016	Adult	2	Field Record
	SJ622928	7	20/02/2012	None	1	Field Record
	SJ622928	7	26/06/2012	None	1	Field Record
	SJ622928	7	11/04/2012	None	4	Field Record
	SJ623928	12	17/03/2012	Adult	2	Field Record
	SJ622927	6	04/04/2015	Adult	1	Field Record
	SJ623927	11	28/03/2013	Adult	2	Field Record
	SJ622928	7	11/09/2012	None	1	Field Record
	SJ622928	7	12/04/2012	None	2	Field Record
	SJ622928	7	29/02/2012	None	2	Field Record
	SJ622928	7	25/02/2012	None	1	Field Record
	SJ622928	7	17/03/2012	None	2	Field Record

SJ622928	7	28/03/2012	None	2	Field Record
SJ622928	7	05/03/2012	None	2	Field Record
SJ622928	7	04/04/2012	None	2	Field Record
SJ622928	7	02/04/2012	None	2	Field Record
SJ623927	11	23/03/2011	Adult	1	Field Record
SJ623928	12	22/02/2014	Adult	2	Field Record

Swallow (*Hirundo rustica*) (2,3,7,19,39,41,43,44,48)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	19/05/2012	None	30	Field Record
	SJ622928	7	03/05/2012	None	60	Field Record
	SJ622928	7	02/05/2012	None	20	Field Record
	SJ622928	7	25/04/2012	None	70	Field Record
	SJ622928	7	21/04/2012	None	9	Field Record
Houghton Green Pool	SJ6193	3	27/08/2011	None	7	Field Record
Houghton Green Pool	SJ6193	3	30/05/2011	None	15	Field Record
Houghton Green Pool	SJ6193	3	28/08/2011	None	12	Field Record
Houghton Green Pool	SJ6193	3	08/09/2011	None	Present	Field Record
Houghton Green Pool	SJ6193	3	07/09/2011	None	30	Field Record
Radley Plantation	SJ6193	3	29/08/2011	None	29	Field Record
Houghton Green Pool	SJ6193	3	19/08/2011	None	20	Field Record
Houghton Green Pool	SJ6193	3	09/09/2011	None	12	Field Record
Houghton Green Pool	SJ6193	3	14/09/2011	None	4	Field Record
Houghton Green Pool	SJ6193	3	11/09/2011	None	60	Field Record
Houghton Green Pool	SJ6193	3	13/09/2011	None	11	Field Record
Houghton Green Pool	SJ6193	3	31/08/2011	None	22	Field Record
Houghton Green Pool	SJ6193	3	31/07/2011	None	51	Field Record
	SJ6192	2	21/09/2012	None	145	Field Record
	SJ6192	2	16/08/2012	None	10	Field Record

	SJ6192	2	22/09/2012	None	Present	Field Record
	SJ6192	2	26/06/2012	None	10	Field Record
	SJ6192	2	24/04/2012	None	Present	Field Record
Croft, Lady Lane	SJ639936	39	18/04/2013	Adult	1	Field Record
Croft, Fields by Lady Lane	SJ640941	48	29/04/2013	Adult	Frequent	Field Record
Croft	SJ629929	19	22/04/2012	Adult	1	Field Record
	SJ622928	7	23/04/2012	None	6	Field Record
	SJ622928	7	16/04/2012	None	55	Field Record
	SJ622928	7	12/04/2012	None	3	Field Record
	SJ622928	7	11/09/2012	None	34	Field Record
Croft	SJ639938	41	04/08/2012	Adult	5	Field Record
	SJ6192	2	23/04/2012	None	1	Field Record
Eaves Farm	SJ640933	43	18/09/2011	Adult	1	Field Record
Croft, Lady Lane	SJ640937	44	25/04/2014	Adult	3	Field Record
	SJ629929	19	16/07/2011	Adult	1	Field Record

Reed Bunting (*Emberiza schoeniclus*) (2,3,7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	09/05/2012	None	2	Field Record
Houghton Green Pool	SJ6193	3	30/05/2011	None	2	Field Record
Arbury	SJ6193	3	05/06/2011	None	3	Field Record
Houghton Green Pool	SJ6193	3	14/09/2011	None	1	Field Record
Winwick	SJ6192	2	25/04/2012	None	1	Field Record
	SJ6192	2	23/04/2012	None	4	Field Record
Winwick	SJ6192	2	27/04/2012	None	1	Field Record
Winwick	SJ6192	2	26/04/2012	None	2	Field Record
	SJ6192	2	26/06/2012	None	4	Field Record
	SJ6192	2	24/04/2012	None	1	Field Record
	SJ622928	7	26/06/2012	None	3	Field Record

Sand Martin (*Riparia riparia*) (3,6,7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	19/05/2012	None	18	Field Record

	SJ622928	7	14/05/2012	None	34	Field Record
	SJ622928	7	03/05/2012	None	30	Field Record
	SJ622928	7	02/05/2012	None	18	Field Record
	SJ622928	7	21/04/2012	None	6	Field Record
Houghton Green Pool	SJ6193	3	05/04/2011	None	30	Field Record
Houghton Green Pool	SJ6193	3	07/09/2011	None	5	Field Record
	SJ622928	7	25/04/2012	None	35	Field Record
	SJ622928	7	30/06/2012	Adult	Several	Field Record
	SJ622928	7	12/04/2012	None	8	Field Record
	SJ622928	7	11/04/2012	None	30	Field Record
	SJ622928	7	04/04/2012	None	4	Field Record
	SJ622928	7	15/04/2012	None	4	Field Record
Houghton Green PS, Warrington	SJ622927	6	11/05/2010	None	6+	Field Record

Willow Warbler (*Phylloscopus trochilus*) (2,3,7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	09/05/2012	None	1	Field Record
Houghton Green Pool	SJ6193	3	30/05/2011	None	2	Field Record
Arbury	SJ6193	3	03/08/2011	None	1	Field Record
Winwick	SJ6192	2	26/04/2012	None	1	Field Record
	SJ6192	2	24/04/2012	None	2	Field Record

Swift (*Apus apus*) (2,3,6,7,28)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ622928	7	14/05/2012	None	80	Field Record
	SJ622928	7	02/05/2012	None	50	Field Record
	SJ622928	7	25/04/2012	None	Present	Field Record
Houghton Green Pool	SJ6193	3	30/05/2011	None	141	Field Record
Houghton Green Pool	SJ6193	3	19/08/2011	None	2	Field Record
Houghton Green Pool	SJ6193	3	03/08/2011	None	20	Field Record
Houghton Green Pool	SJ6193	3	31/07/2011	None	64	Field Record

	SJ6192	2	26/06/2012	None	40	Field Record
	SJ622927	6	08/06/2009	Adult	30	Field Record
	SJ622928	7	03/05/2012	None	150	Field Record
	SJ622928	7	19/05/2012	None	95	Field Record
Over Eaves Brow Rd	SJ635933	28	01/06/2011	Adult	3	Field Record

FLOWERING PLANT

Map



Indian Balsam (*Impatiens glandulifera*) (1,2,5)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
At North end under wires	SJ636935	5	03/10/2012	Flowering	Small Patch	Field Record
Culcheth, Glazebury & Croft - CP, M6 slip road embankment	SJ626927	1	29/09/2012	Flowering	Occasional	Field Record
M6 bridge embankment	SJ627927	2	01/08/2009	Flowering	Abundant	Field Record

Large-flowered Hemp-nettle (*Galeopsis speciosa*) (6)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Culcheth, Glazebury & Croft - CP, Battlefied	SJ637935	6	17/08/2013	Flowering	Frequent	Field Record

Montbretia (*Crocsmia pottsii* x *aurea* = *C. x crocosmiiflora*) (7)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Culcheth Linear Park	SJ6494	7	24/01/2009	None	Present	Field Record

Himalayan Cotoneaster (*Cotoneaster simonsii*) (3,4)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ635935	4	19/07/2010	Fruiting	Rare	Field Record
Garden, Wadeson Way	SJ635933	3	13/06/2009	Flowering	Frequent	Field Record

Canadian Goldenrod (*Solidago canadensis*) (4)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ635935	4	19/07/2010	None	Occasional	Field Record
	SJ635935	4	19/07/2010	Flowering	Locally Dominant	Field Record

Heath Dog-violet (*Viola canina*) (5)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ636935	5	26/04/2009	Flowering	Several Clumps	Field Record
	SJ636935	5	26/04/2009	Flowering	Several Clumps	Field Record

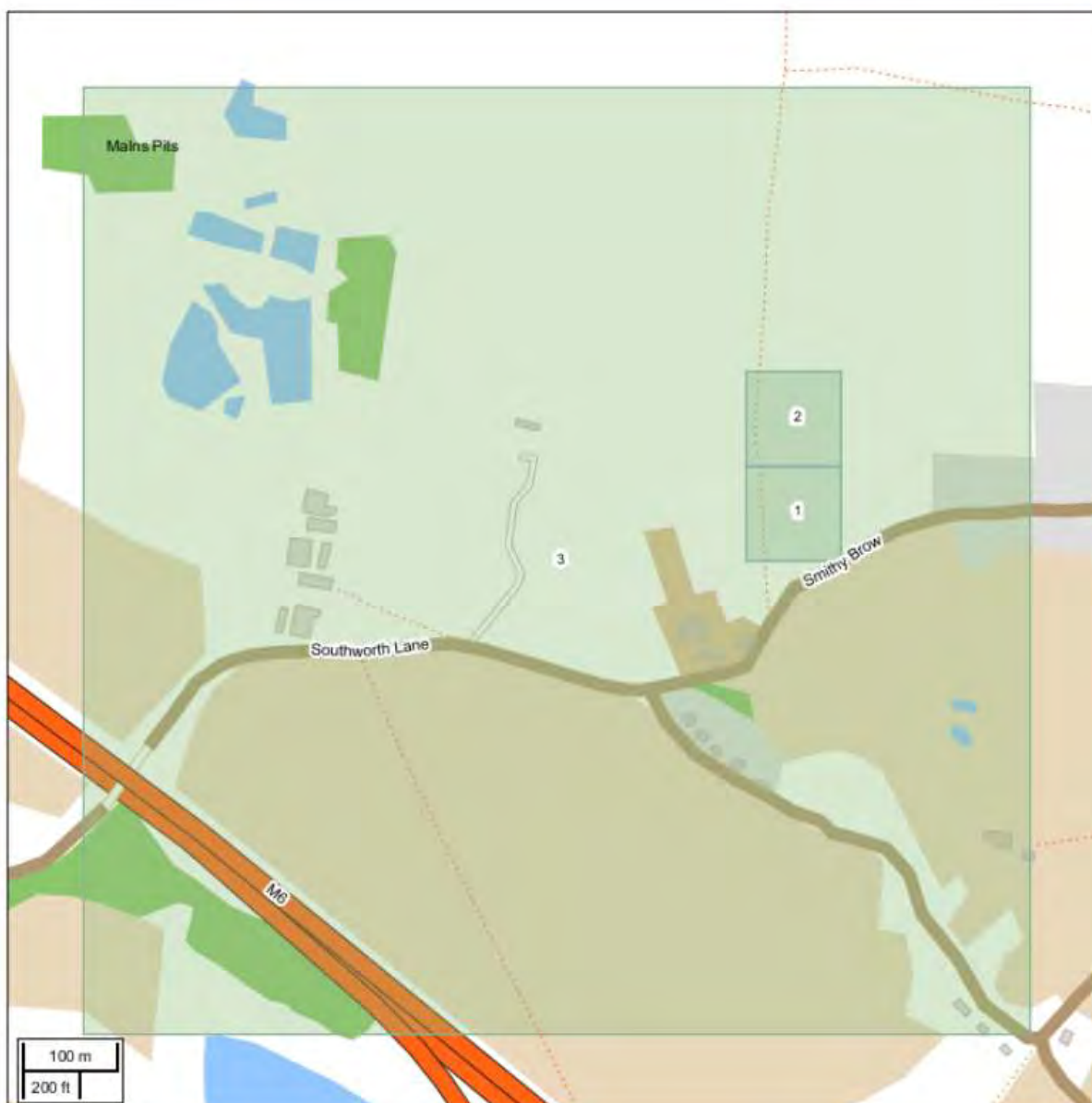
Wall Cotoneaster (*Cotoneaster horizontalis*) (3)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Croft, Garden, Wadeson Way	SJ635933	3	13/06/2009	Flowering	1	Field Record

INSECT - BUTTERFLY

Map



Large Tortoiseshell (*Nymphalis polychloros*) (1,2)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
	SJ6273693589	1	2007	None	Present	Field Record
	SJ6272693669	2	2007	None	Present	Field Record

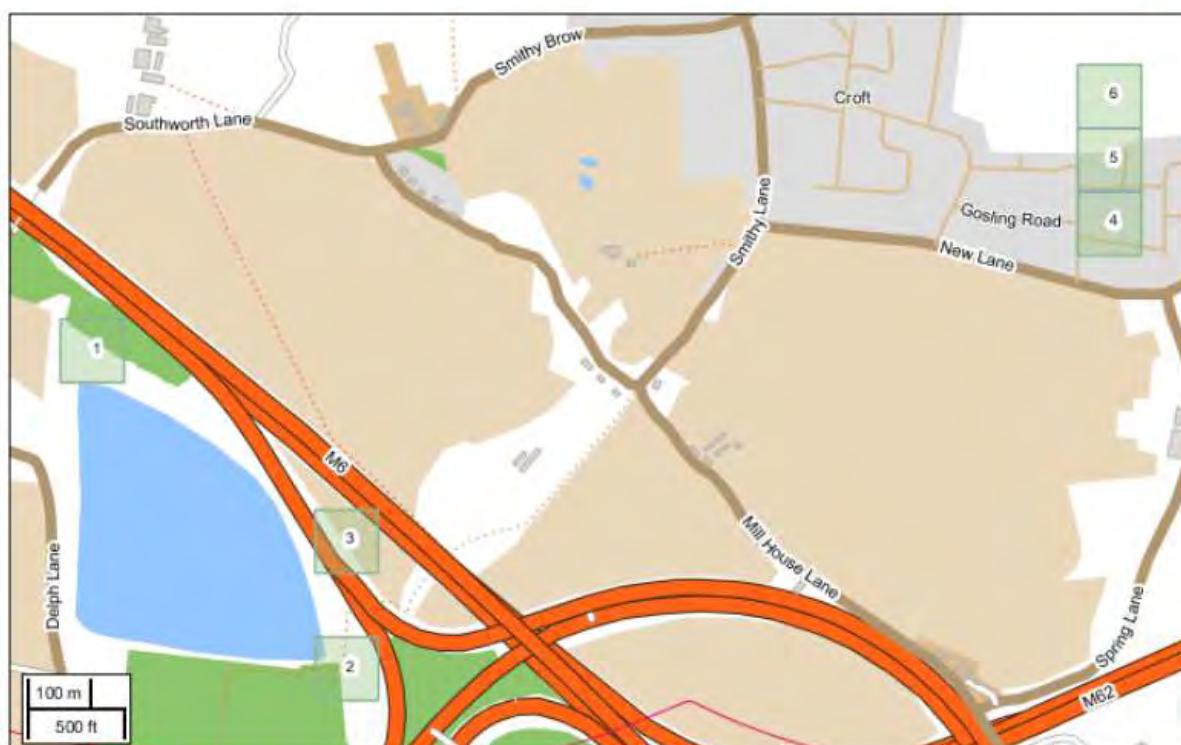
Ringlet (*Aphantopus hyperantus*) (3)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Southworth Hall, Croft	SJ6293	3	26/06/2012	None	1	Field Record

INSECT - MOTH

Map



Cinnabar (*Tyria jacobaeae*) (1,2,3,4,6)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Croft, Battlefield	SJ637934	6	09/08/2014	Larvae	Present	Field Record
Croft, Garden, Wadeson Way	SJ637932	4	11/06/2015	Adult	1	Field Record
	SJ625927	3	16/07/2011	Larvae	Frequent	Field Record
Edge of Houghton Green Pool	SJ621930	1	03/08/2012	None	Present	Field Record
	SJ625925	2	15/08/2015	Larvae	1	Field Record

Dot Moth (*Melanchra persicariae*) (4,5)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Croft, Wadeson Way	SJ637932	4	03/07/2014	Adult	1	Field Record
Croft, Wadeson Way, in house	SJ637933	5	09/07/2011	Adult	1	Field Record

INSECT - TRUE FLY (DIPTERA)

Map



Keroplatus testaceus (Keroplatus testaceus) (1,2)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Croft, Wadeson Way	SJ637932	1	18/08/2015	Adult Male	1	Field Record
Croft, Wadeson Way - garden	SJ637933	2	01/09/2012	Adult Male	1	Field Record

REPTILE

Map



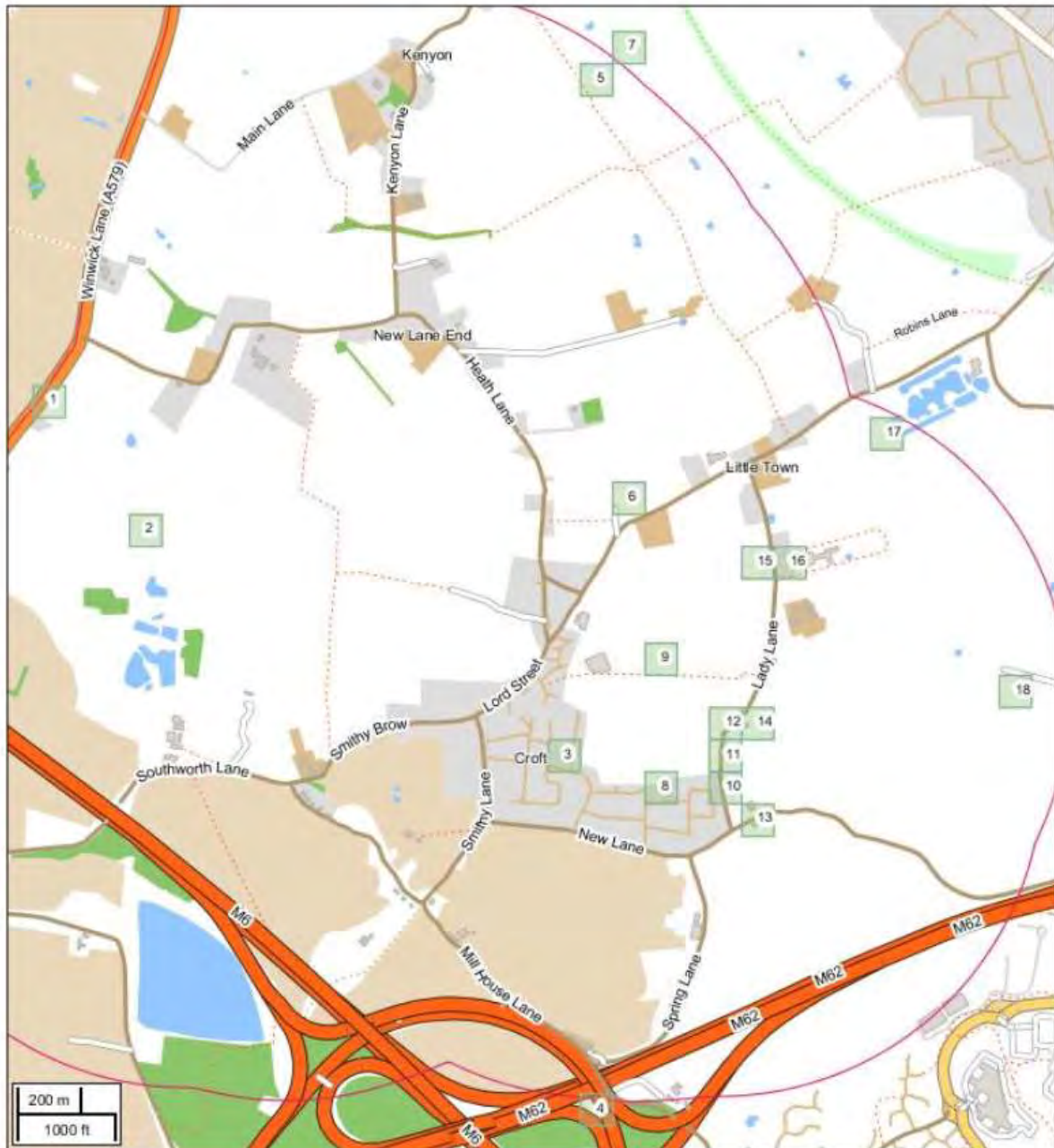
Common Lizard (*Zootoca vivipara*) (1,2)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
M6 Junction 21a	SJ619933	1	14/05/2008-26/09/2008	None	Present	Field Record
M62 j11-12 (westbound)	SJ640930	2	14/05/2008-26/09/2008	None	1	Field Record

TERRESTRIAL MAMMAL

Map



Brown Hare (*Lepus europaeus*) (5,7,9,12,15,18)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Culcheth, Glazebury & Croft - CP, Kenyon	SJ636956	7	15/07/2012	Adult	2	Field Record
Culcheth, Glazebury & Croft - CP	SJ6351895532	5	2007	None	1	Field Record
Croft, Risley	SJ648936	18	09/03/2006	Adult	1	Field Record
Culcheth, Glazebury & Croft - CP, Field opposite Croft Church	SJ639935	12	08/04/2011	Adult	1	Field Record
Croft, Lady Lane	SJ640940	15	01/07/2014	Juvenile	6	Field Record
	SJ637937	9	29/03/2009	Adult	1	Field Record

Eurasian Badger (*Meles meles*) (1,2,4)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Culcheth, Glazebury & Croft - CP, Off A579 (In hedge line that borders the Quarry)	SJ621941	2	10/04/2013	None	Present	Badger Sett (Active)
A579	SJ61829455	1	10/06/2015	None	1	Dead On Road
slip road off M62 east to M6 South at Junction 10	SJ63549238	4	30/04/2015	None	1	Dead On Road

European Water Vole (*Arvicola amphibius*) (17)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Partridge Lakes	SJ644944	17	22/09/2008	None	Present	Field Record
Partridge Lakes	SJ644944	17	21/09/2009	None	Present	Burrow, Nesthole

Eastern Grey Squirrel (*Sciurus carolinensis*) (6)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Croft, Mustard Lane	SJ636942	6	03/12/2013	Adult	1	Dead On Road

Pipistrelle (*Pipistrellus pipistrellus*) (3)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
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5 betsyfield drive croft	SJ63479343	3	14/06/2011	None	1	Aural Bat Detector
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West European Hedgehog (*Erinaceus europaeus*) (8, 10, 11, 13, 14, 16)

RECORD

Location	Grid ref.	Grid ID	Date	Sex/Stage	Abundance	Record type
Croft, Lady Lane, by steps	SJ639934	11	04/08/2012	Adult	1	Dead On Road
Croft, Near HMS Gosling	SJ641940	16	04/08/2012	Juvenile	1	Dead On Road
Croft, Lady Lane	SJ639933	10	17/02/2012	Dead Adult	1	Field Record
Culcheth, Glazebury & Croft - CP, Wadeson Way, Garden	SJ637933	8	23/09/2011	Juvenile Dead	1	Field Record
Croft, Near Croft church	SJ640935	14	18/07/2009	Adult	1	Dead On Road
Croft	SJ640932	13	06/04/2014	Adult	1	Dead On Road

Local Wildlife Site Boundaries

Site Boundary Report

Local Sites

Local Wildlife Sites

Croft Grasslands / WA006

Map



Site name	Croft Grasslands
Site code	WA006
Authority	Warrington Local Wildlife Sites Partnership
Site centroid	SJ6362693488

Houghton Green Pool / WA013

Map



Site name	Houghton Green Pool
Site code	WA013
Authority	Warrington Local Wildlife Sites Partnership
Site centroid	SJ6221392911

APPENDIX C: Target Notes

Target Notes Report

Land North West of Croft

Target Note 01

A mature species poor hedgerow over a dry ditch.

<i>Corylus avellana</i>	Hazel	A
<i>Crataegus monogyna</i>	Hawthorn	A
<i>Acer pseudoplatanus</i>	Sycamore	F
<i>Chamerion angustifolium</i>	Rosebay Willowherb	F
<i>Prunus spinosa</i>	Blackthorn	F
<i>Rubus fruticosus</i> agg.	Bramble	F
<i>Urtica dioica</i>	Nettle	F
<i>Dryopteris filix-mas</i>	Male-fern	O
<i>Hedera helix</i>	Ivy	O
<i>Ilex aquifolium</i>	Holly	O
<i>Salix caprea</i>	Goat Willow	O
<i>Silene dioica</i>	Red Campion	O
<i>Rosa arvensis</i>	Field Rose	R
<i>Rosa canina</i> agg.	Dog Rose	R

Target Note 02

An arable buffer strip of improved grassland which runs around the majority of the site.

<i>Lolium perenne</i>	Perennial Ryegrass	D
<i>Anthriscus sylvestris</i>	Cow Parsley	F
<i>Plantago lanceolata</i>	Ribwort Plantain	F
<i>Cirsium arvense</i>	Creeping Thistle	O
<i>Rubus fruticosus</i> agg.	Bramble	O
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O
<i>Taraxacum officinale</i> agg.	Dandelion	O
<i>Urtica dioica</i>	Nettle	O

Target Note 03

A small area of broadleaved woodland adjacent to the General Elliot pub.

<i>Acer pseudoplatanus</i>	Sycamore	D
<i>Quercus robur</i>	English Oak	A
<i>Rubus fruticosus</i> agg.	Bramble	A
<i>Crataegus monogyna</i>	Hawthorn	F
<i>Ilex aquifolium</i>	Holly	O
<i>Poa trivialis</i>	Rough Meadow-grass	O
<i>Rhododendron ponticum</i>	Rhododendron	O
<i>Salix species</i>	Willow species	O
<i>Dryopteris filix-mas</i>	Male-fern	R
<i>Juncus effusus</i>	Soft Rush	R
<i>Silene dioica</i>	Red Campion	R

Target Note 04

Species poor intact hedgerow which borders the site and is dominated by hawthorn.

<i>Crataegus monogyna</i>	Hawthorn	D
<i>Aegopodium podagraria</i>	Ground-elder	F
<i>Calystegia</i> sp.	Bindweed species	F
<i>Epilobium</i> sp.	Willowherb species	F
<i>Rubus fruticosus</i> agg.	Bramble	F
<i>Cornus sanguinea</i>	Dogwood	O
<i>Ilex aquifolium</i>	Holly	O
<i>Lamium galeobdolon argentatum</i>	Variegated Archangel	O
<i>Silene dioica</i>	Red Campion	O
<i>Fraxinus excelsior</i>	Ash	R

Target Note 05

A hedgeline which runs along the rear of residential gardens and areas of broad leaved semi natural woodland.

<i>Corylus avellana</i>	Hazel	A
<i>Quercus robur</i>	English Oak	A
<i>Rubus fruticosus</i> agg.	Bramble	F
<i>Salix caprea</i>	Goat Willow	F
<i>Salix fragilis</i>	Crack Willow	F
<i>Urtica dioica</i>	Nettle	F
<i>Prunus laurocerasus</i>	Cherry Laurel	O
<i>Sambucus nigra</i>	Elder	O
<i>Buddleja davidii</i>	Buddleia	R
<i>Digitalis purpurea</i>	Foxglove	R
<i>Pinus</i> sp.	Pine species	R
<i>Syringa vulgaris</i>	Lilac	R

Target Note 06

Hawthorn dominated species poor hedgerow

<i>Crataegus monogyna</i>	Hawthorn	D
<i>Rubus fruticosus</i> agg.	Bramble	O
<i>Salix fragilis</i>	Crack Willow	R
<i>Sambucus nigra</i>	Elder	R

Target Note 07

An area of marshy grassland with tall ruderal vegetation and trees next to a large pond.

<i>Dactylis glomerata</i>	Cock's-foot	A
<i>Lolium perenne</i>	Perennial Ryegrass	A
<i>Phalaris arundinacea</i>	Reed Canary-grass	A
<i>Urtica dioica</i>	Nettle	A
<i>Arrhenatherum elatius</i>	False Oat-grass	F
<i>Cirsium arvense</i>	Creeping Thistle	F
<i>Juncus effusus</i>	Soft Rush	F
<i>Rubus fruticosus</i> agg.	Bramble	F
<i>Rumex obtusifolius</i>	Broad-leaved Dock	F
<i>Brassica</i> sp.	Mustard/Cress species	O
<i>Heracleum sphondylium</i>	Hogweed	O
<i>Iris pseudacorus</i>	Yellow Flag Iris	O
<i>Matricaria chamomilla</i>	Scented Mayweed	O
<i>Persicaria bistorta</i>	Bistort	O
<i>Salix caprea</i>	Goat Willow	O
<i>Sonchus asper</i>	Prickly Sow-thistle	O
<i>Trifolium pratense</i>	Red Clover	O
<i>Digitalis purpurea</i>	Foxglove	R

Target Note 08

Sections of species poor hawthorn hedgerow.

<i>Crataegus monogyna</i>	Hawthorn	D
<i>Galium aparine</i>	Cleavers	O
<i>Rubus fruticosus</i> agg.	Bramble	O
<i>Urtica dioica</i>	Nettle	O
<i>Sambucus nigra</i>	Elder	R

Target Note 09

A line of tall ruderal vegetation above a wet flowing ditch.

<i>Arrhenatherum elatius</i>	False Oat-grass	A
<i>Phalaris arundinacea</i>	Reed Canary-grass	A
<i>Urtica dioica</i>	Nettle	A
<i>Dactylis glomerata</i>	Cock's-foot	F
<i>Dryopteris filix-mas</i>	Male-fern	F
<i>Impatiens glandulifera</i>	Himalayan Balsam	F
<i>Rubus fruticosus</i> agg.	Bramble	F

<i>Digitalis purpurea</i>	Foxglove	O
<i>Heracleum sphondylium</i>	Hogweed	O
<i>Silene dioica</i>	Red Campion	O

Target Note 10

A hedgerow and trees located adjacent to and above a running brook.

<i>Impatiens glandulifera</i>	Himalayan Balsam	A
<i>Salix fragilis</i>	Crack Willow	A
<i>Acer pseudoplatanus</i>	Sycamore	F
<i>Urtica dioica</i>	Nettle	F
<i>Epilobium hirsutum</i>	Great Willowherb	O
<i>Heracleum sphondylium</i>	Hogweed	O
<i>Rubus fruticosus agg.</i>	Bramble	O

Target Note 11

A mature hedge with scattered trees.

<i>Crataegus monogyna</i>	Hawthorn	D
<i>Quercus robur</i>	English Oak	F
<i>Sambucus nigra</i>	Elder	F
<i>Acer pseudoplatanus</i>	Sycamore	O

Target Note 12

A small area of woodland with area that looks like it may hold water in wetter months.

<i>Acer pseudoplatanus</i>	Sycamore	D
<i>Urtica dioica</i>	Nettle	A
<i>Quercus robur</i>	English Oak	O
<i>Salix caprea</i>	Goat Willow	O
<i>Salix fragilis</i>	Crack Willow	O

Target Note 13

Ornamental hedge containing mainly laurel

Target Note 14

Arable field in rape production

<i>Brassica napus</i>	Rape	D
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Target Note 15

Arable field in rape production.

<i>Brassica napus</i>	Rape	D
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Target Note 16

<i>Crataegus monogyna</i>	Hawthorn	D
<i>Quercus robur</i>	English Oak	O
<i>Rubus fruticosus agg.</i>	Bramble	O
<i>Corylus avellana</i>	Hazel	R

Target Note 17

Single ash tree with low potential as a bat roost.

<i>Fraxinus excelsior</i>	Ash
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Target Note 18

Hawthorn hedge

<i>Crataegus monogyna</i>	Hawthorn	D
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Target Note 19

Row of oaks that have low bat roost potential.

<i>Quercus robur</i>	English Oak
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Target Note 20

Hawthorn hedge

Crataegus monogyna Hawthorn D

Target Note 21

Arable field in rape production

Brassica napus Rape D

Target Note 22

Arable field in rape production

Brassica napus Rape D

Target Note 23

Single oak with potential for roosting bats.

Quercus robur English Oak

Target Note 24

100m² pond surrounded by vegetation. Permanent pond that never dries out. Has potential for GCN.

<i>Epilobium hirsutum</i>	Great Willowherb	A
<i>Juncus effusus</i>	Soft Rush	A
<i>Holcus lanatus</i>	Yorkshire-fog	F
<i>Lemna minor</i>	Common Duckweed	F
<i>Phalaris arundinacea</i>	Reed Canary-grass	F
<i>Solanum dulcamara</i>	Bittersweet	F
<i>Urtica dioica</i>	Nettle	F
<i>Equisetum arvense</i>	Field Horsetail	O
Moss sp.	Moss species	O
<i>Potamogeton natans</i>	Broad-leaved Pondweed	O
<i>Arrhenatherum elatius</i>	False Oat-grass	R
<i>Dryopteris filix-mas</i>	Male-fern	R
<i>Galium aparine</i>	Cleavers	R

Target Note 25

Hawthorn dominated hedgerow

<i>Crataegus monogyna</i>	Hawthorn	D
<i>Prunus padus</i>	Bird Cherry	F
<i>Fraxinus excelsior</i>	Ash	R
<i>Sambucus nigra</i>	Elder	R

Target Note 26

Arable field in barley production

<i>Hordeum distichon</i>	Barley	D
<i>Holcus mollis</i>	Creeping Soft-grass	F
<i>Anthriscus sylvestris</i>	Cow Parsley	R
<i>Arrhenatherum elatius</i>	False Oat-grass	R
<i>Lapsana communis</i>	Nipplewort	R

Target Note 27

<i>Crataegus monogyna</i>	Hawthorn	D
<i>Rubus fruticosus agg.</i>	Bramble	O
<i>Acer pseudoplatanus</i>	Sycamore	R
<i>Alliaria petiolata</i>	Garlic Mustard	R
<i>Anthriscus sylvestris</i>	Cow Parsley	R

Target Note 28

Bare brook containing Himalayan balsam plants.

Impatiens glandulifera Himalayan Balsam R

Target Note 29

Area of short species poor semi-improved grassland

<i>Holcus lanatus</i>	Yorkshire-fog	A
<i>Lolium perenne</i>	Perennial Ryegrass	A
<i>Poa annua</i>	Annual Meadow-grass	A
<i>Poa trivialis</i>	Rough Meadow-grass	A
<i>Arrhenatherum elatius</i>	False Oat-grass	F

Target Note 30

Area of improved very short grassland

<i>Lolium perenne</i>	Perennial Ryegrass	D
<i>Dactylis glomerata</i>	Cock's-foot	A
<i>Holcus lanatus</i>	Yorkshire-fog	O
<i>Trifolium repens</i>	White Clover	R

Target Note 31

Old dead Ash tree with cracks and bark lifting. Has moderate-high potential as a bat roost

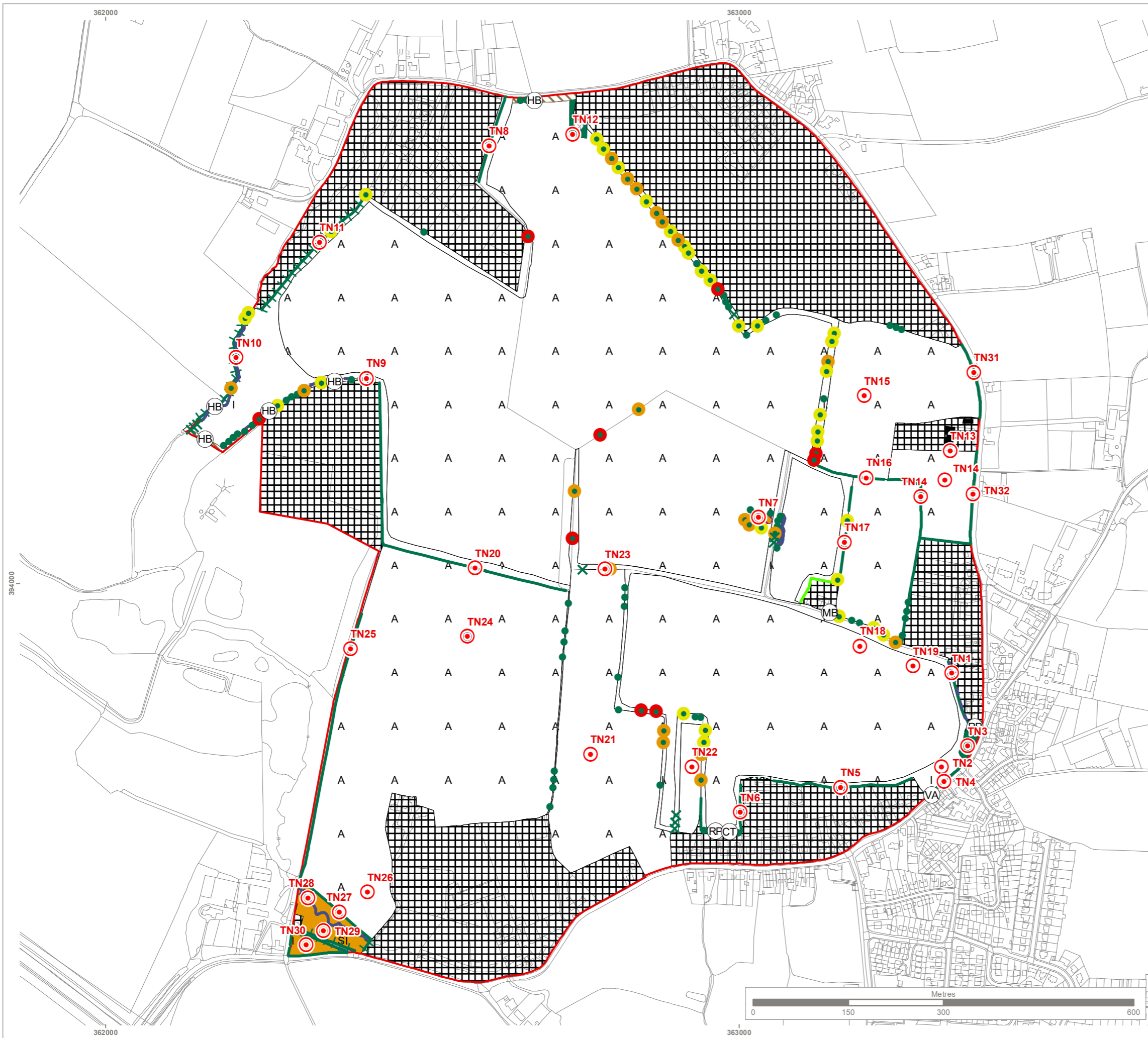
<i>Fraxinus excelsior</i>	Ash
---------------------------	-----

Target Note 32

Hawthorn dominated hedgerow.

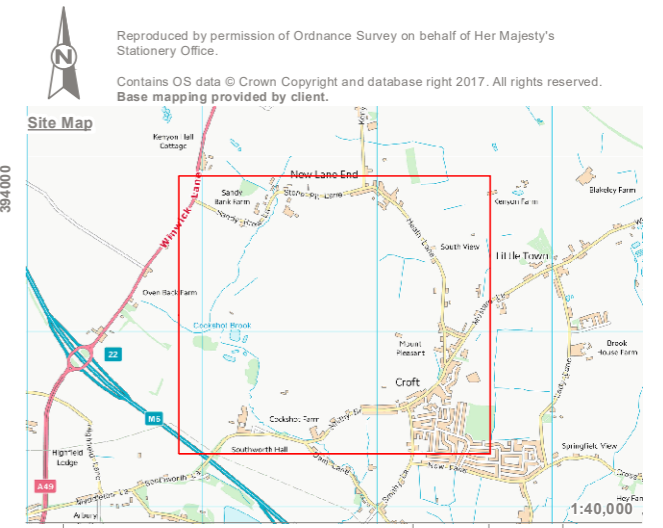
<i>Crataegus monogyna</i>	Hawthorn	D
<i>Alliaria petiolata</i>	Garlic Mustard	F
<i>Galium aparine</i>	Cleavers	F
<i>Ilex aquifolium</i>	Holly	F
<i>Rubus fruticosus agg.</i>	Bramble	F
<i>Urtica dioica</i>	Nettle	F
<i>Aegopodium podagraria</i>	Ground-elder	O
<i>Anthriscus sylvestris</i>	Cow Parsley	O
<i>Armoracia rusticana</i>	Horse-radish	O
<i>Arrhenatherum elatius</i>	False Oat-grass	O
<i>Cirsium arvense</i>	Creeping Thistle	O
<i>Dactylis glomerata</i>	Cock's-foot	O
<i>Acer pseudoplatanus</i>	Sycamore	R
<i>Artemisia vulgaris</i>	Mugwort	R
<i>Cirsium vulgare</i>	Spear Thistle	R
<i>Fraxinus excelsior</i>	Ash	R
<i>Hedera helix</i>	Ivy	R
<i>Lapsana communis</i>	Nipplewort	R
<i>Lunaria annua</i>	Honesty	R
<i>Matricaria chamomilla</i>	Scented Mayweed	R
<i>Quercus robur</i>	English Oak	R
<i>Sambucus nigra</i>	Elder	R
<i>Torilis japonica</i>	Upright Hedge-parsley	R

DRAWINGS
G6929.01.003 Phase 1 Habitat Map



KEY

- Site Boundary
- Target Notes
- Cotoneaster
- Himalayan Balsam
- Montbretia
- Rhododendron Ponticum
- Variegated Yellow
- X Scattered Scrub
- Scattered Broad-leaved Trees
- Broad-leaved Tree with Low Bat Potential
- Broad-leaved Tree with Moderate Bat Potential
- Broad-leaved Tree with High Bat Potential
- Running Water
- Species-poor Intact Hedge
- Conifer Hedge
- Species-poor Hedge and Trees
- Dry Ditch
- Semi-natural Broad-leaved Woodland
- Dense/Continuous Scrub
- Semi-improved Neutral Grassland
- Improved Grassland
- Marsh/Marshy Grassland
- Tall Ruderal
- Standing Water
- Dry Pond
- Arable
- Buildings
- Not Surveyed
- Hardstanding



Rev	Description	Drawn	Approved	Date

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Peel Sites, Warrington - Land North West of Croft

Title
Phase 1 Habitat Survey

Drawing Number
G6929.01.003

Drawn	Checked	Approved	Scale	Date
JS	JS/DY	LS	1:6,000 @ A3	03/07/2018



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Heritage Appraisal

Warrington Local Plan – Land to the North West, Croft

June 2018 (Updated May 2019)

Introduction

1. This Heritage Appraisal has been prepared in connection with Land to the North West, Croft (the 'Appraisal Site'). It identifies heritage assets with potential to be affected by development of the Appraisal Site and broadly describes their significance and setting. The appraisal identifies whether there are heritage constraints to development and how these constraints could be resolved or mitigated.
2. This Appraisal was originally prepared in July 2018. It has since been updated to refer to the revised NPPF (2019) and provides a review of the proposed masterplans in light of the key heritage considerations originally identified.

The Appraisal Site

3. This Appraisal Site consists of a substantial plot of land to the north west of the settlement of Croft and to the south west of New Lane End. The site itself consists of a number of large open agricultural fields, divided by some extant mature hedgerows and trees. On the periphery of the site are a number of residential and agricultural buildings of varying ages. These are primarily located on Smithy Brow (to the south), Lord Street (to the south east), Heath Lane (to the north west) and Stone Pit Lane (to the north west).
4. As aforementioned earlier, the Appraisal Site and the surrounding area historically consisted of open agricultural fields on the outskirts of Croft and New Lane End as illustrated on the 1847 Ordnance Survey Map, there was a large number of fields (and associated boundaries) of varying shapes and sizes. The map shows there were two principal farmsteads on the site during this time; Mount Pleasant and Jacques Farm. Many of the various buildings on the edge of the site (on the principal routes) were also extant by this time. Within the site and its vicinity site were a number of larger houses, including Turret Hall, Southworth Hall and Kenyon Hall.
5. By the early 20th century, the dense arrangement of fields had been removed and the fields amalgamated. As illustrated on the historic maps, this was focussed on the two main farmsteads. By the mid to the late 20th century, the fields had been further amalgamated resulting in the present arrangement. There appears to have been few other changes to the site and the surrounding area by this time. In the mid to late 20th century, further development occurred to the periphery of the site along the main roads (principally Smithy Brow and Heath Lane) including the redevelopment of existing properties. Both the farmsteads (Mount Pleasant and Jacques Farm) remain on the site. Kenyon Hall to the north west has since been demolished but the two other large houses remain (Turret Hall and Southworth Hall).

The Heritage Assets

6. The NPPF (2019) defines a heritage asset as:

“A building, monument, site, place, area, or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest”¹.

7. The setting of a heritage asset is defined by the NPPF (2019) as:

“The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of setting may make a positive or negative contribution to the significance of an assets, may affect the ability to appreciate that significance or may be neutral”.²

8. A site visit was completed on 29 May 2018 to assess the potential for designated and non-designated heritage assets to be affected by future development of the Appraisal Site for residential use. These assets are set out below and are then followed by a broad assessment of their significance (including the contribution made by setting and the Appraisal Site).

Asset Name	Grade (if applicable)	Location, relative to Site
Southworth Hall, Southworth Lane	Locally Listed	Outside the south western boundary of the site
54 Smithy Brow	Locally Listed	Outside the southern boundary of the site
Horse Shoe Public House, Smithy Lane	Locally Listed	Outside the southern boundary of the site
The Plough Inn, Heath Lane	Locally Listed	Outside the northern boundary of the site
Kenylo Bridge	Locally Listed	Within the north western boundary of the site
Turrett Hall, Stone Pit Lane	Locally Listed	Within the north western boundary of the site
Beech Farm, 93 Heath Lane	Locally Listed	Within the north eastern boundary of the site
115 Stone Pit Lane	Locally Listed	Within the northern boundary of the site
Former Croft Country Primary School, Heath Lane	Locally Listed	Outside the eastern boundary of the site

9. Due to the intervening distance, topography, landscape and/or development it is concluded that the significance of the following assets would not be affected and they are not considered further within this Appraisal:

- Church of St Lewis (grade II listed); and
- Presbytery to Church of St Lewis (grade II listed)

¹ MHCLG (2019) National Planning Policy Framework (NPPF) – Annex 2: Glossary

² MHCLG (2019) National Planning Policy Framework (NPPF) – Annex 2: Glossary

Locally Listed Buildings (Non-Designated Heritage Assets) – Various

10. As set out above, there are a number of locally listed buildings within and proximate to the Appraisal Site. These are set out within Appendix 4 of the Warrington Borough Council Core Strategy which was adopted in 2014.
11. A broad overview of their significance and setting is provided below, culminating in an assessment of the contribution made by the site to their significance. For clarity, there is no clear guidance or existing assessment by Warrington Borough Council as to why these buildings or structures are formally locally listed.
 - **Southworth Hall:** The hall is first mentioned in the 13th century but the present building dates to c.1932 and was designed by the architect Geoffrey Owen.³ It is constructed from red brick and of five bays, following the design of its 17th century predecessor.⁴ The building is symmetrically executed and internal contains features from the previous house. Its setting is relatively well enclosed and defined by existing mature trees to all sides. It is primarily experienced from Southworth Lane to the south and from within its grounds.
 - **54 Smithy Brow:** The building consists of a residential dwelling dating from the mid to late 19th century. It is two storeys, constructed from red brick and square in plan form. It has been substantially altered and extended and now forms part of a row of modern residential dwellings along Smithy Brow.
 - **Horse Shoe Public House:** The building consists of a public house dating from at least the mid to late 19th century. It is constructed from brick faced in render with timber casements and is two storeys in a linear plan form. Its setting is largely derived by existing built development, fronting Smithy Lane close to its junction with Smithy Brow.
 - **The Plough Inn:** The building dates to the mid-19th century and appears to have been constructed as a residential dwelling before being adapted to a public house in the late 19th century. It is two storeys flanked by single storey wings (which appear later). The building is faced in render with some extant architrave detailing to the modern timber casement windows. The building sits at a key junction with Heath Lane and Kenyon Lane and has a mixed setting; of both built development and open fields.
 - **Kenyo Bridge:** The structure is located on the road which crosses an existing brook along Stone Pit Lane / Sandy Brow Lane. It is covered in existing vegetation but appears to be constructed from red sandstone with simple copings. Its setting is largely defined by the existing brook and road and is wholly experienced from this area.
 - **Turrett Hall:** The hall dates to at least the mid-18th century but the building appears to have been continually altered and adapted. The present building is constructed from red brick, two storeys with a double hipped plan form. The fenestration across the building has been replaced and a modern porch added to the front. The setting of the building is largely defined by its approach off Stone Pit Lane, its mature trees to the north, the brook and undulating land to the west and agricultural buildings to the south. It is primarily appreciated from these points.

³ Pollard, R & Pevsner, N (2006) Pevsner Architectural Guides: Lancashire: Liverpool and the South West

⁴ Pollard, R & Pevsner, N (2006) Pevsner Architectural Guides: Lancashire: Liverpool and the South West

- **Beech Farm:** The building consists of a residential dwelling dating from the mid to late 19th century. It is two storeys, constructed from red brick and roughly square in plan form with a double height outrigger. It has been substantially altered and extended and now forms part of a row of modern residential dwellings along Heath Lane. To the rear and side (west) are further modern dwellings. To the east are open fields (forming the site).
- **115 Stone Pit Lane:** The building consists of a residential dwelling dating from the mid to late 19th century. It is two storeys, constructed from red brick and linear in plan form. It has been substantially altered and extended with little or no features remaining. It is located along Stone Pit Lane and forms part of a row of modern residential dwellings.
- **Former Croft Country Primary School:** The building dates to the mid to late 19th century and consists of a purpose built primary school. It is square on plan and constructed from red brick with a steep pitched roof of slate, rising to large projecting stone gable with bellcote and pinnacle. Within the gable is a cast iron clockface. The windows have all been replaced with modern UPVC. The remainder of the school buildings to the rear have been demolished. The setting of the building is largely enshrined in its position at a key junction with Croft, with Mustard Lane to the south east and Heath Lane to the south west. It is here the architectural detailing of the building is appreciated.

Contribution made by the Appraisal Site

12. As set out earlier, the Appraisal Site consists of large areas of open agricultural fields to the centre with built development on the periphery. Some of this is the locally listed buildings identified above and some are located adjacent to the site boundary. Whilst the site is relatively large and forms part of the general setting of these buildings, it is not considered to enhance the understanding or appreciation of the heritage assets. They are largely screened by existing built development and/or vegetation and now form part of a modern streetscape. Turrett Hall is relatively well enclosed but there are views out to the wider site which allow for an understanding of its use as a former farmstead. With the exception of Turrett Hall, the site is not considered to positively contribute to their significance.

Overview of Legislation, Key National Planning Policy Considerations and Guidance

Statutory Duty (1990 Act)

13. Section 66 of the Planning (Listed Buildings and Conservation Areas) Act 1990 states that:

“In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.”

14. The concept of ‘preserve’ has been interpreted through case law to mean ‘to cause no harm’.

The National Planning Policy Framework, revised 2019

15. Conservation areas are 'designated heritage assets' within the meaning of the NPPF. Paragraph 185 of the NPPF states that local planning authorities should set out in their Local Plan a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. In developing this strategy, local planning authorities should take into account of:

- The desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
- The wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;
- The desirability of new development making a positive contribution to local character and distinctiveness; and
- Opportunities to draw on the contribution made by the historic environment to the character of a place.

16. Paragraph 190 sets out the principles guiding the determination of applications affecting designated and non-designated heritage assets, and states that:

'Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal . . . They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.'

17. Paragraph 192 elaborates that local planning authorities should take account of the desirability of sustaining and enhancing the significance of heritage assets, putting them into viable uses consistent with their conservation, as well as the desirability of new development making a positive contribution to local character and distinctiveness.
18. Paragraph 193 requires when considering the impact of a Proposed Development on the significance of a designated heritage asset, that great weight should be given to the asset's conservation and the more important the asset, the greater that weight should be. Paragraph 194 confirms that significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting and any harm or loss requires clear and convincing justification.
19. Paragraph 197 of the NPPF states that the effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.
20. Paragraph 200 requires local planning authorities look for opportunities for new development within the setting of heritage assets to better reveal their significance. With respect to setting, the policy notes that proposals that preserve those elements of setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably.
- Good Practice Advice Note 3: The Setting of Heritage Assets, Historic England (2017)**
21. Historic England has published guidance in respect of the setting of heritage assets, providing detail on understanding setting and the associated assessment of the impact of any changes. The guidance confirms that setting is not a heritage asset, nor a heritage designation, rather its importance lies in what it contributes to the significance of the relevant heritage asset itself.

Key Heritage Considerations

22. There are no significant heritage constraints to redevelopment of the Appraisal Site. As set out there are no designated heritage assets within or proximate to the site that have the potential to be affected. There are however a number of locally listed buildings within and close to the site boundary.
23. The majority of these buildings have been heavily altered and therefore hold limited significance in terms of their architectural or historic interest. The buildings are predominantly residential houses which front principal roads and now form part of a frontage of modern and traditional buildings. With the majority of the buildings, their setting is not considered to contribute to their limited significance.
24. Whilst there are no significant heritage constraints, we would recommend that the following measures are considered where possible. This includes:
 - Any locally listed buildings identified within the site boundary should look to be retained and incorporated into any proposed development.
 - An area of open green space could be retained around Turrett Hall. This could include the retention of existing mature trees and hedgerows to the east and agricultural buildings to the south.
 - Other buildings on the site which contribute to the historic development of the area such as Jacques Farm and Mount Pleasant Farm, could be retained and incorporated into the development
25. The Masterplan (dated May 2019) has been informed by the identified key heritage considerations. Open green space and mature trees/hedgerows have been retained around Turrett Hall and locally listed buildings identified within the site boundary have been retained. Development of the type and arrangement identified in the Masterplan will sustain the significance of nearby heritage assets.



LAND NORTH WEST OF CROFT



FLOOD RISK AND UTILITIES APPRAISAL

Shepherd Gilmour Infrastructure Ltd.

40 Peter Street

Manchester

M2 5GP

CI283/NM/DOR/EAJ/2017116



Report Title: Land North West of Croft, Warrington
Flood Risk and Utilities Appraisal

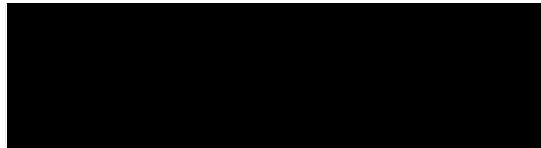
Client: Peel Investments (North) Ltd

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Prepared by:



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Version	Date	Initials	Comments
V1	15.09.20017	NCM	Revised as per amended masterplan
V2	28.09.2017	NCM	Revised as per amended masterplan
V3	04.07.2018	DOR	Revised masterplan
V4	15.05.2019	NCM	Size of site corrected
V5	11.06.2019	NCM	Proposed number of units corrected



Limitations

All findings, recommendations and conclusions contained in this report are based on information provided to us during investigations. Shepherd Gilmour Infrastructure Ltd. has created the report based on the assumption that all the information is accurate and accepts no liability should additional information exist or become available.

Unless otherwise requested by the client, Shepherd Gilmour Infrastructure Ltd. is not obliged to and disclaims any obligation to update the report for events taking place after the date noted on the report.

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APPENDIX B	ENVIRONMENT AGENCY PRODUCT 4 DATA
APPENDIX C	SEWER AND POTABLE WATER RECORDS
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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 a development on Land to the North West of Croft in Warrington.

SITE LOCATION

I.2. The proposed site is located to the northwest of the village of Croft in Warrington. The site extends to 124.5 ha in total and consists of agricultural fields and pockets of woodland.

- Nearest Postcode: WA3 7DO
- OS Coordinates [REDACTED]
- OS Grid Reference [REDACTED]

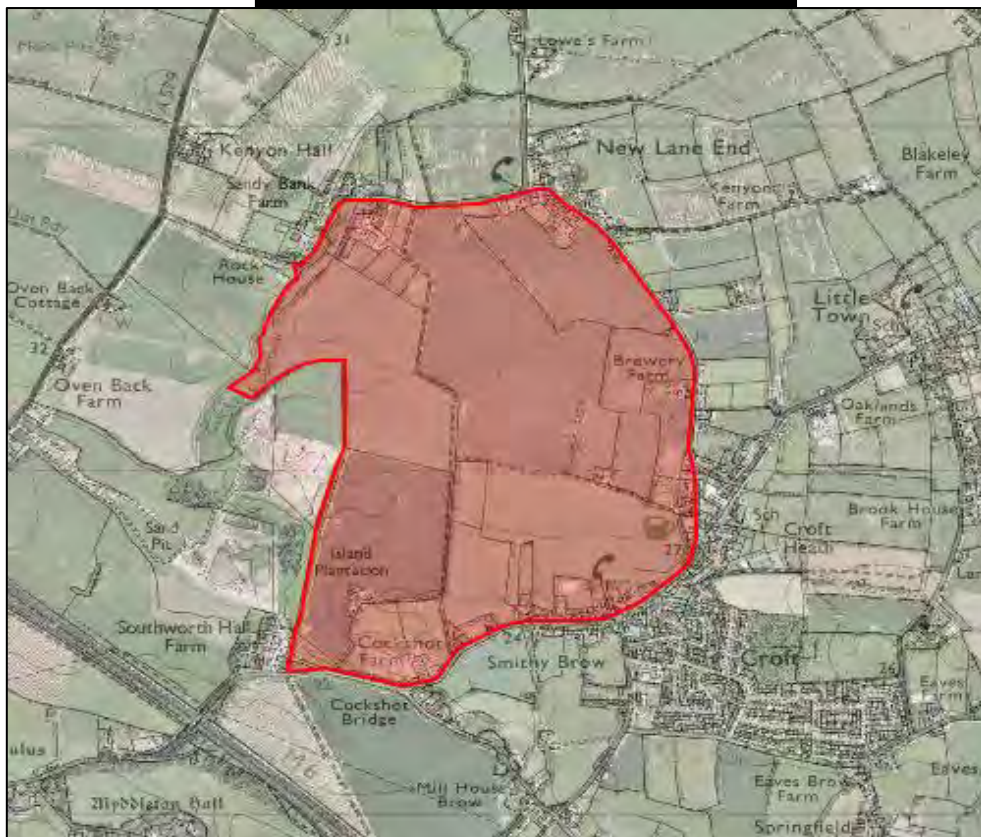


Figure I.1 Red Line Boundary

TOPOGRAPHY

- I.3. Based on the Ordnance Survey maps the site ranges in level between 20-35m AOD. The site appears to generally fall in level from Heath Lane (eastern boundary) to Cockshot Brook (western boundary).

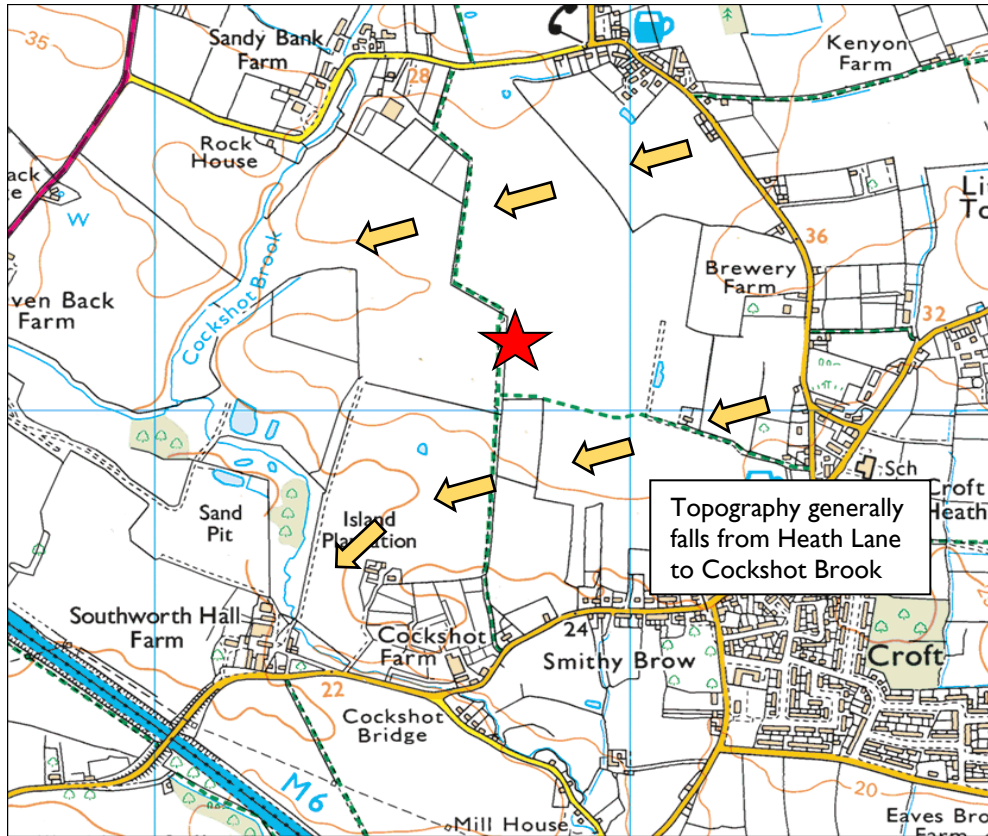


Figure I.2 Site Plan (OS Map)

PRELIMINARY PROPOSALS

- I.4. The client's conceptual masterplan is shown in **Figure I.3** proposes a new green village with between 1,513 and 1,765 dwellings and associated infrastructure.
- I.5. A full-sized masterplan has been 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 Maps provide initial information on any flood zoning onsite. These maps indicate that the majority of site is located within Flood Zone 1 (low probability of fluvial flooding) with some small areas of Flood Zone 3 along the southern and western boundary (high probability of fluvial flooding).

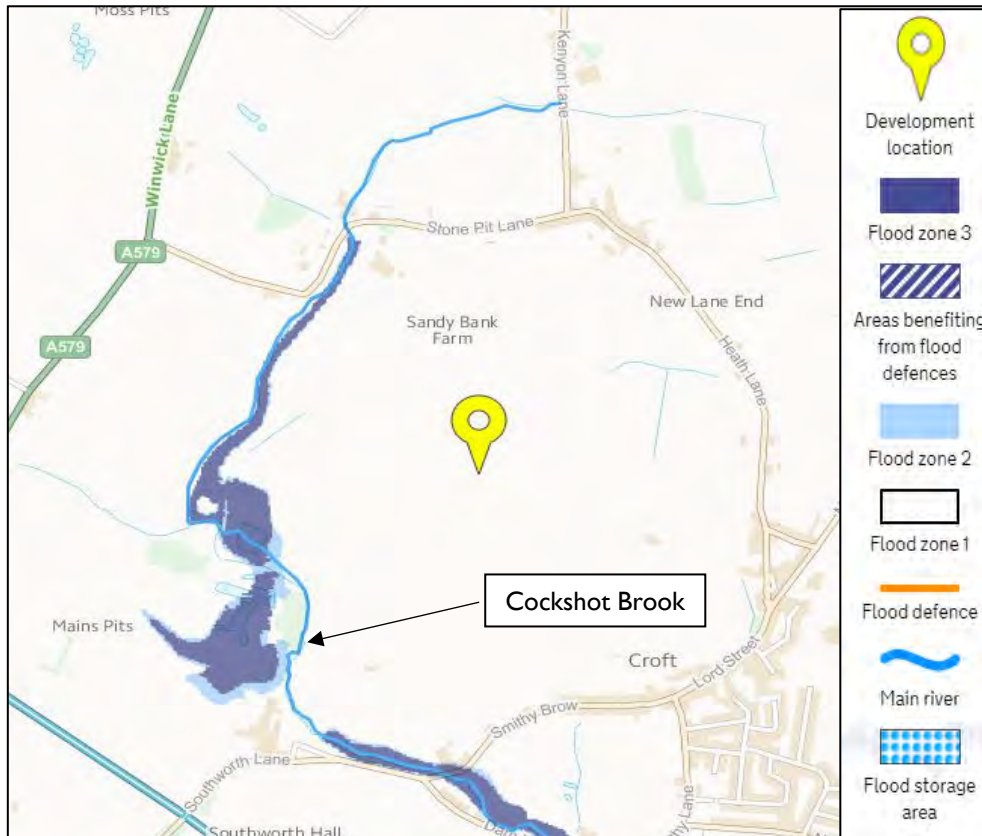


Figure 2.1 Gov.UK Flood Map

ENVIRONMENT AGENCY DATA

2.2. The latest flood data and mapping have been obtained from the Environment Agency (EA) and indicate the same 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 to ascertain if there is any risk of flooding to the site. This information has been included within **Appendix B**.

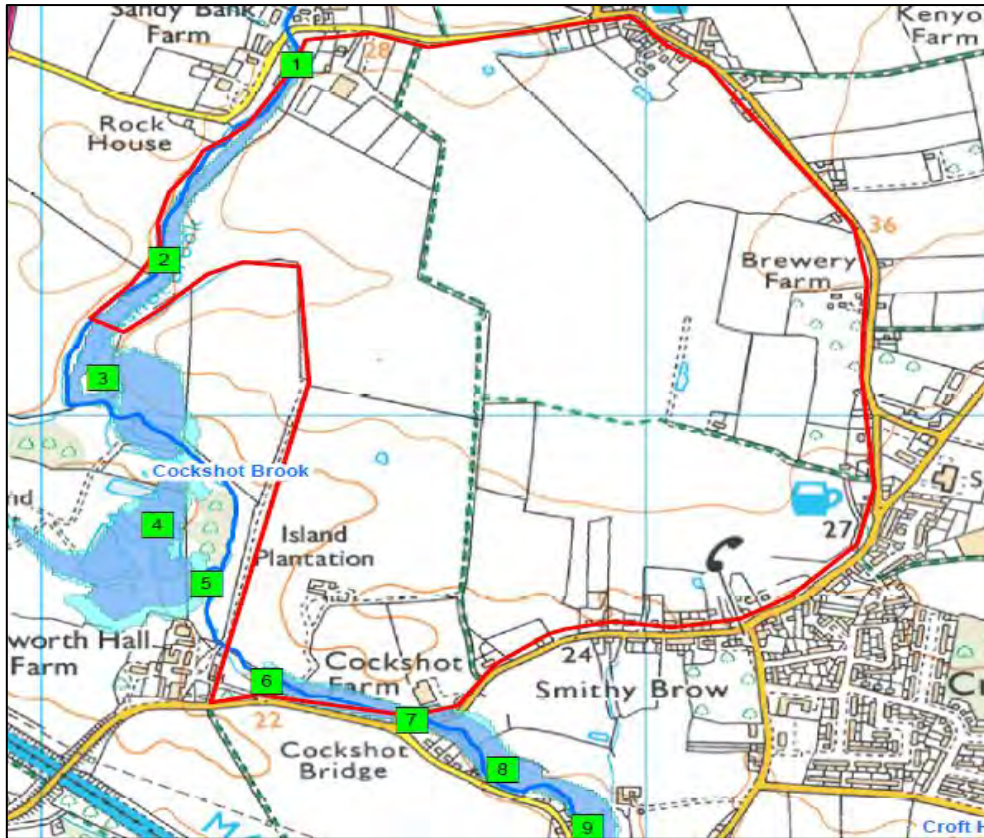


Figure 2.2 Detailed Flood Map (EA)

FLOOD ZONE GUIDANCE

2.3. The Flood Risk and Coastal Change Guidance indicates which, development type is suitable for each Flood Zone as shown in **Table 2.1 & 2.2.**

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 and other structures at risk of flood. • Sewage treatment works

- 2.4. The conceptual masterplan (**Appendix A**) indicates that all residential developments (i.e. more vulnerable development) will be located within low probability areas (Flood Zone 1). Therefore, the client's preliminary proposals meet the requirements of the NPPF at this stage.
- 2.5. The estimated flood levels and detailed development proposals 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.

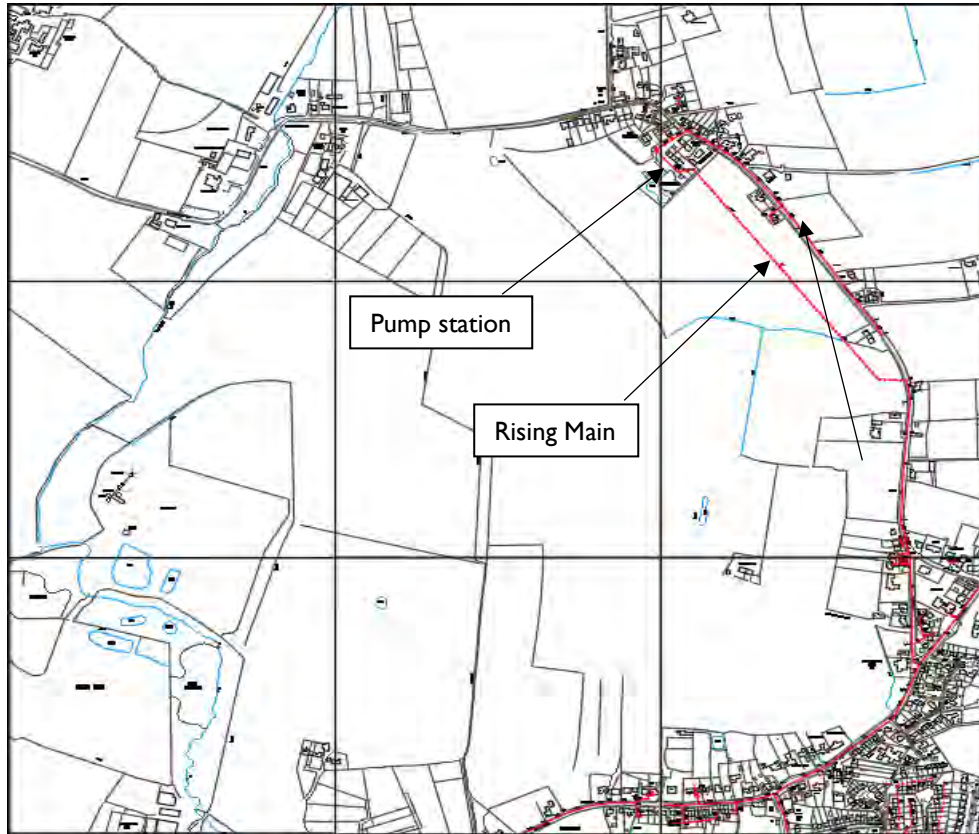


Figure 3.1 UU Sewer Plan

Surface Water Sewers

- 3.2. According to United Utilities records there are no surface water sewers onsite. There are some sewers to the south east which serve the residential dwellings but these would not be suitable for this development.

Foul Water Sewers

- 3.3. According to United Utilities records there are no foul water sewers onsite. There are some small sewers to the north east and south east which serve the residential dwellings which ultimately discharge into larger combined sewers.

Combined Water Sewers

- 3.4. Records indicate is a 100mm diameter rising main passing through the north-east corner of the site from the small pump station off Stone Pitt Lane. The rising main

pumps the effluent through the site and reconnects into the combined sewer within Heath Lane.

- 3.5. The rising main is likely to have an easement each side of the centreline. At this stage the offset distance is unknown, and consultation with UU will be required to ascertain this distance.
- 3.6. A 225mm to 375mm combined sewer flows around the site to the southern boundary via Lord Street and continues south via Smithy Lane.

PRIVATE DRAINAGE

- 3.7. There is no known private drainage onsite.

PRELIMINARY DEVELOPMENT DRAINAGE

Surface Water Drainage

- 3.8. Based on the topography [REDACTED] it should be possible to discharge any runoff to Cockshot Brook. This arrangement is aligned with the runoff destination hierarchy set out in Paragraph 080 of the Flood Risk and Coastal Change Guidance document.

- 3.9. Note that any surface water runoff rates must be agreed by the Environment Agency.

Foul Water Drainage

- 3.10. Foul effluent generated by the development should be able to connect into the combined sewer within Lord Street. At this 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 stage, it is difficult to assess if any sewer/rising main diversions would be required. More information is required and any diversion can be addressed at a later stage.

SECTION 4 UTILITIES INFRASTRUCTURE

ELECTRICITY

Electricity North West

4.1. The electricity in the area is supplied by Electricity North West (ENW). With the exception of an 11kV cable serving New Lane End, there is very little electrical assets/infrastructure in the area supplied by ENW.

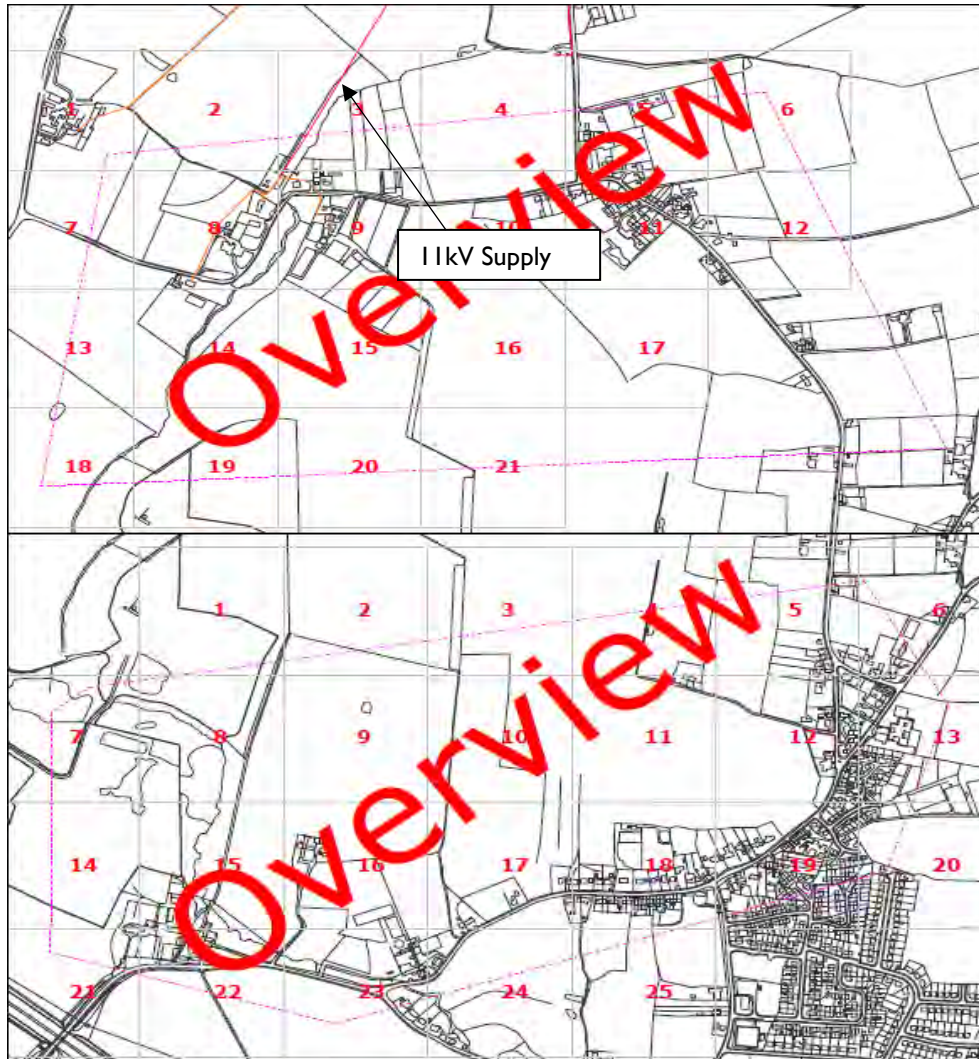


Figure 4.1 Electric Infrastructure (ENW)

4.2. A copy of ENW records has been included within **Appendix D**.

Scottish Power Manweb

4.3. Scottish Power Manweb (SP Manweb) also have electricity assets within the vicinity of the site. Records identify a high voltage (11kV) cable running within Southworth Lane before cutting across the south of the site around Cockshot Farm Stables

overhead. It then goes underground again within Smithy Brow and up to Croft Primary School along Lord Street.

- 4.4. There is also a high voltage overhead line that runs in a south to north direction on the eastern side of the site. An underground spur from this line serves properties beyond the north-eastern boundary of the site.
- 4.5. A copy of the SP Manweb records is also included in **Appendix D**.

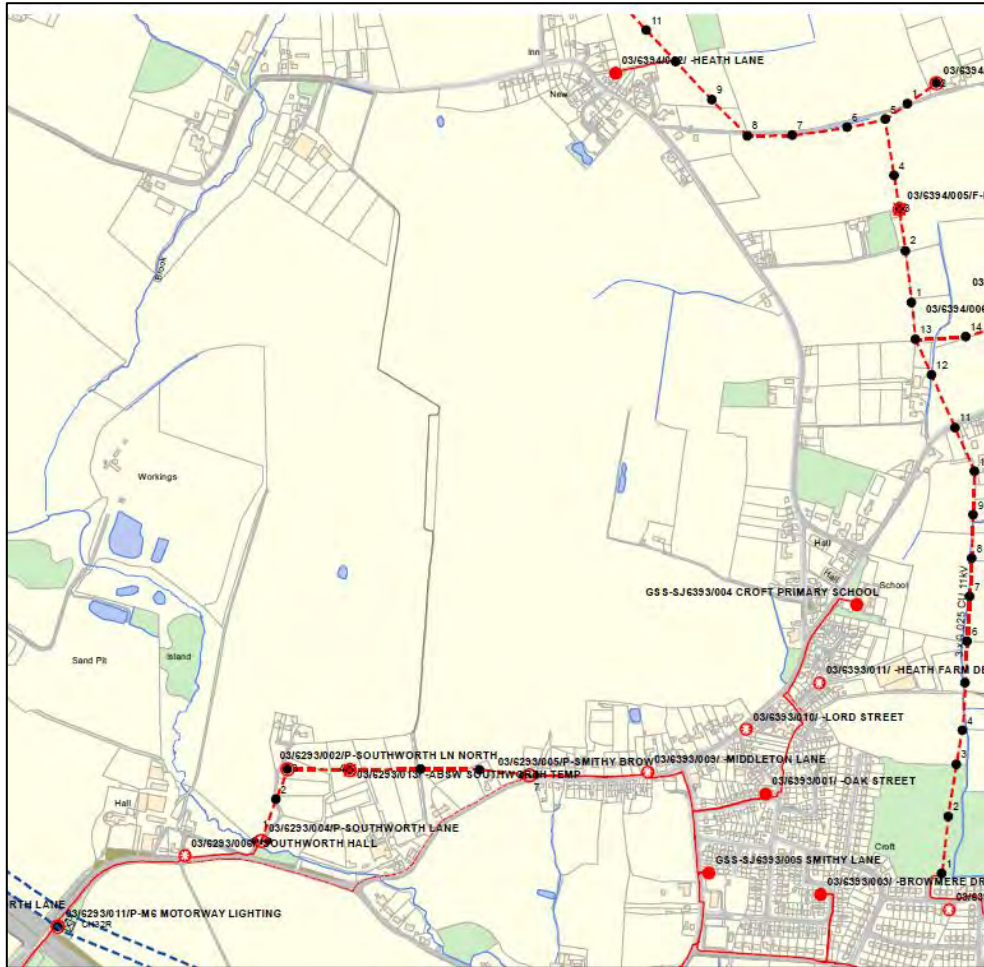


Figure 4.2 Electricity Infrastructure (SP Manweb)

- 4.6. The need for any offsite reinforcement to meet the power demands of the development is unknown. Discussions with Electricity North West and Scottish Power Manweb should be undertaken as soon as practically possible.

TELECOMMUNICATION

- 4.7. 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.

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

MAINS WATER

4.9. United Utilities records indicate a 3” water main within the highways that form the south, east and north boundaries. 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.

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

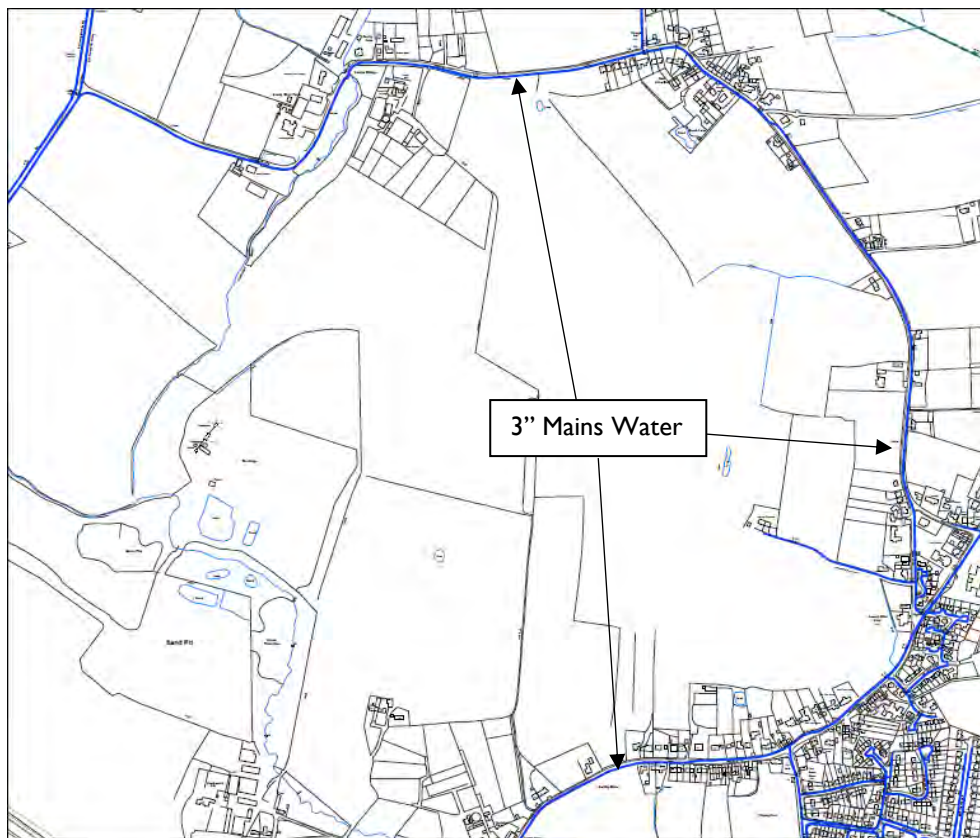


Figure 4.2 Water Infrastructure (UU)

GAS

4.11. Cadent/National Grid records indicate medium pressure main within Smithy Brow that serve the low-pressure mains of the Croft area. Due to the scale/quality of the records any further information such as size, depth etc. is obscured.

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.

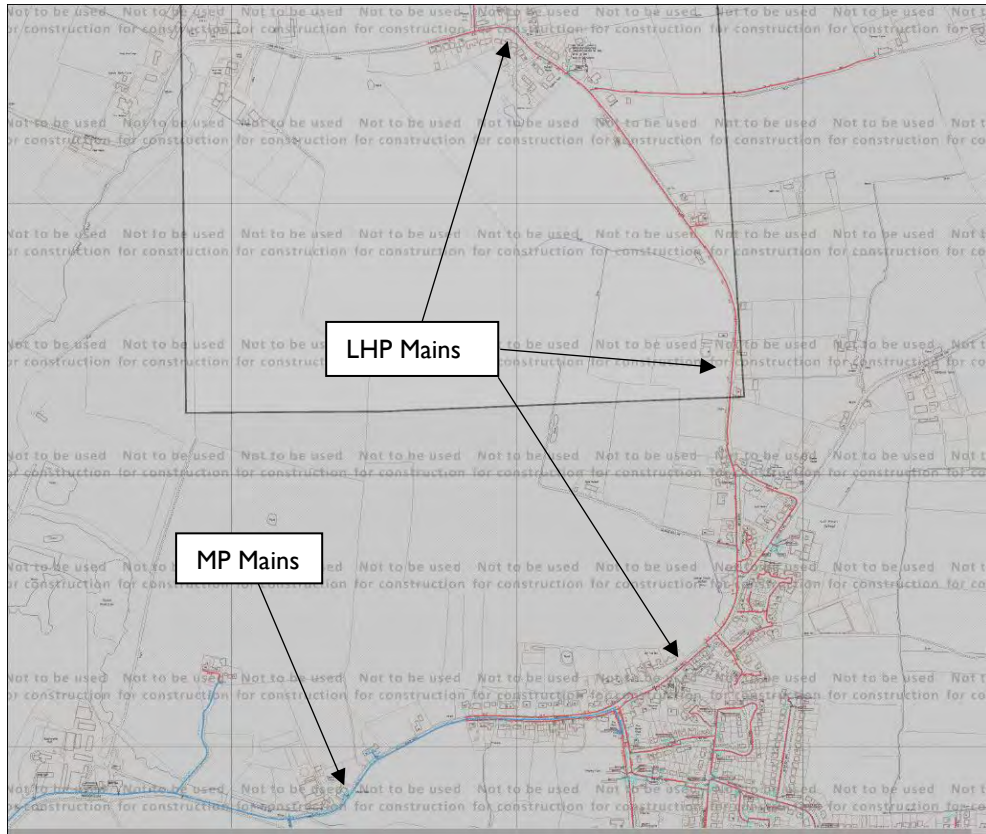


Figure 4.3 Cadent Gas Record Plans

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 there are no major hazard sites or major accident hazard pipeline in the area.
- 5.2. A copy of HSE response records has been included within **Appendix G**.



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) The proposed residential areas are located within Flood Zone I (low probability). In accordance with the Flood Risk and Coastal Change Guidance the development 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 Environment Agency.
- c) The proposed foul [REDACTED] Utilities adjacent public sewers. Flow rates and any offsite/onsite upgrade works are to be agreed with United Utilities.
- d) Early discussions with Electricity North West and SP Manweb are required to establish the proposed electricity route(s) to the site.
- e) 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.
- f) Early discussions with United Utilities are required to establish the proposed mains water route(s) to the site.
- g) Early discussions with Cadent/National Grid are required to establish the future proposed gas main route(s) to the site.
- h) Early discussions with Health and Safety Executive indicated no major hazard sites or major accident hazard pipeline in the vicinity of the site.



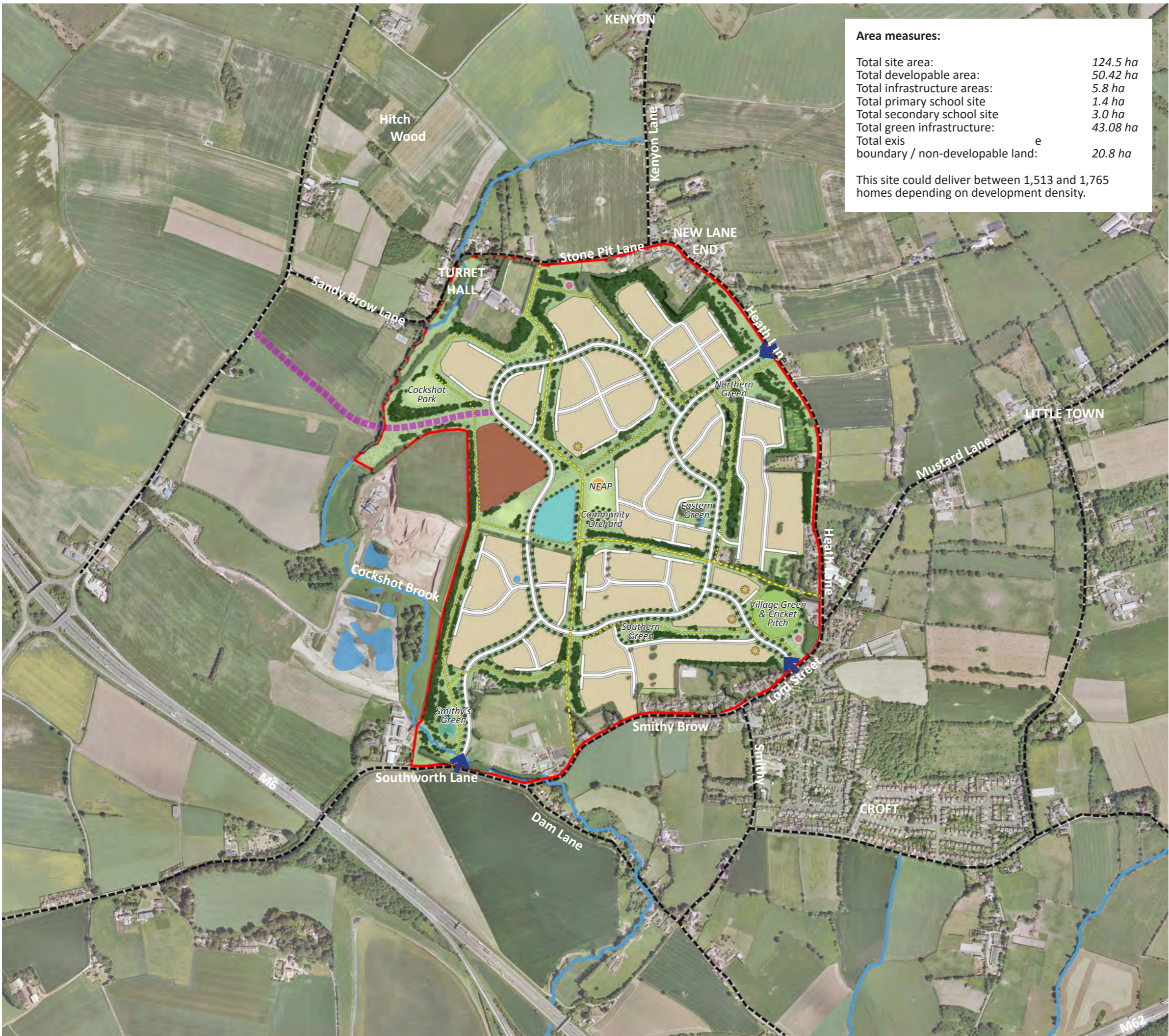
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APPENDIX A























Area measures:

Total site area:	124.5 ha
Total developable area:	50.42 ha
Total infrastructure areas:	5.8 ha
Total primary school site:	1.4 ha
Total secondary school site:	3.0 ha
Total green infrastructure:	43.08 ha
Total exis boundary / non-developable land:	20.8 ha

This site could deliver between 1,513 and 1,765 homes depending on development density.

KEY:

-  Site boundary
-  Exis egeta
-  Exis atercourses & waterbodies
-  Exis t
-  Exis ts of way
-  Exis oads
-  Proposed vehicular access
-  Proposed development area
-  Proposed primary road
-  Proposed secondary road
-  Poten onday school loca
-  Poten y school loca
-  Proposed focal green spaces
-  Proposed key pedestrian & cycle links within green corridors
-  Proposed retail / commercial / medical
-  Poten e link to A579
-  Proposed SuDS
-  Proposed allotments
-  Proposed LEAP
-  Proposed NEAP

NB: Masterplan subject to change following detailed survey work



Land North West of Cr
Illustra e Masterplan

Drwg No: 630DB-17	Date: 21.06.18
Drawn by: AH	Checker: DL
Rev by:	Rev checker:
QM Status: Checked	Product Status:
Scale: 1:5000 @ A3	Con eview



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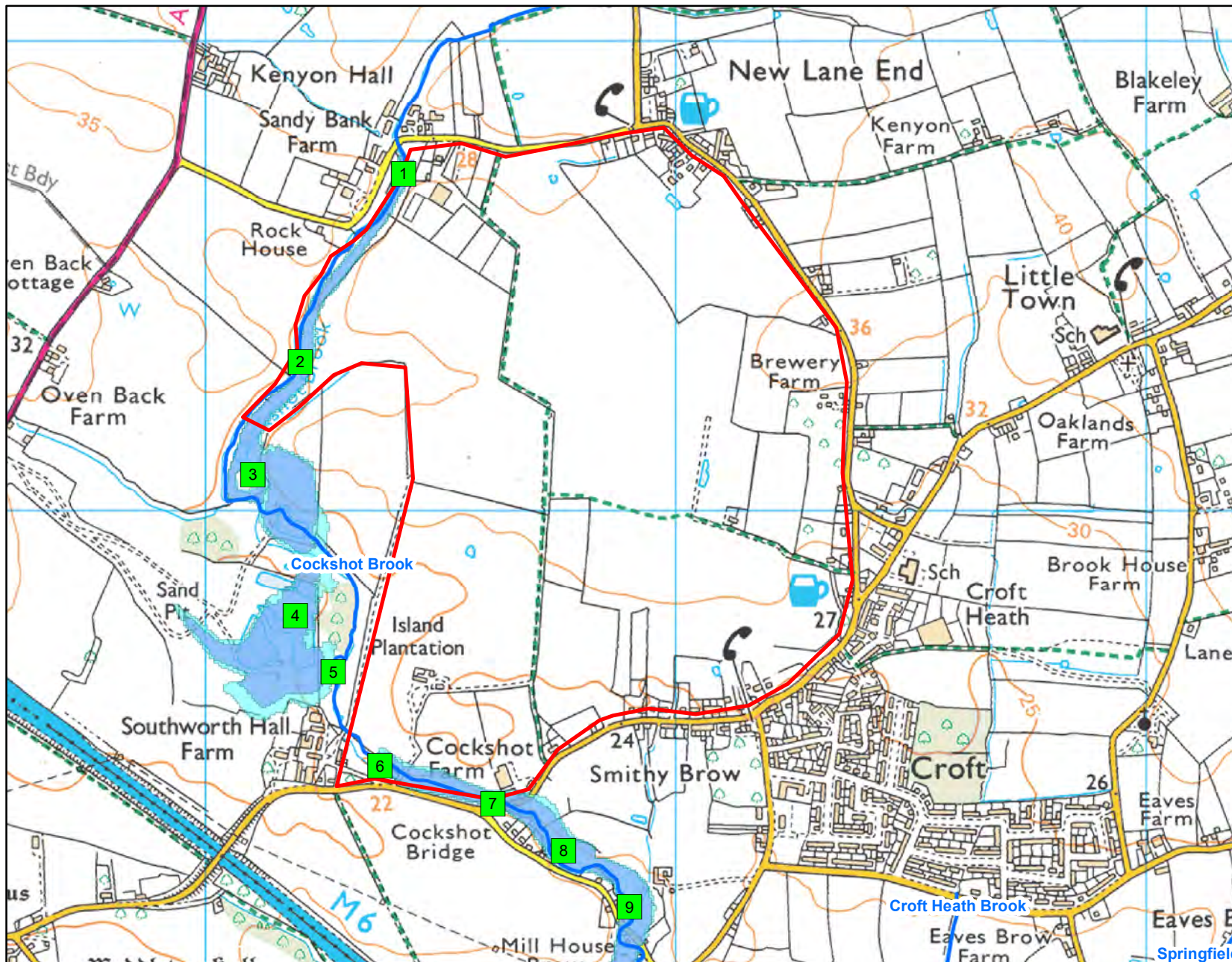
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APPENDIX B






Detailed Flood Map centred on Land near Croft, Warrington. Created on 08/08/2017 [GMMC55879AB]



1:12,000



Legend

-  Site Location
-  J-Flow
-  Main River
-  Flood Zone 2
-  Flood Zone 3

Map Reference	Model Node Reference	Easting	Northing	Data	Undefended	
					1 % AEP (1 in 100 year)	0.1 % AEP (1 in 1000 year)
1	J-Flow	362422	394717	Modelled Water Level (m aodN)	27.15	27.48
2		362202	394317	Modelled Water Level (m aodN)		24.47
3		362102	394077	Modelled Water Level (m aodN)	23.05	23.17
4		362193	393777	Modelled Water Level (m aodN)	9.95	11.38
5		362273	393657	Modelled Water Level (m aodN)		19.66
6		362373	393457	Modelled Water Level (m aodN)	21.19	21.39
7		362613	393377	Modelled Water Level (m aodN)	20.34	20.45
8		362762	393277	Modelled Water Level (m aodN)	19.84	19.93
9		362902	393157	Modelled Water Level (m aodN)	18.69	18.82

Please note: J-Flow is broadscale National Generalised Modelling and as such is not sufficiently accurate for use in Flood Risk Assessments.

Model data taken from the National Generalised Modelling (JFLOW) (2004) Study

AEP - Annual Exceedence Probability

m aodN - metres above ordnance datum Newlyn

cumecs - cubic metres per second

Climate Change Scenario - We do not hold climate change measurements at this location. 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.



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APPENDIX C



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

**Manchester
M2 5GP**

FAO: Natalia Marsden

Dear Sirs

Location:

I acknowledge with thanks your request dated 18/08/17 for information on the location of our services.

Please find enclosed plans showing the approximate position of our apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

If you are planning works anywhere in the North West, please read our access statement before you start work to check how it will affect our network.

<http://www.unitedutilities.com/work-near-asset.aspx>

I trust the above meets with you requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please telephone us on 0370 7510101.

Yours Faithfully,



Karen McCormack
Property Searches Manager

United Utilities Water Limited

Property Searches
Ground Floor Grasmere House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP

Telephone 0370 751 0101

Property.searches@uuplc.co.uk

Your Ref: LAND NW OF CROFT- NORTH
Our Ref: 1319673
Date: 21/8/2017

TERMS AND CONDITIONS - WASTERWATER & WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self-construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

TERMS AND CONDITIONS:

1. This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
2. This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
3. In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only and given in accordance with the best information available. The nature of the relevant system and/or its actual position may be different from that shown on the plan and UUWL is not liable for any damage caused by incorrect information provided save as stated in section 199 of the Water Industry Act 1991. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
4. The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
5. The position and depth of UUWL apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.
6. This Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) in the vicinity of UUWL apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.
7. No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising for any damage caused to UUWL apparatus by reason of the actual position and/or depths of UUWL apparatus being different from those shown on the Map and any information supplied with it.
8. If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
9. This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.

WASTE WATER SYMBOLOGY

Foul Surface Combined Overflow

Manhole
Manhole, Side Entry
MainSewer, Public
MainSewer, Private
MainSewer, S104
Rising Main, Public
Rising Main, Private
Rising Main, S104
Highway Drain, Private

Overflow

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

Abandoned Pipe

MainSewer
Rising Main
Highway Drain
Sludge Main

Foul Surface Combined

Septic Tank
Vent Column
Network Storage Tank
Orifice Plate
Vortex Chamber
Penstock Chamber
Blind Manhole

Foul Surface Combined

WW Site Termination
Air Valve
Cascade
Non Return Valve
Extent of Survey
Flow Meter
Gully
Hatch Box
Head of System
Hydrobrake / Vortex
Inlet
Inspection Chamber
Bifurcation
Catchpit
WW Pumping Station

Foul Surface Combined

Sludge Pumping Station
Sewer Overflow
T Junction/Saddle
LampHole
OilInterceptor
PenStock
Pump
RoddingEye
Soakaway
Summit
Valve
Valve Chamber
Washout Chamber
DropShaft
WW Treatment Works

Foul Surface Combined Overflow

Screen Chamber
Discharge Point
Outfall
Control Kiosk
Unspecified

Legend

MANHOLE FUNCTION	SEWER SHAPE	
FO Foul	CI Circular	TR Trapezoidal
SW Surface Water	EG Egg	AR Arch
CO Combined	Ov Oval	BA Barrel
OV Overflow	FT Flat Top	HO HorseShoe
	RE Rectangular	UN Unspecified
	SQ Square	

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

Live Proposed

Trunk Main - PressurisedMain
Raw Water Aqueduct - PressurisedMain
Raw Water Aqueduct - GravityMain
LDTM Raw Water Distribution - PressurisedMain
LDTM Raw Water Distribution - GravityMain
LDTM Treated Water Distribution - PressurisedMain
LDTM Treated Water Distribution - GravityMain
Private Pipe - LateralLine
Distribution Main - PressurisedMain
Comms Pipe - LateralLine
Concessionary Service - LateralLine

ABANDONED PIPE

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

NODES/FURNITURES

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

PROPERTY TYPES

Live Proposed

Condition Report
Pipe Bridges
Tunnels (non carrier)
Pumping Station
Water Treatment Works
Private Treatment Works

Live Proposed

Valve House
Water Tower
Service Reservoir
Supply Reservoir
Abstraction Point
Domestic meter
Commercial meter
Telemetry Outstation

Live Proposed

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

Legend

MATERIAL TYPES	LINING TYPES
AC ASBESTOS CEMENT	CL CEMENT LINING
CI CAST IRON	TB TAR OR BITUMEN
CU COPPER	ERL EPOXY RESIN
CO CONCRETE	
DI DUCTILE IRON	INSERTION TYPES
GI GALVANISED IRON	DD DIE DRAWN
GR GREY IRON	DR DIRECTIONAL DRILLING
OT OTHERS	MO MOLING
PB LEAD	PI PIPELINE
PV UPVC	SL SLIP LINED
SI SPUN IRON	
ST STEEL	
UN UNKNOWN	
PE POLYETHYLENE	



WASTE WATER SYMBOLOGY

Foul	Surface	Combined	Overflow	Manhole
				Manhole, Side Entry
				MainSewer, Public
				MainSewer, Private
				MainSewer, S104
				Rising Main, Public
				Rising Main, Private
				Rising Main, S104
				Highway Drain, Private

Foul	Surface	Combined	Function	Material
			WW Site Termination	Sludge Main, Public
			Non Return Valve	Sludge Main, Private
			Head of System	Sludge Main, S104
			Inlet	
			Catchpit	
			Sludge Pumping Station	
			Sewer Overflow	
			Pump	
			Summit	
			Washout Chamber	
			Septic Tank	
			Orifice Plate	
			Blind Manhole	
			Control Kiosk	
			Unspecified	

LEGEND

MANHOLE FUNCTION

FO Foul
 SW Surface Water
 CO Combined
 OV Overflow

SEWER SHAPE

CI Circular TR Trapezoidal
 EG Egg AR Arch
 OV Oval BA Barrel
 FT Flat Top HO HorseShoe
 RE Rectangular UN Unspecified
 SQ Square

SEWER MATERIAL

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

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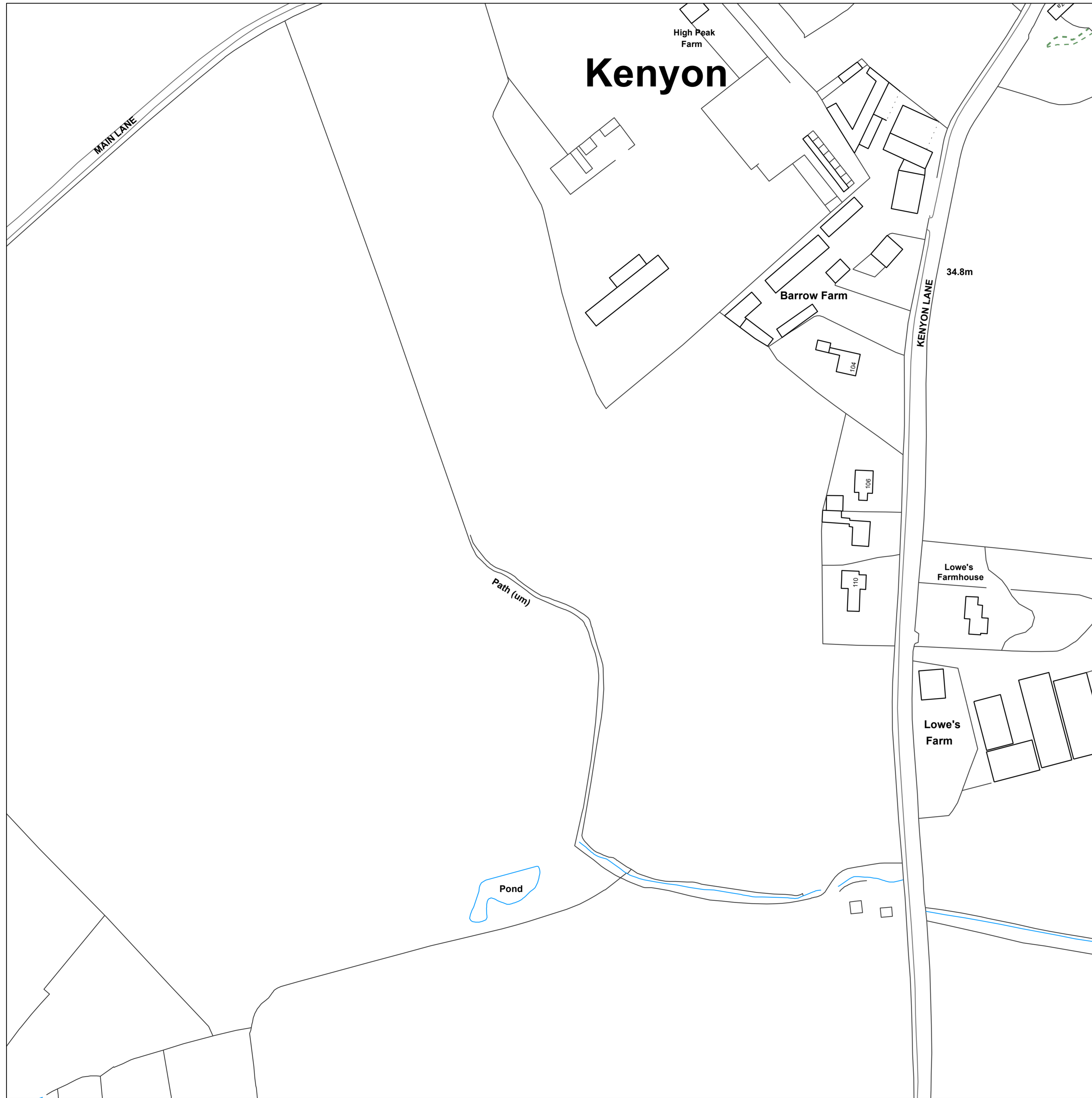
OS Sheet No: SJ6295SW
 Scale: 1:1250 Date: 21/08/2017
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OS Sheet No: SJ6295SW

Scale: 1:1250 Date: 21/08/2017

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Reho Cover Func Invert Size x Size y Shape Mat Length Grad Reho Cover Func Invert Size x Size y Shape Mat Length Grad

WASTE WATER SYMBOLOLOGY			
Foul	Surface	Combined	Overflow

LEGEND			
MANHOLE FUNCTION			
FO	Foul		
SW	Surface Water		
CO	Combined		
OV	Overflow		
SEWER SHAPE			
CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		
SEWER MATERIAL			
AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
CSU	Concrete Segment Unbolted	PP	Polypropylene
CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

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WASTE WATER SYMBOLOGY

Foul	Surface	Combined	Overflow	Manhole
				Manhole, Side Entry
				MainSewer, Public
				MainSewer, Private
				MainSewer, S104
				Rising Main, Public
				Rising Main, Private
				Rising Main, S104
				Highway Drain, Private

Foul	Surface	Combined	Manhole

Reho	Cover Func	Invert	Size	Shape	Mat	Length	Grad

LEGEND

MANHOLE FUNCTION

FO Foul
 SW Surface Water
 CO Combined
 OV Overflow

SEWER SHAPE

CI Circular TR Trapezoidal
 EG Egg AR Arch
 OV Oval BA Barrel
 FT Flat Top HO HorseShoe
 RE Rectangular UN Unspecified
 SQ Square

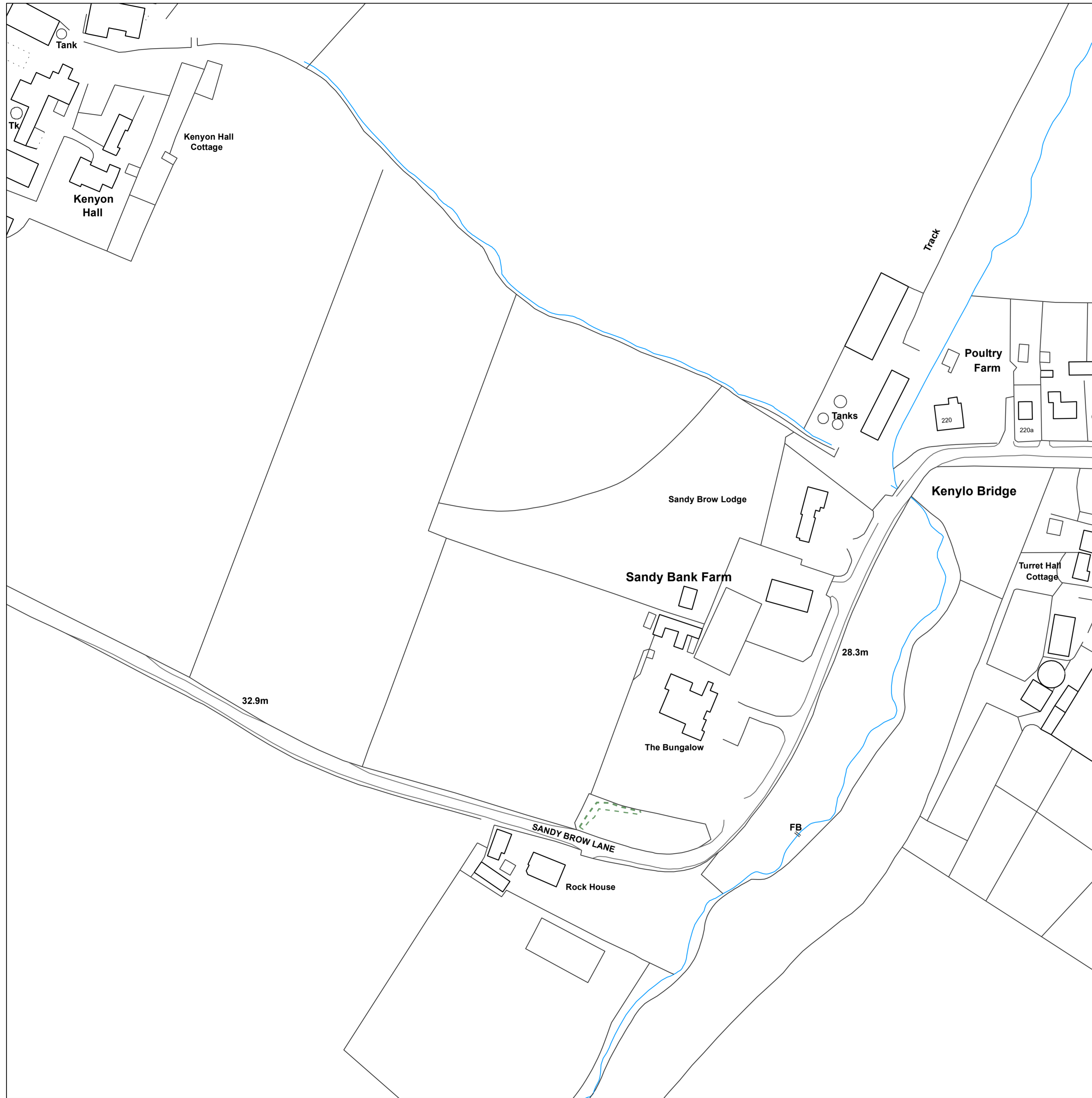
SEWER MATERIAL

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

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OS Sheet No: SJ6395SW
 Scale: 1:1250 Date: 21/08/2017
 0 Nodes
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Reho Cover Func Invert Size x Size y Shape Mat Length Grad Reho Cover Func Invert Size x Size y Shape Mat Length Grad

WASTE WATER SYMBOLOGY

Foul	Surface	Combined	Overflow	Manhole
				Manhole
				MainSewer, Side Entry
				MainSewer, Public
				MainSewer, Private
				MainSewer, S104
				Rising Main, Public
				Rising Main, Private
				Rising Main, S104
				Highway Drain, Private

Foul	Surface	Combined	Function
			WW Site Termination
			Air Valve
			Cascade
			Non Return Valve
			Flow Meter
			Gully
			Hatch Box
			Head of System
			Hydrobrake / Vortex
			Inlet
			Inspection Chamber
			Bifurcation
			Catchpit
			Contaminated Surface Water
			WW Pumping Station
			Sludge Pumping Station
			Sewer Overflow
			T Junction/Saddle
			LampHole
			Oil Interceptor
			PenStock
			Pump
			RoddingEye
			Soakaway
			Summit
			Valve
			Valve Chamber
			Washout Chamber
			DropShaft
			WW Treatment Works
			Septic Tank
			Vent Column
			Network Storage Tank
			Orifice Plate
			Vortex Chamber
			Penstock Chamber
			Blind Manhole
			Screen Chamber
			Discharge Point
			Outfall

ABANDONED PIPE

	MainSewer
	Rising Main
	Highway Drain
	Sludge Main

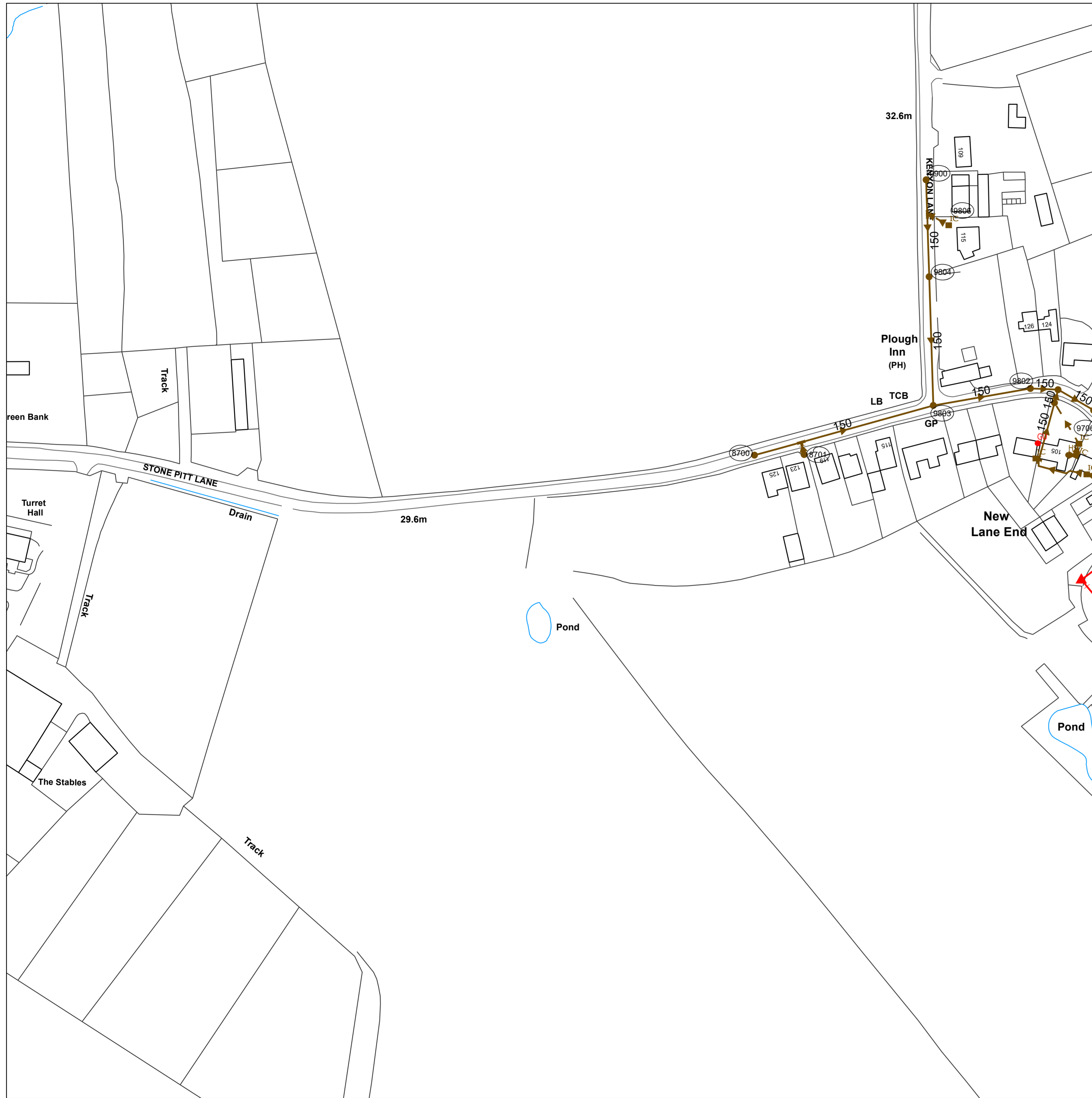
LEGEND

MANHOLE FUNCTION	SEWER SHAPE	SEWER MATERIAL
FO Foul	CI Circular	AC Asbestos Cement
SW Surface Water	EG Egg	BR Brick
CO Combined	OV Oval	PE Polyethylene
OV Overflow	FT Flat Top	RP Reinforced Plastic Matrix
	RE Rectangular	CO Concrete
	SQ Square	CSB Concrete Segment Bolted
		CSU Concrete Segment Unbolted
		CC Concrete Box Culverted
		PSC Plastic/Steel Composite
		GRC Glass Reinforced Concrete
		GRP Glass Reinforced Plastic
	TR Trapezoidal	DI Ductile Iron
	AR Arch	PVC Polyvinyl Chloride
	BA Barrel	CI Cast Iron
	HO HorseShoe	SI Spun Iron
	UN Unspecified	ST Steel
		VC Vitrified Clay
		PP Polypropylene
		PF Pitch Fibre
		MAC Masonry, Coursed
		MAR Masonry, Random
		U Unspecified

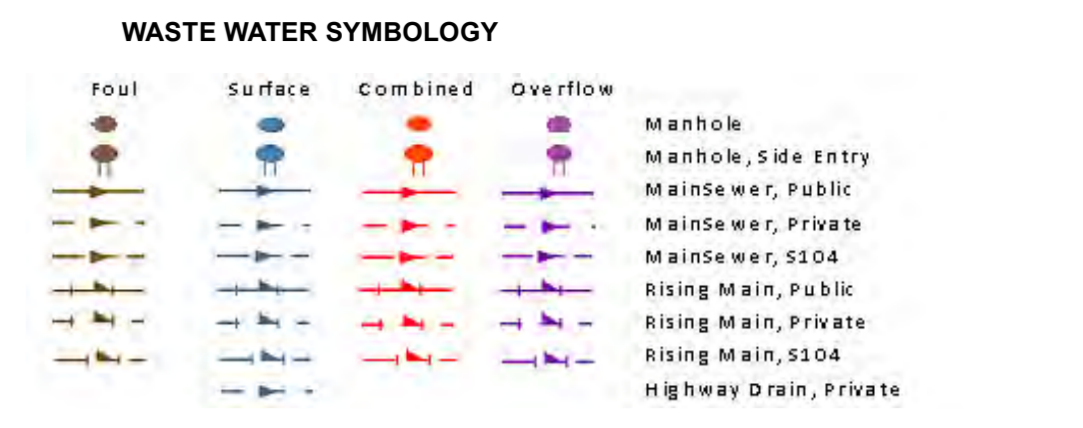
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Refno	Cover	Func	Invert	Size	Size	yShape	Mat	Length	Grad	Refno	Cover	Func	Invert	Size	Size	yShape	Mat	Length	Grad	
8700	FO		0	150		CI	VC	5.77												
8701	FO																			
8703	FO																			
8704	FO																			
8705	FO																			
8706	FO																			
8800	FO																			
8801	FO		29.62	150		CI	VC	18.78	94											
8802	FO		29.75	150		CI	VC	12.75	98											
8803	FO																			
8804	FO		30.8	150		CI	VC	59												
8805	FO			150		CI	VC	6.27												
8806	FO																			
8900	FO		31.3	150		CI	VC	44.58	89											
8701	FO																			
8702	FO																			
8707	FO																			
8709	FO																			
8710	FO																			
8901	FO																			
8708	FO		150			CI	VC	27.03												
8922	FO																			
8700	CO		0	100		CI	DI	593.1												



LEGEND

MANHOLE FUNCTION
FO Foul
SW Surface Water
CO Combined
OV Overflow

SEWER SHAPE
CI Circular TR Trapezoidal
EG Egg AR Arch
OV Oval BA Barrel
FT Flat Top HO HorseShoe
RE Rectangular UN Unspecified
SQ Square

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

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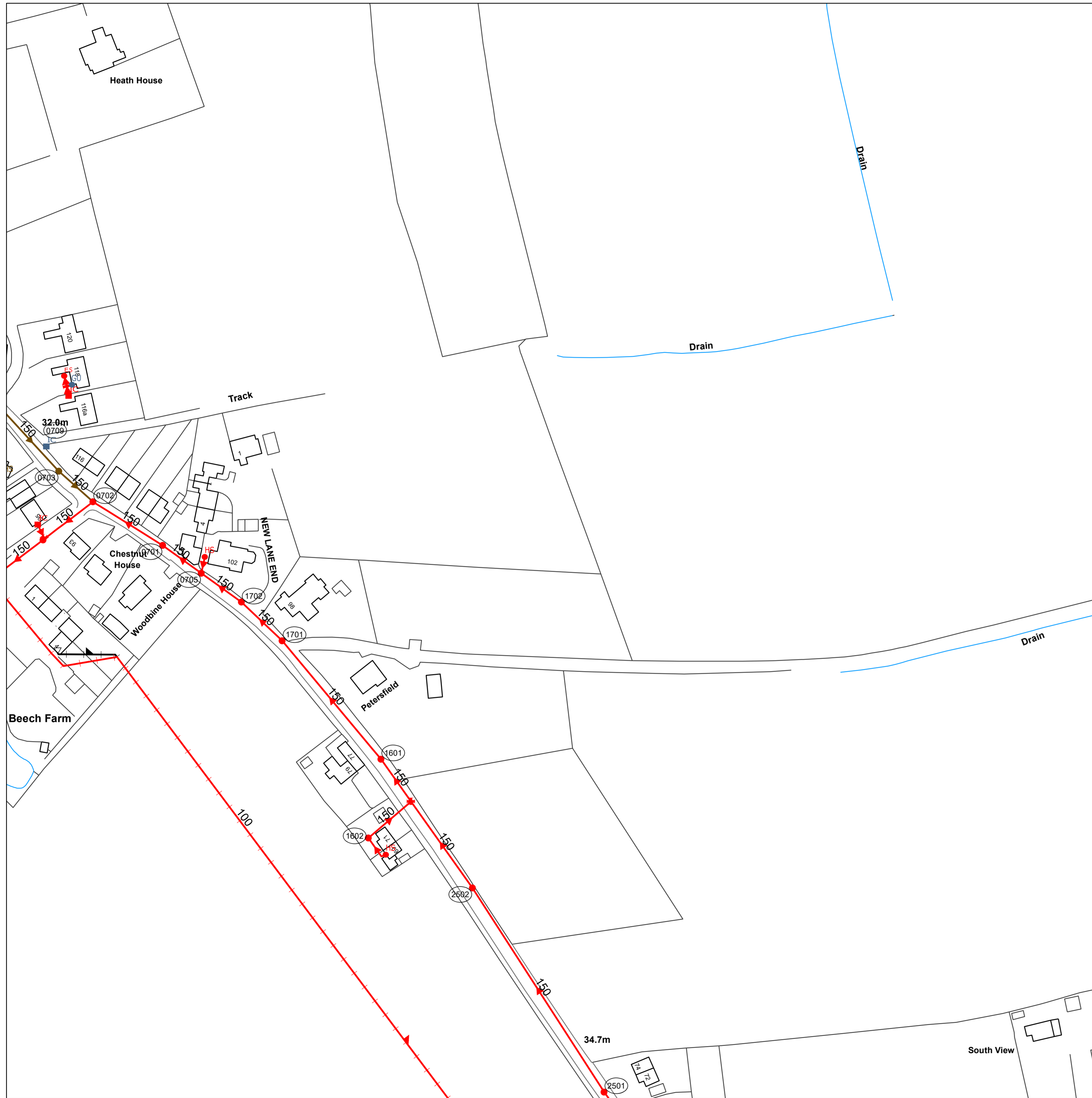
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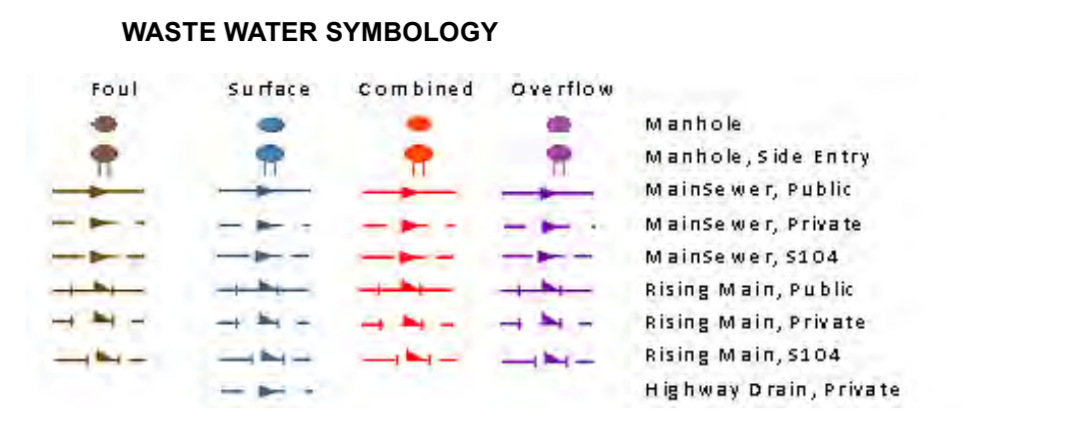
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Reho	Cover	Func	Invert	Size	Size	Shape	Mat	Length	Grad	Reho	Cover	Func	Invert	Size	Size	Shape	Mat	Length	Grad		
0700		CO	0	150		CI	VC	30.27													
0701	32.74	CO	30.04	150		CI	VC	37.74													
0702	32.3	CO	30.36	150		CI	VC	28.77													
0703	32.22	FO																			
0705		CO	0	150		CI	VC	21.79													
0706		CO																			
0709		SW																			
0801		CO																			
1601	34.3	CO	31.35	150		CI	VC	70.65	116												
1602		CO	0	150		CI	VC	25.76													
1701	33.6	CO	30.72	150		CI	VC	25.75	117												
1702	33.3	CO	30.45	150		CI	VC	22.62													
2501	34.97	CO	33.18	150		CI	VC	111.24	129												
2502	34.79	CO	32.3	150		CI	VC	48.6													
0704		CO	0	150		CI	VC	7.66													
0706		CO																			
0801		SW																			
0803		CO																			
2500		CO	0	150		CI	VC	12.59													
0707		CO																			
0804		CO																			
1603		CO																			
0707		CO																			



MANHOLE FUNCTION

FO Foul
SW Surface Water
CO Combined
OV Overflow

SEWER SHAPE

CI Circular TR Trapezoidal
EG Egg AR Arch
OV Oval BA Barrel
FT Flat Top HO HorseShoe
RE Rectangular UN Unspecified
SQ Square

SEWER MATERIAL

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

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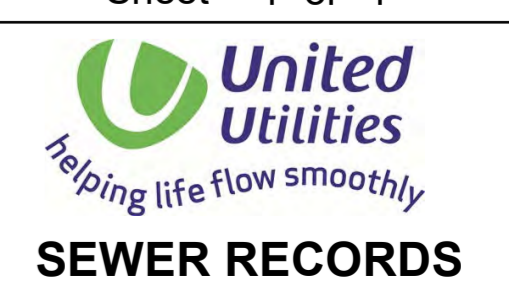
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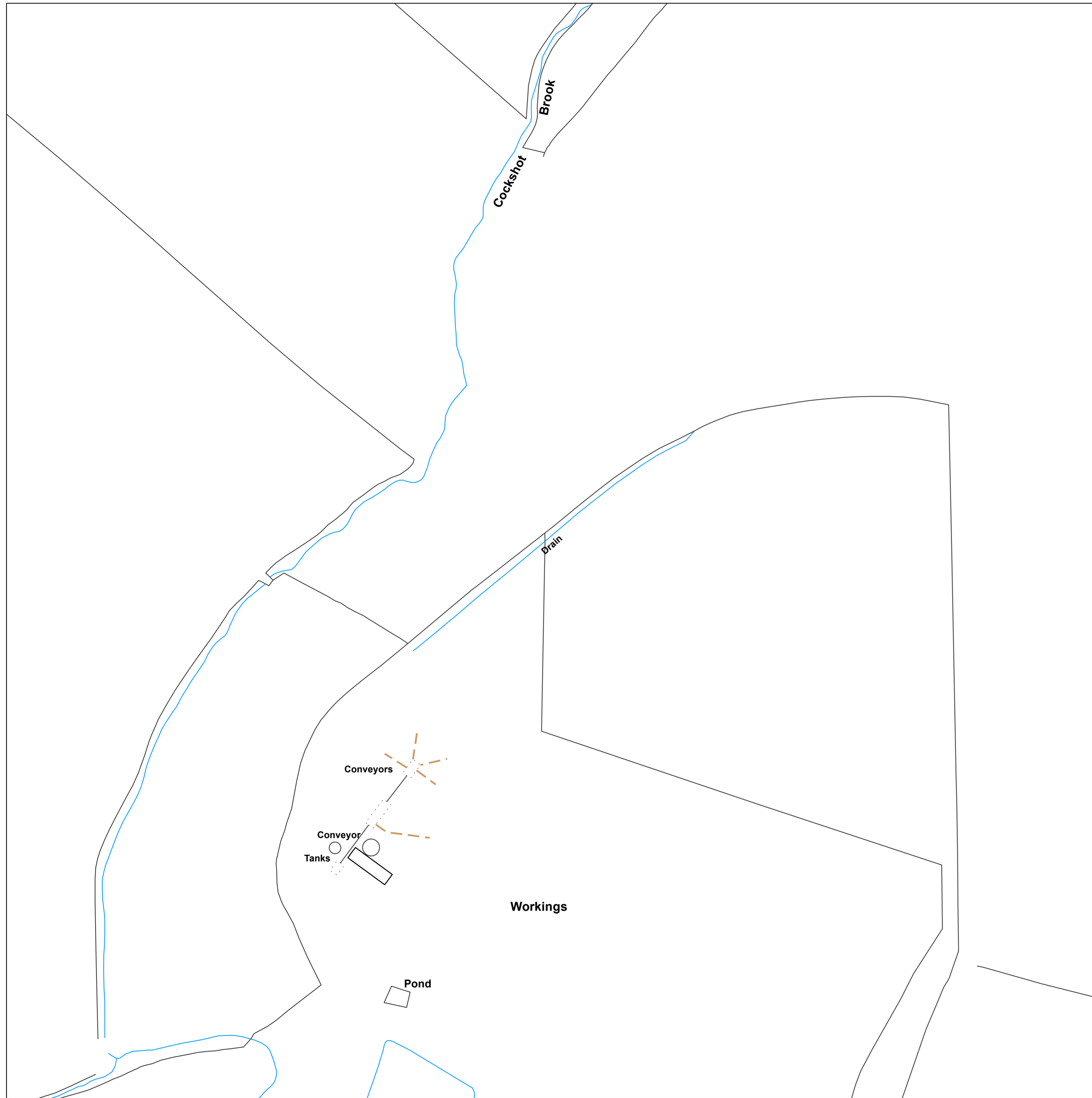
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Reho Cover Func Invert Size x Size y Shape Mat Length Grad Reho Cover Func Invert Size x Size y Shape Mat Length Grad

WASTE WATER SYMBOLOGY

Foul	Surface	Combined	Overflow	Manhole
				Manhole, Side Entry
				MainSewer, Public
				MainSewer, Private
				MainSewer, S104
				Rising Main, Public
				Rising Main, Private
				Rising Main, S104
				Highway Drain, Private

Foul	Surface	Combined	WW Site Termination	Sludge Main, Public

LEGEND

MANHOLE FUNCTION			
FO	Foul		
SW	Surface Water		
CO	Combined		
OV	Overflow		
SEWER SHAPE			
CI	Circular		
EG	Egg		
OV	Oval		
FT	Flat Top		
RE	Rectangular		
SQ	Square		
TR	Trapezoidal		
AR	Arch		
BA	Barrel		
HO	HorseShoe		
UN	Unspecified		
SEWER MATERIAL			
AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
CSU	Concrete Segment Unbolted	PP	Polypropylene
CC	Concrete Box Culverted	PF	Pitch Fibre
PSC	Plastic/Steel Composite	MAC	Masonry, Coursed
GRC	Glass Reinforced Concrete	MAR	Masonry, Random
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OS Sheet No: SJ6294SW
 Scale: 1:1250 Date: 21/08/2017





Reho Cover Func Invert Size x Size y Shape Mat Length Grad Reho Cover Func Invert Size x Size y Shape Mat Length Grad

WASTE WATER SYMBOLOGY

Foul	Surface	Combined	Overflow	Manhole
				Manhole, Side Entry
				MainSewer, Public
				MainSewer, Private
				MainSewer, S104
				Rising Main, Public
				Rising Main, Private
				Rising Main, S104
				Highway Drain, Private

Foul	Surface	Combined	Manhole
			WWT Site Termination
			Air Valve
			Cascade
			Non Return Valve
			Extent of Survey
			Flow Meter
			Gully
			Hatch Box
			Head of System
			Hydrobrake / Vortex
			Inlet
			Inspection Chamber
			Bifurcation
			Catchpit
			Contaminated Surface Water
			WW Pumping Station
			Sludge Pumping Station
			Sewer Overflow
			T Junction/Saddle
			LampHole
			Oil Interceptor
			PenStock
			Pump
			RoddingEye
			Soakaway
			Summit
			Valve
			Valve Chamber
			Washout Chamber
			DropShaft
			WW Treatment Works
			Septic Tank
			Vent Column
			Network Storage Tank
			Orifice Plate
			Vortex Chamber
			Penstock Chamber
			Blind Manhole
			Screen Chamber
			Discharge Point
			Outfall

ABANDONED PIPE

	MainSewer
	Rising Main
	Highway Drain
	Sludge Main

LEGEND

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

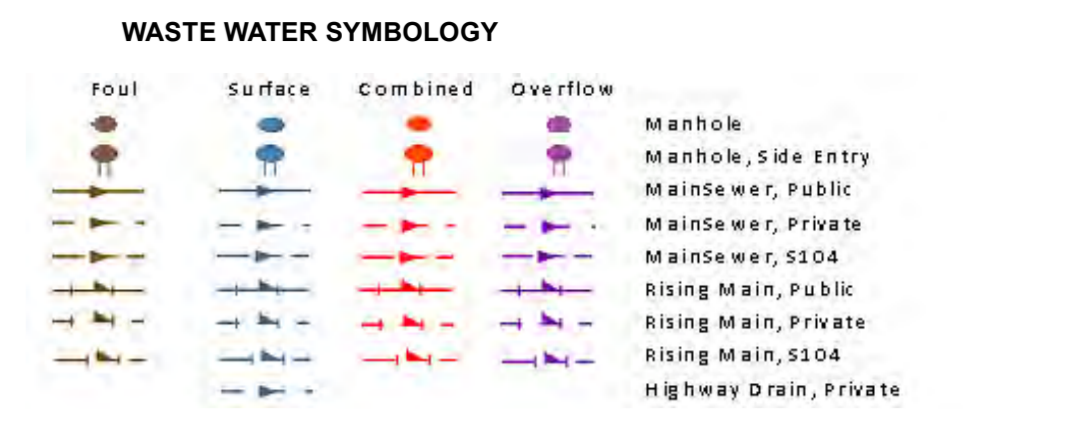
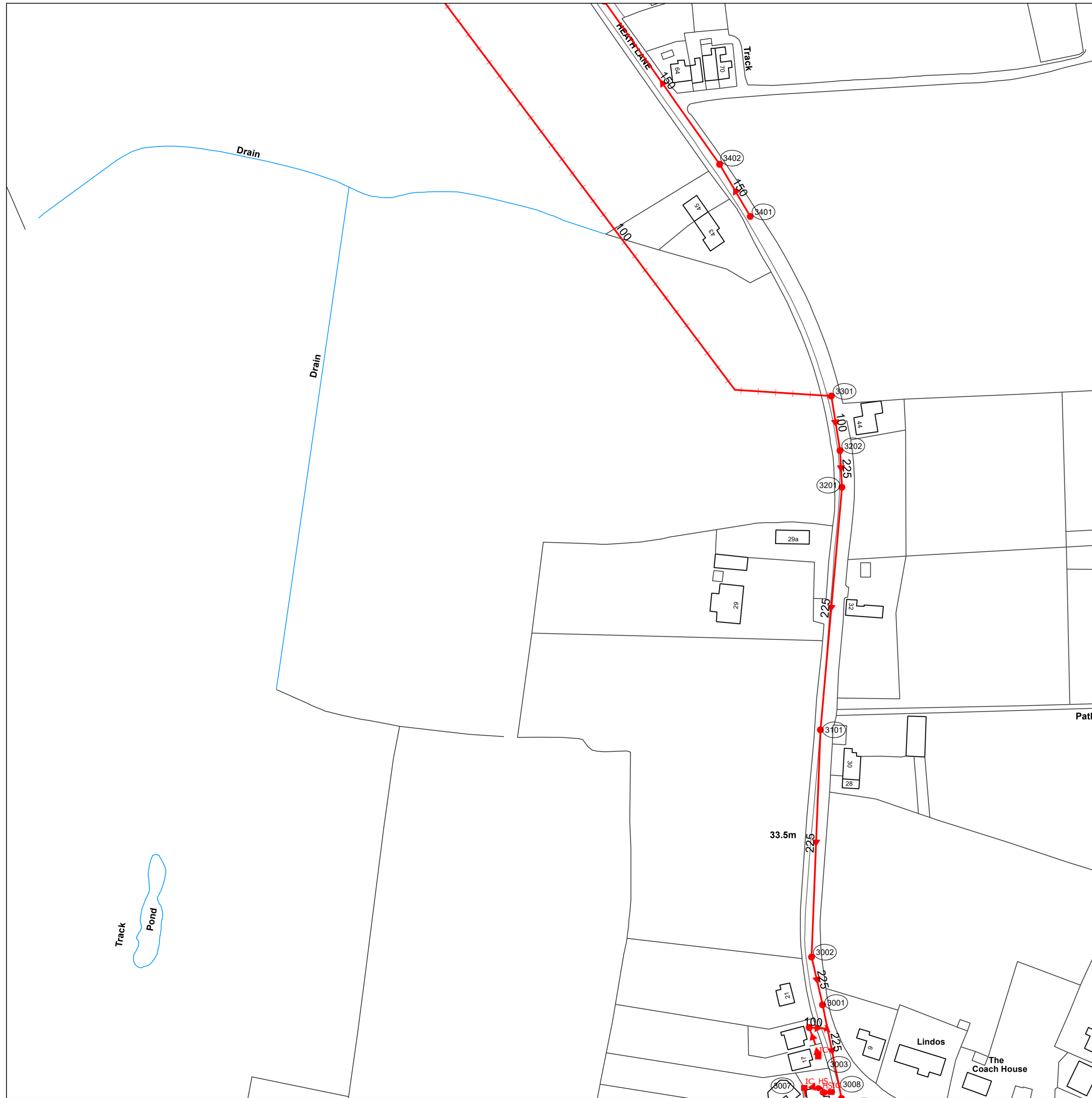
SEWER MATERIAL

AC	Asbestos Cement	DI	Ductile Iron
BR	Brick	PVC	Polyvinyl Chloride
PE	Polyethylene	CI	Cast Iron
RP	Reinforced Plastic Matrix	SI	Spun Iron
CO	Concrete	ST	Steel
CSB	Concrete Segment Bolted	VC	Vitrified Clay
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GRC	Glass Reinforced Concrete	MAR	Masonry, Random
GRP	Glass Reinforced Plastic	U	Unspecified

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OS Sheet No: SJ6294SE
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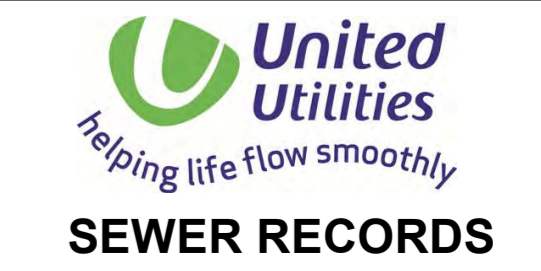


LEGEND

MANHOLE FUNCTION	FO Foul	SW Surface Water	CO Combined	OV Overflow																		
SEWER SHAPE	CI Circular	EG Egg	OV Oval	FT Flat Top	RE Rectangular	SQ Square	TR Trapezoidal	AR Arch	BA Barrel	HO HorseShoe	UN Unspecified											
SEWER MATERIAL	AC Asbestos Cement	BR Brick	PE Polyethylene	RP Reinforced Plastic Matrix	CO Concrete	CSB Concrete Segment Bolted	CSU Concrete Segment Unbolted	CC Concrete Box Culverted	PSC Plastic/Steel Composite	GRC Glass Reinforced Concrete	GRP Glass Reinforced Plastic	DI Ductile Iron	PVC Polyvinyl Chloride	CI Cast Iron	SI Spun Iron	ST Steel	VC Vitrified Clay	PP Polypropylene	PF Pitch Fibre	MAR Masonry, Coursed	MAS Masonry, Random	U Unspecified

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 Scale: 1:1250 Date: 21/08/2017
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OS Sheet No: SJ6394SW

Scale: 1:1250 Date: 21/08/2017

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

**Manchester
M2 5GP**

FAO: Natalia Marsden

Dear Sirs

Location:

I acknowledge with thanks your request dated 18/08/17 for information on the location of our services.

Please find enclosed plans showing the approximate position of our apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

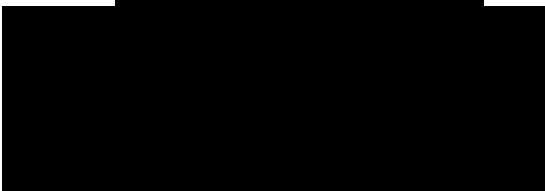
If you are planning works anywhere in the North West, please read our access statement before you start work to check how it will affect our network.

<http://www.unitedutilities.com/work-near-asset.aspx>

I trust the above meets with you requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please telephone us on 0370 7510101.

Yours Faithfully,



Karen McCormack
Property Searches Manager

United Utilities Water Limited

Property Searches
Ground Floor Grasmere House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP

Telephone 0370 751 0101

Property.searches@uuplc.co.uk

Your Ref: LAND NW OF CROFT- NORTH
Our Ref: 1319673
Date: 21/8/2017

TERMS AND CONDITIONS - WASTERWATER & WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self-construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

TERMS AND CONDITIONS:

1. This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
2. This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
3. In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only and given in accordance with the best information available. The nature of the relevant system and/or its actual position may be different from that shown on the plan and UUWL is not liable for any damage caused by incorrect information provided save as stated in section 199 of the Water Industry Act 1991. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
4. The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
5. The position and depth of UUWL apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.
6. This Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) in the vicinity of UUWL apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.
7. No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising for any damage caused to UUWL apparatus by reason of the actual position and/or depths of UUWL apparatus being different from those shown on the Map and any information supplied with it.
8. If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
9. This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.

WASTE WATER SYMBOLOGY

Foul	Surface	Combined	Overflow	
MainSewer, Public	MainSewer, Private	MainSewer, S104	Rising Main, Public	Rising Main
Rising Main, Private	Rising Main, S104	Highway Drain, Private	Highway Drain	Sludge Main
Manhole			Sludge Main, Public	
Manhole, Side Entry			Sludge Main, Private	
MainSewer, Public			Sludge Main, S104	
MainSewer, Private				
MainSewer, S104				
Rising Main, Public				
Rising Main, Private				
Rising Main, S104				
Highway Drain, Private				

WW Site Termination			Sludge Pumping Station	
Air Valve				
Cascade			Sewer Overflow	
Non Return Valve				
Extent of Survey			T Junction/Saddle	
Flow Meter				
Gully			LampHole	
Hatch Box				
Head of System			OilInterceptor	
Hydrobrake / Vortex				
Inlet			PenStock	
Inspection Chamber				
Bifurcation			Pump	
Catchpit				
WW Pumping Station			RoddingEye	
			Soakaway	
			Summit	
			Valve	
			Valve Chamber	
			Washout Chamber	
			DropShaft	
			WW Treatment Works	

Septic Tank		
Vent Column		
Network Storage Tank		
Orifice Plate		
Vortex Chamber		
Penstock Chamber		
Blind Manhole		
Screen Chamber		
Discharge Point		
Outfall		
		Control Kiosk
		Unspecified

Legend

MANHOLE FUNCTION	SEWER SHAPE		
FO Foul	CI Circular	TR	Trapezoidal
SW Surface Water	EG Egg	AR	Arch
CO Combined	OVal	BA	Barrel
OV Overflow	FT Flat Top	HO	HorseShoe
	RE Rectangular	UN	Unspecified
	SQ Square		
SEWER MATERIAL			
AC Asbestos Cement	DI Ductile Iron	VC Vitrified Clay	
BR Brick	PP Polypropylene	MA Masonry, Coursed	
CO Concrete	PF Pitched Fibre	MA Masonry, Random	
CSB Concrete Segment	RP Reinforced Plastic		
CSU Concrete Segment	CI Cast Iron		
CC Concrete Box Culvert	SI Spun Iron		
PSC Plastic / Steel	ST Steel		
GR Glass Reinforced	U Unspecified		
GRP Glass Reinforced			
PVC Polyvinyl Chloride			
PE Polyethylene			

CLEAN WATER SYMBOLOGY

PIPE WORK

Live	Proposed	
Trunk Main - PressurisedMain		
Raw Water Aqueduct - PressurisedMain		
Raw Water Aqueduct - GravityMain		
LDTM Raw Water Distribution - PressurisedMain		
LDTM Raw Water Distribution - GravityMain		
LDTM Treated Water Distribution - PressurisedMain		
LDTM Treated Water Distribution - GravityMain		
Private Pipe - LateralLine		
Distribution Main - PressurisedMain		
Comms Pipe - LateralLine		
Concessionary Service - LateralLine		

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

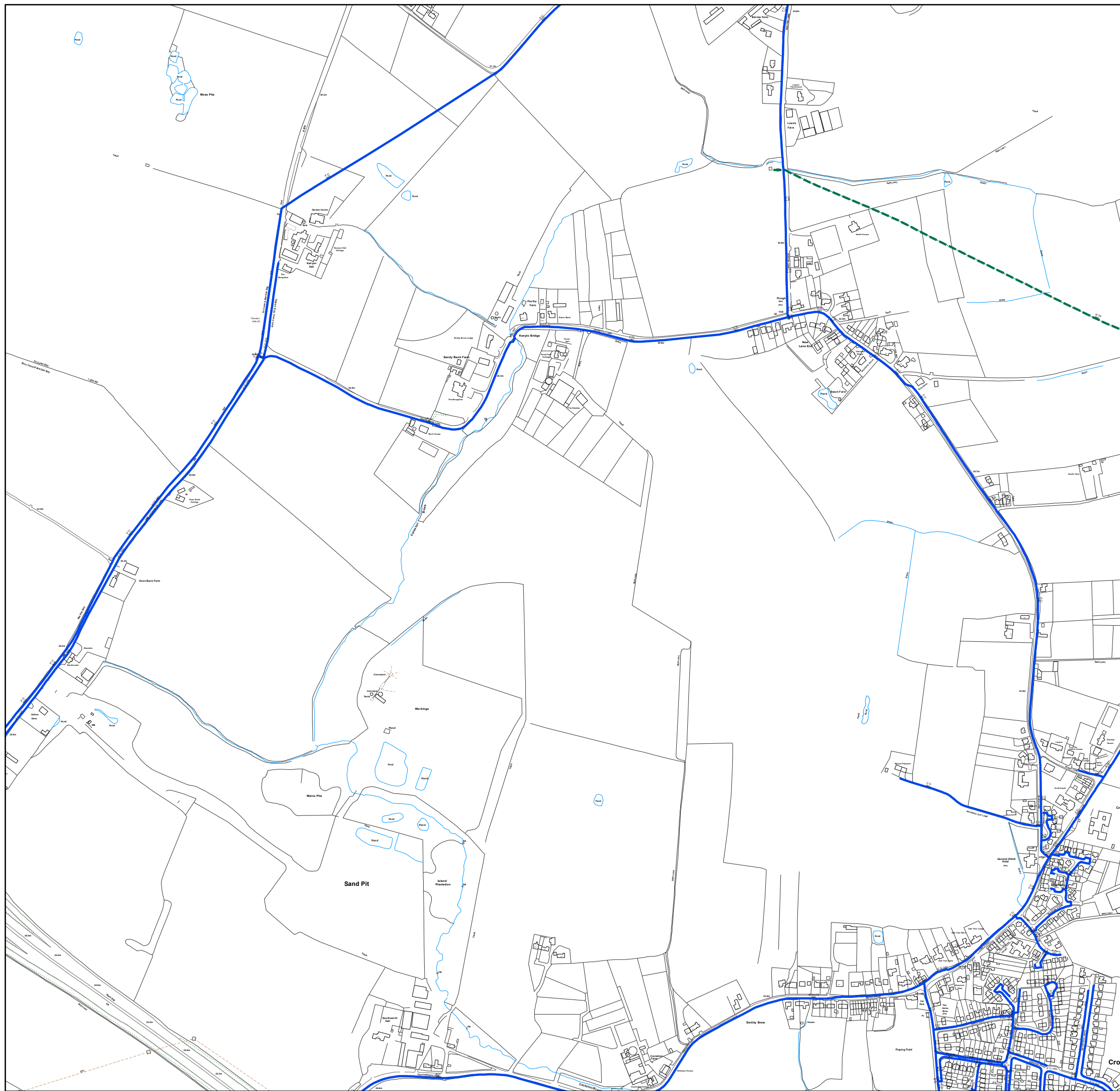
Live	Proposed	
Condition Report		
Pipe Bridges		
Tunnels (non carrier)		
Pumping Station		
Water Treatment Works		
Private Treatment Works		

NODES/FURNITURES

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

Legend

MATERIAL TYPES	LINING TYPES
AC ASBESTOS CEMENT	CL CEMENT LINING
CI CAST IRON	TB TAR OR BITUMEN
CU COPPER	ERL EPOXY RESIN
CO CONCRETE	INSERTION TYPES
DI DUCTILE IRON	DD DIE DRAWN
GI GALVANISED IRON	DR DIRECTIONAL DRILLING
GR GREY IRON	MO MILING
OT OTHERS	PI PIPELINE
PB LEAD	SL SLIP LINED
PV UPVC	
SI SPUN IRON	
ST STEEL	
UN UNKNOWN	
PE POLYETHYLENE	



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 NW of Croft - North

Printed By: Property Searches Date: 21/08/2017

DO NOT SCALE
Approximate Scale: 1:5000





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

**Manchester
M2 5GP**

FAO: Natalia Marsden

Dear Sirs

Location:

I acknowledge with thanks your request dated 18/08/17 for information on the location of our services.

Please find enclosed plans showing the approximate position of our apparatus known to be in the vicinity of this site.

The enclosed plans are being provided to you subject to the United Utilities terms and conditions for both the wastewater and water distribution plans which are shown attached.

If you are planning works anywhere in the North West, please read our access statement before you start work to check how it will affect our network.

<http://www.unitedutilities.com/work-near-asset.aspx>

I trust the above meets with you requirements and look forward to hearing from you should you need anything further.

If you have any queries regarding this matter please telephone us on 0370 7510101.

Yours Faithfully,



Karen McCormack
Property Searches Manager

United Utilities Water Limited

Property Searches
Ground Floor Grasmere House
Lingley Mere Business Park
Great Sankey
Warrington
WA5 3LP

Telephone 0370 751 0101

Property.searches@uuplc.co.uk

Your Ref: LAND NW OF CROFT- SOUTH
Our Ref: 1319670
Date: 21/8/2017

TERMS AND CONDITIONS - WASTERWATER & WATER DISTRIBUTION PLANS

These provisions apply to the public sewerage, water distribution and telemetry systems (including sewers which are the subject of an agreement under Section 104 of the Water Industry Act 1991 and mains installed in accordance with the agreement for the self-construction of water mains) (UUWL apparatus) of United Utilities Water Limited "(UUWL)".

TERMS AND CONDITIONS:

1. This Map and any information supplied with it is issued subject to the provisions contained below, to the exclusion of all others and no party relies upon any representation, warranty, collateral contract or other assurance of any person (whether party to this agreement or not) that is not set out in this agreement or the documents referred to in it.
2. This Map and any information supplied with it is provided for general guidance only and no representation, undertaking or warranty as to its accuracy, completeness or being up to date is given or implied.
3. In particular, the position and depth of any UUWL apparatus shown on the Map are approximate only and given in accordance with the best information available. The nature of the relevant system and/or its actual position may be different from that shown on the plan and UUWL is not liable for any damage caused by incorrect information provided save as stated in section 199 of the Water Industry Act 1991. UUWL strongly recommends that a comprehensive survey is undertaken in addition to reviewing this Map to determine and ensure the precise location of any UUWL apparatus. The exact location, positions and depths should be obtained by excavation trial holes.
4. The location and position of private drains, private sewers and service pipes to properties are not normally shown on this Map but their presence must be anticipated and accounted for and you are strongly advised to carry out your own further enquiries and investigations in order to locate the same.
5. The position and depth of UUWL apparatus is subject to change and therefore this Map is issued subject to any removal or change in location of the same. The onus is entirely upon you to confirm whether any changes to the Map have been made subsequent to issue and prior to any works being carried out.
6. This Map and any information shown on it or provided with it must not be relied upon in the event of any development, construction or other works (including but not limited to any excavations) in the vicinity of UUWL apparatus or for the purpose of determining the suitability of a point of connection to the sewerage or other distribution systems.
7. No person or legal entity, including any company shall be relieved from any liability howsoever and whensoever arising for any damage caused to UUWL apparatus by reason of the actual position and/or depths of UUWL apparatus being different from those shown on the Map and any information supplied with it.
8. If any provision contained herein is or becomes legally invalid or unenforceable, it will be taken to be severed from the remaining provisions which shall be unaffected and continue in full force and affect.
9. This agreement shall be governed by English law and all parties submit to the exclusive jurisdiction of the English courts, save that nothing will prevent UUWL from bringing proceedings in any other competent jurisdiction, whether concurrently or otherwise.

WASTE WATER SYMBOLOGY

				Manhole		Sludge Main, Public
				MainSewer, Public		Sludge Main, Private
				MainSewer, Private		Sludge Main, S104
				Rising Main, Public		Abandoned Pipe
				Rising Main, Private		MainSewer
				Rising Main, S104		Rising Main
				Highway Drain, Private		Highway Drain
				Highway Drain		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

				Septic Tank
				Vent Column
				Network Storage Tank
				Orifice Plate
				Vortex Chamber
				Penstock Chamber
				Blind Manhole
				Screen Chamber
				Discharge Point
				Outfall
				Control Kiosk
				Unspecified

Legend		
MANHOLE FUNCTION	SEWER SHAPE	
FO Foul	CI Circular	TR Trapezoidal
SW Surface Water	EG Egg	AR Arch
CO Combined	OVAL Oval	BA Barrel
OV Overflow	FT Flat Top	HO HorseShoe
	RE Rectangular	UN Unspecified
	SQ Square	
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

		Trunk Main - PressurisedMain
		Raw Water Aqueduct - PressurisedMain
		Raw Water Aqueduct - GravityMain
		LDTM Raw Water Distribution - PressurisedMain
		LDTM Raw Water Distribution - GravityMain
		LDTM Treated Water Distribution - PressurisedMain
		LDTM Treated Water Distribution - GravityMain
		Private Pipe - LateralLine
		Distribution Main - PressurisedMain
		Comms Pipe - LateralLine
		Concessionary Service - LateralLine

ABANDONED PIPE

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

NODES/FURNITURES

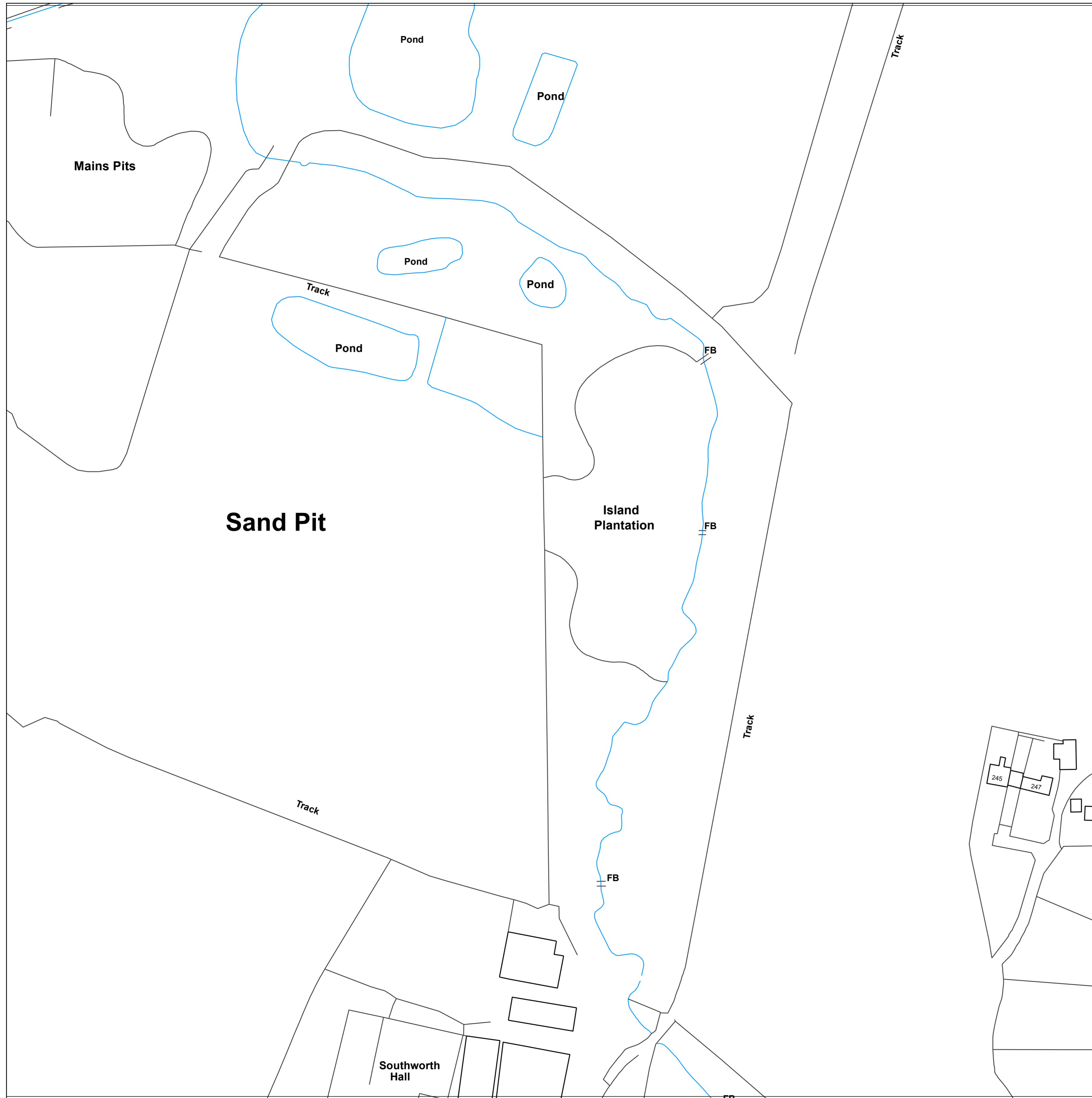
		End Cap
		CC Valve
		AC Valve
		Air Valve
		Sluice Valve
		Non Return Valve
		Pressure Management Valve
		Change of Characteristic
		Anode
		Chlorination Point
		De Chlorination Point
		Bore Hole
		Inlet Point
		Bulk Supply Point
		Fire Hydrant
		Hydrant

PROPERTY TYPES

		Condition Report
		Pipe Bridges
		Tunnels (non carrier)
		Pumping Station
		Water Treatment Works
		Private Treatment Works

		Valve House
		Water Tower
		Service Reservoir
		Supply Reservoir
		Abstraction Point
		Domestic meter
		Commercial meter
		Telemetry Outstation

Legend	
MATERIAL TYPES	LINING TYPES
AC ASBESTOS CEMENT	CL CEMENT LINING
CI CAST IRON	TB TAR OR BITUMEN
CU COPPER	ERL EPOXY RESIN
CO CONCRETE	
DI DUCTILE IRON	INSERTION TYPES
GI GALVANISED IRON	DD DIE DRAWN
GR GREY IRON	DR DIRECTIONAL DRILLING
OT OTHERS	MO MOLING
PB LEAD	PI PIPELINE
PV UPVC	SL SLIP LINED
SI SPUN IRON	
ST STEEL	
UN UNKNOWN	
PE POLYETHYLENE	



Reho Cover Func Invert Size x Size y Shape Mat Length Grad Reho Cover Func Invert Size x Size y Shape Mat Length Grad

WASTE WATER SYMBOLOGY

Foul	Surface	Combined	Overflow	Manhole
				Manhole, Side Entry
				MainSewer, Public
				MainSewer, Private
				MainSewer, S104
				Rising Main, Public
				Rising Main, Private
				Rising Main, S104
				Highway Drain, Private

Foul	Surface	Combined	Manhole

ABANDONED PIPE

	MainSewer
	Rising Main
	Highway Drain
	Sludge Main

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

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

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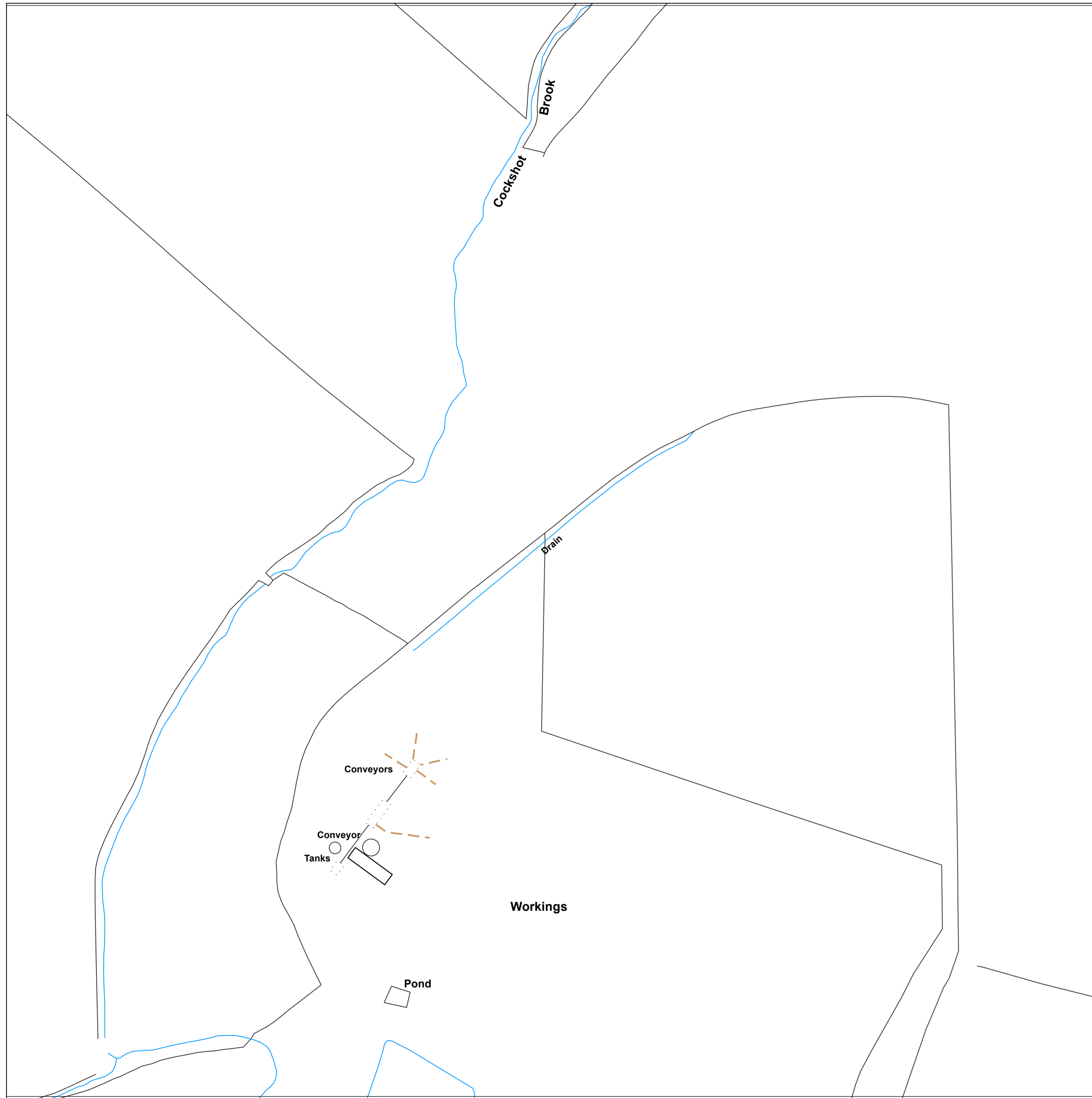
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 Scale: 1:1250 Date: 21/08/2017
 0 Nodes
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OS Sheet No: SJ6293NW

Scale: 1:1250 Date: 21/08/2017





Reho Cover Func Invert Size x Size y Shape Mat Length Grad Reho Cover Func Invert Size x Size y Shape Mat Length Grad

WASTE WATER SYMBOLOGY

Foul	Surface	Combined	Overflow	Manhole
				Manhole, Side Entry
				MainSewer, Public
				MainSewer, Private
				MainSewer, S104
				Rising Main, Public
				Rising Main, Private
				Rising Main, S104
				Highway Drain, Private

Foul	Surface	Combined	Function	Material
			WW Site Termination	Sludge Main, Public
			Air Valve	Sludge Main, Private
			Cascade	Sludge Main, S104
			Non Return Valve	
			Extent of Survey	
			Flow Meter	
			Gully	
			Hatch Box	
			Head of System	
			Hydrobrake / Vortex	
			Inlet	
			Inspection Chamber	
			Bifurcation	
			Catchpit	
			Contaminated Surface Water	
			WW Pumping Station	
			Sludge Pumping Station	
			Sewer Overflow	
			T Junction/Saddle	
			LampHole	
			Oil Interceptor	
			PenStock	
			Pump	
			RoddingEye	
			Soakaway	
			Summit	
			Valve	
			Valve Chamber	
			Washout Chamber	
			DropShaft	
			WW Treatment Works	
			Septic Tank	
			Vent Column	
			Network Storage Tank	
			Orifice Plate	
			Vortex Chamber	
			Penstock Chamber	
			Blind Manhole	
			Screen Chamber	Control Kiosk
			Discharge Point	Unspecified
			Outfall	

LEGEND

MANHOLE FUNCTION	
FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow
SEWER SHAPE	
CI	Circular
EG	Egg
OV	Oval
FT	Flat Top
RE	Rectangular
SQ	Square
TR	Trapezoidal
AR	Arch
BA	Barrel
HO	HorseShoe
UN	Unspecified
SEWER MATERIAL	
AC	Asbestos Cement
BR	Brick
PE	Polyethylene
RP	Reinforced Plastic Matrix
CO	Concrete
CSB	Concrete Segment Bolted
CSU	Concrete Segment Unbolted
CC	Concrete Box Culverted
PSC	Plastic/Steel Composite
GRC	Glass Reinforced Concrete
GRP	Glass Reinforced Plastic
DI	Ductile Iron
PVC	Polyvinyl Chloride
CI	Cast Iron
SI	Spun Iron
ST	Steel
VC	Vitrified Clay
PP	Polypropylene
PF	Pitch Fibre
MAC	Masonry, Coursed
MAR	Masonry, Random
U	Unspecified

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 Scale: 1:1250 Date: 21/08/2017
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OS Sheet No: SJ6294SW
 Scale: 1:1250 Date: 21/08/2017





Reho Cover Func Invert Size x Size y Shape Mat Length Grad Reho Cover Func Invert Size x Size y Shape Mat Length Grad

WASTE WATER SYMBOLOGY

Foul	Surface	Combined	Overflow	Manhole
				Manhole, Side Entry
				Main Sewer, Public
				Main Sewer, Private
				Main Sewer, S104
				Rising Main, Public
				Rising Main, Private
				Rising Main, S104
				Highway Drain, Private

Foul	Surface	Combined	Function	Function
			WW Site Termination	Sludge Main, Public
			Air Valve	Sludge Main, Private
			Cascade	Sludge Main, S104
			Non Return Valve	
			Extent of Survey	
			Flow Meter	
			Gully	
			Hatch Box	
			Head of System	
			Hydrobrake / Vortex	
			Inlet	
			Inspection Chamber	
			Bifurcation	
			Catchpit	
			Contaminated Surface Water	
			WW Pumping Station	
			Sludge Pumping Station	
			Sewer Overflow	
			T Junction/Saddle	
			LampHole	
			Oil Interceptor	
			PenStock	
			Pump	
			RoddingEye	
			Soakaway	
			Summit	
			Valve	
			Valve Chamber	
			Washout Chamber	
			DropShaft	
			WW Treatment Works	
			Septic Tank	
			Vent Column	
			Network Storage Tank	
			Orifice Plate	
			Vortex Chamber	
			Penstock Chamber	
			Blind Manhole	
			Screen Chamber	Control Kiosk
			Discharge Point	Unspecified
			Outfall	

LEGEND

MANHOLE FUNCTION
 FO Foul
 SW Surface Water
 CO Combined
 OV Overflow

SEWER SHAPE
 CI Circular TR Trapezoidal
 EG Egg AR Arch
 OV Oval BA Barrel
 FT Flat Top HO HorseShoe
 RE Rectangular UN Unspecified
 SQ Square

SEWER MATERIAL

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

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OS Sheet No: SJ6294SE
 Scale: 1:1250 Date: 21/08/2017
 0 Nodes
 Sheet 1 of 1





Reno	Cover Func	Invert	Size	Size y	Shape	Mat	Length	Grad	Reno	Cover Func	Invert	Size	Size y	Shape	Mat	Length	Grad
8501	22.84	CO	21.27	225	CI	VC	65.46	47									
8502	23.61	CO	21.69	225	CI	CO	27.36	144									
8503	23.77	CO	21.85	225	CI	CO	37.34	287									
9501	23.65	CO	21.93	225	CI	CO	34.38	573									
9502	23.28	CO	21.99	225	CI	CO	34	850									
9503		SW			CI	VC	6.39										
9506		CO			CI	VC	13.24										
9507		CO			CI												
9508		CO			CI	VC	27.55	145									
9504		CO	21.5	225	CI	VC	27.55	145									
9509		CO			CI												
9511		CO			CI												
9505		CO			CI												
9510		CO			CI												

WASTE WATER SYMBLOGY

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	WW Site Termination	Air Valve	Cascade	Non Return Valve	Extent of Survey	Flow Meter	Gulley	Hatch Box	Head of System	Hydrobrake / Vortex	Inlet	Inspection Chamber	Bifurcation	Catchpit	Contaminated Surface Water	WW Pumping Station	Sludge Pumping Station	Sewer Overflow	T Junction/Saddle	LampHole	Oil Interceptor	PenStock	Pump	RoddingEye	Soakaway	Summit	Valve	Valve Chamber	Washout Chamber	DropShaft	WW Treatment Works	Septic Tank	Vent Column	Network Storage Tank	Orifice Plate	Vortex Chamber	Penstock Chamber	Blind Manhole	Screen Chamber	Discharge Point	Outfall	Control Kiosk	Unspecified
			WW Site Termination																																										

LEGEND

MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

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

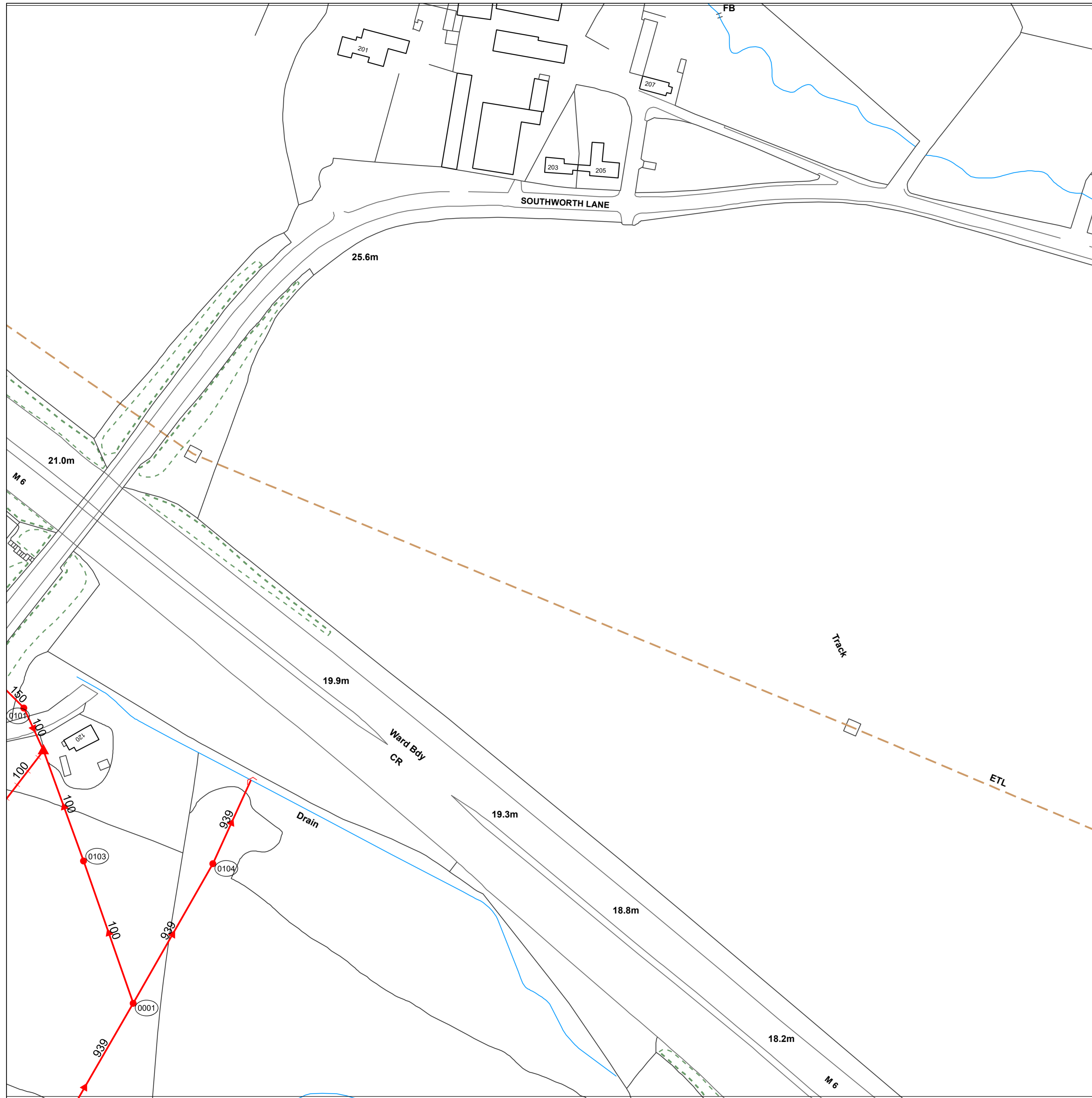
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 Scale: 1:1250 Date: 21/08/2017
 14 Nodes
 Sheet 1 of 1



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OS Sheet No: SJ6293NE
 Scale: 1:1250 Date: 21/08/2017



RatNo	Cover	Func	Invert	Size	Size	yShape	Mat	Length	Grad	RatNo	Cover	Func	Invert	Size	Size	yShape	Mat	Length	Grad
0001	CO	CO	0	100	CI	CO	21.45												
0103	CO	CO	0	100	CI	PVC	21.44												

WASTE WATER SYMOLOGY

					Manhole
					Manhole, Side Entry
					MainSewer, Public
					MainSewer, Private
					MainSewer, S104
					Rising Main, Public
					Rising Main, Private
					Rising Main, S104
					Highway Drain, Private

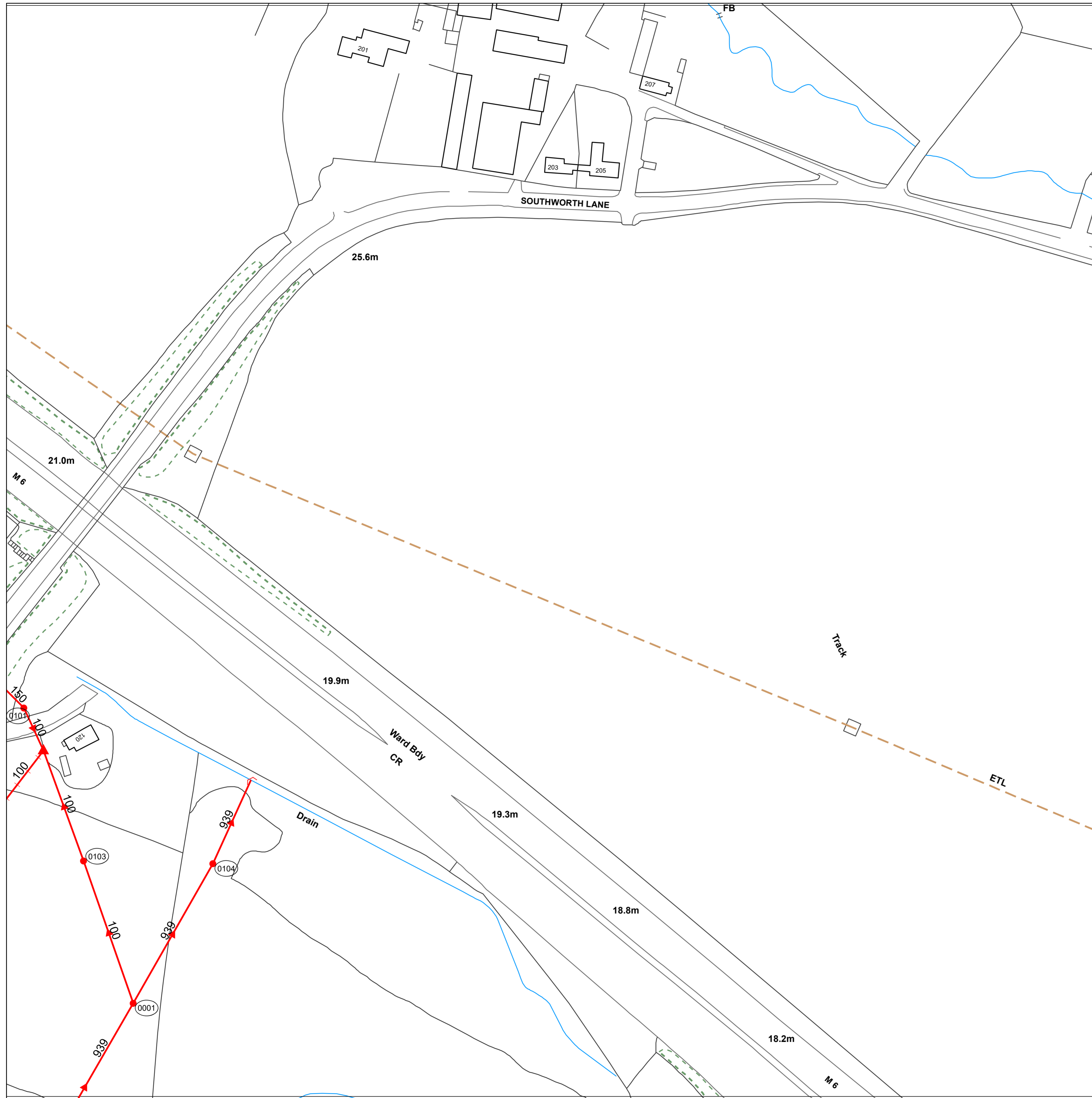
	WW Site Termination		Sludge Main, Public
	Air Valve		Sludge Main, Private
	Cascade		Sludge Main, S104
	Non Return Valve		
	Extent of Survey		
	Flow Meter		
	Gulley		
	Hatch Box		
	Head of System		
	Hydrobrake / Vortex		
	Inlet		
	Inspection Chamber		
	Bifurcation		
	Catchpit		
	Contaminated Surface Water		
	WW Pumping Station		
	Sludge Pumping Station		
	Sewer Overflow		
	T Junction/Saddle		
	LampHole		
	Oil Interceptor		
	PenStock		
	Pump		
	RoddingEye		
	Soakaway		
	Summit		
	Valve		
	Valve Chamber		
	Washout Chamber		
	DropShaft		
	WW Treatment Works		
	Septic Tank		
	Vent Column		
	Network Storage Tank		
	Orifice Plate		
	Vortex Chamber		
	Penstock Chamber		
	Blind Manhole		
	Screen Chamber		Control Kiosk
	Discharge Point		Unspecified
	Outfall		

LEGEND

MANHOLE FUNCTION	
FO Foul	
SW Surface Water	
CO Combined	
OV Overflow	
SEWER SHAPE	
CI Circular	TR Trapezoidal
EG Egg	AR Arch
OV Oval	BA Barrel
FT Flat Top	HO HorseShoe
RE Rectangular	UN Unspecified
SQ Square	
SEWER MATERIAL	
AC Asbestos Cement	DI Ductile Iron
BR Brick	PVC Polyvinyl Chloride
PE Polyethylene	CI Cast Iron
RP Reinforced Plastic Matrix	SI Spun Iron
CO Concrete	ST Steel
CSB Concrete Segment Bolted	VC Vitrified Clay
CSU Concrete Segment Unbolted	PP Polypropylene
CC Concrete Box Culverted	PF Pitch Fibre
PSC Plastic/Steel Composite	MAR Masonry, Coursed
GRC Glass Reinforced Concrete	MAR Masonry, Random
GRP Glass Reinforced Plastic	U Unspecified

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RatNo	Cover	Func	Invert	Size	Size	yShape	Mat	Length	Grad	RatNo	Cover	Func	Invert	Size	Size	yShape	Mat	Length	Grad
0001		CO										CO							
0101		CO	0	100		CI	CO	21.45				CO							
0103		CO										CO							
0104		CO	0	100		CI	PVC	21.44				CO							
0102		CO										CO							

WASTE WATER SYMBOLOGY

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ABANDONED PIPE

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LEGEND

MANHOLE FUNCTION	
FO Foul	
SW Surface Water	
CO Combined	
OV Overflow	
SEWER SHAPE	
CI Circular	TR Trapezoidal
EG Egg	AR Arch
OV Oval	BA Barrel
FT Flat Top	HO HorseShoe
RE Rectangular	UN Unspecified
SQ Square	
SEWER MATERIAL	
AC Asbestos Cement	DI Ductile Iron
BR Brick	PVC Polyvinyl Chloride
PE Polyethylene	CI Cast Iron
RP Reinforced Plastic Matrix	SI Spun Iron
CO Concrete	ST Steel
CSB Concrete Segment Bolted	VC Vitrified Clay
CSU Concrete Segment Unbolted	PP Polypropylene
CC Concrete Box Culverted	PF Pitch Fibre
PSC Plastic/Steel Composite	MAC Masonry, Coursed
GRC Glass Reinforced Concrete	MAR Masonry, Random
GRP Glass Reinforced Plastic	U Unspecified

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OS Sheet No: SJ6293SW
 Scale: 1:1250 Date: 21/08/2017
 5 Nodes
 Sheet 1 of 1

Printed By: Property Searches

OS Sheet No: SJ6293SW
 Scale: 1:1250 Date: 21/08/2017



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

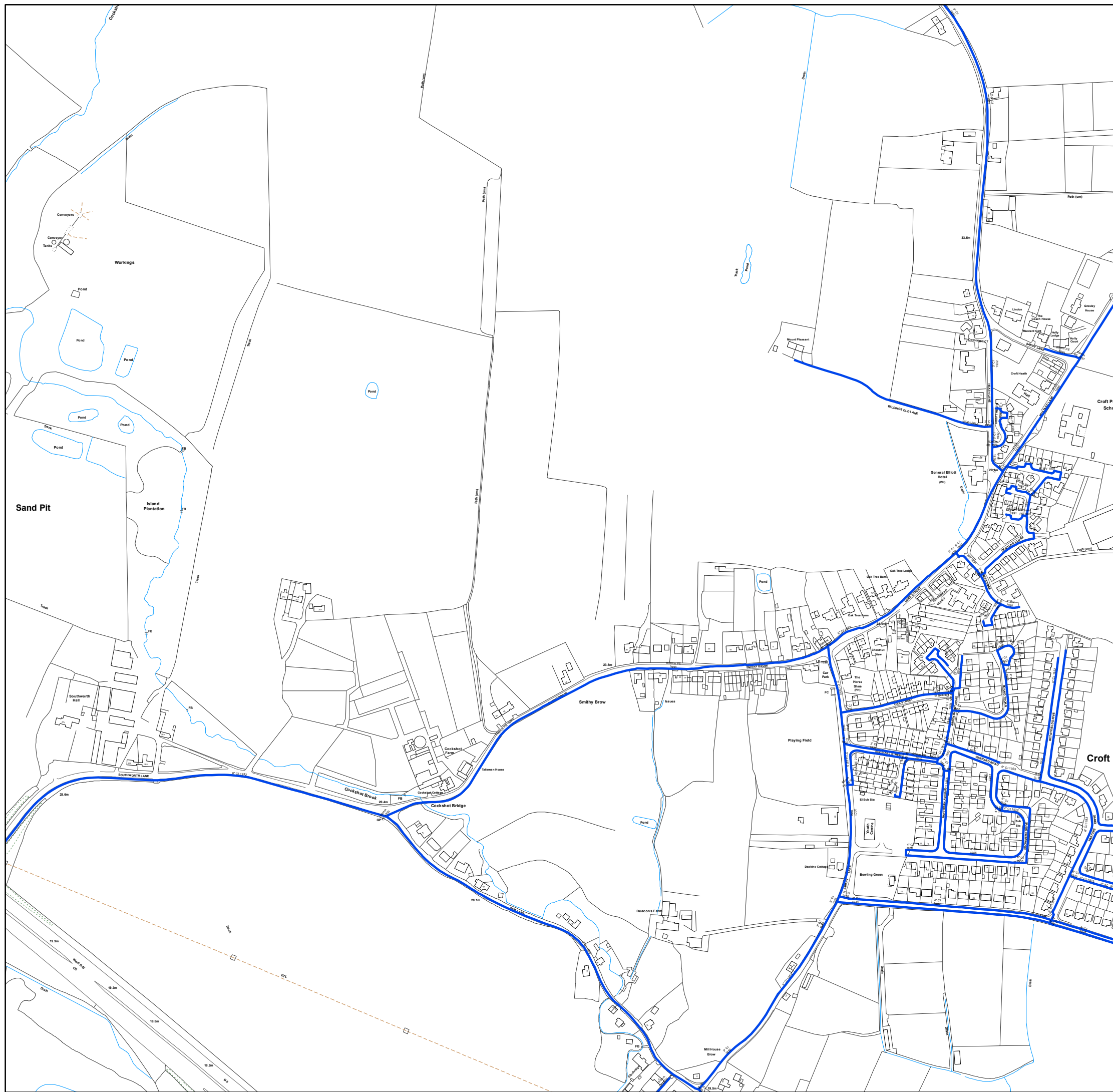
The actual positions may be different from those shown on the plan, private service pipes may be shown where a known record is available.

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United Utilities Water Limited 2014

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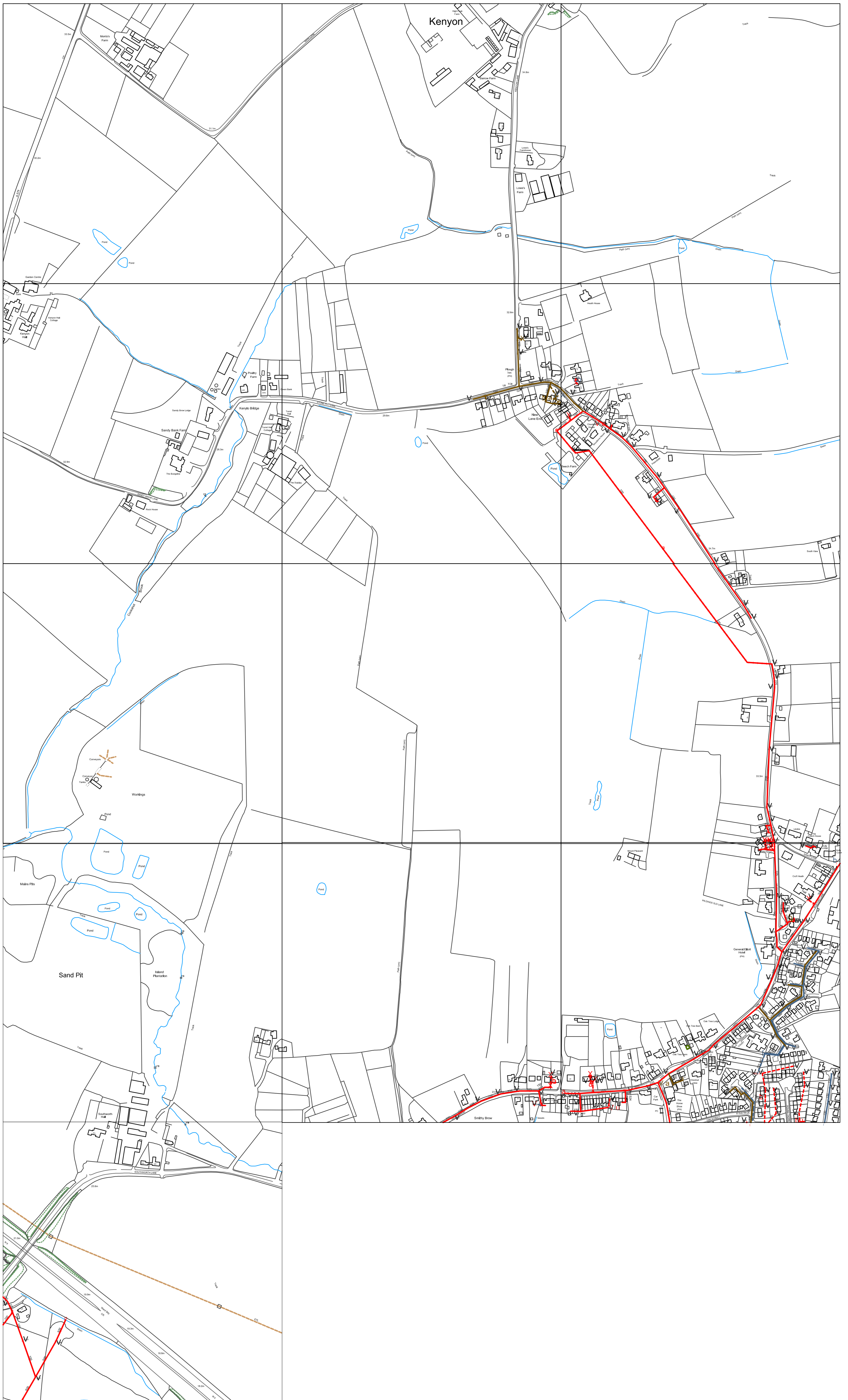
Land NW Of Croft - South



Printed By: Property Searches Date: 21/08/2017

DO NOT SCALE
Approximate Scale: 1:5000







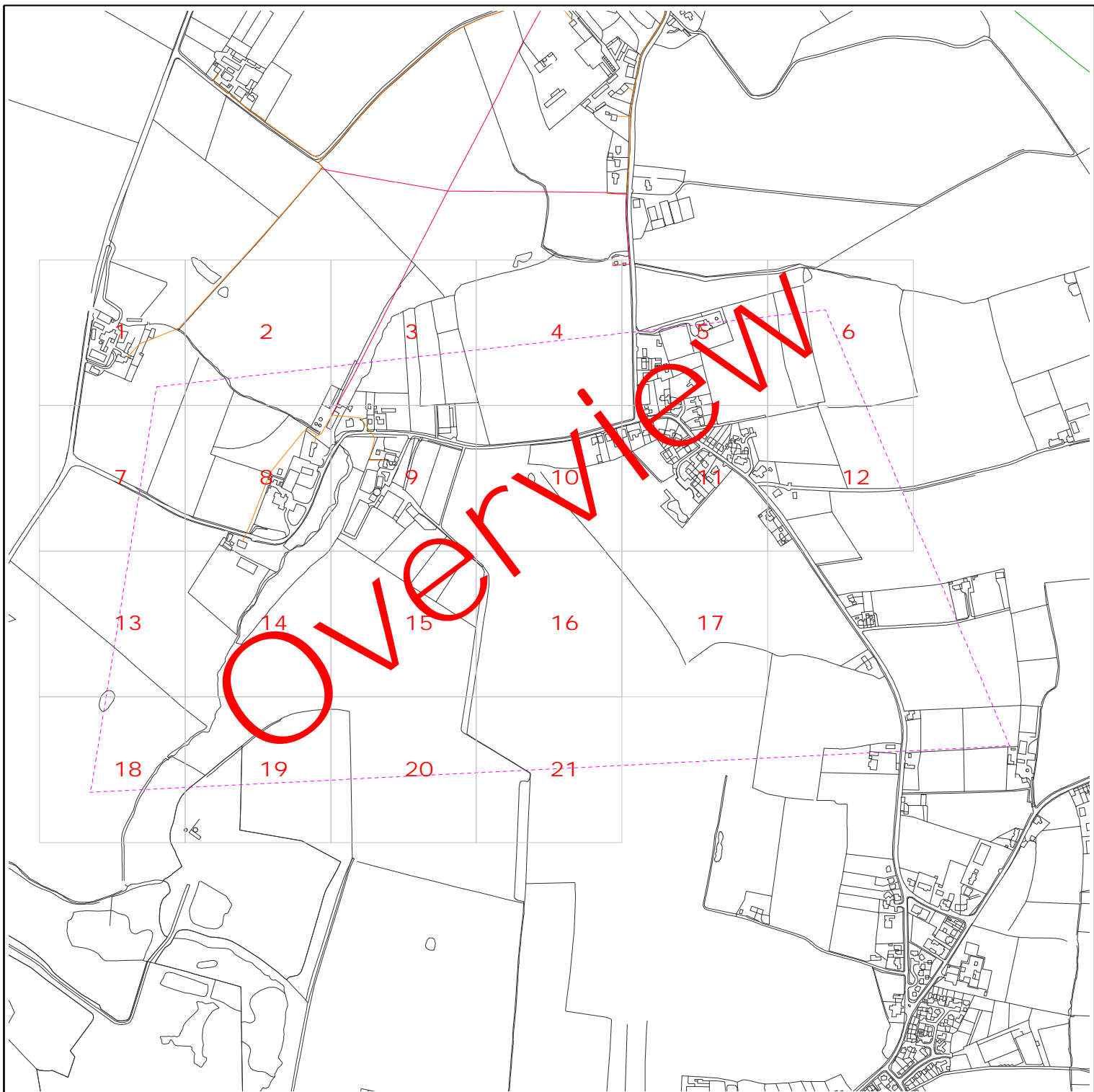
Shepherd Gilmour
Consulting Engineers

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: 10977683
 Your Scheme/Reference: Land North-West o

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
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 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
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 Job Reference: 10977683
 Your Scheme/Reference: Land North-West o

Dig Sites:
 Area Line

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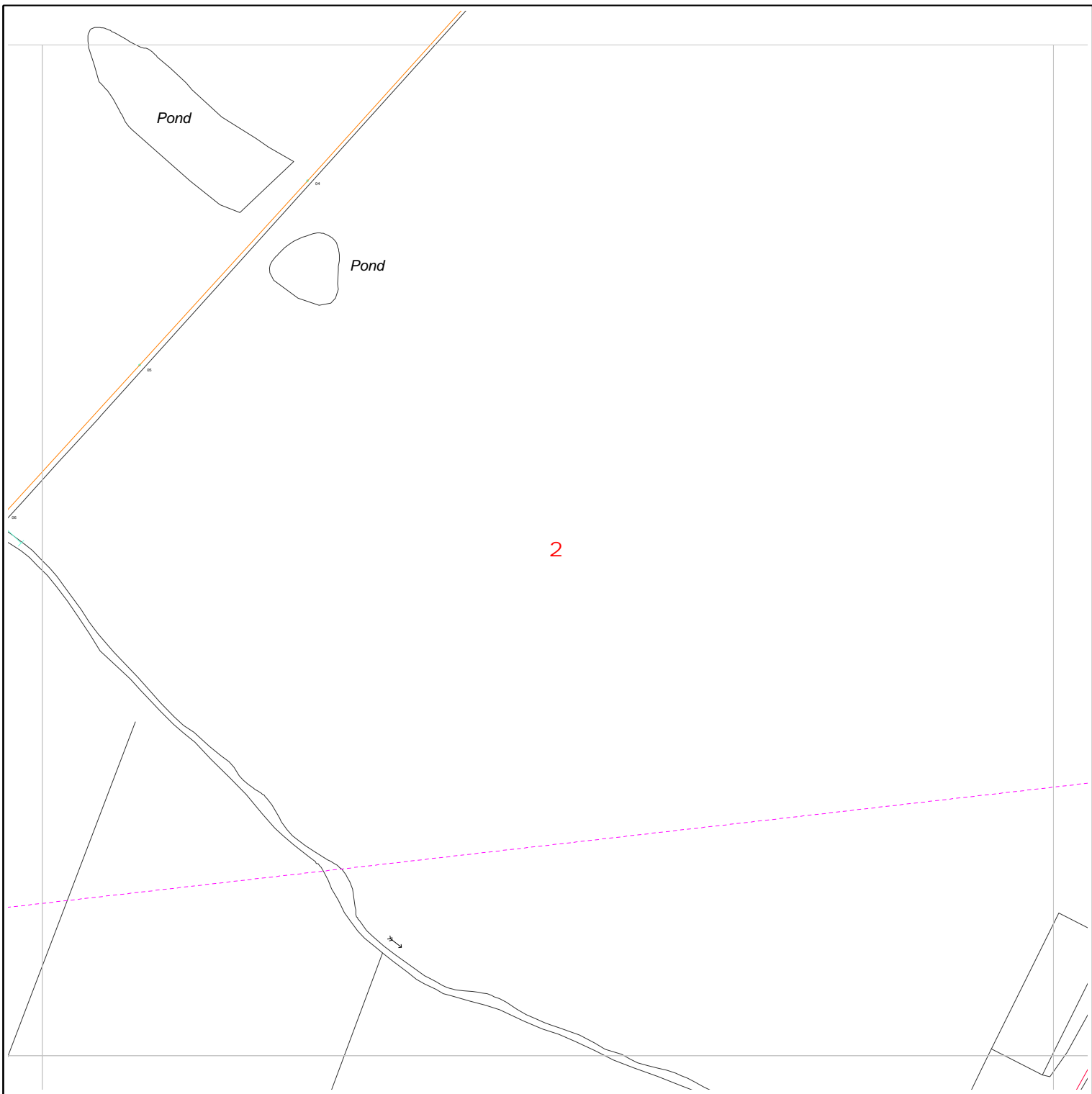
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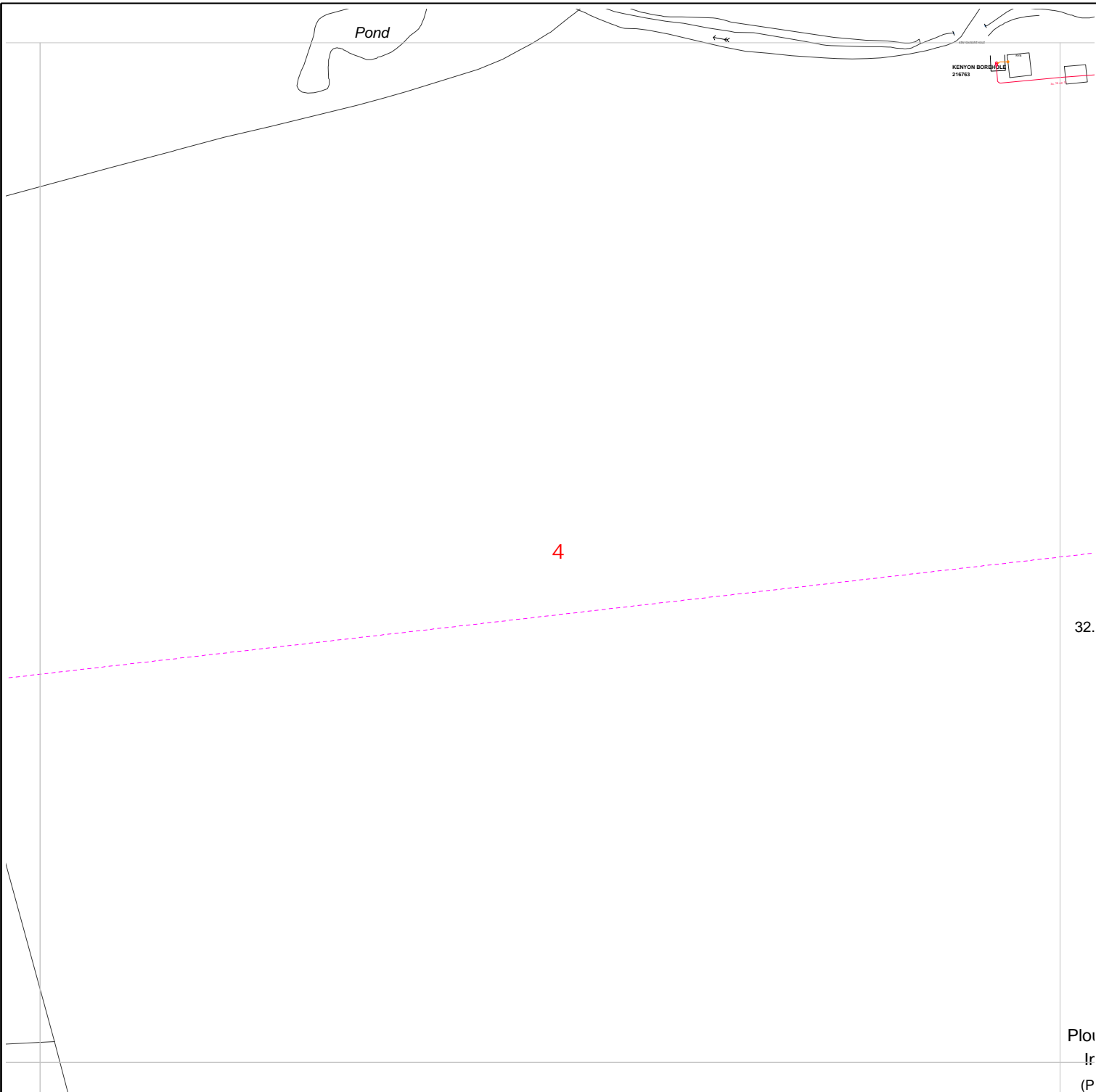
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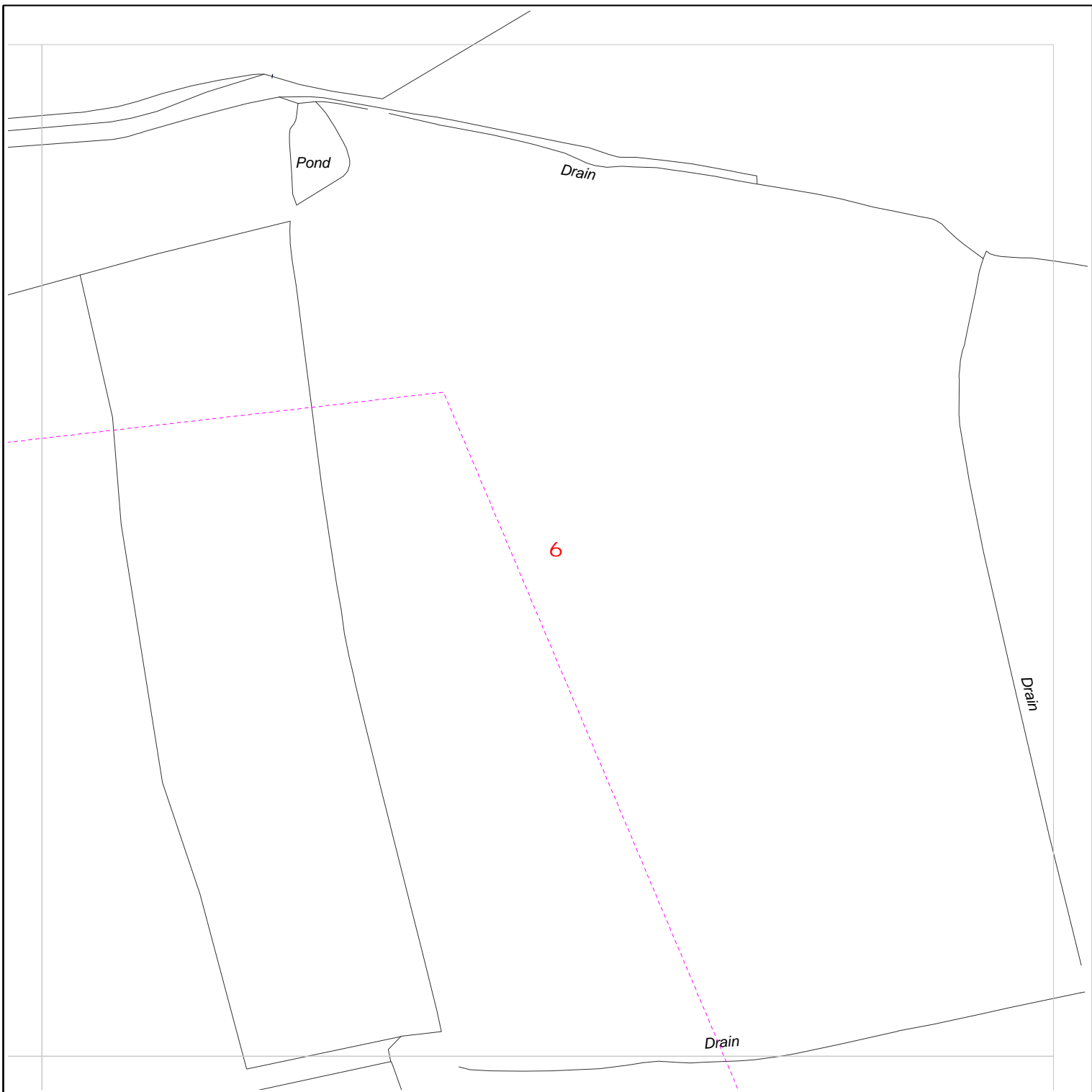
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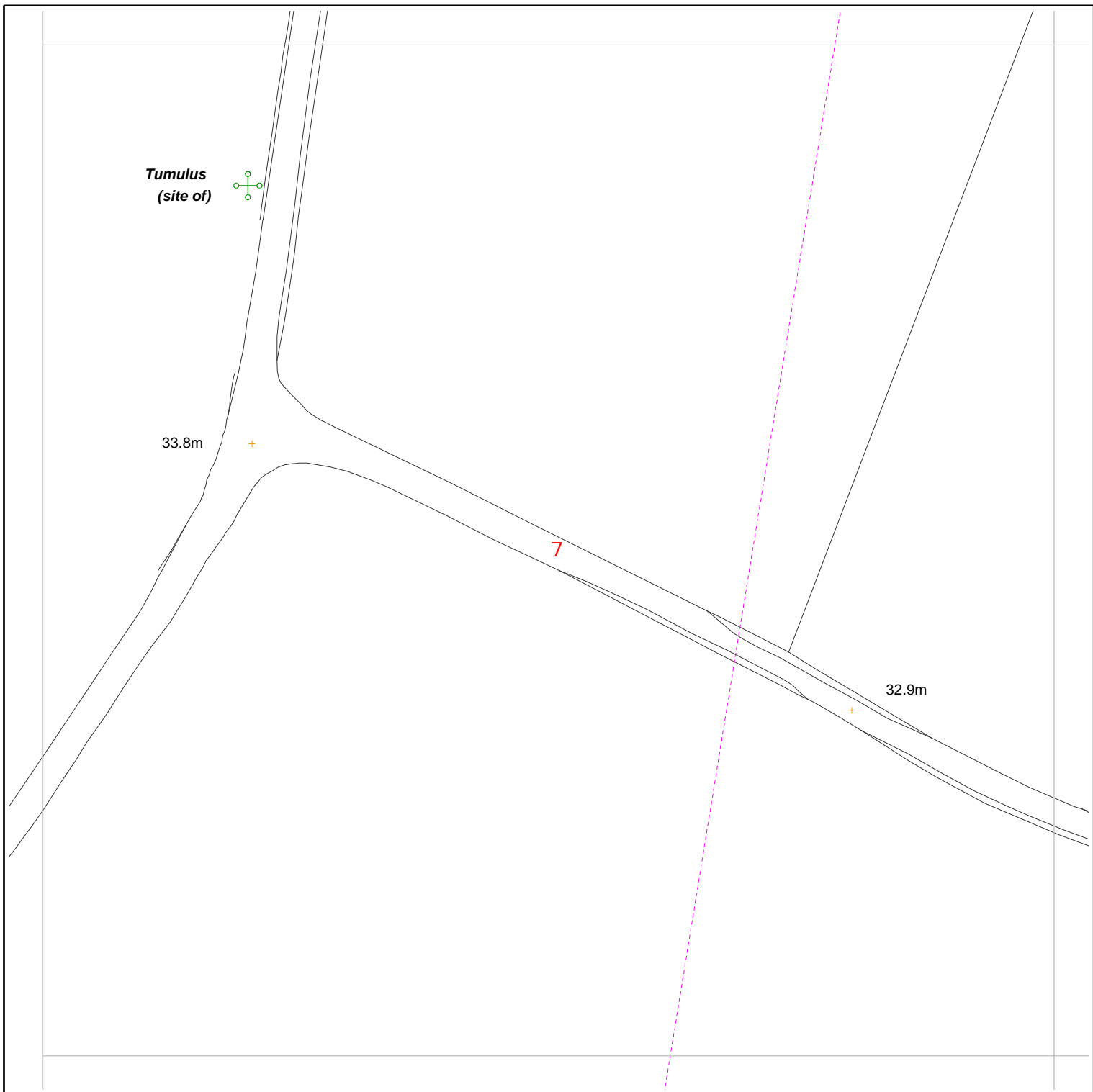
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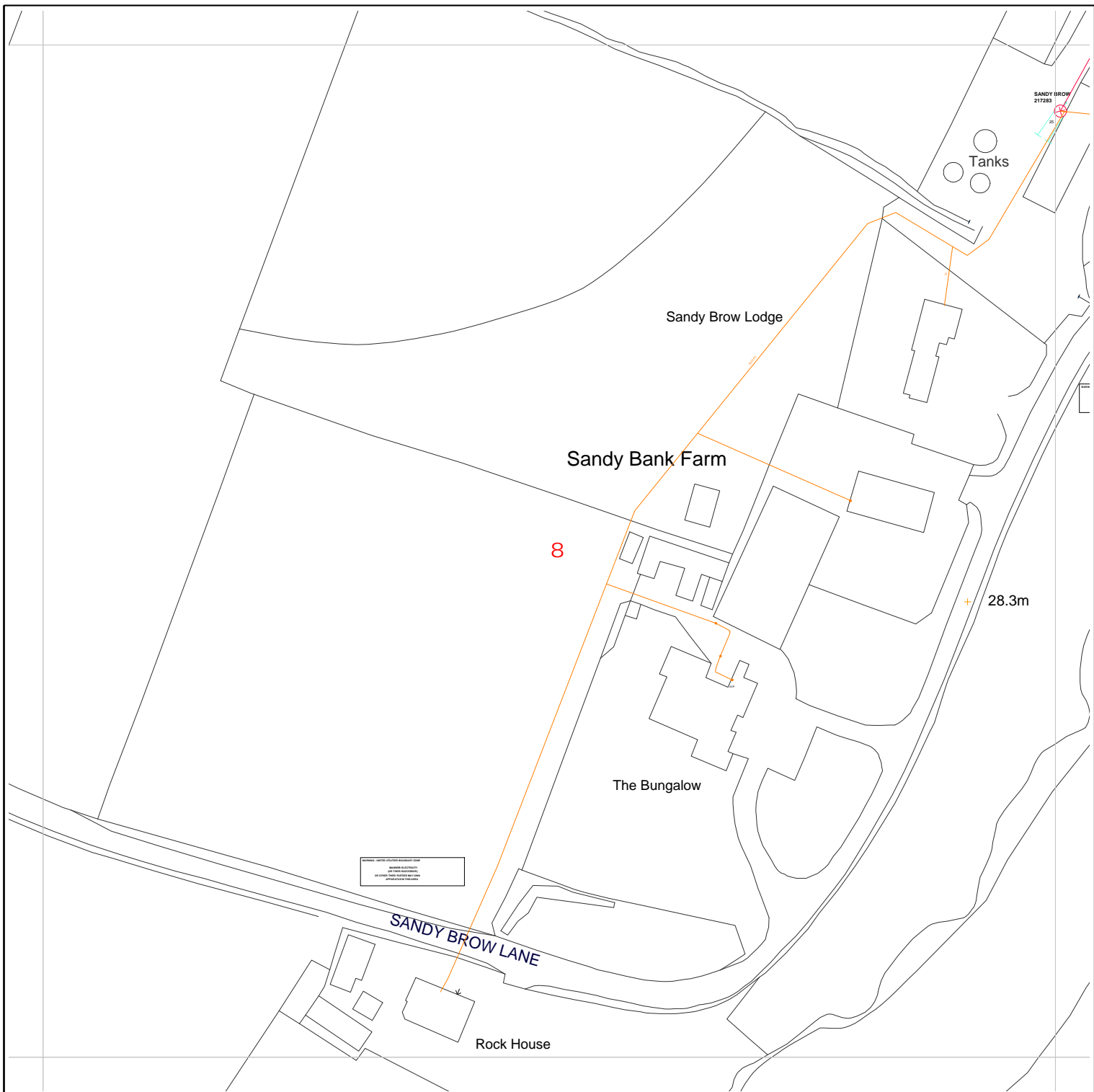
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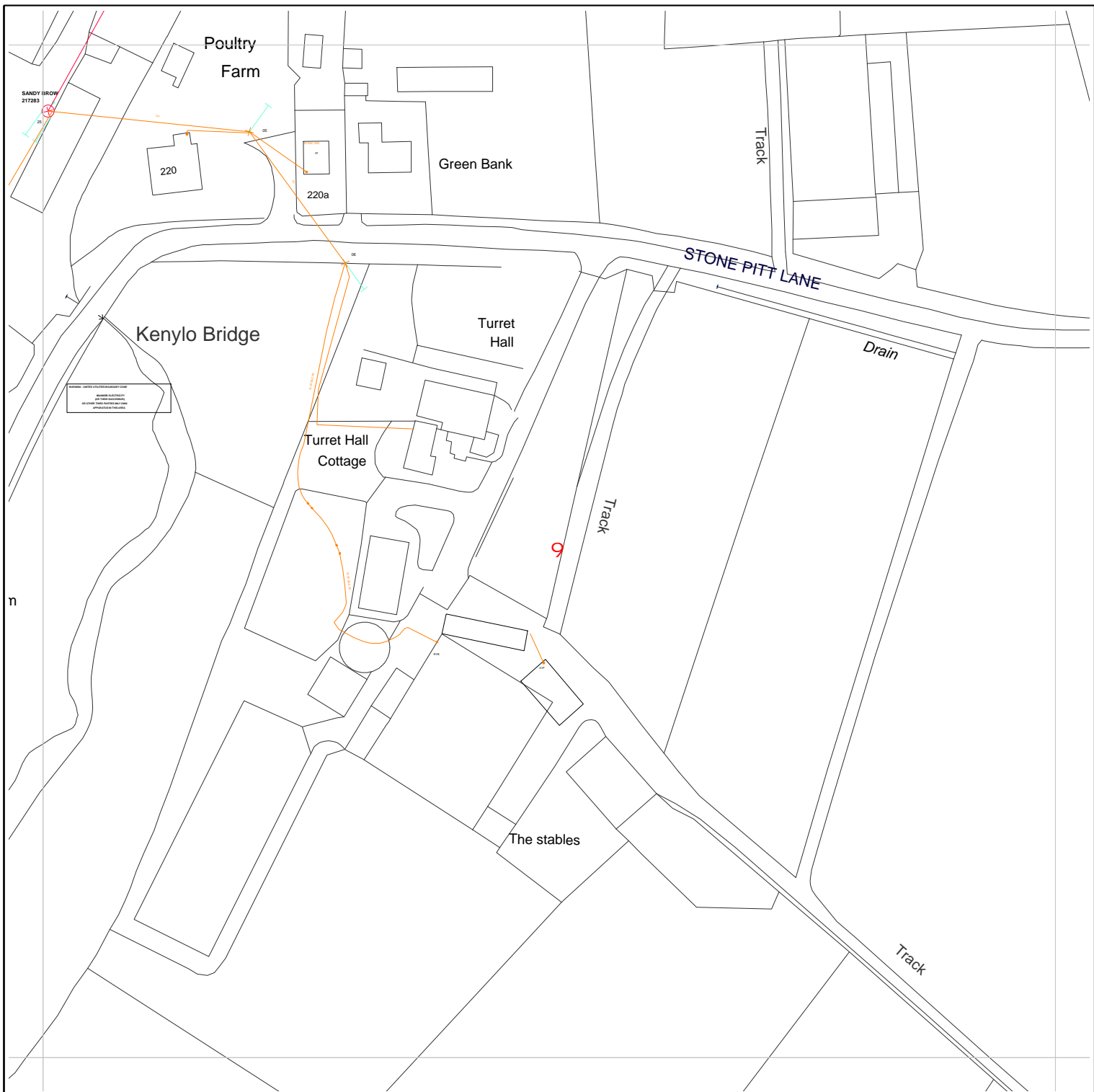
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 Job Reference: 10977683
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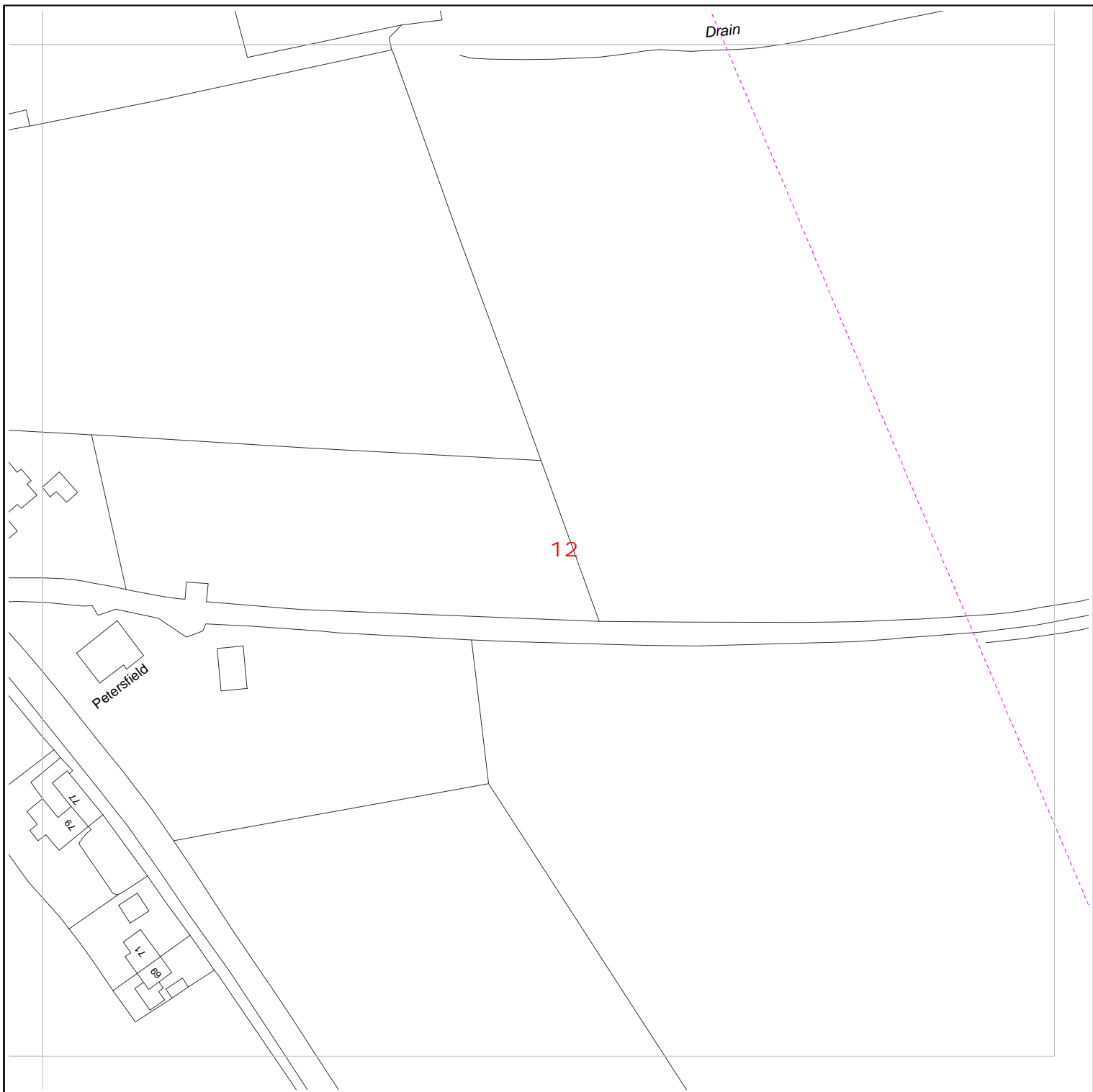
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Scales on A4 paper:
 1:1250 Area dig site
 1:250 Line dig site

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Requested by: Shepherd Gilmour
 Company: Shepherd Gilmour Infrastructure L
 Date Requested: 08/08/2017
 Job Reference: 10977683
 Your Scheme/Reference: Land North-West o

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:
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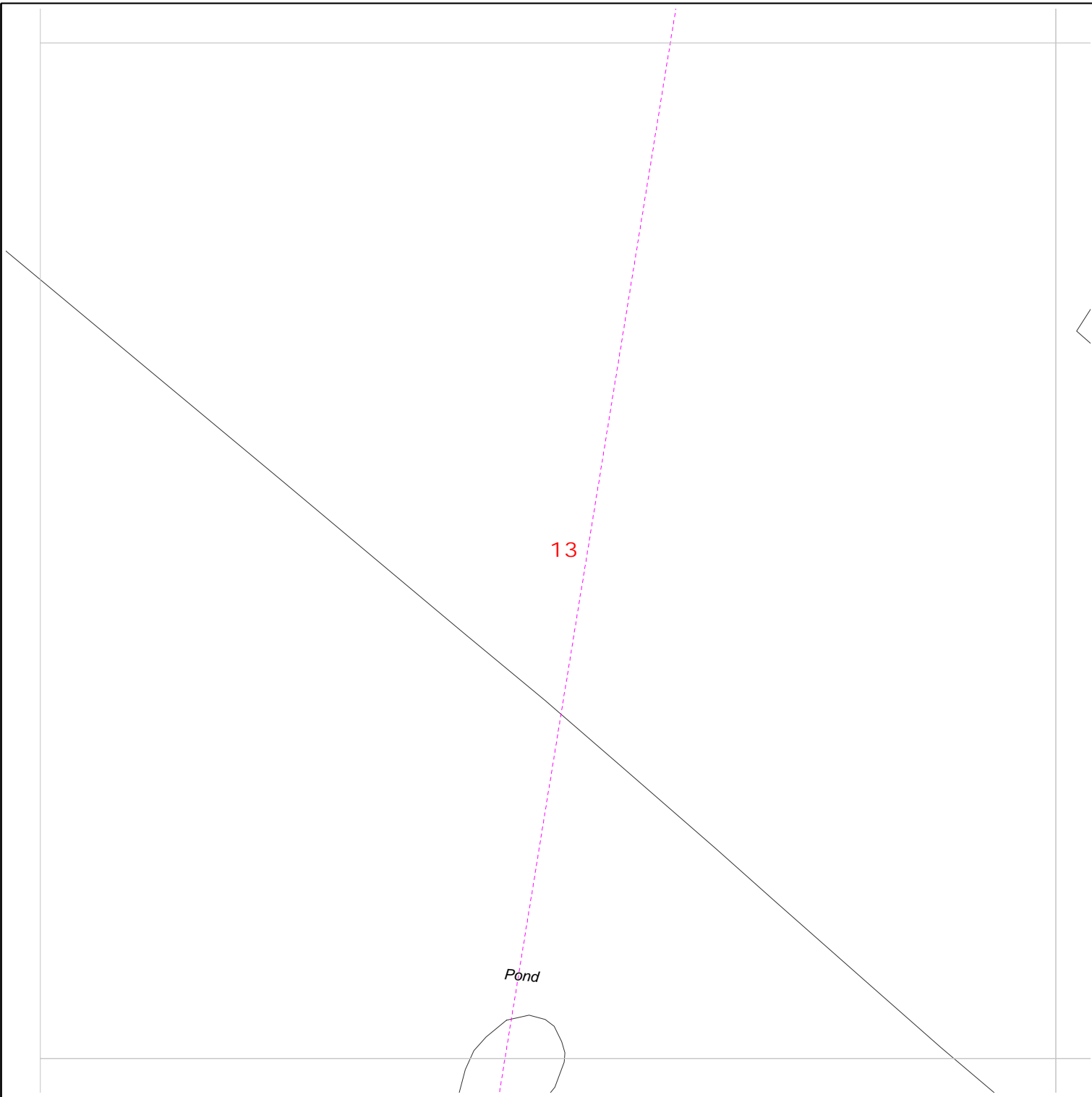
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15

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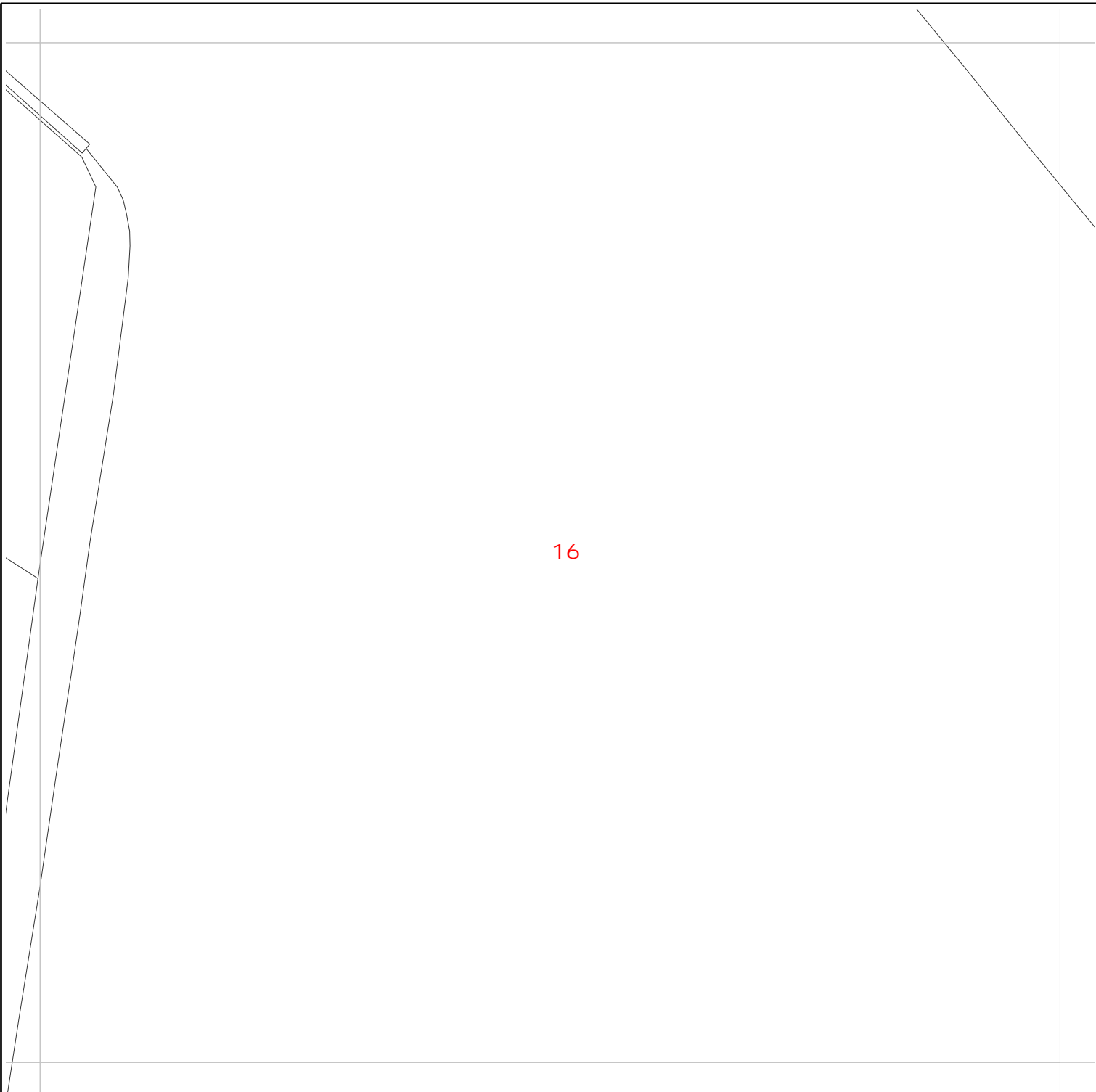
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16

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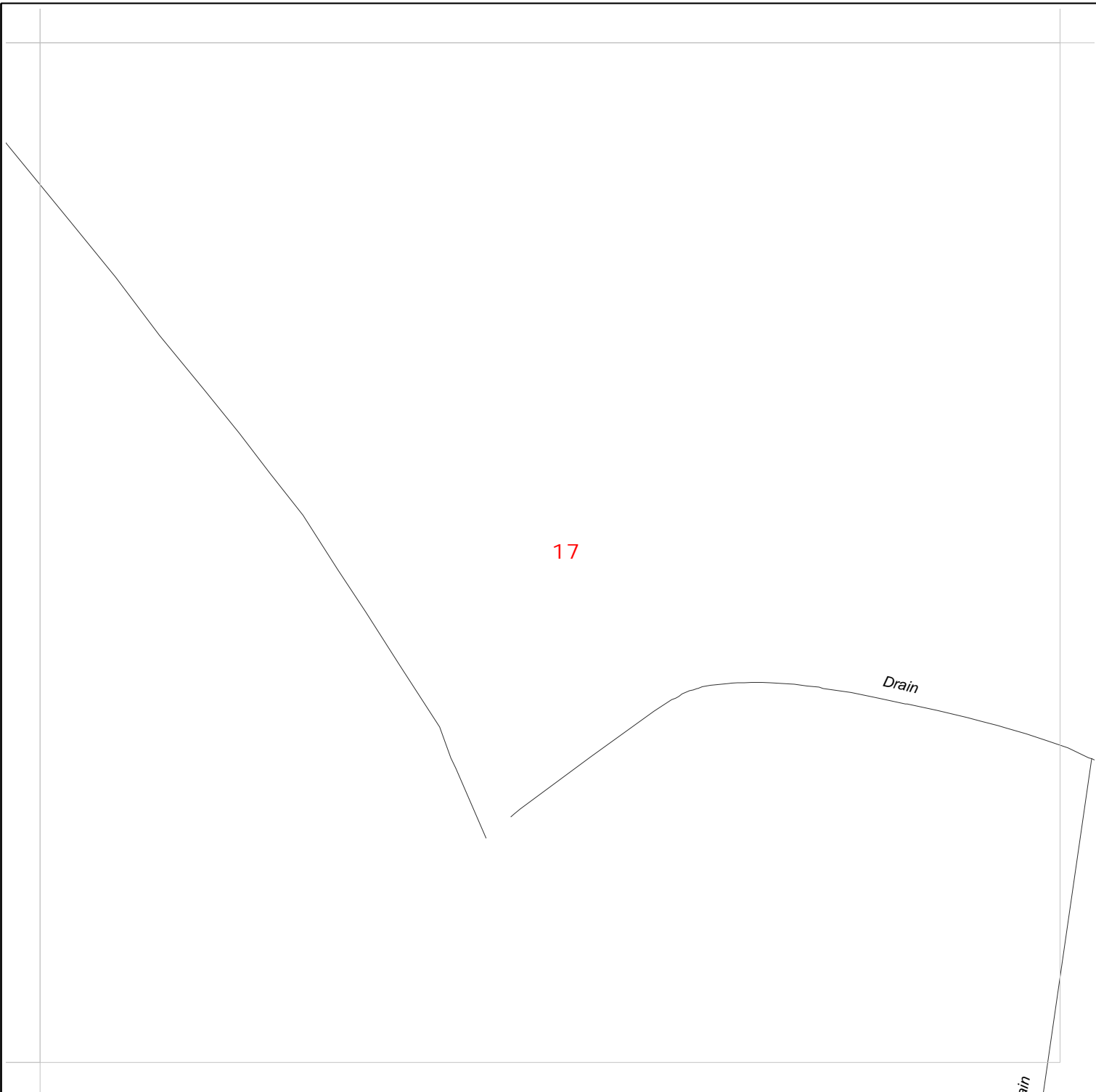
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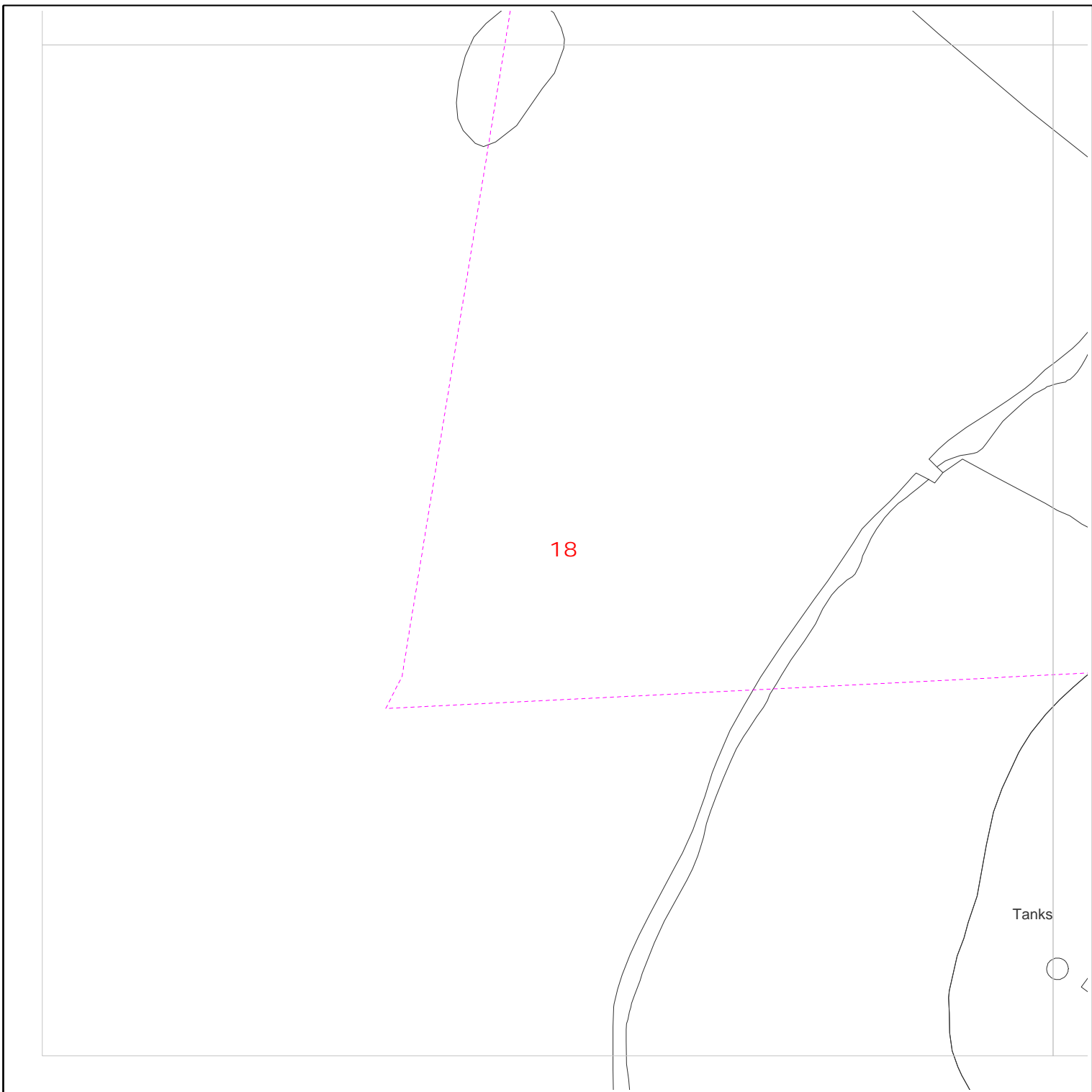
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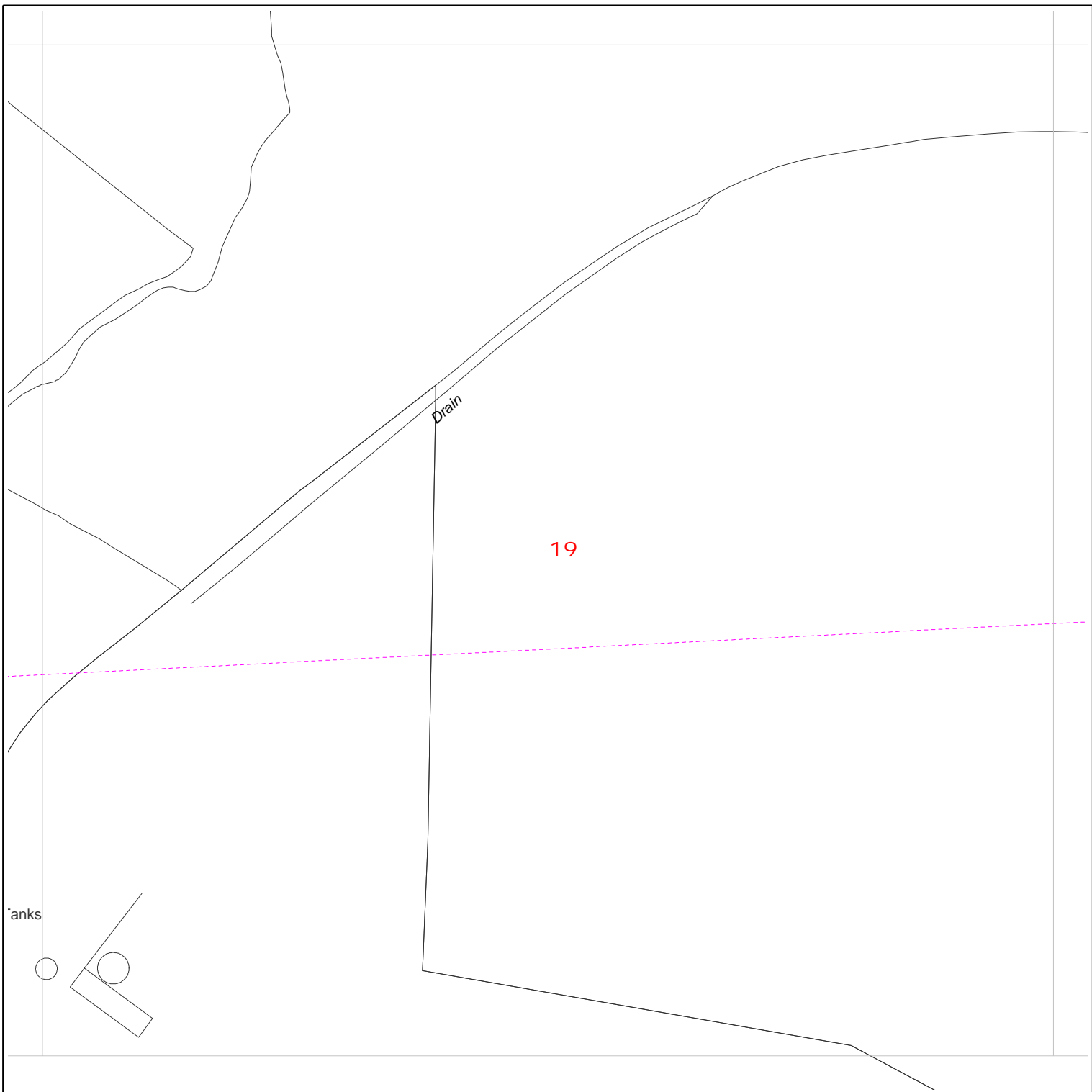
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Path (um)

20

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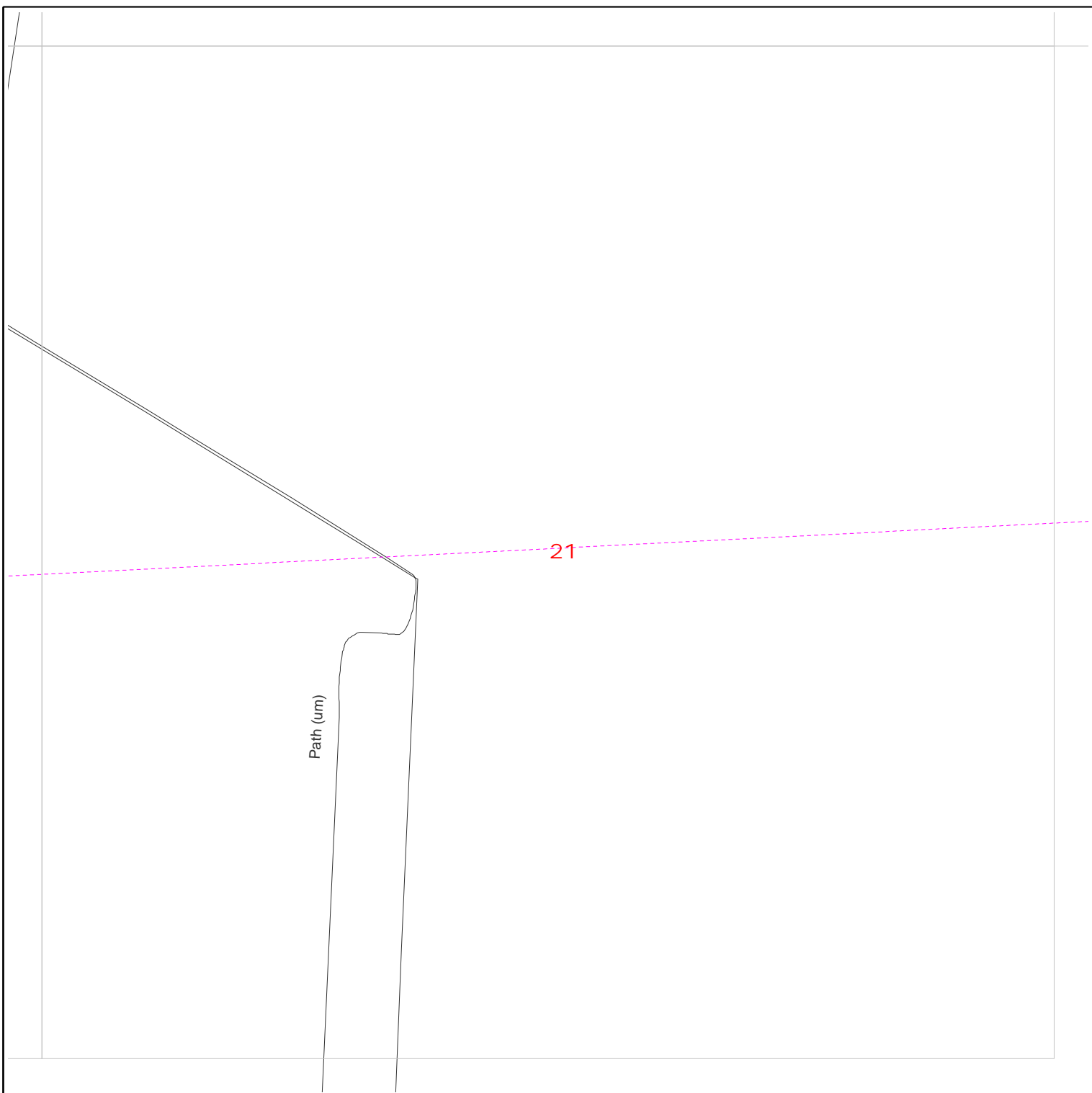
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The position and depths of underground and overhead apparatus as indicated on this plan are approximate and are intended for guidance only. The depths may have changed if the land surface levels have altered. You are also informed that the plan may 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 0800-092-9290 (Scottish Power area) or 0800-001-5400 (SP Manweb area).

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SP Manweb plc
 Registered Office: c/o PowerSystems
 3 Prenton Way, Prenton, CH43 3ET
 Registered in England and Wales No 2366937

OVERHEAD LINE	

UNDERGROUND CABLES	
In Use	—————
Out of Use	- - - - -
Assumed route	—————
VOLTAGE COLOUR KEY	
EHV	132kV BLUE
	33kV GREEN
HV	RED
LV	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's Booklet HSG47, available from HSE.

DATE: 14/09/2017

SCALE: 1 : 7,000

MAP REFERENCE: 362,641 393,947

0 20 40 80 120 160 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.

 **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

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

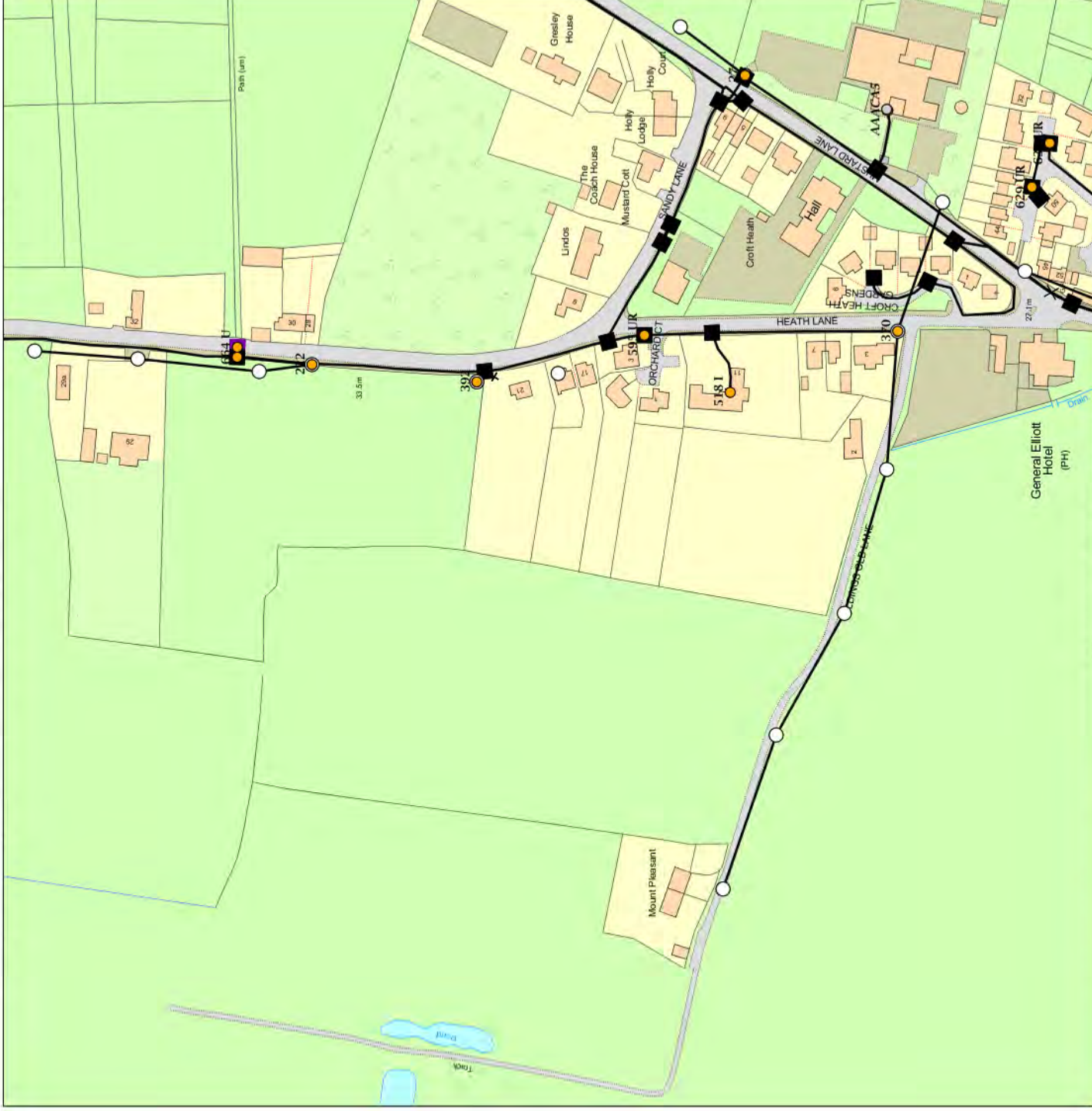
Other proposed plant is shown using dashed lines.
 BT Symbols not listed above may be disregarded.
 Existing BT Plant may not be recorded.
 Information valid at time of preparation

openreach
 a BT Group business

BT Ref : GEI10314F
 Map Reference : (centre) SJ6315693738
 Easting/Northing : (centre) 363156,393
 Issued : 08/08/2017 10:31:13

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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KEY TO BT SYMBOLS

Planned DP	DP	Yellow circle
Planned DP	DP	Red circle
PCP	PCP	Black square with cross
Planned PCP	PCP	Red square with cross
Built	Built	Black line with arrow
Planned	Planned	Red dashed line
Inferred	Inferred	Purple dashed line
Building	Building	Yellow square
Kiosk	Kiosk	Circle with 'K'
Hatchings	Hatchings	Purple cross-hatch pattern

Pole	White circle
Planned Pole	Red dashed circle
Joint Box	Black square
Change Of State	Black cross
Split Coupling	Black X
Duct Tee	Black triangle
Planned Box	Red square with diagonal line
Manhole	Black square
Planned Manhole	Red square
Cabinet	Black house icon
Planned Cabinet	Red dashed house icon

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 : NZX103292
Map Reference : (centre) SJ6328494034
Easting/Northing : (centre) 363284,394034
Issued : 08/08/2017 10:33:01

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.



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

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

BT Ref : HNH103395

Map Reference : (centre) SJ6320794347

Easting/Northing : (centre) 363207,394347

Issued : 08/08/2017 10:34:13




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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KEY TO BT SYMBOLS

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


 a BT Group business
 BT Ref : QJE10349N
 Map Reference : (centre) SJ6304094666
 Easting/Northing : (centre) 363040,394666
 Issued : 08/08/2017 10:34:38

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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KEY TO BT SYMBOLS

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



BT Ref : LBV10387K
Map Reference : (centre) SJ6274494701
Easting/Northing : (centre) 362744,394701
Issued : 08/08/2017 10:38:43

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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KEY TO BT SYMBOLS

Planned DP	DP	Planned Pole	Pole
Planned PCP	PCP	Joint Box	Joint Box
Built	Built	Change Of State	Change Of State
Planned	Planned	Split Coupling	Split Coupling
Inferred	Inferred	Duct Tee	Duct Tee
Building	Building	Planned Box	Planned Box
Kiosk	Kiosk	Manhole	Manhole
Hatchings	Hatchings	Planned Manhole	Planned Manhole
		Cabinet	Cabinet
		Planned 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 : FSJ10391Q
 Map Reference : (centre) SJ6247694685
 Easting/Northing : (centre) 362476,394685
 Issued : 08/08/2017 10:39:33

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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KEY TO BT SYMBOLS

Planned DP	DP	Planned Pole	Pole
PCP	PCP	Joint Box	Joint Box
Planned PCP	Planned PCP	Change Of State	Change Of State
Built	Built	Split Coupling	Split Coupling
Planned	Planned	Duct Tee	Duct Tee
Inferred	Inferred	Planned Box	Planned Box
Building	Building	Manhole	Manhole
Kiosk	Kiosk	Planned Manhole	Planned Manhole
Hatchings	Hatchings	Cabinet	Cabinet
		Planned 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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BT Ref : XQP104030

Map Reference : (centre) SJ6232894308

Easting/Northing : (centre) 362328,3944

Issued : 08/08/2017 10:40:57

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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KEY TO BT SYMBOLS

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



BT Ref : TVA10418J

Map Reference : (centre) SJ6252893962

Easting/Northing : (centre) 362528,393962

Issued : 08/08/2017 10:41:28

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

Maps by email Plant Information Reply



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KEY TO BT SYMBOLS

Planned DP	DP	Planned Pole	Pole
PCP	PCP	Joint Box	Joint Box
Planned PCP	Planned PCP	Change Of State	Change Of State
Built	Built	Split Coupling	Split Coupling
Planned	Planned	Duct Tee	Duct Tee
Inferred	Inferred	Planned Box	Planned Box
Building	Building	Manhole	Manhole
Kiosk	Kiosk	Planned Manhole	Planned Manhole
Hatchings	Hatchings	Cabinet	Cabinet
		Planned 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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BT Ref : MMT10273U

Map Reference : (centre) SJ6247993544

Easting/Northing : (centre) 362479,393544

Issued : 08/08/2017 10:27:59

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

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KEY TO BT SYMBOLS

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



BT Ref : XWE10296L

Map Reference : (centre) SJ6282.493621

Easting/Northing : (centre) 362824.3936

Issued : 08/08/2017 10:30:04

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



Shepherd Gilmour
Consulting Engineers

Colchester House, 40 Peter Street, Manchester M2 5GP

(44)0161 837 1500

www.shepherd-gilmour.co.uk

APPENDIX F

Natalia Marsden
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_353253

Your Ref: NW Croft North

RE: Proposed Works, Land North West of Croft, Warrington

Thank you for your enquiry which was received on 09/08/2017.
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:

- 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

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):

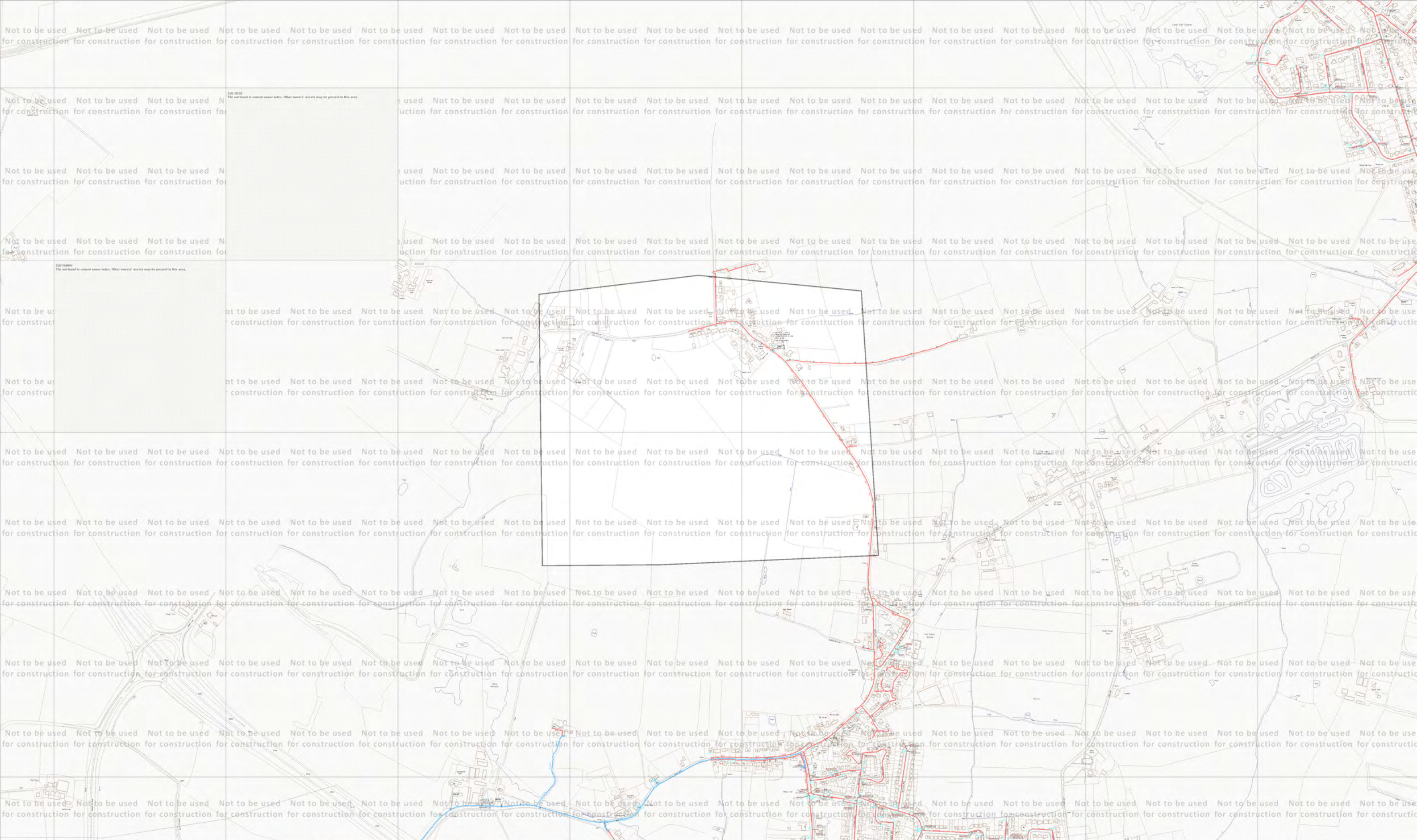
<http://www.nationalgrid.com/NR/rdonlyres/A3D37677-6641-476C-9DDA-E89949052829/44257/ExcavatingSafelyCreditCard.pdf>

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_353253 View extent: 4120m, 2440m **Map not to be used for construction** Map 1 of 1 (GAS)

<p>USER: nmarsden</p> <p>DATE: 09/08/2017</p> <p>DATA DATE: 08/08/2017</p> <p>REF: NW Croft North</p> <p>MAP REF: SJ6294</p> <p>CENTRE: 362904, 394535</p>	<p> LP MAINS  MP MAINS  IP MAINS  LHP MAINS  NHP MAINS  </p> <p>  Approximate scale 1:10000 on A3 Colour Landscape </p>	<p>Map not to be used for construction</p> <p>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.</p>	<p>MAPS Plot Server Version 1.9.0</p> <p>Cadent</p> <p>Your Gas Network</p> <p>Requested by: Shepherd Gilmour Infrastructure</p> <p>This plan is reproduced from or based on the OS map by National Grid Gas plc, with the sanction of the controller of HM Stationery Office. Crown Copyright Reserved. Ordnance Survey Licence number 100024886</p>
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Some examples of Plant Items:

					
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ENQUIRY SUMMARY

Received Date

09/08/2017

Your Reference

NW Croft North

Location

Centre Point: 362904, 394534

X Extent: 990

Y Extent: 845

Postcode: WA3 7EF

Location Description: Land North West of Croft, Warrington

Map Options

Paper Size: A3

Orientation: LANDSCAPE

Requested Scale: 10000

Actual Scale: 1:10000 (GAS)

Real World Extents: 4120m x 2440m (GAS)

Recipients

nmarsden@sgiconsulting.co.uk

Enquirer Details

Organisation Name: Shepherd Gilmour Infrastructure

Contact Name: Natalia Marsden

Email Address: nmarsden@sgiconsulting.co.uk

Telephone: 01618371500

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 residential development- north of site

Enquiry Type

Proposed Works

Activity Type

Development Project

Work Types

Work Type: Plans Only

Natalia Marsden
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_353254

Your Ref: NW Croft South

RE: Proposed Works, Land North West of Croft, Warrington

Thank you for your enquiry which was received on 09/08/2017.
Please note this response and any attached map(s) are valid for 28 days.

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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

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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:

- 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)
- Above ground gas sites and equipment

Requirements

BEFORE carrying out any work you must:

- **Note the presence of an Above Ground Installation (AGI) in proximity to your site. You must ensure that you have been contacted by Cadent and/or National Grid prior to undertaking any works within 10m of this site.**
- 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

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>







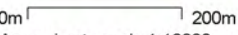
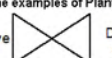
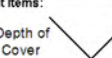
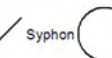
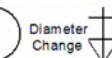
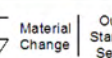

Excavating Safely in the vicinity of electricity cables guidance (Credit card):

<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_353254		View extent: 4120m, 2440m		Map not to be used for construction		Map 1 of 1 (GAS)	
USER: nmarsden		LP MAINS  MP MAINS  IP MAINS  LHP MAINS  NHP MAINS 		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.		MAPS Plot Server Version 1.9.0  Your Gas Network Requested by: Shepherd Gilmour Infrastructure	
DATE: 09/08/2017		0m  200m Approximate scale 1:10000 on A3 Colour Landscape				This plan is reproduced from or based on the OS map by National Grid Gas plc, with the sanction of the controller of HM Stationery Office. Crown Copyright Reserved. Ordnance Survey Licence number 100024886	
DATA DATE: 08/08/2017		Some examples of Plant Items:      					
REF: NW Croft South							
MAP REF: SJ6293							
CENTRE: 362849, 393735							

ENQUIRY SUMMARY

Received Date

09/08/2017

Your Reference

NW Croft South

Location

Centre Point: 362848, 393734

X Extent: 980

Y Extent: 815

Postcode: WA3 7EF

Location Description: Land North West of Croft, Warrington

Map Options

Paper Size: A3

Orientation: LANDSCAPE

Requested Scale: 10000

Actual Scale: 1:10000 (GAS)

Real World Extents: 4120m x 2440m (GAS)

Recipients

nmarsden@sgiconsulting.co.uk

Enquirer Details

Organisation Name: Shepherd Gilmour Infrastructure

Contact Name: Natalia Marsden

Email Address: nmarsden@sgiconsulting.co.uk

Telephone: 01618371500

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 residential development- south of site

Enquiry Type

Proposed Works

Activity Type

Development Project

Work Types

Work Type: Plans Only

Overview



Date Requested: 08/08/2017

Requested by: Shepherd Gilmour

Job Reference: 10977683

Company: Shepherd Gilmour Infrastructure L

Your Scheme/Reference: Land North-West c

Key for Mains & Service Pipework



Existing LP mains or services operating up to 75 millibar gauge



Existing MP mains or services operating between 75 millibar and 2 bar gauge



Existing IP mains or services operating between 2 bar and 7 bar gauge

Whilst ESP Utilities Group Ltd (ESP) try to ensure the asset information we provide is accurate, the information is provided Without Prejudice and ESP accept no liability for claims arising from any inaccuracy, omissions or errors contained in this response. The actual position of underground services must be verified and established on site before any mechanical plant is used. Authorities and contractors will be held liable for the full cost of repairs to ESP apparatus and all claims made against them by Third parties as a result of any interference or damage.

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ESP UTILITIES GROUP

ESP Utilities Group Ltd

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Surrey

KT22 7BA

Phone: 01372 587500

Email: info@espug.com

Dig Sites:

Area  Line 

Approx scale on A4 paper: 1:1000
(excluding Overview map)



Date Requested: 08/08/2017




Requested by: Shepherd Gilmour

Job Reference: 10977683

Company: Shepherd Gilmour Infrastructure L^t

Your Scheme/Reference: Land North-West c

Key for Mains & Service Pipework

-  Existing LP mains or services operating up to 75 millibar gauge
-  Existing MP mains or services operating between 75 millibar and 2 bar gauge
-  Existing IP mains or services operating between 2 bar and 7 bar gauge

Whilst ESP Utilities Group Ltd (ESP) try to ensure the asset information we provide is accurate, the information is provided Without Prejudice and ESP accept no liability for claims arising from any inaccuracy, omissions or errors contained in this response. The actual position of underground services must be verified and established on site before any mechanical plant is used. Authorities and contractors will be held liable for the full cost of repairs to ESP apparatus and all claims made against them by Third parties as a result of any interference or damage.

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 Email: info@espug.com

Dig Sites:

Area  Line 

Approx scale on A4 paper: 1:1000
 (excluding Overview map)



Shepherd Gilmour
Consulting Engineers

Colchester House, 40 Peter Street, Manchester M2 5GP

(44)0161 837 1500

www.shepherd-gilmour.co.uk

APPENDIX G

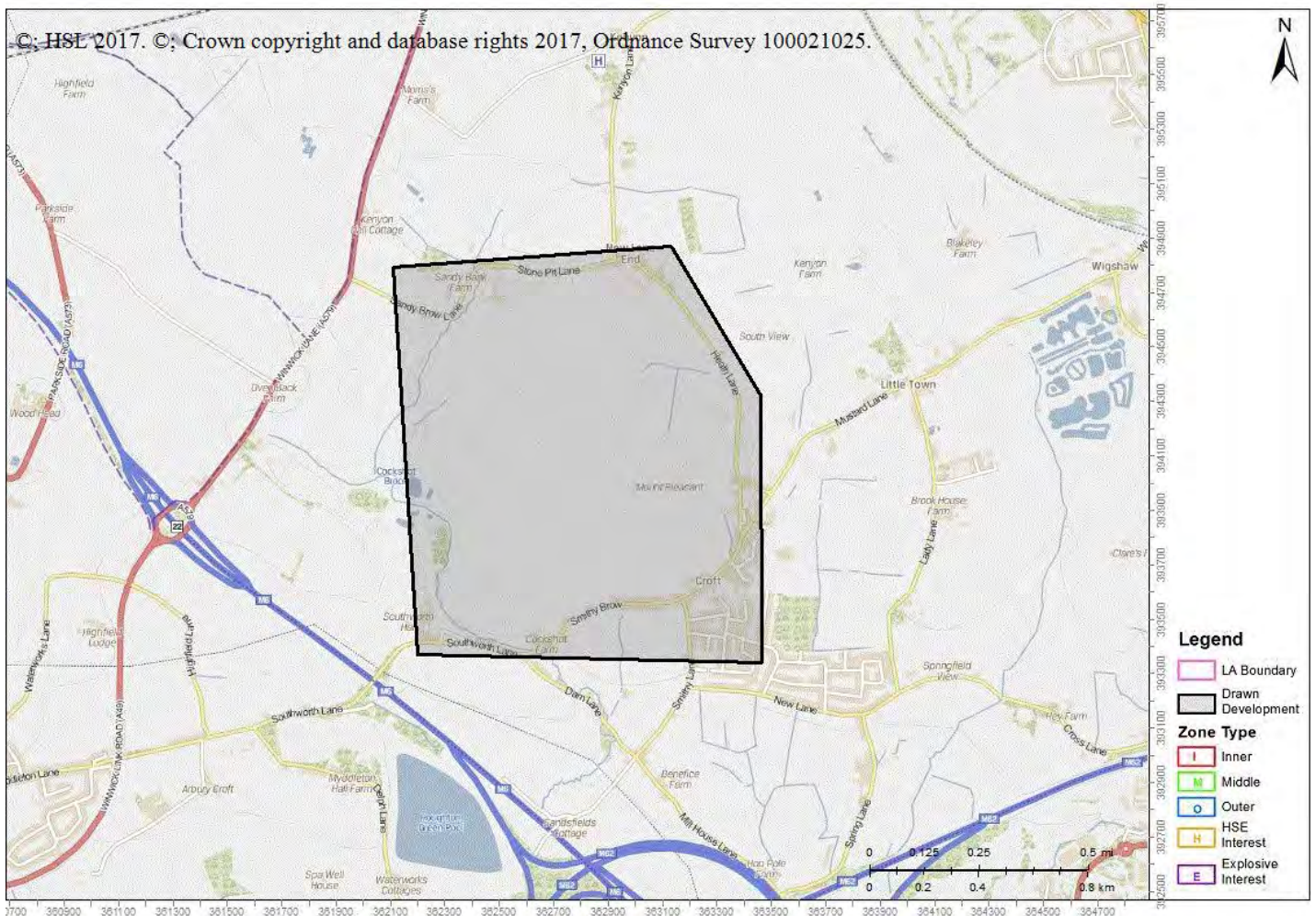
M15 4LZ

Advice : HSL-170814103139-432 Does Not Cross Any Consultation Zones

Your Ref: Land North West of Croft

Development Name:

Comments:



The proposed development site which you have identified does not currently lie within the consultation distance (CD) of a major hazard site or major accident hazard pipeline; therefore at present HSE does not need to be consulted on any developments on this site. However, should there be a delay submitting a planning application for the proposed development on this site, you may wish to approach HSE again to ensure that there have been no changes to CDs in this area in the intervening period.

This advice report has been generated using information supplied by Dean O'Reilly at Shepherd Gilmour Infrastructure on 14 August 2017.



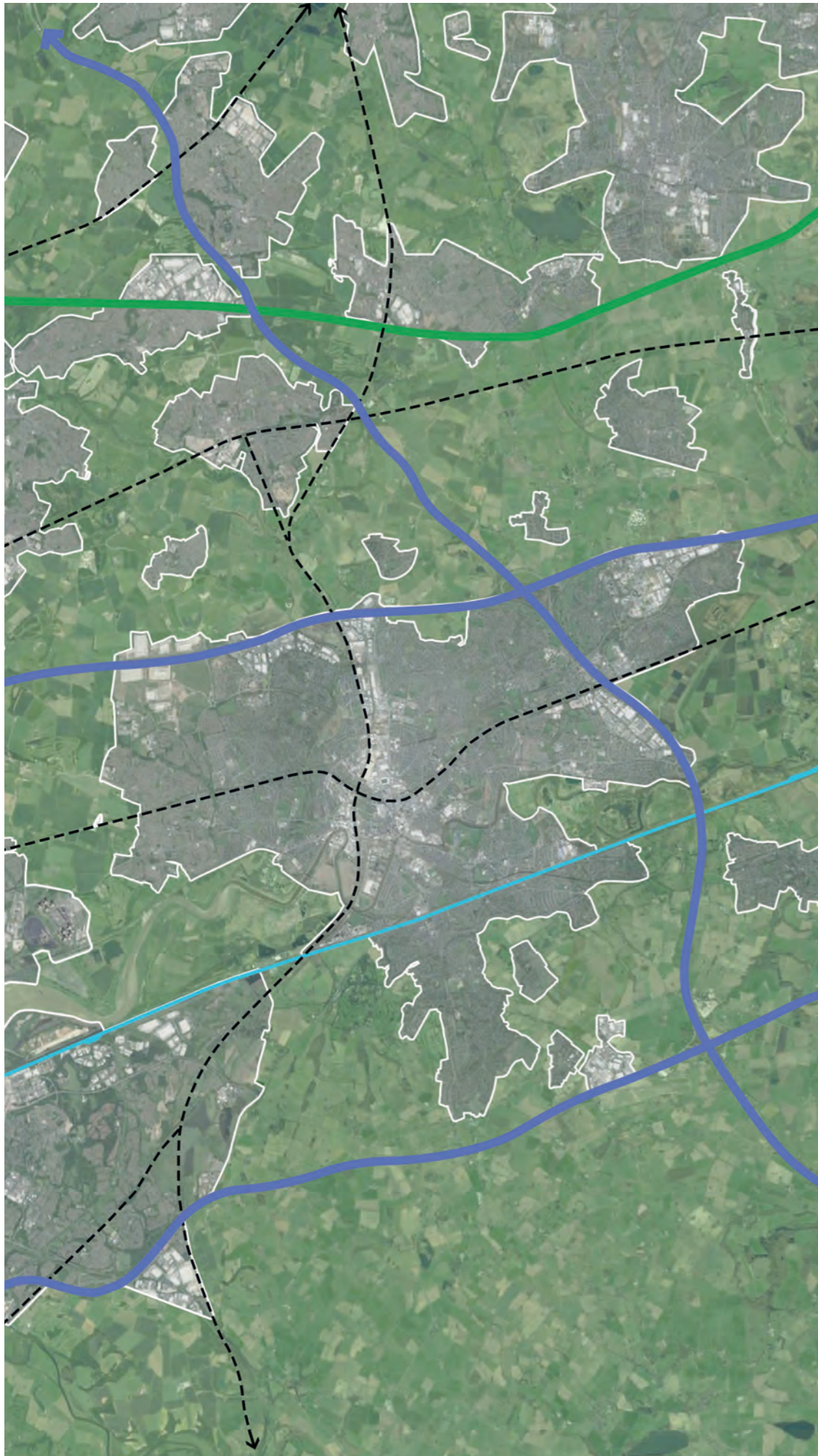
Land North West of Cr Warrington

Landscape, Townscape and
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and Development Appraisal



RANDALL
THORP

June 2019



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Randall Thorp Document Control

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Overview

Randall Thorp LLP has been commissioned by Peel Holdings to produce a Landscape, Townscape and Visual Sensitivity Assessment Report.

This report has been prepared in response to the proposed allocation of sites within Warrington Borough Council's Proposed Submission Version Local Plan (2019) (PSLP).

These reports will assist in demonstrating the suitability for new residential development within the outlying settlements of the Borough, and broadly appraise the suitability of these outlying settlements to accommodate new residential development in relation to landscape character, townscape character and visual amenity.

Introduction

The purpose of this report is to provide an assessment of the landscape, townscape and visual amenity of the site and demonstrate the site's ability to accommodate development in principle without undue impacts on the surrounding landscape.

This report has been prepared in response to the Warrington Borough Council Local Plan Submission Part 1 document, published in July 2017, which states that a major settlement extension to Croft "would effectively result in the creation of a new outlying settlement. It would totally transform the character of Croft... and would impact on the Green Belt objective."

Figure 1 (Page 5) shows the strategic location of the site within Warrington Borough and the site location within the Borough. The site is located within the north eastern part of the Borough, close to the boundary with Cheshire to the south west. **Figure 2** (page 7) shows the site in relation to the surrounding landscape. The site is located immediately adjacent to the settlement of Croft, with residential development to the south-east, by Southworth Lane to the south, Heath Lane to the east and Stone Pit Lane to the north.

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

An illustrative masterplan is provided to demonstrate one possible option for the development of the site indicated in the report.

The site is located in Landscape Character Type 1: Undulating Farmland. **Volume 1: Analysis of the Warrington Landscape Character Assessment, 2007** considers this Landscape Character Type to be suitable for new development. **Volume 2: Landscape, townscape and visual appraisal of the outlying settlements and individual SHLAA sites** considers this site suitable for development with landscape, townscape and visual amenity considerations.

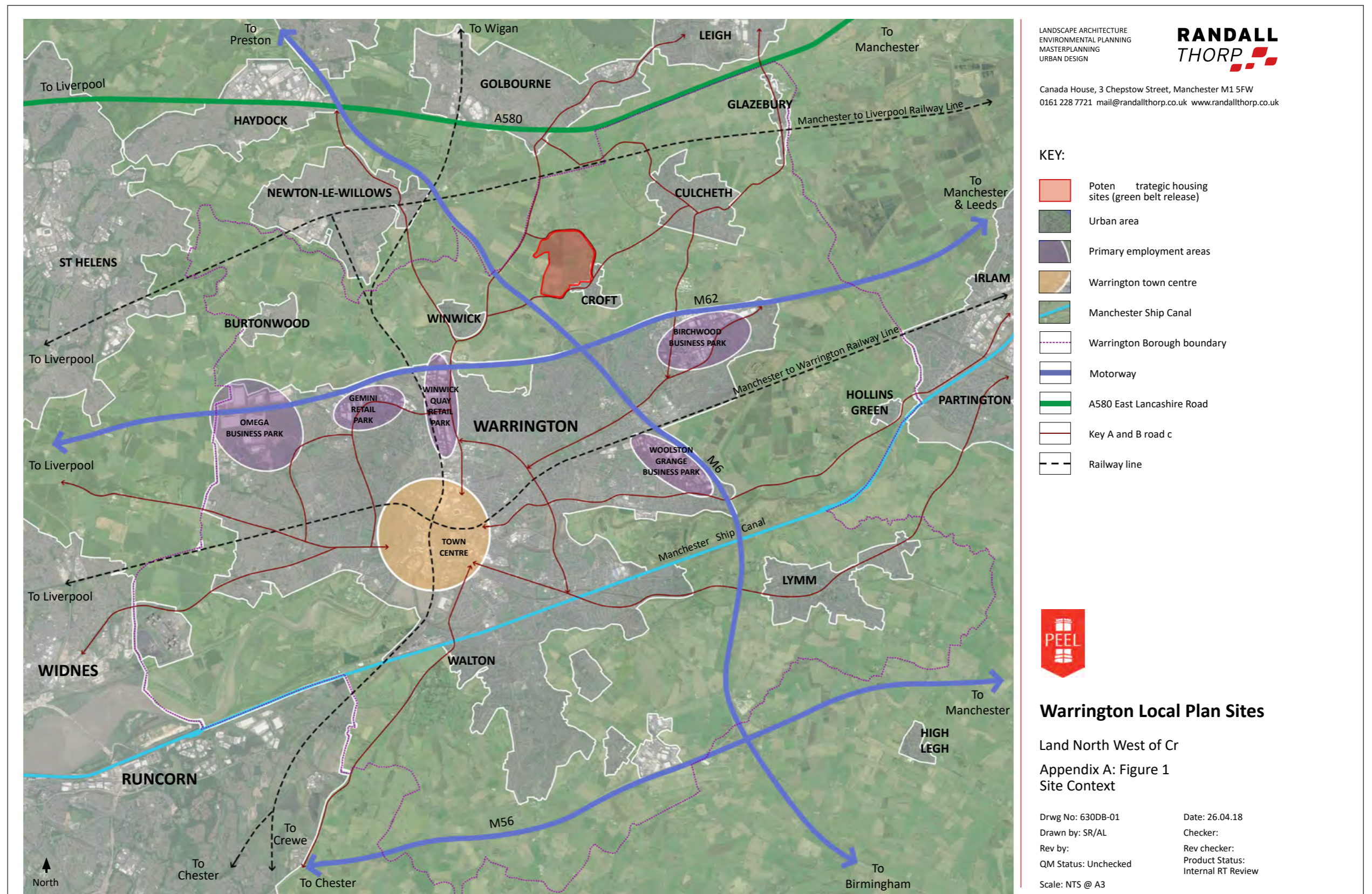


Figure 1 - Site context

Methodology

Guidance

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

Study area

For the purposes of the report a landscape study area, which encompasses the site and its surrounding landscape and townscape context has been adopted. **Figure 2** (Page 7) illustrates the study area.

Approach

An appropriate level of assessment has been carried out for the purposes of demonstrating that the site is suitable for allocation.

The objectives of the assessment are:

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

- Advise on the development potential, taking into account the landscape and townscape character and its immediate surroundings; and

Baseline studies

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

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

- Landscape Institute and the Institute of Environmental Management and Assessment – Guidelines for Landscape and Visual Impact Assessment (GLVIA), Third Edition
- Landscape Institute Townscape Character Assessment Technical Information 05/2017
- Warrington Local Plan Core Strategy – Adopted July 2014
- Warrington Borough Council PSLP (2019)
- Warrington Borough Council Local Plan – Settlement Plan July 2017
- Warrington: A Landscape Character Assessment – Prepared 2007 (Warrington LCA, 2007)
- Wigan Landscape Character Assessment – Prepared 2009
- St Helens Landscape Character Assessment – Prepared 2006

The study area was undertaken to establish an understanding of the landscape within and around the site, its component parts and subdivisions, as well as the context currently made by different areas in terms of landscape quality and character, value, green infrastructure and public viewpoints. It also establishes the visual baseline to identify the range of views of the site, and whether there are any public viewpoints which are important in terms of appreciating the character of the site.

Photographs have been taken from publicly accessible local viewpoints to provide a visual aide memoire.

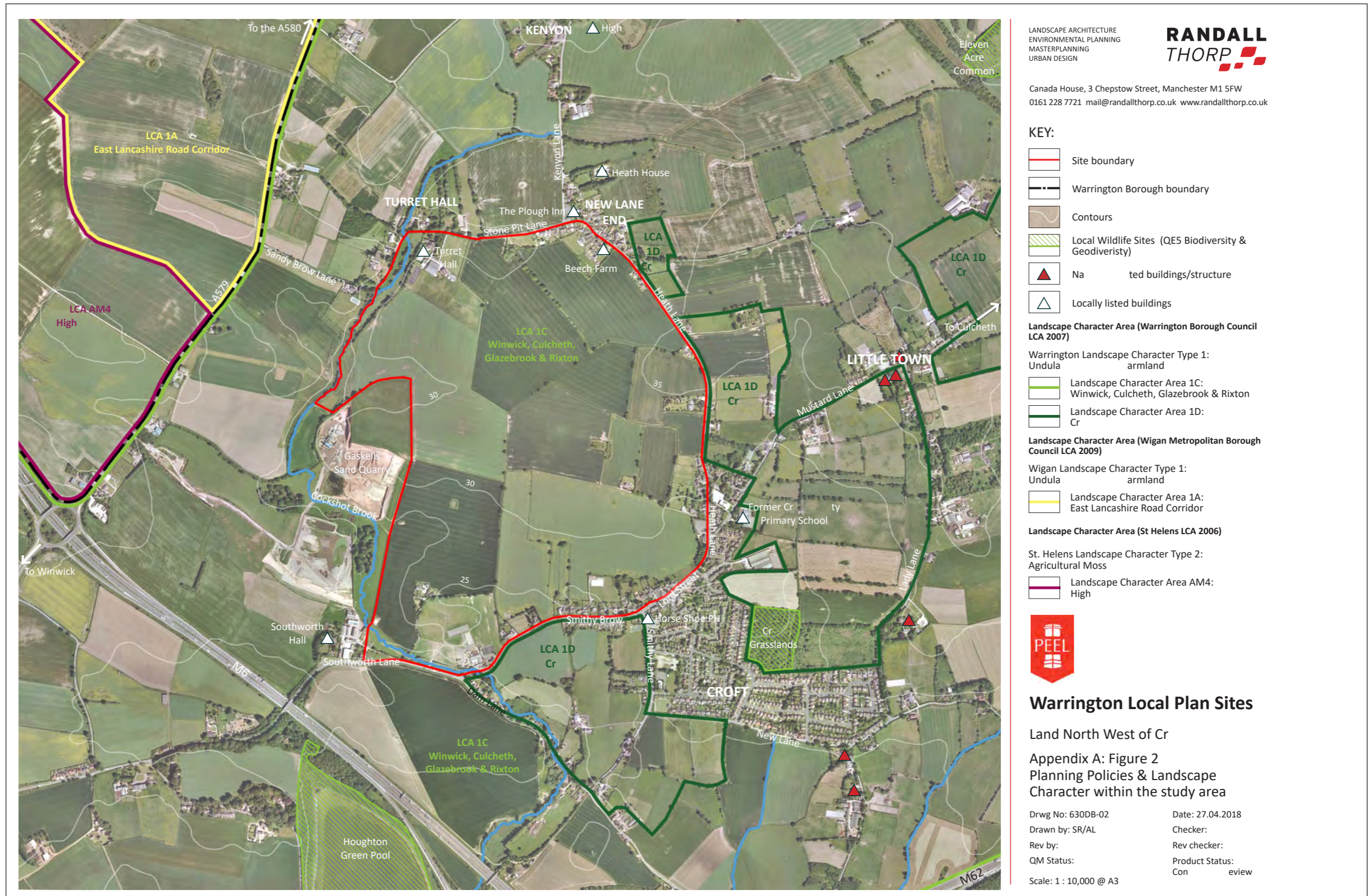


Figure 2 - Planning policies and landscape character within the study area

Methodology for appraisal

The guidance in GLVIA3 underpins the complete process of landscape and visual impact assessment and states that the value of the landscape should be considered as part of the baseline studies.

‘Landscape value’ and ‘susceptibility to change’ are taken into account when establishing the overall landscape prior to making an assessment of the landscape impacts. In broad terms landscape value is determined by the combination of the value of the landscape with its susceptibility to change.

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

In the case of this site 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 an individual landscape type or landscape area as part of an assessment of the 2007 landscapes within Warrington Borough.

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

Box 5.1

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

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

Based on Swanwick and Land Use Consultants (2002)

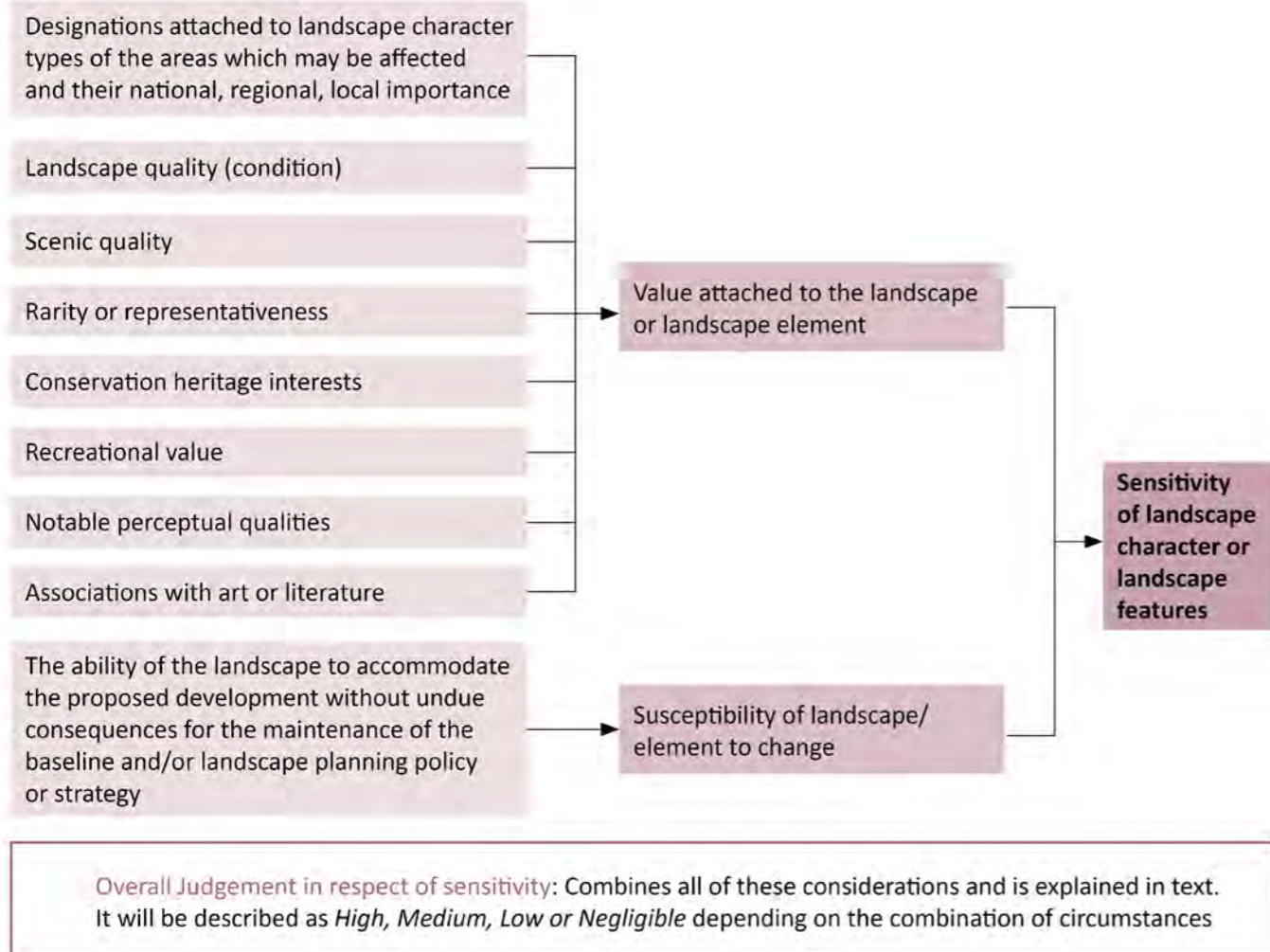
The value of the landscape is assessed in this report using a combination of considerations set out in Box 5.1 of GLVIA3 and the key characteristics identified in the Warrington LCA, 2007.

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

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

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

The following diagram summarises some of the considerations for the evaluation of the landscape.



Methodology for evaluation

Townscape character

Using GLVIA and the Landscape Ins e Townscape Character Assessment Technical Informa e 05/2017 (TIN) this report includes an evalua ownscape character within close proximity of the site.

Townscape is described in GLVIA3, paragraph 2.7:

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

Considera ownscape character will provide an understanding of how a place has evolved and developed ov to respond to natural, social and economic drivers; and how this is re ed in the layout of the streets, the architecture of the buildings and materials used; and the historic development of the surroundings.

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

This evalua ovide an understanding of the intrinsic charact an be used as a guide to the loca ale, massing and type of development that can be accommodated.

Methodology for appraisal

Receptors

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

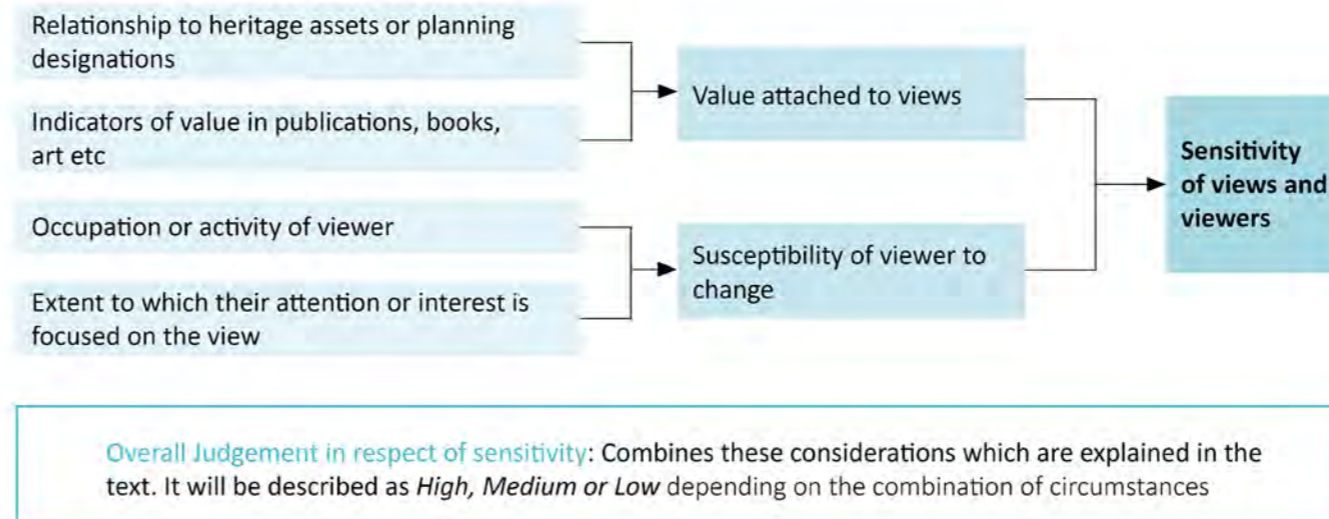
Receptors are considered combinations of receptors, value attached to a view and the susceptibility of the viewer to change.

The value attached to views takes account of the receptors value although planning design value attached through appearance in tourist literature.

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

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

The following diagram summarises some of the considerations of the evaluation.



Planning policy and published landscape character assessment

Planning policy

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.

The majority of the landscape that surrounds the settlement of Crayke and the Land North West of Crayke is indicated as Green Belt, which is set out within Policy CS 5 – Overall Strategy – Green Belt. This is a spatially related to landscape quality issues.

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

Figure 2 (Page 7) shows the planning policies within the study area. Three Local Wildlife Sites are located near to Crayke and protected by Policy QE5 – Biodiversity and Geodiversity of the Local Plan. Crayke Asslands is located on the eastern edge of Crayke is currently colonised by young woodland. Houghton Green Pool is located to the south west of Crayke to the western edge of the M6, and Eleven Acre Common is located to the north east of Crayke open land between a disused railway line and the settlement edge of Culcheth.

There are a number of nationally listed buildings or structures within the study area. Although very few of the nationally listed buildings have any interest, a number of

locally listed buildings do, these include a public house and private residencies, two of which are within the site.

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

Published landscape character assessment

Figure 2 (Page 7) shows the extent of the Landscape Character Areas that surround the settlement of Crayke study area.

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

The settlement of Crayke within the study area are part of Landscape Character Area 1C “Winwick, Culcheth, Glazebrook and Rixton.” There are four small parcels of land immediately south west and north east of Crayke all under Landscape Character Area 1D “Crayke” Both of these Character Areas are part of Landscape Character Type 1: Undulating Farmland.

The landscape in the north west of the study area, to the west of the A579 lies outside of the Warrington Borough boundary. This landscape forms the Borough boundary of Wigan and St Helens. The landscape within the Wigan Borough is part of Landscape Character Type 1 “Undulating Farmland” and Landscape Character Area 1A “East Lancashire Road Corridor Lowton Heath to Lately Common.” The landscape within the St Helens Borough is part of Landscape Character Type 2 “Agricultural Moss” and Landscape Character Area AM4 “High Moor”

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

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

The relevant key characteristics of Landscape Character Area 1C are:

- 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;

Landscape Character Area 1C is described within the Warrington LCA, 2007 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 Winwick in the west.”

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

Landscape Character Area 1D – Cr

The relevant key characteristics of Landscape Character Area 1D are:

- Historic field patterns;
- Gently undulating landscape containing intimate scale linear strip fields;
- Gapped and fragmented hedgerows supplemented by post and wire fencing;
- Numerous hedgerow oaks in groups or isolated;
- Predominantly pastureland;
- Association of fields to adjoining properties or gardens or horse paddocks;
- Red brick and sandstone farms;
- Limited and often linear views;
- Settlement pattern of older properties reflected in the field patterns.

Landscape Character Area 1D is described within the Warrington LCA, 2007 as:

“Its landscape comprises of a series of small, linear fields closely associated with the village and contrasts markedly with the larger, and more rectangular, field patterns of the surrounding land defined under Area 1C Winwick, Culcheth, Glazebrook and Rixton.”

“Many of Croft’s fields are long and narrow, bordered with ditches and divided by hawthorn hedges frequently containing groups of mature hedgerow trees. Views are linear and strongly contained between the field hedges. They are clearly medieval in origin, ‘fossilised’ in the landscape through later enclosure and exhibit the characteristic ‘S’ shape in plan as the result of years of ploughing by oxen or horses.”
“Judging from historical maps, it is clear that the small scale field pattern was once a lot more extensive but due to the removal of hedgerows and field boundaries in more recent times, a more expansive, large scale field system has developed to the surrounding areas.”

“The soil type around Croft is heavy clay with fields used both for arable and pasture farming. The smaller field system has, in many cases, led to larger extended linear gardens with a number of the pasture fields succumbing to the demand used for horse grazing.”

Appendix C includes extracts of the relevant Landscape Character Area description from the Wigan Landscape Character Assessment.

Wigan Landscape Character Area 1A – East Lancashire Road Corridor Lowton Heath to Lately Common

The relevant key characteristics of Landscape Character Area 1A are:

- Medium to often large-scale fields, mainly cereal crops
- Lack of hedgerow trees
- Hedgerows between fields often gapped
- Deciduous wooded backdrops to the south and west
- Limited internal views
- The A580 road and its embankments
- Views of residential urban edge to the north

- Mainly flat land particularly to the east associated with Carr Brook and Pennington Brook
- Undulating ground to the west associated with Newton Brook and Millingford Brook

Landscape Character Area 1A is described within the Wigan Landscape Character Assessment (2009) as:

“These areas form an agricultural landscape buffer to the densely developed residential areas of Golborne and Leigh to the north. Views within the area are limited due to the low-lying and relatively flat nature of the land and due to surrounding development and high hedgerows, particularly to the East Lancashire Road (A580). The East Lancashire Road is visually dominant throughout much of the area, particularly where it runs on embankments. Most of the land is closely associated with the East Lancashire Road and merges into larger areas of similar character to the south within Warrington Borough. The areas are typified by a medium to large-scale field pattern consisting of mainly arable land with poorly maintained remnant hedgerows with few hedgerow trees.”

Appendix D includes extracts of the relevant Landscape Character Area description from the St Helens Landscape Character Assessment.

St Helens Landscape Character Area AM4 – High

The relevant characteristics of Landscape Character Area AM4 are described within the St Helens Landscape Character Assessment (2006) as:

- The area is generally flat and open with an overriding horizontal composition enabling panoramic views across the surrounding

landscape to immediate development horizons and the more distant hills;

- There is a large regular field pattern historically part of the Parkside and Newton Parks landscape bordered by small maintained hedgerows with isolated trees and small pockets of scrub woodland. Often, informal earth footpaths follow the line of the hedgerows;
- Although the area is of rural character large scale infrastructure is present such as the M6 which crosses the area orientated north west to south east. railway lines which border the area to the west and north and a pylon line are also prominent signs of infrastructure in the landscape. In addition, a number of urban elements, such as kerbs, street lighting and security fencing, are present and these together with the infrastructure elements contribute to a degraded rural character;
- In particular the unnaturally straight alignment of the M6 running at elevation on an embankment present a dominant landscape feature which physically and visually divides the character area. The embankment severs many of the land use patterns including tree belts and field boundaries which fragments the landscape character, and subdivides the character area into 'pockets' of this character area east and west of the M6 corridor;

Summary of the landscape character of the site and its surroundings

The site sits within Landscape Character Area 1C 'Winwick, Culcheth, Glazebrook and Rixton.

Within the Warrington Borough the landscape character area is not rare or considered t ant. The site

itself comprises an area of medium and mainly large ar

The site bene om views southwards towards Winwick and Winick Church this viewline would be retained as part of any proposed development.

The site and surrounding landscape is consistent with the character descrip erms of being "intensely cropped " with "poorly managed hedgerows". The site and character area are not noted for an intrinsic landscape value and w e to development than elsewhere in the north east ough.

Landscape/townscape character and visual receptors

Landscape character of the study area

The Warrington LCA, 2007 describes the local

“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.”

The landscape of the study area surrounding the site is primarily agricultural with an irregular, medium to large scale pattern, which decreases in size closer to the settlement edge. The smaller scale pattern is generally well vegetated with hedgerows and trees present, whilst the larger scale pattern tends to have an absence of hedgerows, with isolated individual trees forming sculptural elements within an open landscape.

The topography of the study area falls gently from north east to south west due to the inclusion of Cockshot Brook, which meanders through the study area in a general north to south orientation.

Gaskell’s sand quarry is located alongside Cockshot Brook in the west of the study area. This was previously the site of a historic barrow at Southworth Hall Farm, which was excavated by Liverpool University Archaeological unit in 1980. This was discovered to comprise *“a more extensive cemetery of over 800 burials possibly focused on the Bronze Age burial mound”* (Warrington LCA, 2007).

The agricultural landscape closely associated with the settlement of Croft is described as *“small scale linear pasture fields bounded*

by hedgerows and hedgerow trees” (Warrington LCA, 2007). This landscape has a much more enclosed character in comparison to the larger agricultural landscape to the north west of Croft.

Townscape character of the study area

The townscape adjacent to the site comprises the north western edge of Croft, as well as individual properties along New Lane, Smithy Brow, Lord Street and Heath Lane. The hamlets of New Lane End and Turret Hall lie at the northern edge of the site with properties along Pit Lane and Sandy Brow Lane backing onto the north western site boundary. A number of isolated farmsteads and residences are located within the site. Kenyon is located in the north of the study area, with a hamlet located to the north east of Croft.

Historical development

Croft *“built around a triangle of roads, New Lane (to the south), Lady Lane (to the east) and Smithy Lane, Lord Street and Mustard Lane (to the west and north). Originally the core of the village was built around the latter three roads, but it has expanded from 1850”* (Warrington LCA, 2007).

Kenyon lies in the north of the study area and comprises 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”* (Warrington LCA, 2007).

The expansion of Croft to what it is today began in the 1950’s along Smithy Lane with substantial expansion along New Lane in the 1970’s.

Movement and connectivity

A network of A and B roads cut through the study area providing good links to the wider area. Croft is served by Lord Street, Heath Lane and Mustard Lane, which provide connectivity to Winwick and the historic A49 route to the west, Kenyon to the north and Culcheth to the north east. The M6 is located in the south west of the study area and is easily accessed from the A579. The M62, Birchwood Technology Park and Warrington are located to the south of the study area.

Urban structure and built form

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 is of similar housing type”* (Warrington LCA, 2007).

The built form within Croft is generally two storeys in height, with a mix of red brick and render buildings, including combinations of two used throughout the village.

Heritage assets

There are a number of nationally listed buildings within the study area. The nationally listed buildings are all Grade II and are located within the eastern parts of the study area. A number of locally listed buildings, including The Plough Inn and some private residences

are located along Stone Pit Lane in close proximity to the site, including two residential properties.

Green infrastructure and public realm

The main elements of green infrastructure and public realm within Crayke are focused around Smithy Brow and Smithy Lane, where the main recreation ground and play area sits. Crayke Green is located further south along Smithy Lane. Streets are generally well treed or have well established hedgerows, and the surrounding agricultural landscape gives the village a green character. Further recreation facilities associated with Crayke Primary School on Mustard Lane.

Tranquility

Due to the presence of major transport corridors nearby, including the M62 and M6, Crayke does not experience any strong sense of tranquility.

Site description

Figure 3 (Page 16) shows the site in relation to Crayke in landscape context.

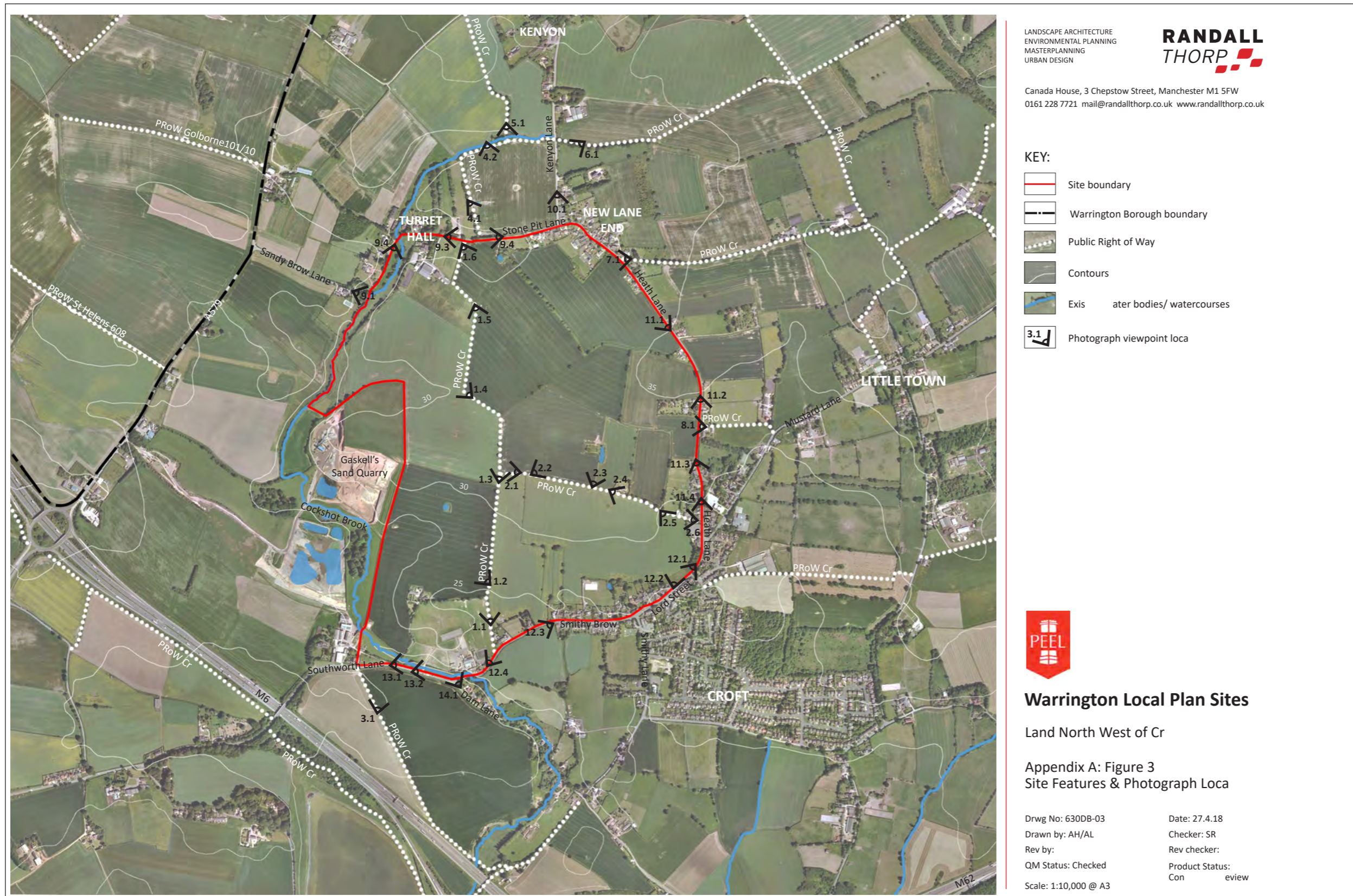
The site is located at the north western edge of Crayke, currently in use as arable farmland with a medium to large scale irrigation pattern. The majority of the existing landscape is formed by small mounds or ditches with very few hedgerows, which have a low number of semi-mature/mature trees and small blocks of deciduous woodland as isolated features within the landscape.

The southern boundary of the site is formed by Southworth Lane, Smithy Brow and Lord Street, with the existing boundary of Crayke located adjacent to the south eastern corner of the site. The eastern boundary is formed by Heath Lane, which includes the northern extent of Crayke. A residential property is located alongside it further north within the study area. The northern boundary is formed by Stone Pit Lane and the hamlets of New Lane End and Turret Hall. Stone Pit Lane becomes Sandy Brow Lane at the north western corner of the site, which leads to the A579 and the M6 motorway. The western boundary of the site is formed by a combination of Cockshot Brook, which flows from north to south, meandering inside and outside of the site. Gaskell's sand quarry is located between Cockshot Brook and the site along the western boundary and there are four small ponds scattered within the site.

There are a number of existing residential properties on the site, associated with the roads that form the northern, eastern and southern boundaries. These properties generally back onto the site with hedgerows or tree belts helping to define the boundaries. One residential property is located more centrally within the eastern part of the site, accessed via Wildings Old Lane and the existing boundary of Way Farm Crayke.

Two Public Rights of Way run through the site, following existing boundaries on a north to south (PRoW FP Crayke) and east to west alignment (PRoW FP Crayke). Both routes connect Crayke to Stone Pit Lane from either Smithy Brow or Heath Lane and provide links to the wider Public Right of Way network within the northern parts of the study area.

The topography of the site gradually falls from north east to south west towards Cockshot Brook on the western boundary. This sloping topography, coupled with the large-scale agricultural landscape and a lack of hedgerow boundaries creates a simple agricultural landscape with "wide, open vistas" (Warrington LCA, 2007).



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- KEY:**
- Site boundary
 - Warrington Borough boundary
 - Public Right of Way
 - Contours
 - Exis ater bodies/ watercourses
 - Photograph viewpoint loca

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Land North West of Cr

Appendix A: Figure 3
Site Features & Photograph Loca

Drwg No: 630DB-03	Date: 27.4.18
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Scale: 1:10,000 @ A3	

Figure 3 - Site features and photograph locations

Visual receptors and views of the site

Figure 3 (Page 16) illustrates the local viewpoint photographs taken from the visual receptors within and around the site.

Figures 4 – 15 (Pages 19-30) include the photographs 1.1 – 14.1 which are taken from publicly accessible viewpoints within and around the site. Views from private residencies have not been considered, any consideration would need to be carried out as a separate assessment.

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

Public Rights of Way within the site

1. Pedestrians using PRoW FP Cr
2. Pedestrians using PRoW FP Cr

Public Rights of Way surrounding the site

3. Pedestrians using PRoW FP Cr
4. Pedestrians using PRoW FP Cr
5. Pedestrians using PRoW FP Cr
6. Pedestrians using PRoW FP Cr
7. Pedestrians using PRoW FP Cr
8. Pedestrians using PRoW FP Cr

Roads surrounding the site

9. Motorists using Sandy Brow Lane and Stone Pit Lane
10. Motorists using Kenyon Lane
11. Motorists using Heath Lane

12. Motorists using Lord Street and Smithy Brow
13. Motorists using Southworth Lane
14. Motorists using Dam Lane

Descriptions of Way surrounding the site

1 PRoW FP Cr

The route runs in a north to south direction through the centre of the site, connecting Southworth Lane/Smithy Brow to Stone Pit Lane. It follows the boundaries of an equestrian centre and residential area before becoming much more open in its character as it follows a hedgerow boundary. Views are generally far reaching, and the remaining trees are isolated features within the landscape. The northern part of the route zig-zags between boundaries before reaching Stone Pit Lane, becoming enclosed on one side by the hedgerow boundary of the existing property in the north western corner of the site.

2 PRoW FP Cr

This route provides a west to east connection from PRoW Cr 4 to Heath Lane. The majority of the western part of the route has panoramic views in all directions due to the lack of hedgerow boundaries. Views east and south are generally terminated by the existing form of Cr 4 and Heath Lane. The eastern part of the route follows the surfaced access track for the residential area. The existing form on the edge of Cr 4 becomes more prominent in views from this point. The eastern end of the route becomes more enclosed as it connects to

Heath Lane between the boundaries of existing residential areas and the General Elliot pub.

Descriptions of Way surrounding the site

3 PRoW FP Cr

This route runs in a south easterly direction from Southworth Lane to the wider PRoW network to the south of the M6. From Southworth Lane it follows an existing arm track which forms an open boundary between two residential areas. A railway corridor is clearly visible to the south and views north towards the site are screened by existing vegetation.

4 PRoW FP Cr

This route connects Stone Pit Lane to Kenyon Lane, following an existing track. Views west and north are generally screened by existing trees with open views east and south across the site. PRoW Cr 1 and Kenyon Lane in New Lane End are visible and generally terminate views. There are screened views of the northern part of the site.

5 PRoW FP Cr

This route runs from south to north, connecting Kenyon to PRoW FP Cr 4. The route follows an existing track and gradually rises towards its connection with PRoW FP Cr 4 as it crosses Cockshot Brook within a small woodland. Views of the site are generally screened by existing vegetation. There are screened views of the northern part of the site from the southern-most part of the route.

6 PRow FP Cr

This route connects Kenyon Lane to the wider PRow network in the north east of the study area. The west to Kenyon Lane has an enclosed character due to overhanging tree canopies and existing hedgerow boundaries, before becoming more open to the east.

7 PRow FP Cr

This route connects Heath Lane to the wider PRow network in the north east of the study area. The majority of this route is along a farm track and has a very enclosed character at its western end due to the presence of hedgerows, trees and residential buildings. It becomes more open as the route progresses east with views across the surrounding landscape.

8 PRow FP Cr

This is a short route connecting Heath Lane to Mustard Lane. It is enclosed by existing hedgerows and trees, giving it an enclosed character with views generally limited to gaps in hedgerow boundaries along its southern side.

Descriptive roads surrounding the site

9 Motorists using Sandy Brow Lane and Stone Pit Lane

Sandy Brow Lane and Stone Pit Lane provide a connection from the A579 to the hamlets of Turret Hall and New Lane End. The routes are generally well enclosed by hedgerows and/or trees, with residential buildings at Turret Hall located on the northern side of the road. The valley of Cockshot Brook is visible from Sandy Brow Lane as the road meets the site boundary, with the northern parts of the site becoming visible from Stone Pit Lane, where the speed limit reduces to 30mph as the road enters New Lane End, where its character becomes more residential.

10 Motorists using Kenyon Lane

Kenyon Lane runs in a north to south orientation, enclosed by hedgerows. The residential buildings at New Lane End are visible on approach when travelling south and these generally screen any longer distance views.

11 Motorists using Heath Lane

Heath Lane connects New Lane End to Crayke Lane. It is residential in character before becoming more open as it continues south, enclosed by hedgerows on each side with a pavement on its western edge, adjacent to the site boundary. Residential buildings are sporadically located on both sides of Heath Lane from the road corridor and backing onto the surrounding landscape. There are intermittent views across the site to the west over low lying hedgerows or through gaps in taller hedgerows. As the route continues south towards Crayke Lane, it takes on a residential character once again.

12 Motorists using Lord Street and Smithy Brow

Lord Street and Smithy Brow provide an east to west connection through the heart of Crayke Lane. Residential buildings are located to the north of these roads in places where these roads are not bordered by residential buildings. The character of Smithy Brow becomes more open in views to the south as it progresses west and leaves the village.

13 Motorists using Southworth Lane

Southworth Lane connects Smithy Brow to Winwick, which is located to the south west of the study area. It has a more rural character with hedgerows and well-established trees defining the road corridor. There are intermittent views across the south western part of the site near to Southworth Hall, where the hedgerow is set back from the road corridor due to the access for the Hall. This is the current point of entry into Crayke Lane. Residential buildings at Southworth Lane are visible on approach towards Crayke Lane with more residential buildings visible as the road continues towards Smithy Brow.

14 Motorists using Dam Lane

Dam Lane is well enclosed by a hedgerow along its southern boundary and residential development along its northern boundary. As the road approaches Southworth Lane there are direct views towards the site, although these are screened by a well established tall hedgerow along the site boundary.



Photo 1.1 - View from PRoW Cr



Photo 1.2 - View from PRoW Cr est.



Photo 1.3 - View from PRoW Cr oW Cr

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Appendix A: Figure 4
Viewpoint Photographs

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QM Status: Checked	Product Status:
Scale: NTS	Con eview

Figure 4 - Viewpoint photographs



Photo 1.4 - View from PRoW Cr est.

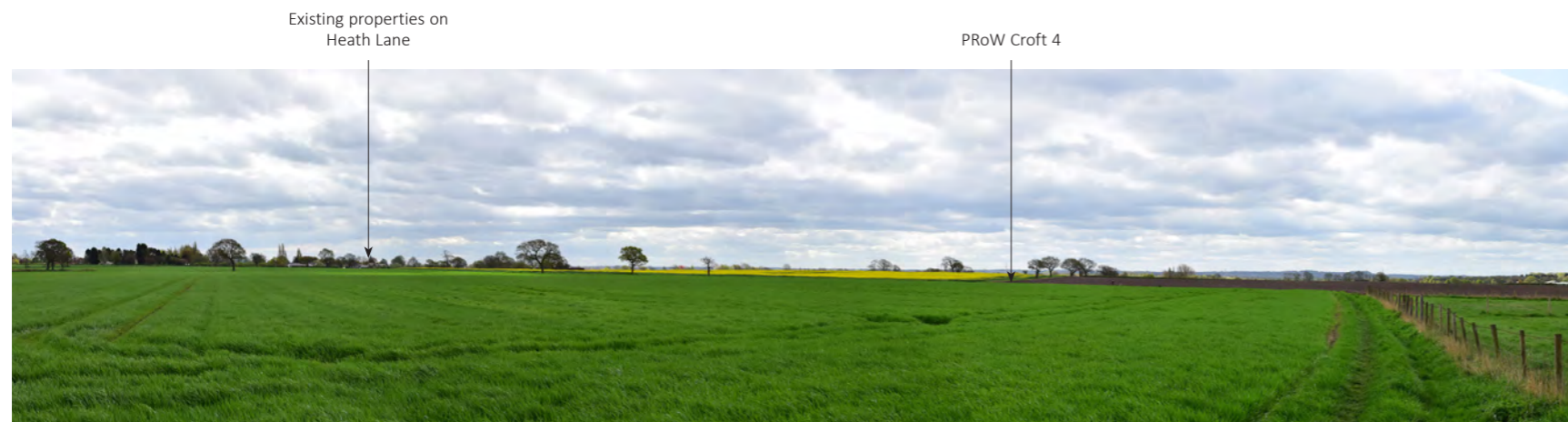


Photo 1.5 - View from PRoW Cr



Photo 1.6 - View from PRoW Cr looking south from Pit Lane, looking south.

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Appendix A: Figure 5
Viewpoint Photographs

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Figure 5 - Viewpoint photographs





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	<p>Warrington Local Plan Sites</p> <p>Land North West of Cr</p> <p>Appendix A: Figure 6 Viewpoint Photographs</p> <table border="0"><tr><td>Drwg No: 630DB-06</td><td>Date: 03-05-18</td></tr><tr><td>Drawn by: AH/AL</td><td>Checker: SR</td></tr><tr><td>Rev by:</td><td>Rev checker:</td></tr><tr><td>QM Status: Checked</td><td>Product Status:</td></tr><tr><td>Scale: NTS</td><td>Con review</td></tr></table>	Drwg No: 630DB-06	Date: 03-05-18	Drawn by: AH/AL	Checker: SR	Rev by:	Rev checker:	QM Status: Checked	Product Status:	Scale: NTS	Con review
Drwg No: 630DB-06	Date: 03-05-18										
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Figure 6 - Viewpoint photographs



Photo 2.4 - View from PRoW Cr towards Cr

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Photo 2.5 - View from PRoW Cr towards Cr



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Appendix A: Figure 7
Viewpoint Photographs

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Photo 2.6 - View from PRoW Cr towards Heath Lane, looking west.

Figure 7 - Viewpoint photographs



Photo 3.1 - View from PRoW Cr, looking north towards the site.



Photo 4.1 - View from PRoW Cr, looking east towards the site.



Photo 4.2 - View from PRoW Cr, looking south towards the site.

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Appendix A: Figure 8
Viewpoint Photographs

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Product Status:

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Figure 8 - Viewpoint photographs



Photo 5.1 - View from PRoW Cr towards the site.



Photo 6.1 - View from PRoW Cr east towards the site.

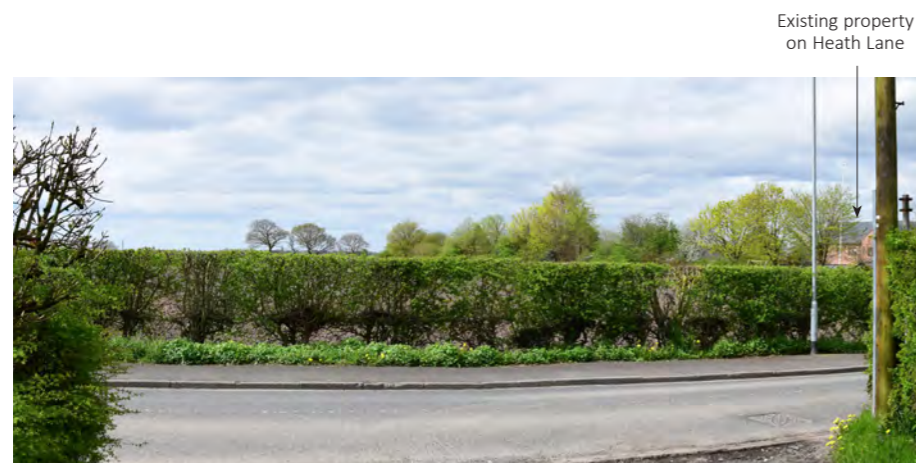


Photo 7.1 - View from PRoW Cr east towards the site boundary on the opposite side of Heath Lane.

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Appendix A: Figure 9
Viewpoint Photographs

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Figure 9 - Viewpoint photographs



Photo 8.1 - View from PRoW Cr east towards the site on the opposite side of Heath Lane.



Photo 9.1 - View from Sandy Brow Lane, looking east towards the valley of Cockshot Brook within the site.



Photo 9.2 - View from Sandy Brow Lane, looking south towards the valley of Cockshot Brook within the site.

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Appendix A: Figure 10
Viewpoint Photographs

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Figure 10 - Viewpoint photographs

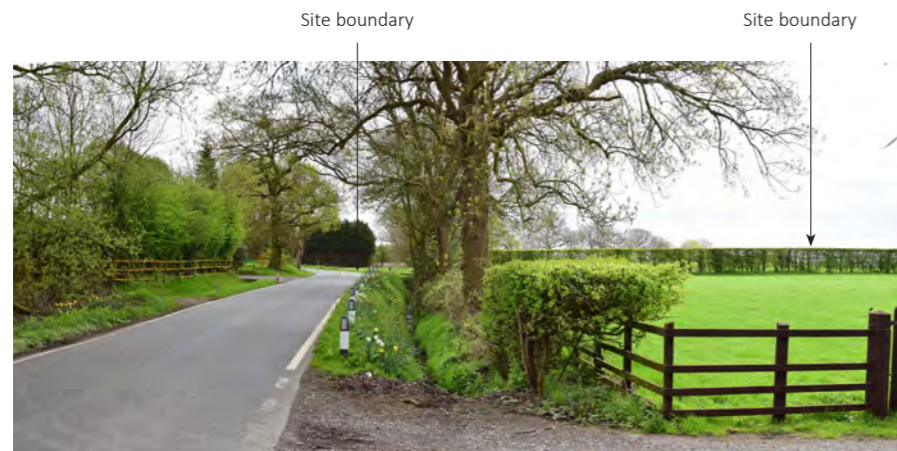


Photo 9.3 - View from Stone Pit Lane, looking east towards the site.



Photo 9.4 - View from Stone Pit Lane, looking south west across the site.



Photo 10.1 - View from Kenyon Lane, looking south towards the site.

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Appendix A: Figure 11
Viewpoint Photographs

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Product Status:
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Figure 11 - Viewpoint photographs




Photo 11.1 - View from Heath Lane, looking north towards New Lane End.

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Photo 11.2 - View from Heath Lane, looking south.




Photo 11.3 - View from Heath Lane within Cr





Photo 11.4 - View from Heath Lane within Cr

owar
d Street.



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Appendix A: Figure 12
Viewpoint Photographs

Drwg No: 630DB-12	Date: 03-05-18
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Scale: NTS	Con view

Figure 12 - Viewpoint photographs

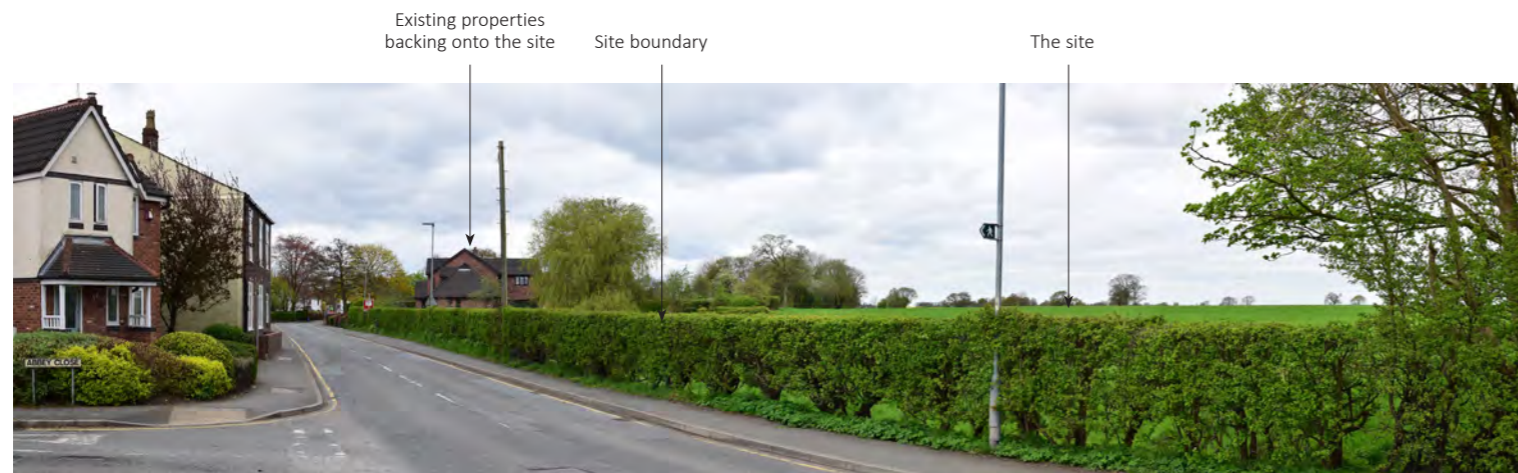


Photo 12.1 - View from Lord Street looking west towards the site.



Photo 12.2 - View from Lord Street looking north east towards the site.



Photo 12.3 - View from Smithy Brow, looking west.

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Appendix A: Figure 13
Viewpoint Photographs

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Product Status:
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Figure 13 - Viewpoint photographs

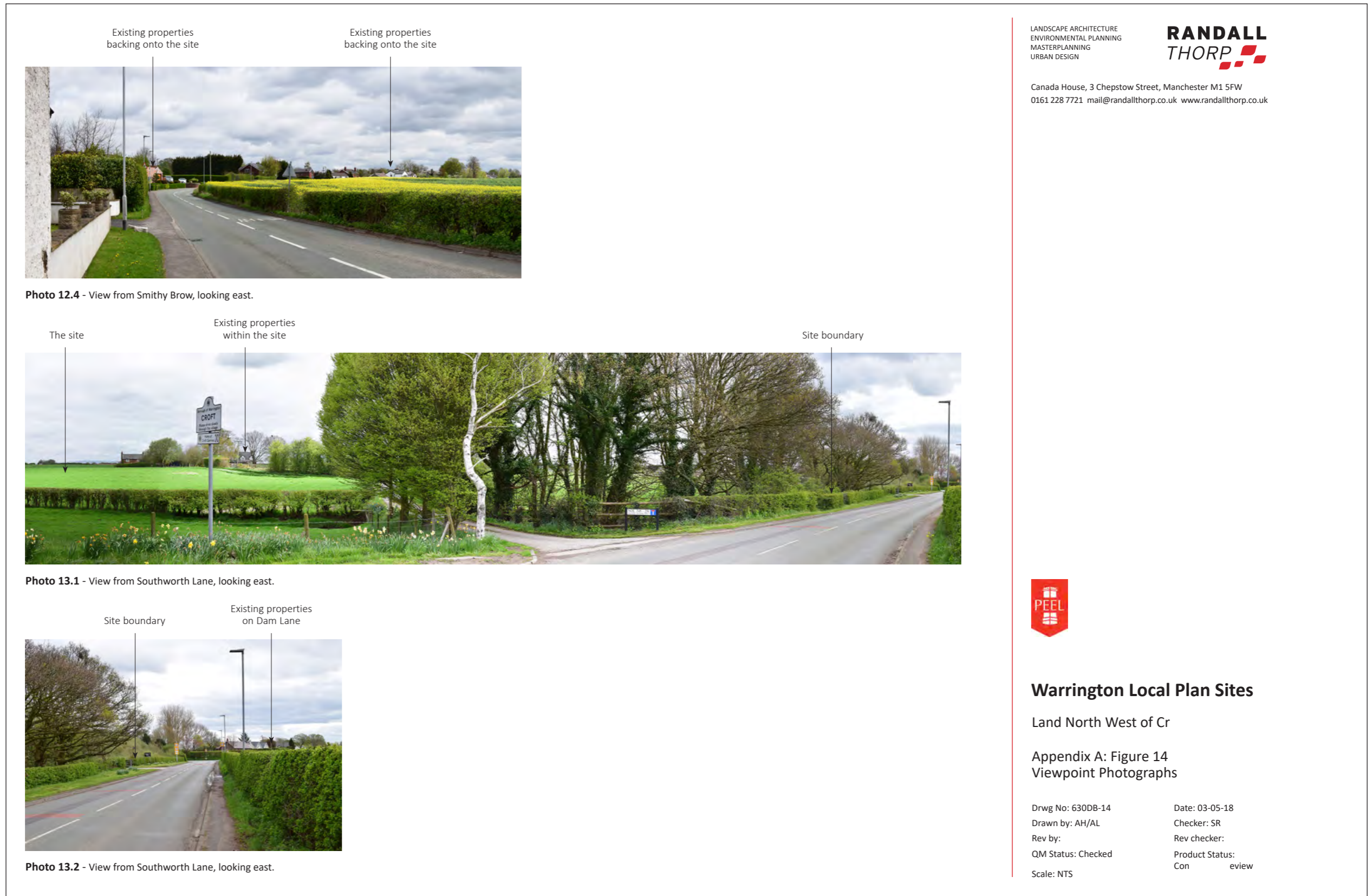


Figure 14 - Viewpoint photographs



Photo 14.1 - View from Dam Lane, looking north towards the site.

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Appendix A: Figure 15
Viewpoint Photographs

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Scale: NTS

Date: 03-05-18
Checker: SR
Rev checker:
Product Status:
Con view

Figure 15 - Viewpoint photographs

Landsc

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

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

The landscape is not designated for its landscape value and based on the range of factors identified in Box 5.1 is considered to be of **Medium-Low** value.

LANDSCAPE VALUE
LANDSCAPE QUALITY (CONDITION)
The landscape to the north-west of Cr <i> </i> consists of <i>“arable fields, intensely cropped, with poorly maintained remnant hedgerows with few hedgerow trees. Small deciduous woodlands form backdrops to views within the landscape”</i> (Warrington LCA, 2007). Weak <i> </i> ed throughout the study area.
SCENIC QUALITY
The landscape within the site has a medium – large sc <i> </i> ern with a lack of hedgerow boundaries, crea an open <i>“intensely cropped”</i> landscape with <i>“wide, open vistas”</i> (Warrington LCA, 2007). Individual trees remain oughout the site and are isolated features in views from the site and its immediate surroundings.
RARITY
There are no elements within the site that are considered to be rare.
REPRESENTATIVENESS
The landscape of the site and its immediate surroundings is broadly representa <i> </i> e of a large tract of land within the north Warrington Borough. It is <i>“largely open countryside, dominated by arable crops”</i> that <i>“leads to long wide vistas”</i> (Warrington LCA, 2007).
CONSERVATION INTERESTS
Three locally listed buildings are located within or adjacent to the northern site boundary, with Turret Hall and Beech Farm visible from the site. Southworth Hall is located next to the south western corner of the site. Two further locally listed buildings are located within Cr <i> </i> om the site. These are the Horse Shoe Public House and Cr <i> </i> y School.
RECREATION VALUE
There are a number of Public Rights of Way within the landscape to the north and north east of Cr <i> </i> oviding c <i> </i> o the surrounding landscape, two of these routes, PRoW’s FP Cr <i> </i> oss through the site.
PERCEPTUAL ASPECTS
Due to the presence of major transport corridors nearby, including the M62 and M6, the site does not experience any strong sense of tranquility. The landscape is therefore not valued for any wildness or tr <i> </i> e are some expansive views from the site to the west and south.
ASSOCIATIONS
There are no known associa <i> </i> e with any published art, literature or folklore which would add to its landscape value.

Susceptibility to change

The landscape of the site and its immediate surroundings consists of medium to large scale, irregular “intensely cropped,” (Warrington LCA, 2007) arable farmland with a lack of hedgerow boundaries and “wide, open vistas” (Warrington LCA, 2007). Pockets of development are found around the boundaries and within the site, including the settlement edge of Crayke to the south eastern boundary. The topography gently falls in a general north east to south west direction towards Cockshot Brook. The susceptibility to change of the site and its immediate surroundings is therefore considered to be **Medium - Low**.

Conclusion in respects of the landscape

As can be ascertained from the description of the site and its value, the landscape of the site and its immediate surroundings is a medium to large scale, “intensely cropped” (Warrington LCA, 2007) agricultural landscape. It has a distinct hedgerow boundaries, leaving a number of mature trees to become isolated features, which in turn has led to the landscape of the site becoming more exposed and characterised by “wide, open vistas” (Warrington LCA, 2007).

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

Views and visual receptors

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

The following **Table 1** illustrates the visual receptors.

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

Table 1: Sensitivity of visual receptors

VISUAL RECEPTOR TYPE	VALUE OF THE VIEW	SUSCEPTIBILITY TO CHANGE	RESULTING SENSITIVITY
PUBLIC RIGHTS OF WAY WITHIN THE SITE			
Receptor 1 (Photos 1.1 – 1.6) Pedestrians using PRoW Cr	Medium View of open agricultural landscape with isolated trees. Gaskell’s Sand Quarry, Winwick church spire and New Lane End and Turret Hall all visible from different parts of the route.	High The landscape is likely to be valued by those engaged in recreation	Medium - High
Receptor 2 (Photos 2.1 – 2.6) Pedestrians using PRoW Cr	Medium View of open agricultural landscape with isolated trees. Gaskell’s Sand Quarry visible from western part of route. Street edge of Cr site and along Heath Lane all visible to south east and north east.	High The landscape is likely to be valued by those engaged in recreation	Medium - High

VISUAL RECEPTOR TYPE	VALUE OF THE VIEW	SUSCEPTIBILITY TO CHANGE	RESULTING SENSITIVITY
PUBLIC RIGHTS OF WAY SURROUNDING THE SITE			
Receptor 3 (Photo 3.1) Pedestrians using PRoW Cr	Low Open view across towards site or M6 motorway. No views of designated features or buildings.	High The landscape is likely to be valued by those engaged in recreation	Medium
Receptor 4 (Photos 4.1 – 4.2) Pedestrians using PRoW Cr	Medium Open view across towards site. The Plough locally listed building visible to south east.	High The landscape is likely to be valued by those engaged in recreation	Medium - High
Receptor 5 (Photos 5.1) Pedestrians using PRoW Cr	Low Views across edge of Kenyon to east. No views of designated features or buildings.	High The landscape is likely to be valued by those engaged in recreation	Medium
Receptor 6 (Photos 6.1) Pedestrians using PRoW Cr	Low Views enclosed by vegetation on Kenyon Lane in foreground. No views of designated features or buildings	High The landscape is likely to be valued by those engaged in recreation	Medium
Receptor 7 (Photos 7.1) Pedestrians using PRoW Cr	Medium Views enclosed by vegetation to west, becoming more open to east. No views of designated features or buildings.	High The landscape is likely to be valued by those engaged in recreation	Medium - High
Receptor 8 (Photos 8.1) Pedestrians using PRoW Cr	Low Views enclosed by vegetation with views of designated features or buildings.	High The landscape is likely to be valued by those engaged in recreation	Medium

VISUAL RECEPTOR TYPE	VALUE OF THE VIEW	SUSCEPTIBILITY TO CHANGE	RESULTING SENSITIVITY
ROADS SURROUNDING THE SITE			
Receptor 9 (Photos 9.1 – 9.2) Motorists using Sandy Brow Lane and Stone Pit Lane	Medium No recognised value attached to the views, except for the locally listed buildings within Turret Hall and New Lane End. Views of the highway corridor and associated buildings/vegetation	Low Due to speed of travel, short length of interest and because their interest is focused on the road and driving rather than the views.	Medium - Low
Receptor 10 (Photo 10.1) Motorists using Kenyon Lane	Medium No recognised value attached to the views except for the locally listed pub, The Plough. Views of the highway corridor and associated buildings/vegetation	Low Due to speed of travel, short length of interest and because their interest is focused on the road and driving rather than the views.	Medium - Low
Receptor 11 (Photo 11.1 – 11.4) Motorists using Heath Lane	Medium No recognised value attached to the views. Views of the highway corridor and associated buildings/vegetation and views across wider landscape within the site.	Low Due to speed of travel, short length of interest and because their interest is focused on the road and driving rather than the views.	Medium - Low
Receptor 12 (Photo 12.1 – 12.4) Motorists using Lord Street and Smithy Brow	Medium No recognised value attached to the views. Views of the highway corridor and associated buildings/vegetation	Low Due to speed of travel, short length of interest and because their interest is focused on the road and driving rather than the views.	Medium - Low

VISUAL RECEPTOR TYPE	VALUE OF THE VIEW	SUSCEPTIBILITY TO CHANGE	RESULTING SENSITIVITY
Receptor 13 (Photos 13.1 – 13.2) Motorists using Southworth Lane	Medium No recognised value attached to the views. Views of the highway corridor and associated buildings/vegetation	Low Due to speed of travel, short length of interest and because their interest is focused on the road and driving rather than the views.	Medium - Low
Receptor 14 (Photos 14.1) Motorists using Dam Lane	Low No recognised value attached to the views. Enclosed views of the highway corridor and associated buildings/vegetation	Low Due to speed of travel, short length of interest and because their interest is focused on the road and driving rather than the views.	Low

Development potential

The evaluation of landscape, townscape and visual receptors below highlights an overall **Medium-Low** potential. Any proposed masterplan should take into consideration the need to demonstrate good design and contribute to the landscape and its character. The Constraints Schedule 37 and appended to this report (**Appendix C**) illustrates the relevant considerations for the site. These are explained in more detail below.

Evaluation of landscape

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

The landscape is simple in its character with a lack of vegetation. The site is isolated from its large-scale surroundings. Features are denser in places along the north western boundary, closely associated with Cockshot Brook. Along the Brook, there are four ponds within the site.

The Warrington LCA, 2007 sets out several recommended management and landscape objectives for the Landscape Character Area within which the site sits. The relevant objectives that could be met through any development of the site 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.*

The existing trees and vegetation reserved within the green infrastructure network of any proposed development. A landscape strategy of complementing the existing woodland plan the western boundary of the site would help to contain any proposed development, in keeping with the relevant management and landscape objectives of the Warrington LCA, 2007. The type and location of any proposed green infrastructure should be located to best benefit the site. If located within the Green Belt, it would not result in the coalescence of the site with land outside of the Green Belt and would therefore not impact on “the strategic importance of the Green Belt” (Warrington Borough Council Local Plan Section 6.1, July 2017).

Evaluation of townscape

The key elements of built form that contribute towards the townscape character adjacent to the site within the site have been identified in Chapter 4 of this report.

Cricket ground is located immediately south east of the site, with the village centre located along Lord Street and Smithy Lane. The site abuts the south eastern edge of the site with residential development generally backing onto the site. Residential development is located along Heath Lane adjacent to the eastern site boundary, some backing onto the site and some fronting onto the site on the opposite side of the road. Properties along New Lane End generally back onto the north eastern corner of the site. A number of these residential properties are within the site and consideration should be given to how they are integrated into any proposed development.

The southern, eastern and northern boundaries of the site include the entrance points to the site from Crick Lane or New Lane End, with signage indicating the entrance to Crick Lane or a speed limit restriction. Any development within the site needs to be sensitive to the character of these routes and the approaches to the site.

There are a number of locally listed buildings in close proximity to the boundaries of the site, including two buildings within the site, which also require consideration of any proposed development.

The scale of the site in comparison to Crick Lane End and Turret Hall means that any proposals within this site for residential development would result in the creation of a new settlement in itself. A key consideration of any proposed development is the interaction with these existing settlements to ensure their character is retained as much as possible.

Evaluation of visual receptors

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

The most sensitive visual receptors to any potential development are the Public Rights of Way within the site. These should be set within the green infrastructure network of any proposed development and maintain key view lines towards a range of landscape and townscape features, such as the spire of Winwick church to the south west and selected individual trees within the site. The strengthening of the western boundary of the site can help to screen views of the Gaskell’s Sand Quarry from any views of the development from the west.

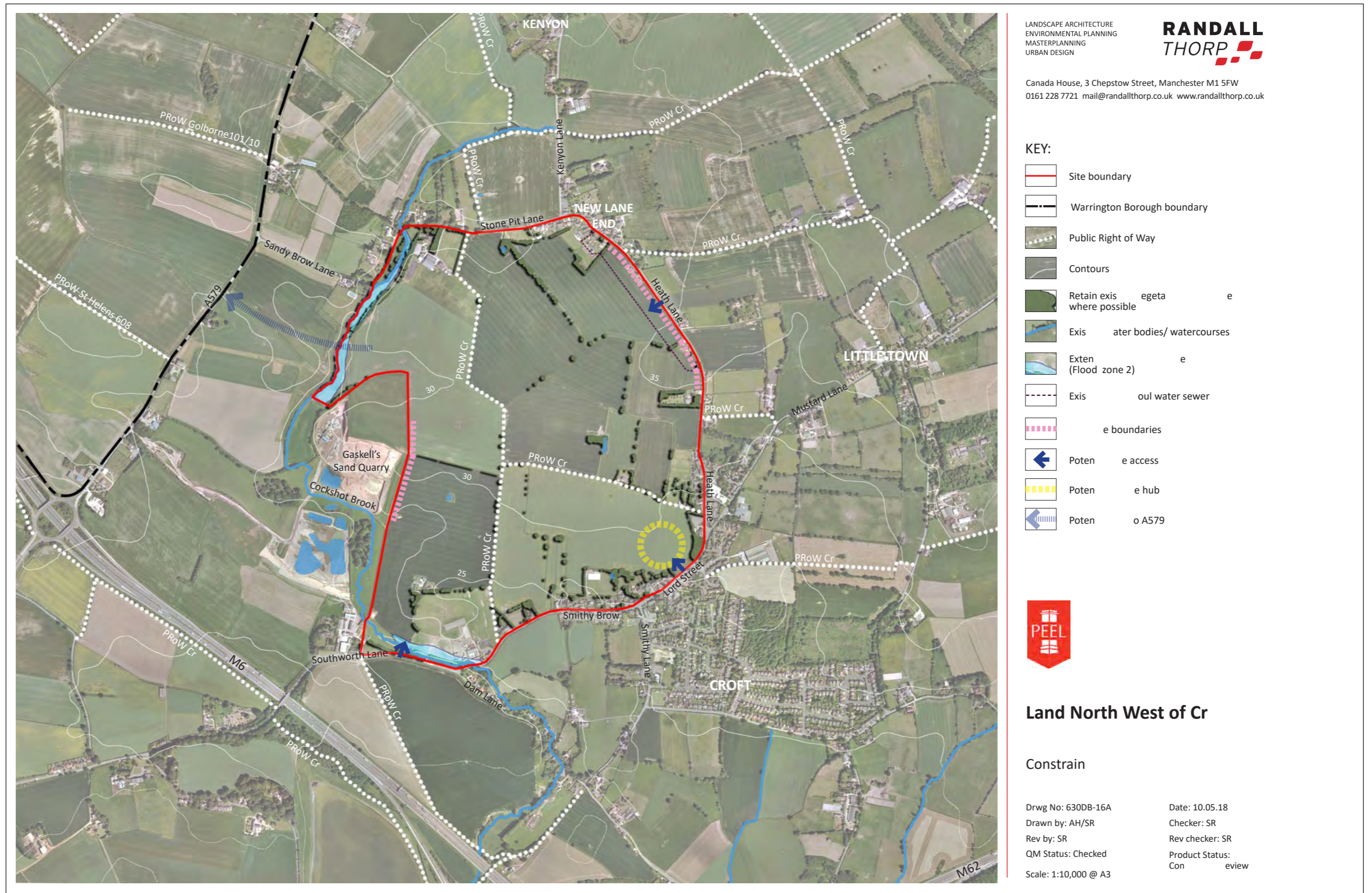
Development should be set back from the PRow network behind green corridors and overlook the routes to promote natural surveillance. Development should also be set back from the eastern boundary of the site along the corridor of Heath Lane, to maintain its rural character.

Development potential

The plan on the overleaf highlights the constraints established within this appraisal.

A well-designed development that preserves the existing landscape features and Public Rights of Way within a green infrastructure network and responds positively to the existing character of Heath Lane and surrounding townscape character would avoid any adverse effects on the character of the study area.

For the reasons outlined above, this report considers the Land North West of Crayke to be a sustainable and achievable location to be allocated for new housing development within the new Warrington Borough Local Plan. Although development of this site would eventually create a new settlement, the site would be designed to avoid any adverse impacts on the “strategic importance” of the Green Belt, the character of the study area or the existing roads and improve access to the study area.



Constraints and Opportunities

Illustrative masterplan

Constraints identified through the landscape and visual appraisal have been combined with analysis of site constraints from other consultants in relation to arboriculture, ecology, heritage, noise, traffic and other factors. A resultant illustrative masterplan has been prepared to demonstrate the potential development with an allocation for housing.

Land to the North West of Crickley developed as a sustainable development, providing up to 1,700 new homes.

The proposals would support the existing community in a high quality residential environment with employment, recreational facilities and other community facilities.

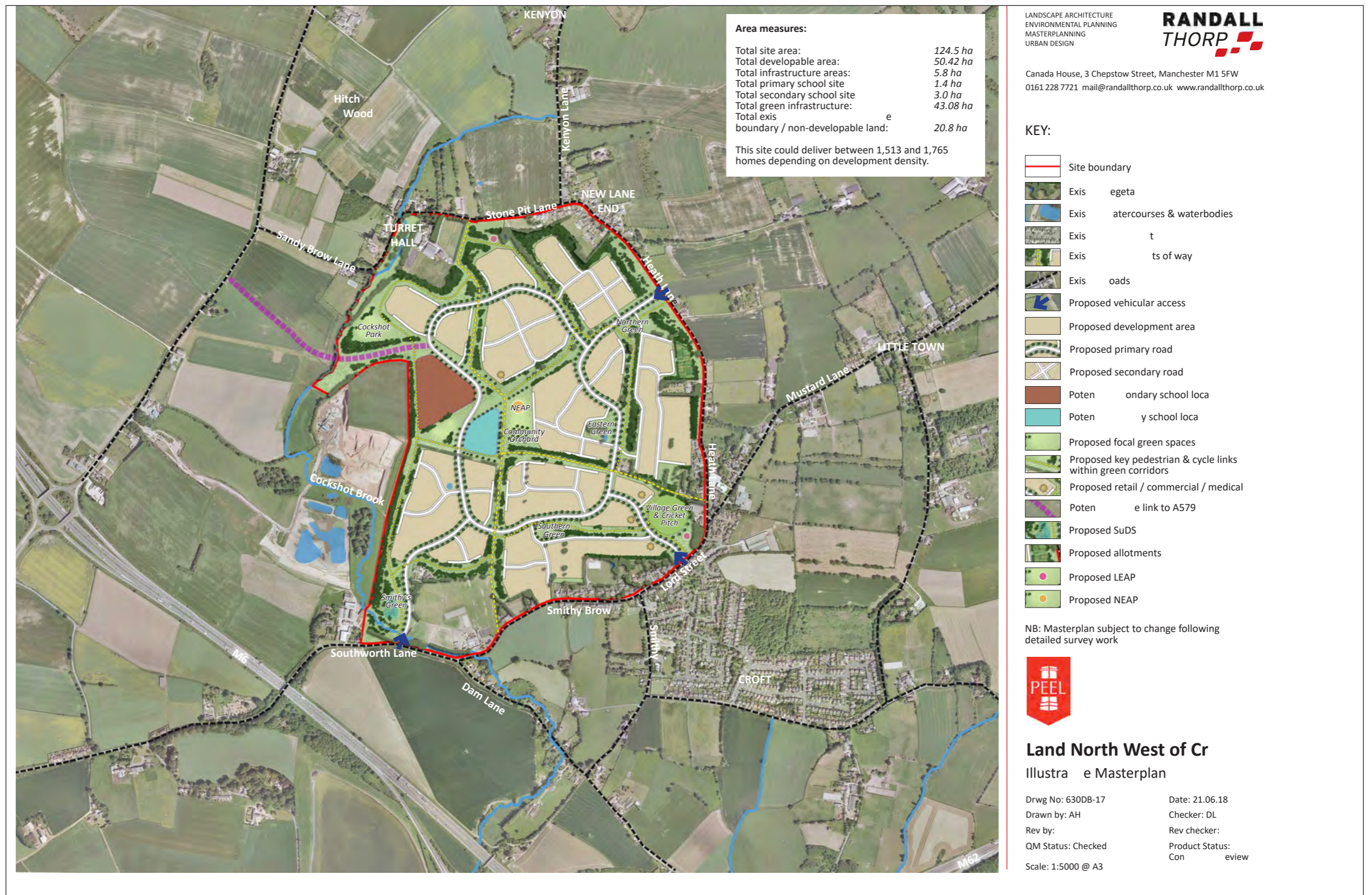
The new community would be supported by:

- a new primary school
- a new secondary school
- potential improved transport links
- a local centre comprising local shops, a potential health facility, subject to needs, and other community facilities
- a community orchard as necessary to support the new residential community
- extensive areas of open space and informal recreation provision with areas for play, as well as formal sports facilities

The development would be designed to capitalise on the existing public rights of way through the site and support walking and cycling routes providing sustainable travel across the site.

Development would ensure that important ecological assets within the site are preserved and protected to promote biodiversity and enhance biodiversity.

The proposed development would preserve, and where possible enhance the historically listed buildings that are located within and adjacent to the site.



Illustrative masterplan



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THE
ENVIRONMENT
PARTNERSHIP



LAND AT NORTH-WEST CROFT

ARBORICULTURAL WALKOVER SURVEY AND DESKTOP ASSESSMENT

JUNE 2019

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APPENDICES

APPENDIX A: Tree Survey Data

DRAWINGS

Drawing 1 - Arboricultural Desktop Overview

Drawing 2 - Arboricultural Survey Overview

Drawing 3 - Land North West of Croft, Illustrative Masterplan

Executive Summary

1. TEP has been commissioned by Peel Holdings (Land and Property) Limited to conduct a walkover survey and desktop assessment of land at north west Croft and a review of designations, policies and other instruments of relevance to arboriculture. This report presents the results of the assessment and the anticipated interaction of trees with residential development.
2. The Illustrative Masterplan comprises 60.62ha of land that could deliver up to 1,765 units and 2 schools with a further 43.08ha allocated for green infrastructure.
3. Approximately 8.07ha of tree cover and c. 1,915m of hedgerow was recorded on or within influencing distance of the site. The majority are located within narrow belts, typically one tree wide or in linear arrangements of open-grown specimens. There are small compartments of woodland with the centre of the site largely devoid of trees and many boundaries without hedges or intact and connected vegetation.
4. The desktop review and site survey identified seven Tree Preservation Orders; no trees within a Conservation Area; no ancient woodland; two veteran trees; 1.07ha of Habitat of Principal Importance *Deciduous Woodland*; and c. 1,915m of Habitat of Principal Importance *Hedgerow*. The site is also within the Mersey Forest community forest.
5. The Illustrative Masterplan demonstrates it would be possible to develop the site whilst incorporating over 90% of existing trees (7.56ha) including the 2 veterans. It would also provide an opportunity for substantial new planting that could increase species diversity and create habitat types not currently present on the site. On this basis mitigation for the loss of trees could be adequately delivered within the site proposals and is likely to result in a net gain in long-term canopy cover.
6. An Arboricultural Impact Assessment (AIA) will be required in support of a reserved matter/detailed application. This will identify, evaluate and possibly mitigate the impacts of developing land on the existing tree resource. The AIA should be based on a detailed tree survey undertaken according to BS5837:2012 that assess and reports on: canopy spread of existing trees and groups; a Root Protection Area (RPA) calculated in accordance with BS 5837; and tree quality category that identifies the quality and value (in a non-fiscal sense) of the existing tree stock, to allow informed decisions to be made concerning which trees should be removed or retained in the event of development occurring.

1.0 Instruction and scope

- 1.1 TEP has been commissioned by Peel Holdings (Land and Property) Limited to conduct a preliminary arboricultural survey and desktop assessment of land at Land at north-west Croft. This report presents the results of a site walkover and desktop exercise to identify potential constraints to future development. It also reports on the preliminary assessment effects of the nominated masterplan for the site.
- 1.2 A site visit was undertaken on 15th June by Tom Popplewell, an experienced arboriculturist and Professional Member of the Institute of Chartered Foresters with a BSc (hons) in arboriculture.
- 1.3 During the survey, all accessible areas of the site were visited and a visual inspection of the distribution, condition and quality of trees was made. Access to land not in Peel ownership was not possible. These areas are identified on Drawing 2. A remote visual inspection of some trees within these areas was made from within the site and public spaces. This included some boundary trees and those in private gardens, particularly in the south-east of the site.
- 1.4 Access was not restricted by terrain. The weather during the survey was fine and visibility was good.
- 1.5 The extent of tree and hedgerow cover shown has been digitised from aerial photography and National Tree Map data and should be regarded as approximate.
- 1.6 The survey identifies broad vegetation types based on the categories used in the National Forest Inventory. It should not be regarded as a detailed assessment of tree risk or an assessment of the type and quality of each individual tree.

2.0 Site description

Site name

- 2.1 The site is known as land at north-west Croft. The approximate extents of this combined area is shown in Figure 1.



Figure 1 Site location and approximate boundary (OS VectorMap® District Resampled)

Contains OS data © Crown copyright and database right 2018

Address/location

- 2.2 The site is located adjacent to the village of Croft, which is principally on the south-eastern side of Smithy Brow, Lord Street and Heath Lane that form the south and eastern boundaries of the site. Stone Pitt Lane forms the northern boundary and the western boundary follows tracks, field boundaries and Cockshot Brook.

Approximate area

- 2.3 The site is approximately 124.5ha.

Current use

- 2.4 With the exception of residential and agricultural buildings adjacent to the roads around the site perimeter, the site is almost entirely open fields with occasional ponds and footpaths.
- 2.5 Most of the site is arable with smaller parcels of grazing land as well as residential curtilages including ornamental trees and gardens. There is a mineral extraction pit to the immediate west of the site.
- 2.6 Public access is limited across most of the site except for an unmarked path that approximately bisects the site from north to south.

Local authority

- 2.7 The local authority is Warrington Borough Council.
- 2.8 The local authority's tree officer can be contacted by email at stwigg@warrington.gov.uk or by telephone on 01925 444 108.

3.0 Statutory protection, designations and guidance

Tree Preservation Orders

- 3.1 Local authorities can create Tree Preservation Orders (TPO) to protect the amenity of trees, groups of trees, woodland or all the trees within a defined area¹. Cutting down, lopping (including roots), topping, uprooting, and wilful damage or destruction are prohibited by TPO unless done with the Local Authority's written consent.
- 3.2 The council's online mapping facility confirmed that there are TPOs on and adjacent to the site.

Table 1 Tree preservation Orders

Location	Order reference	Feature description
Belt of trees parallel to Cockshot Brook in the north-west of the site	76: Turret Hall, Kenyon	G1: 4 Sycamore and 5 Oak
Trees around Turret Hall and Kenylo Bridge and along Stone Pitt Lane in the north-west of the site	76: Turret Hall, Kenyon	G2: 7 Sycamore, 4 Ash, 2 Oak, 6 Horse Chestnut and 8 Lime
Belts of trees marking field boundary in the north-east of the site parallel to Heath Lane from 125 Stone Pitt Lane running south-east	76: Turret Hall, Kenyon	G5: 1 Sycamore and 19 Oak
Short row of trees marking field boundary in the north-east of the site parallel to Stone Pitt Lane and adjacent to 125 Stone Pitt Lane	76: Turret Hall, Kenyon	G6: 3 Oak and 1 Sycamore
Tree to front of 95 Heath Lane	394: Land between 93 & 95 Heath Lane, Croft	T1: Beech
Tree to front of Woodbine House and Chestnut House, Heath Lane	287: 91/91A Heath Lane, Croft	T1: Ash

¹ Exemptions apply, see <https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas>

Location	Order reference	Feature description
Five trees in grounds of 11 Heath Lane	401: The WBC (11 Heath Lane, Croft TPO 2002	T1: Silver Birch T2: Copper Beech T3: Maple T4: Atlantic Cedar T5: Horse Chestnut
Small woodland block to south of General Elliot Hotel (PH)	78: Lord Street, Croft	G1: 42 Sycamore
Two trees to front of Oak Tree Farm (11 Lord Street)	38: The WRDC (Croft) TPO 1970 No.3 38: Lord Street, Croft	T1: Horse chestnut (replacement for tree felled in 1997) T1: Horse chestnut (felled with consent)
Group of trees by entrance to Cockshot Farm, between Cockshot Brook and Southworth Lane	380: Land Adjacent to Southworth Hall and Cockshot Brook, Southworth Lane, Croft	W1: Mixed Hardwoods predominately Oak, Beech, and Sycamore
Six trees on northern boundary of Cockshot Farm near to dwellings	380: Land Adjacent to Southworth Hall and Cockshot Brook, Southworth Lane, Croft	T1: Oak T2: Sycamore T3: Oak T4: Oak T5: Sycamore T6: Sycamore

- 3.3 Copies of all relevant Tree Preservation Orders can be viewed online at http://mapping.warrington.gov.uk/wml/Map.aspx?MapName=Planning_and_LLC_External.

Conservation Area

- 3.4 Trees within Conservation Areas are protected by Section 211 of The Town and Country Planning Act 1990. The local authority must be notified 6 weeks before the any tree² in a Conservation Area is removed, uprooted, lopped, topped, wilfully destroyed, or wilfully damaged. During this period the Council may consider serving a Tree Preservation Order to prevent the proposed work from being undertaken.

² Exemptions apply, see <https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas>

- 3.5 The council's online mapping facility confirmed that no part of the site is within a Conservation Area.

Ancient Woodland and Veteran Trees

- 3.6 Ancient woodland and ancient or veteran trees are irreplaceable and amongst the most valuable and sensitive habitats. Ancient woodland is any area that has been wooded since at least 1600. Individual trees of exceptional age, size, biodiversity or cultural significance are regarded as 'veterans'. Neither category has legal protection but they have strong protection in planning policy. Any works to veteran or ancient trees and woodland should be undertaken with the utmost sensitivity and under specialist advice.³
- 3.7 The Forestry Commission is a non-statutory consultee for development within 500m of an Ancient Woodland. Natural England and Forestry Commission publishes Standing Advice which reinforces the assumption in NPPF that development within an Ancient Woodland normally requires exceptional circumstances. A minimum buffer of 15m is recommended between any new development and ancient woodland.
- 3.8 Natural England's ancient woodland inventory⁴ shows no ancient woodland within or adjacent to the site. The inventory is provisional and may not show woodland smaller than 2ha. It is therefore possible that smaller or unmapped ancient woodland exists. The current and previous land use is thought to make this unlikely.
- 3.9 Veteran trees are also regarded as an irreplaceable habitat with similar provisions to ancient woodland. There is a presumption in NPPF against development that would result in loss or deterioration of a veteran tree. It is not possible to replace veteran trees and any such effects must be weighed in the planning balance against need and benefits.
- 3.10 There is no comprehensive register of veteran trees. The Woodland Trust maintains a verified register of ancient, veteran and notable trees on behalf of the Ancient Tree Forum, which contains no records for the site.
- 3.11 The walkover survey recorded two veteran trees within the site. These were an ash and a crack willow. Further crack willows in the vicinity have veteran characteristics, as is typical of mature individuals of the species.
- 3.12 It is possible that the survey did not record all veteran trees because of the access restrictions in some areas, the level of survey detail afforded by a walkover, and the lack of ancient tree inventory detail.

³ See <https://www.forestry.gov.uk/anwpracticeguide> for further information

⁴ <http://www.natureonthemap.naturalengland.org.uk/magicmap.aspx>

- 3.13 It is not considered that access constraints have significantly impeded the mapping of character and distribution of vegetation within the areas that were surveyed. However, identification of individual trees of significance such as veteran trees should be regarded as provisional. A comprehensive survey should be undertaken to inform any planning application. This should pay particular regard to areas not previously surveyed and the compartments containing mature trees and semi-natural woodland identified in the table below. These are the most likely to contain currently unmapped veteran trees.

Table 2 Distribution of veteran trees

Compartments with identified veteran trees	Compartments most likely to contain unidentified veteran trees
C9; C10	C9; C10

- 3.14 The approximate location of veteran trees along with a minimum buffer is shown on Drawing 2. The buffer is based on a 15m radius from the centre point and should be increased once canopy dimensions have been plotted.

Felling Licences

- 3.15 It is an offence under the Forestry Act (1967) to fell trees without a licence unless an exemption applies.
- 3.16 Pruning; small scale felling; hazard and nuisance abatement; and felling in a domestic garden, orchard, churchyard or designated open space are amongst those works that may be exempt.⁵
- 3.17 There are parts of the site that should be considered exempt from felling licence jurisdiction, including domestic gardens. However, certain operations are exempt and advice should be sought when considering tree works. In the absence of a detailed planning permission, any tree works may require a felling licence.

Hedgerow Regulations

- 3.18 The Hedgerow Regulations (1997) protect hedgerows that meet certain criteria⁶. This report does not include an assessment to determine which, if any, features would be protected under the Regulations. Hedges less than 20m long, in domestic gardens, or younger than 30 years are less likely to be protected.
- 3.19 Any removal of a protected hedgerow or a section of a protected hedgerow must only be done with the written consent of the Local Authority.

⁵ See <https://www.forestry.gov.uk/england-fellinglicences> for details

⁶ See <https://www.gov.uk/guidance/countryside-hedgerows-regulation-and-management> for details

- 3.20 The site contains relatively few hedges along internal field boundaries, with many boundaries marked by occasional trees, ditches or ruderal herbs. There are some species poor hedges in the west of the survey area and along Heath Lane. Hedgerow that is mapped on Drawing 2 may not qualify as 'Important' hedgerow under the Regulations on the grounds of too few woody species or because they are on residential curtilages. It is possible that some linear vegetation including scrub and trees that is not mapped as hedgerow might qualify but a full assessment has not been undertaken.

Habitats of Principal Importance

- 3.21 The Natural Environment and Rural Communities Act 2006 places a duty on public bodies to show regard for biodiversity in the normal discharge of their functions. The Act requires a schedule of Habitats of Principal Importance to be maintained. This schedule (section 41 in England) is used by public bodies as a guide to the interpretation of their duty to conserve biodiversity. The list of habitats is based on the previously published list of Biodiversity Action Plan 'Priority Habitats'. For this reason, mapping tends to follow broad habitat types and requires verification in the field.
- 3.22 There are a number of habitat types that pertain to trees: *Deciduous Woodland*; *Hedgerows*; *Wood Pasture and Parkland*; and *Traditional Orchards*.
- 3.23 *Deciduous Woodland* is used to represent a range of woodland types that are not mapped individually.
- 3.24 Mapping of *Deciduous Woodland* is based on remote digital analysis; the walkover survey was therefore used to test the publicly available deciduous woodland data. Most woody vegetation present is not deciduous woodland, although it does comprise native deciduous species. Of the compartments mapped as broadleaved trees only compartments C2, C4 and C14 are have woodland characteristics. The extent of deciduous woodland that was recorded within the site and shown on Drawing 2 is approximately therefore 1.07ha, although tree canopy cover is higher.
- 3.25 *Hedgerows* are defined as any boundary line of trees or shrubs over 20m long and less than 5m wide, and where any gaps between the trees or shrub species are less than 20m wide. It is likely that the most of the hedgerows on the site would meet the criteria for inclusion in this habitat type. It is possible that other vegetation could be considered to be hedgerow which has been recorded as woodland edges, for example where trees with a managed understorey form a linear boundary feature such as compartments C15, C20 and C23. Circa 1,915m of hedgerows are shown approximately on Drawing 1.
- 3.26 *Wood Pasture and Parkland* is a less common and easily overlooked type of woodland habitat in which trees are a principal structural component but within an open and grazed context rather than high woodland. Veteran and ancient trees are often a feature and the presence of deadwood and grazing animals create niche habitats for a range of lichens, insects, fungi and flora that occur exclusively in this habitat. None of the site is mapped as *Wood Pasture and Parkland*. The survey identified nothing to refute this.

- 3.27 *Traditional Orchard* includes most non-commercial and non-intensive orchards. There is one record of a Traditional Orchard to the rear of 11 Heath Lane, which is in the western part of the site to the north of Old Wildings Lane. This area is within a private garden and was not accessible for survey. The intactness and condition of the habitat is not known. The location of the Traditional Orchard as mapped by Natural England is shown on Drawing 1.

Community Forest

- 3.28 The site is within the Mersey Forest community forest. It is also within the recently announced Northern Forest. These may provide a useful vehicle for coordinating, consulting on, planning, funding, or maximising benefits delivered by tree and woodland management. In view of the tree population present, it is suggested that the Mersey Forest should be consulted on proposed development and mitigation options.
- 3.29 Within the Mersey Forest Plan most of the site falls within the *Agricultural land around the M62, Burtonwood, Winwick, Croft and Culcheth (W5)* area. The indicative woodland cover target for this area is 20% and the relevant policy is:
- (i) *Create small woodlands and copses within a restored pattern of hedgerows and hedgerow trees. Create linear woodlands along highways, roads, and rights of way, around farm boundaries, and along the River Glaze, Sankey Brook, and Phipps Brook. Provide multi-use recreational corridors, for example connecting Burtonwood to Bold Forest Park in St. Helens and links to Rixton Clay Pits. Planting should soften any new development. Replant orchards around Croft. This area is of importance for farmland birds.*
- 3.30 A small part of the site in the south-east falls within the Mersey Forest Plan *Urban edges, motorways and highways (W3)* area, which is essentially a belt around the existing settlement of Croft of approximately 200m in width. The indicative woodland cover target for this area is 30% and the relevant policy is:
- (i) *Increase woodland planting density and create linear woodlands, including along strategic green links such as the Bridgewater Canal and the Trans Pennine Trail.*

Other Designations and Status

- 3.31 None known.

4.0 Planning Policy

- 4.1 All trees are a material consideration. All other things being equal, the removal or deterioration of a tree, woodland or hedgerow should be regarded as an adverse effect and may therefore require mitigation to achieve no net loss.
- 4.2 Mitigation in the form of new planting is unlikely to deliver equivalent functions and benefits to existing trees, particularly where these are mature. Temporal delays in delivery, higher planting ratios, or additional measures may therefore form a necessary part of any mitigation strategy.

National Planning Policy Framework (NPPF)

- 4.3 The National Planning Policy Framework (NPPF) is a material consideration in the planning process and promotes a presumption in favour of sustainable development. In terms of the natural environment, development should minimise impacts on biodiversity and provide a net gain in biodiversity where possible.
- 4.4 The application of national planning policy, particularly the assessment of net impacts on tree cover and quality, is reinforced by published guidance in the form of BS5837:2012 Trees in relation to design, demolition and construction - Recommendations. It should be assumed that any necessary tree removal should be mitigated or offset and that any application should be supported by an assessment of residual impact by a qualified arboriculturist. It should also be assumed that all ancient woodland and veteran trees are sacrosanct and must be incorporated appropriately within any development.
- 4.5 The NPPF assumes protection of all ancient woodland and veteran trees unless there are wholly exceptional reasons and a suitable compensation strategy exists. In this respect ancient woodland is defined as an area which has been wooded continuously since at least 1600 AD and a veteran as a tree of exceptional value for wildlife, in the landscape, or culturally because of its great age, size or condition.
- 4.6 The mapping of veteran trees on Drawings 2 should be confirmed in due course by detailed ground surveys.

Local Planning Policy

- 4.7 Warrington Borough Council has a number of adopted policies pertaining to trees and nature conservation in the Core Strategy. They are reproduced hereafter.

Policy QE 3

Green Infrastructure

- 4.8 The Council will work with partners to develop and adopt an integrated approach to the provision, care and management of the borough's Green Infrastructure. Joint working and the assessment of applications will be focussed on:
- (i) protecting existing provision and the functions this performs;

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

Policy QE 5

Biodiversity and Geodiversity

- 4.9 The Council will work with partners to protect and where possible enhance sites of recognised nature and geological value. These efforts will be guided by the principles set out in National Planning Policy and those which underpin the strategic approach to the care and management of the borough's Green Infrastructure in its widest sense.
- 4.10 Sites and areas recognised for their nature and geological value are shown on the Policies Map and include:
- (i) European Sites of International Importance
 - (ii) Sites of Special Scientific Interest
 - (iii) Regionally Important Geological Sites
 - (iv) Local Nature Reserves
 - (v) Local Wildlife Sites
 - (vi) Wildlife Corridors
- 4.11 The specific sites covered by the above designations at the time of publication are detailed in Appendix 3. [NB. This includes Moore Nature Reserve]
- 4.12 Proposals for development which may affect European Sites of International Importance will be subject to the most rigorous examination in accordance with the Habitats Directive. Development or land use change not directly connected with or necessary to the management of the site and which is likely to have significant effects on the site (either individually or in combination with other plans or projects) and which would affect the integrity of the site, will not be permitted unless the Council is satisfied that; there is no alternative solution; and there are imperative reasons of over-riding public interest for the development or land use change.

- 4.13 Proposals for development in or likely to affect Sites of Special Scientific Interest (SSSI) will be subject to special scrutiny. Where such development may have an adverse effect, directly or indirectly, on the SSSI it will not be permitted unless the reasons for the development clearly outweigh the nature conservation value of the site itself and the national policy to safeguard the national network of such sites.
- 4.14 Proposals for development likely to have an adverse effect on regionally and locally designated sites will not be permitted unless it can be clearly demonstrated that there are reasons for the development which outweigh the need to safeguard the substantive nature conservation value of the site or feature.
- 4.15 Proposals for development which may adversely affect the integrity or continuity of UK Key habitats or other habitats of local importance, or adversely affect EU Protected Species, UK Priority Species or other species of local importance, or which are the subject of Local Biodiversity Action Plans will only be permitted if it can be shown that the reasons for the development clearly outweigh the need to retain the habitats or species affected and that mitigating measures can be provided which would reinstate the habitats or provide equally viable alternative refuge sites for the species affected.
- 4.16 All development proposals affecting protected sites, wildlife corridors, key habitats or priority species (as identified in Local Biodiversity Action Plans) should be accompanied by information proportionate to their nature conservation value including;
- (i) importance; an assessment of the likely impacts of the proposed development proposals for the protection and management of features identified for retention;
 - (ii) an assessment of whether the reasons for the development clearly outweigh the nature conservation value of the site, area or species; and
 - (iii) proposals for compensating for features damaged or destroyed during the development process
- 4.17 Where development is permitted, the Council will consider the use of conditions or planning obligations to ensure the protection and enhancement of the site's nature conservation interest and/or to provide appropriate compensatory measures.

Policy QE 6

Environment and Amenity Protection

- 4.18 The Council, in consultation with other Agencies, will only support development which would not lead to an adverse impact on the environment or amenity of future occupiers or those currently occupying adjoining or nearby properties, or does not have an unacceptable impact on the surrounding area. The Council will take into consideration the following:
- (i) The integrity and continuity of tidal and fluvial flood defences;
 - (ii) The quality of water bodies, including canals, rivers, ponds and lakes;

- (iii) Groundwater resources in terms of their quantity, quality and the ecological features they support;
 - (iv) Land quality;
 - (v) Air quality;
 - (vi) Noise and vibration levels and times when such disturbances are likely to occur;
 - (vii) Levels of light pollution and impacts on the night sky;
 - (viii) Levels of odours, fumes, dust, litter accumulation and refuse collection/storage.
 - (ix) The need to respect the living conditions of existing neighbouring residential occupiers and future occupiers of new housing schemes in relation to overlooking/loss of privacy, outlook, sunlight, daylight, overshadowing, noise and disturbance;
 - (x) The effect and timing of traffic movement to, from and within the site and car parking including impacts on highway safety;
 - (xi) The ability and the effect of using permitted development rights to change use within the same Use Class (as set out in the in the Town and Country Planning (General Permitted Development Order) without the need to obtain planning consent.
- 4.19 Proposals may be required to submit detailed assessments in relation to any of the above criteria to the Council for approval.
- 4.20 Where development is permitted which may have an impact on such considerations, the Council will consider the use of conditions or planning obligations to ensure any appropriate mitigation or compensatory measures are secured.
- 4.21 Development proposals on land that is (or is suspected to be) affected by contamination or ground instability or has a sensitive end use must include an assessment of the extent of the issues and any possible risks. Development will only be permitted where the land is, or is made, suitable for the proposed use.
- 4.22 Additional guidance to support the implementation of this policy is provided in the Design and Construction and Environmental Protection Supplementary Planning Documents.

Relevance to this site

- 4.23 The application and relevance of the above policies to any development on this site should be explored within an Arboricultural Impact Assessment. The site does contain features of value that should be conserved, notably in the north-west and in a narrow belt from 125 Stone Pitt Lane south-west to the General Elliot Hotel. However, the defining characteristic of the treescape is the absence of trees and woodland that 'should' be present at this location and within this type of landscape. The Mersey Forest Plan articulates this issue well and should be regarded as a useful metric for delivery against biodiversity policies through arboreal habitat management and creation.

5.0 Tree Population Summary

- 5.1 Trees cover a low proportion of the total site area. The majority are located within narrow belts, typically one tree wide or in linear arrangements of open-grown specimens. There are small compartments of woodland of fair or good quality but limited by size. The centre of the site is largely devoid of trees and many boundaries are without hedges or intact and connected vegetation.
- 5.2 In terms of quality and particularly habitat and amenity benefits, the tree population mostly comprises good quality trees but they are simply too limited in number and poorly connected to deliver the types of complex habitat functions associated with more substantial assemblages. Individual trees of merit are reasonably widespread but these tend to be isolated.
- 5.3 The topography of the site means that the isolated trees within the interior are reasonably prominent and do form a notable component of the visual character of the site.
- 5.4 Trees and hedges form a relatively intact but narrow corridor from 125 Stone Pitt Lane to the General Elliot Hotel (compartments C16, C15, C14, C20, C22, C23, C25 and 2). These constitute a more intact backdrop to views from within the site and screening along the boundary, as do those in the north-west (compartments C9, C10, C11 and trees beyond along Cockshot Brook).
- 5.5 Overall, notwithstanding existing features of merit, the tree population is poor. There is little woodland, canopy is fragmented, there is no new planting and limited opportunity for natural regeneration. Without intervention, the remaining treescape is somewhat vulnerable.
- 5.6 The survey categorised woody vegetation into the broad types shown in the table below. These are based on the categories used by the National Forest Inventory remote assessment method, which are mapped on Drawing 1. The survey confirmed the actual extents of these vegetation types within accessible areas and a more accurate representation of the vegetation present is shown on Drawing 2 for comparison.
- 5.7 Reference numbers as per the table below relating to types of tree cover are used in Appendix A. Each area of tree cover that is spatially distinct or with a distinct character from surrounding vegetation was mapped as a separate 'Compartment'. Where a secondary descriptor was useful to add texture to the description and to more clearly identify the characteristics of the compartment, these were added to the survey data but are not presented graphically.

Table 3 Approximate quantum of woody habitats

Reference	Woody habitat type	Area
1	Broadleaved	7.28 ha
2	Conifer	0.03 ha

Reference	Woody habitat type	Area
3	Coppice	0.0 ha
4	Coppice with standards	0.0 ha
5	Failed	0.0 ha
6	Felled	0.0 ha
7	Ground preparation	0.0 ha
8	Low density	0.0 ha
9	Mixed mainly broadleaved	0.76 ha
10	Mixed mainly conifer	0.0 ha
11	Shrub	0.0 ha
12	Windthrow	0.0 ha
13	Young trees	0.0 ha

- 5.8 Mature individual trees are also shown approximately on the survey plans. These identify mature trees that are not within woodland as well as trees within woodland that are notable for their size or difference from surrounding vegetation, either individually or as a collective feature. Strong linear features comprising individual trees whose primary function is as a group are recorded as groups but may be excluded from deciduous woodland area calculations.
- 5.9 A short description of each surveyed compartment is included in the survey data at Appendix A.

6.0 Preliminary Assessment of Effects

- 6.1 Wherever development occurs, there is a potential for effects on trees. This might comprise the removal of trees that would physically prevent the development but also those that are nearby and vulnerable to changes in local conditions that would arise because of construction.
- 6.2 Trees are a material consideration in the planning process. There should be a common sense ambition to limit tree loss to that which is strictly necessary to facilitate the proposal, and to ensure that the condition and safety of all remaining trees would not be compromised by the development. The quality and distribution of trees should also be considered amongst other constraints in the development of the proposed design.
- 6.3 The approximate extents of woody vegetation and relevant designations and status are shown on Drawing 2. This should be used as a basis for masterplanning and feasibility studies but should not be relied upon for detailed layout design. The following text gives an overview of the likely impact of the masterplan proposals on key metrics of existing trees where these are known or can be estimated. Actual effects will be determined at the detailed design stage. It is assumed that any future design will be broadly similar to the Masterplan (reproduced at Drawing 3) but may be influenced by the constraints and opportunities presented in this report and by other technical disciplines.

Development Proposals

- 6.4 The proposed development area, including the provision of infrastructure, a primary school and a secondary school incorporates 60.62ha of the site at north west Croft, the majority of which is currently agricultural land. This could deliver up to 1,765 units. The masterplan also allocates provision for a further 43.08ha of greenspace to include: a community orchard; a new park; village green and cricket pitch; formal and informal avenue planting; and a number of 'greens'.

Canopy Cover

- 6.5 The primary tree losses would occur along the internal field boundaries, particularly C6, C7 and C15 where new access is created. Based on the tree cover mapped on Drawings 1 and 2 an estimated 0.51ha of tree cover would be removed. The majority of this comprises mature field boundary vegetation towards the southern portion of the site.
- 6.6 New access points off Smithy Brow and Heath Lane plus further internal access routes would also result in the loss of c. 62m of existing hedgerow.
- 6.7 Because of the distribution of trees within the site it is likely that residential development as indicated on the masterplan could be delivered with limited adverse effects on trees. Residential areas are indicated within areas of lower quality and lower density tree cover and areas of open space which make up the majority of the site. Most belts of trees contain gaps that could be exploited to reduce tree losses arising from internal access routes.

- 6.8 The fragmentation of hedgerows is only minor and could be mitigated by implementing new trees with a large ultimate canopy size that would eventually conjoin over new access routes.
- 6.9 Tree cover along Cockshot Brook in the north-west is intact and any requirement to break through this boundary with the potential link to the A579 would probably result in the loss of high quality trees or areas of trees containing veterans. The potential link road in this location would need to avoid such features to avoid the loss of irreplaceable habitat.
- 6.10 The proposed green infrastructure (including that retained and/or improved) that includes a community orchard, formal and informal avenue planting and 'greens', would eventually result in a net gain in tree cover when new planting becomes established. The masterplan presents a positive restoration of accessible and high quality tree canopy cover, habitat networks, traditional orchards and a rural aesthetic that is integrated with the sensitive delivery of a new settlement.

Table 4 Approximate quantum of woody habitats that would be removed

Woody habitat type	NFI Primary Vegetation Descriptor Ref.	Area
Broadleaved	1	0.51 ha

Opportunities

- 6.11 Trees are a material consideration in the planning process. All trees have some inherent value and any loss of trees should normally be mitigated by new planting. Preserving the existing quantity and proportion of tree cover is generally possible in most areas due to the sites former use and layout of the final built form as shown by the masterplan.
- 6.12 The introduction of both formal and informal green spaces presents an opportunity to significantly increase species diversity and arboreal value types not currently present across the site. New planting should look to introduce species that are resilient to disease whilst increasing the existing diversity of the current tree stock.

Tree Quality

- 6.13 A simple assessment of quality has been made as a proxy for the likely magnitude of adverse effects or requirements for and anticipated difficulty in providing mitigation associated with tree loss in different parts of the site.
- 6.14 Compartments of Poor Quality are those that have identified defects or shortcomings. These may be remediable.
- 6.15 Compartments of Fair Quality are those that have no noteworthy defects or shortcomings, and no particular merit beyond the basic value of all trees and their function as part of the wider treescape, which is material.

- 6.16 Compartments of Good Quality are those with significant identified and material merit. They would tend to be more diverse, mature and delivering a range of benefits and functions than those in lower categories.
- 6.17 Compartments of Excellent Quality are those with substantial material merit. They are likely to be exceptional in their characteristics or the provision of benefits and functions. They may represent mature or climax vegetation or be associated with a higher incidence of veteran trees and protected species.

Table 5 Quality of surveyed compartments

Excellent Quality	Good Quality	Fair Quality	Poor Quality
0	17	8	0

- 6.18 A breakdown of canopy loss estimate by quality assessment is provided in the following table.

Table 6 Approximate Quality of woody habitats that would be removed

Woody habitat type	Excellent Quality	Good Quality	Fair Quality	Poor Quality	Total
Broadleaved	0.00ha	0.34ha	0.17ha	0.0ha	0.51ha

Veteran Trees

- 6.19 2 veteran trees were identified during the walkover assessment, neither of which directly conflict with built elements of the masterplan. It will be necessary for any future layout to respond to the presence of veteran trees should they be identified during more detailed survey work.

7.0 Recommendations

Tree Works

- 7.1 Whilst the purpose of the walkover survey was not to identify tree works, the recommendations in Appendix A are based on observations that were made during the survey and should be considered to prevent future problems. No immediate works were required.

Permissions

- 7.2 Authority to undertake the works recommended in Appendix A or any other routine maintenance works must be sought in advance of commencement.
- 7.3 The permission of the owner of the land around the base of the tree must be sought. For trees on boundaries, this may be more than one party.
- 7.4 Any tree works that are required to deliver development that has detailed consent will not normally require additional permissions, unless they are done under licence from Natural England because they would affect a protected species.
- 7.5 Works affecting any tree within an area covered by an active planning permission may risk breach of that planning permission except those expressly permitted by planning consent. Further works should not be undertaken until it has been determined that they are permitted or otherwise acceptable to the relevant consenting authority.
- 7.6 Based on the results of the desktop survey, tree works in some areas would be subject to TPO and require an application.
- 7.7 Tree works may require a felling licence⁷ depending on their location; works in domestic gardens and orchards in particular may be excluded. Such licences typically include requirements to replant trees.
- 7.8 It is possible that works could affect protected hedgerow but many of the surveyed hedges contain few woody species and may therefore not be important under the Hedgerow Regulations 1997. It is possible that hedges may be protected for other reasons such as historical or archaeological significance. If in doubt, the Local Authority should be able to provide confirmation.
- 7.9 Additional consenting mechanisms may apply in certain circumstances including for works affecting protected species; close to overhead lines; in churchyards; close to airports; and for which access is required across or above land owned by third parties (including the Highways and Local Authorities).

⁷[https://www.forestry.gov.uk/pdf/FellingLicenceApplicationFormEnglandv2.doc/\\$FILE/FellingLicenceApplicationFormEnglandv2.doc](https://www.forestry.gov.uk/pdf/FellingLicenceApplicationFormEnglandv2.doc/$FILE/FellingLicenceApplicationFormEnglandv2.doc)

Detailed Tree Survey

- 7.10 A detailed tree survey undertaken according to BS5837:2012 will be required to inform a detailed design. This should record all trees, groups of trees, woodland, and hedgerow within influencing distance of the site. It should assess and report on: canopy spread of existing trees and groups; a Root Protection Area (RPA) calculated in accordance with BS 5837; and tree quality category that identifies the quality and value (in a non-fiscal sense) of the existing tree stock, to allow informed decisions to be made concerning which trees should be removed or retained in the event of development occurring.
- 7.11 The level of detail in the tree survey may vary, providing greater resolution in areas of anticipated activity. Interior trees within larger groups or in areas of minimal intervention may be subject to a more general appraisal but should still be included in the survey.

Other types of Arboricultural Assessment

- 7.12 In order to assess the functions and benefits provided by existing trees, to quantify loss, and to justify any mitigation proposals it may be useful to undertake types of assessment that look at specific outcomes rather than simply tree quality (according to BS5837). In particular, *iTree Eco* quantitative modelling of ecosystem services and a biodiversity offsetting analysis may be useful tools within the planning process.

Arboricultural Impact Assessment

- 7.13 An Arboricultural Impact Assessment (AIA) will be required in support of a reserved matter/detailed application. This will identify, evaluate and possibly mitigate the impacts of developing land on the existing tree resource.
- 7.14 One function of the AIA process will be the consideration of trees alongside other project disciplines (layout, drainage, utilities etc.) in order to minimise future conflict and avoid uncalculated expense or undesirable tree loss.
- 7.15 The AIA should include a detailed Tree Removal Plan outlining the proposed schedule of tree works. It may also include details of any tree protection measures that would be required during the construction phase. In certain circumstances it may be appropriate to set out a heads of terms for tree protection and defer the detail to a Condition of planning consent.

Mitigation Planting & Landscaping

- 7.16 The National Planning Policy Framework (NPPF) is a material consideration in the planning process and promotes a presumption in favour of sustainable development. In terms of the natural environment, development should minimise impacts on biodiversity and provide a net gain in biodiversity where possible. In respect of trees, a sustainable development will be one whereby the total number, value or function provided by trees is maintained or increased or where the long-term prospects of the existing tree stock can be substantially improved.

- 7.17 Mitigation for the loss of trees as a result of development will be delivered via the creation of new planting within proposed green infrastructure; this would include a community orchard; 4 'greens' across the site; a new park adjacent to Cockshot Brook; and numerous avenues along proposed access routes.
- 7.18 Approximately 0.51 hectares of tree cover and c. 62m of hedgerow would be removed if the development was carried out in strict accordance with the Masterplan but this may be subject to modification at the detailed design stage. The Masterplan indicates that in general, existing tree cover and arboreal connectivity across the site would be retained. Discussion is provided on the interrelationship of key arboricultural features in Section 6.
- 7.19 Based on the estimated tree loss figures provided above and the opportunities presented by the Masterplan, mitigation for the total loss of tree cover could be delivered within the site proposals.
- 7.20 The extent of replacement tree planting required to mitigate adverse effects should be assessed as part of the AIA process. The advice of a qualified Arboricultural Consultant should be sought during planting plan preparation to ensure species and placement suitability. Any new planting should not be viewed principally as an exercise in landscape architecture and aesthetic design but should be strongly informed by conservation and habitat objectives.

Post Development Management

- 7.21 As much of the site as possible should receive long-term management. Ideally, this would be through a single management plan to allow a single and coherent approach to inform the management of most areas. The objectives for this management plan should be set following consultation with a range of local and national stakeholders and experts.
- 7.22 Areas of the site that will be open to public access should be surveyed regularly for developing hazards. Trees are dynamic living organisms whose structure is constantly changing; even those in good condition can suffer from damage or stress. There is no set approach or period for tree inspection and the best approach should be determined when the future usage, management and ownership of the site has been determined.

APPENDIX A: Tree Survey Data

APPENDIX A: Tree Survey Data



Surveyor Tom Popplewell
Survey date 14th June 2018
Site Land at north west Croft
Town Warrington

Ref	Main woody species	Primary Vegetation Descriptor	Secondary Vegetation Descriptor	Maturity	Quality	Description	Works Recommendations
	(Common name)	NFI	NFI	Young, Middle Age, Mature, Ancient, Young to Middle Age, Middle Age to Mature, Young to Mature	Excellent, Good, Fair, Poor		

Compartments

C1	Hawthorn	1		Middle Age	Good	Managed hedge	
C2	Hawthorn; sycamore; ash; elder; lime; cypress	1		Middle Age	Fair	Small woodland compartment; some trees with dieback or reduced vigour; some gaps; around pub garden	
C3	Weeping willow; rowan; hawthorn; oak; alder; larch; lime; sycamore; laurel; juniper; cypress; elder; Myrobalan plum; cherry	9	11	Middle Age	Good	Rear gardens of residential properties; small trees and hedgerow with some larger trees	
C4	Sycamore; willow; laurel; oak; birch; hawthorn; alder	1		Middle Age to Mature	Good	Woodland around pond; dense	
C5	Hawthorn; elder; willow	1		Middle Age	Good	Managed hedge with larger trees at northern end	
C6	Oak; hawthorn; sycamore	1		Mature	Good	Field boundary trees; open grown form	
C7	Oak	1		Middle Age	Fair	Open grown and occasional single short hedged trees	
C8	Hawthorn; elder; sycamore	1		Middle Age	Good	Managed hedge; hawthorn dominated	
C9	Ash; sycamore; oak; elder; hawthorn	1		Middle Age to Mature	Good	Belt of trees around dry ditch at foot of bank; sycamore and oak dominated; one veteran ash tree	
C10	Sycamore; hawthorn; osier; crack willow; horse chestnut; oak	1		Middle Age to Mature	Good	Dry ditch; Himalayan balsam; mostly basally multistemmed trees with some larger mature crack willow with veteran characteristics	
C11	Sycamore; oak; elder; hawthorn	1		Middle Age to Mature	Good	Belt of trees on bank; some topped oak; mature trees; rabbit holes	
C12	Hawthorn	1		Middle Age	Good	Managed hedge	

APPENDIX A: Tree Survey Data

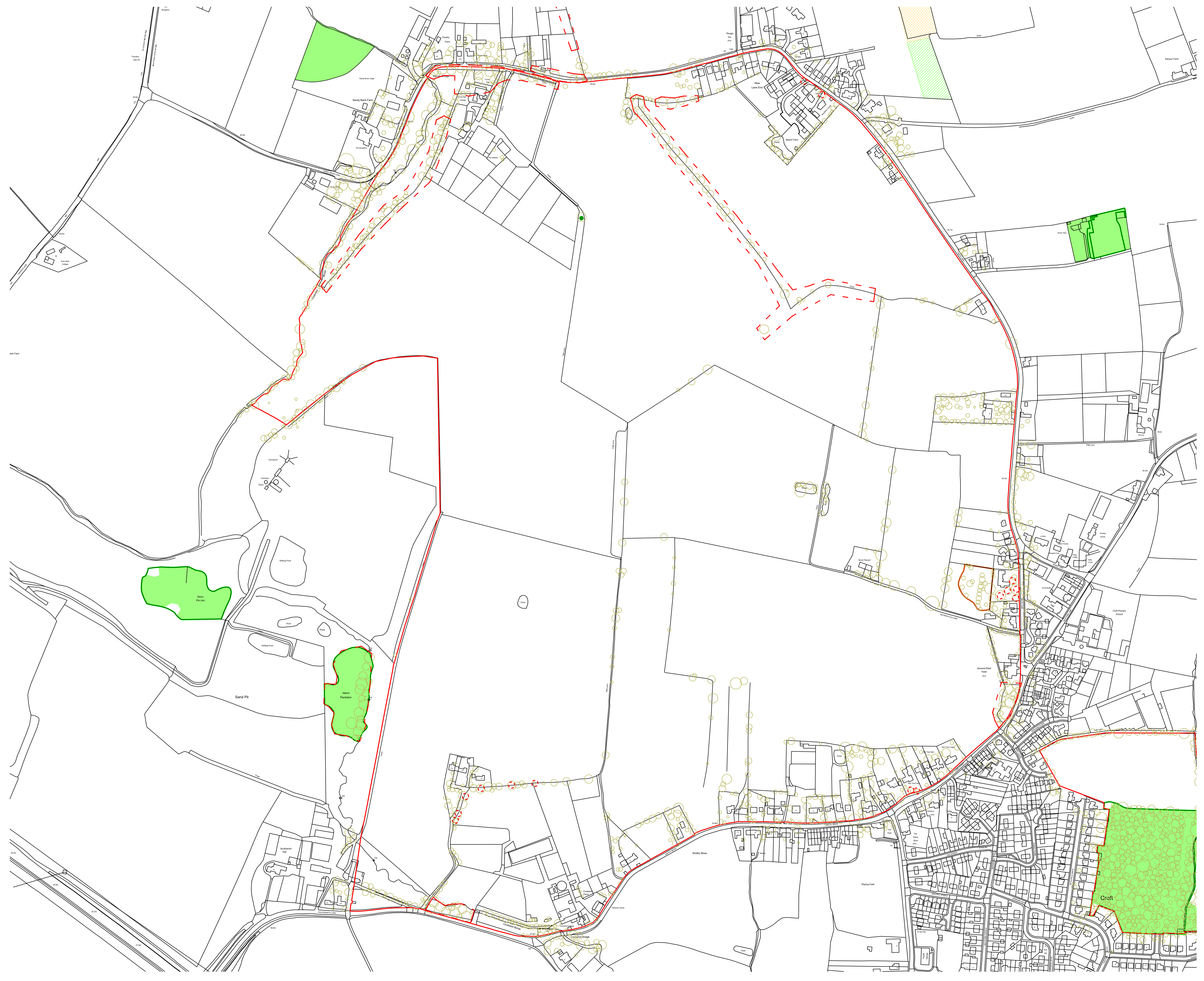
Ref	Main woody species	Primary Vegetation Descriptor	Secondary Vegetation Descriptor	Maturity	Quality	Description	Works Recommendations
	(Common name)	NFI	NFI	Young, Middle Age, Mature, Ancient, Young to Middle Age, Middle Age to Mature, Young to Mature	Excellent, Good, Fair, Poor		
C13	Leyland cypress	2		Middle Age	Fair	Boundary row with low parts hedged	
C14	Crack willow; hazel; oak; sycamore	1		Middle Age to Mature	Good	Willow dominated group alongside pond	
C15	Oak; hazel; crack willow; sycamore; ash	1		Middle Age to Mature	Good	Large trees along ditch; mostly oak; smaller to to south and east	
C16	Crack willow; weeping willow; oak; sycamore; hazel; hawthorn	1	11	Middle Age to Mature	Fair	Rear gardens of residential properties with boundary vegetation and trees	
C17	Hawthorn; rowan; willow; elder; rowan; sycamore; alder; beech	1		Middle Age	Good	Trees around pond and garden; none very large but good screening	
C18	Hawthorn	1		Middle Age	Good	Managed hedge	
C19	Elder; oak; cypress; cherry; laurel	9	11	Middle Age to Mature	Fair	Garden trees with topped oak and cypress	
C20	Sycamore	1		Middle Age to Mature	Fair	Open grown boundary trees; some with reduced vigour	
C21	alder; oak; hawthorn; grey willow	1		Middle Age to Mature	Good	trees around ponds	
C22	Myrobalan plum; ash; holly; bullace; beech; laurel; hawthorn; purple beech	1		Middle Age to Mature	Fair	Garden trees and ornamental shrubs	
C23	Oak; ash; hawthorn; sycamore	1		Middle Age to Mature	Good	By track; open grown trees over hedge	
C24	Cypress	2		Middle Age	Fair	Managed hedge	
C25	Alder; elder; sycamore; ash; hawthorn; oak; cherry; grey willow	1		Middle Age	Good	Boundary planting; good screening	

DRAWINGS

Drawing 1 - Arboricultural Desktop Overview

Drawing 2 - Arboricultural Survey Overview

Drawing 3 - Land North West of Croft, Illustrative Masterplan



- KEY**
(This drawing must be reproduced in colour)
- Site Boundary
 - National Tree Map (c.909 trees)
- Mapped designations and classifications**
- Ancient Woodland (with 15m buffer) (None)
 - - - Tree Preservation Order (Warrington Borough Council) (Yes)
 - Habitat of Principal Importance (NERC: Deciduous Woodland) (None)
 - Habitat of Principal Importance (NERC: Wood Pasture and Parkland) (None)
 - Habitat of Principal Importance (0.31ha) (NERC: Traditional Orchard)
 - Community Forest (Mersey Forest and Northern Forest) (All)
 - Ancient/Veteran/Notable Tree (Ancient Tree Inventory) (None)
 - Conservation Area (Warrington Borough Council) (None)

- Vegetation type (National Forest Inventory)**
- Assumed woodland (0ha)
 - Broadleaved (0ha)
 - Conifer (0ha)
 - Coppice (0ha)
 - Coppice with standards (0ha)
 - Failed (0ha)
 - Felled (0ha)
 - Ground preparation (0ha)
 - Low density (0ha)
 - Mixed mainly broadleaved (0ha)
 - Mixed mainly conifer (0ha)
 - Shrub (0ha)
 - Windthrow (0ha)
 - Young trees (0ha)

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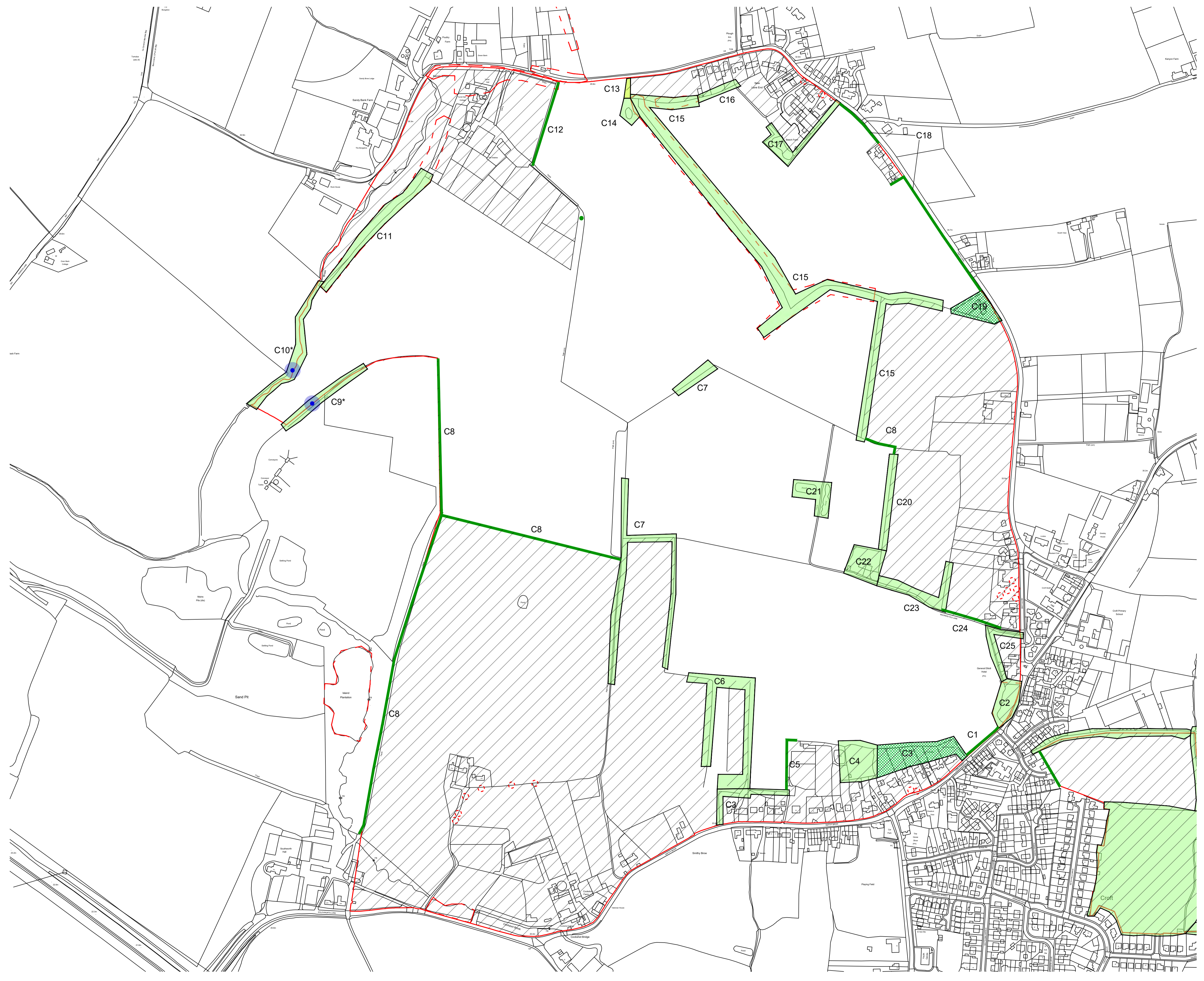
Rev	Description	Drawn	Approved	Date

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
Land at Croft, Arboricultural Walkover and Desktop
 Title
Arboricultural Desktop Overview

Drawing Number
D6929.02.016

Scale	Date
1:3,000 @ A1	11/05/2018
Drawn TDP	Checked JGS
	Approved JGS



KEY
(This drawing must be reproduced in colour)

	Site Boundary	
	Not accessible for survey (Land not in TEP ownership)	
Designations and classifications (ground truthed)		
	Ancient Woodland (15m buffer)	(None)
	Tree Preservation Order (Warrington Borough Council)	(Yes)
	Habitat of Principal Importance (1.07ha) (NERC: Deciduous Woodland)	
	Habitat of Principal Importance (None) (NERC: Wood Pasture and Parkland)	
	Habitat of Principal Importance (None) (NERC: Traditional Orchard)	
	Habitat of Principal Importance (1.915m) (NERC: Hedgerow)	
	Community Forest (Mersey Forest and Northern Forest)	(All)
	Veteran Tree 15m buffer (Compartments most likely to contain further veterans marked *)	(2)
	Conservation Area (Warrington Borough Council)	(None)

Vegetation type (measurements taken within the boundary)

	Mature trees (non-woodland or notable)	
	Broadleaved	(7.28ha)
	Conifer	(0.03ha)
	Coppice	(0ha)
	Coppice with standards	(0ha)
	Failed	(0ha)
	Felled	(0ha)
	Ground preparation	(0ha)
	Low density	(0ha)
	Mixed mainly broadleaved	(0.76ha)
	Mixed mainly conifer	(0ha)
	Shrub	(0ha)
	Windthrow	(0ha)
	Young trees	(0ha)

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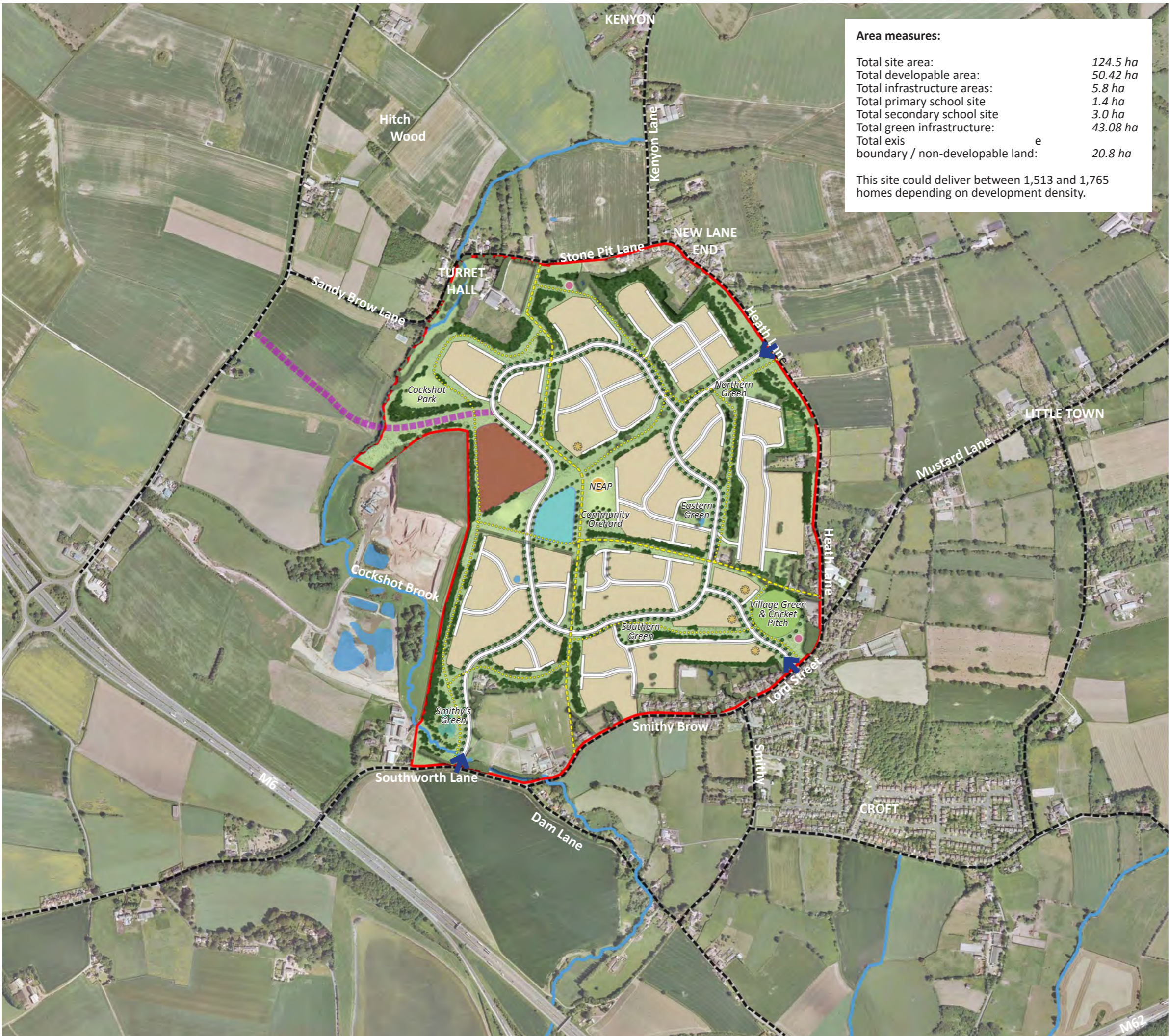
Rev	Description	Drawn	Approved	Date

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
Land at Croft, Arboricultural Walkover and Desktop
Title
Arboricultural Walkover Overview

Drawing Number
D6929.02.017

Scale 1:3,000 @ A1	Date 11/05/2018
Drawn TDP	Checked JGS
	Approved JGS



Area measures:

Total site area:	124.5 ha
Total developable area:	50.42 ha
Total infrastructure areas:	5.8 ha
Total primary school site:	1.4 ha
Total secondary school site:	3.0 ha
Total green infrastructure:	43.08 ha
Total exis boundary / non-developable land:	20.8 ha

This site could deliver between 1,513 and 1,765 homes depending on development density.

- KEY:**
- Site boundary
 - Exis egeta
 - Exis atercourses & waterbodies
 - Exis t
 - Exis ts of way
 - Exis oads
 - Proposed vehicular access
 - Proposed development area
 - Proposed primary road
 - Proposed secondary road
 - Poten onday school loca
 - Poten y school loca
 - Proposed focal green spaces
 - Proposed key pedestrian & cycle links within green corridors
 - Proposed retail / commercial / medical
 - Poten e link to A579
 - Proposed SuDS
 - Proposed allotments
 - Proposed LEAP
 - Proposed NEAP

NB: Masterplan subject to change following detailed survey work



Land North West of Cr
Illustra e Masterplan

Drwg No: 630DB-17	Date: 21.06.18
Drawn by: AH	Checker: DL
Rev by:	Rev checker:
QM Status: Checked	Product Status:
Scale: 1:5000 @ A3	Con eview



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June 2019

Peel Holdings (Land and Property) Ltd

Predicted Agricultural Land Classification

at

Land North West of Croft, Warrington

**Beechwood Court,
Long Toll, Woodcote,
RG8 0RR**

**01491 684 233
readingagricultural.co.uk**

1 Introduction

- 1.1 Reading Agricultural Consultants Ltd (RAC) is instructed by Peel Holdings (Land and Property) Ltd to assess the Agricultural Land Classification (ALC) of land to the north-west of Croft, Warrington, by means of a desktop appraisal of soil and site characteristics.
- 1.2 Guidance for assessing the quality of agricultural land in England and Wales is set out in the Ministry of Agriculture, Fisheries and Food (MAFF) revised guidelines and criteria for grading the quality of agricultural land (1988)¹, and summarised in Natural England's Technical Information Note 049².
- 1.3 Agricultural land in England and Wales is graded between 1 and 5, depending on the extent to which physical or chemical characteristics impose long-term limitations on agricultural use. The principal physical factors influencing grading are climate, site and soil which, together with interactions between them, form the basis for classifying land into one of the five grades.
- 1.4 Grade 1 land is excellent quality agricultural land with very minor or no limitations to agricultural use, and Grade 5 is very poor quality land, with severe limitations due to adverse soil, relief, climate or a combination of these. Grade 3 land is subdivided into Subgrade 3a (good quality land) and Subgrade 3b (moderate quality land). Land which is classified as Grades 1, 2 and 3a in the ALC system is defined as best and most versatile agricultural land.

2 Site and climatic conditions

General features, land form and drainage

- 2.1 The site occupies 124.5ha, most of which is agricultural land in arable use. Non-agricultural land includes a number of residential properties to the north, east and south, a public house and Widings Old Lane. The site is bounded to the north by Sandy Brow Lane and Stone Pit Lane, to the east by Heath Lane and Lord Street, to the south by Smithy Brow and Southworth Lane, and to the west by Winwick Lane and a mineral extraction site.

¹ **MAFF (1988)**. *Agricultural Land Classification of England and Wales. Revised guidelines and criteria for grading the quality of agricultural land*. MAFF Publications.

² **Natural England (2012)**. *Technical Information Note 049 - Agricultural Land Classification: protecting the best and most versatile agricultural land*, Second Edition.

2.2 Topography at the site is level to gently sloping. Across the east of the site, the altitude is at around 35m above Ordnance Datum (AOD), and falls to 30m AOD to Cockshot Brook in the west of the site.

Agro-climatic conditions

2.3 Agro-climatic data for the site have been interpolated from the Meteorological Office's standard 5km grid point data set at a representative altitude of 30m AOD, and are given in Table 1. Climate at the site is wet and moderately warm with moderate moisture deficits. The number of field capacity days is greater than is typical for lowland England and is unfavourable for providing opportunities for agricultural field work.

Table 1: Local agro-climatic conditions

Parameter	Value
Average Annual Rainfall	884mm
Accumulated Temperatures >0°C	1,417 day°
Field Capacity Days	209 days
Average Moisture Deficit, wheat	85mm
Average Moisture Deficit, potatoes	71mm

Soil parent material and soil type

2.4 The underlying geology mapped by the British Geological Survey³ in the east of the site is the Wilmslow Sandstone Formation and in the west the Chester Formation. Both formations include fine- to medium-grained reddish brown sandstones. The Wilmslow Sandstone Formation is generally pebble-free, whilst the Chester Formation is pebbly and may also include some red-brown mudstones.

2.5 Superficial deposits across most of the north of the site comprise glacial till, which includes material of variable size, ranging from clay to boulders. The south of the site is overlain by sand and gravel of glaciofluvial origin.

2.6 The Soil Survey of England and Wales soil association mapping⁴ (1:250,000 scale) shows the Salop association across the site with the exception of a small corner in the south-west. These soils are mainly loamy or clayey with slowly permeable subsoils in reddish drift. Soils within this

³ **British Geological Survey (2018).** *Geology of Britain viewer*, <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

⁴ **Soil Survey of England and Wales (1984).** *Soils of Midland and Western England* (1:250,000), Sheet 3

association tend to be waterlogged for long periods in winter and are commonly assessed as Wetness Class (WC) IV. Soils can potentially be assessed as WC III with improved drainage⁵.

- 2.7 Soils of the Blackwood and Bridgnorth associations are mapped in the south-west corner. Profiles within the Blackwood association are characterised by deep sandy and coarse loamy soils within glaciofluvial drift. Profiles are affected by fluctuating groundwater and are assessed as WC III or IV where undrained. Where the regional water table has been lowered and the soils are drained, they may be of WC I or II.
- 2.8 Profiles within the Bridgnorth association consist of well drained, reddish sandy and coarse loamy soils developed in Permo-Triassic sandstone. These soils readily absorb winter rainfall, are well drained and commonly assessed as WC I⁵.

3 Agricultural land quality

Existing data

- 3.1 Provisional ALC mapping⁶ shows the site as undifferentiated Grade 3. However, Natural England's TIN049 explains that:

"These maps are not sufficiently accurate for use in assessment of individual fields or development sites, and should not be used other than as general guidance. They show only five grades: their preparation preceded the subdivision of Grade 3 and the refinement of criteria, which occurred after 1976. They have not been updated and are out of print. A 1:250 000 scale map series based on the same information is available. These are more appropriate for the strategic use originally intended ..."

- 3.2 Detailed ALC survey data is not available for the site, although data in close proximity to the south-east shows land to be mostly Subgrade 3b with a smaller area of Subgrade 3a. Partial data covering 3.6ha is available⁷ and describes the soils present as 'clay loam texture overlying clay below 38cms'. The soil is of WC IV. In order to result in a wetness limitation to Subgrade 3b, the topsoil texture must be of medium clay loam. Land of Subgrade 3a would be better draining, of WC III.

⁵ Ragg et al. (1984). *Soils and Their Use in Midland and Western England, Soil Survey of England and Wales*, Bulletin 12. Harpenden

⁶ <https://magic.defra.gov.uk/>, accessed 12/06/2019

⁷ ADAS (1993). *Agricultural Land Classification, Warrington Local Plan – Croft East – Site 10*. Ref No: 61/93

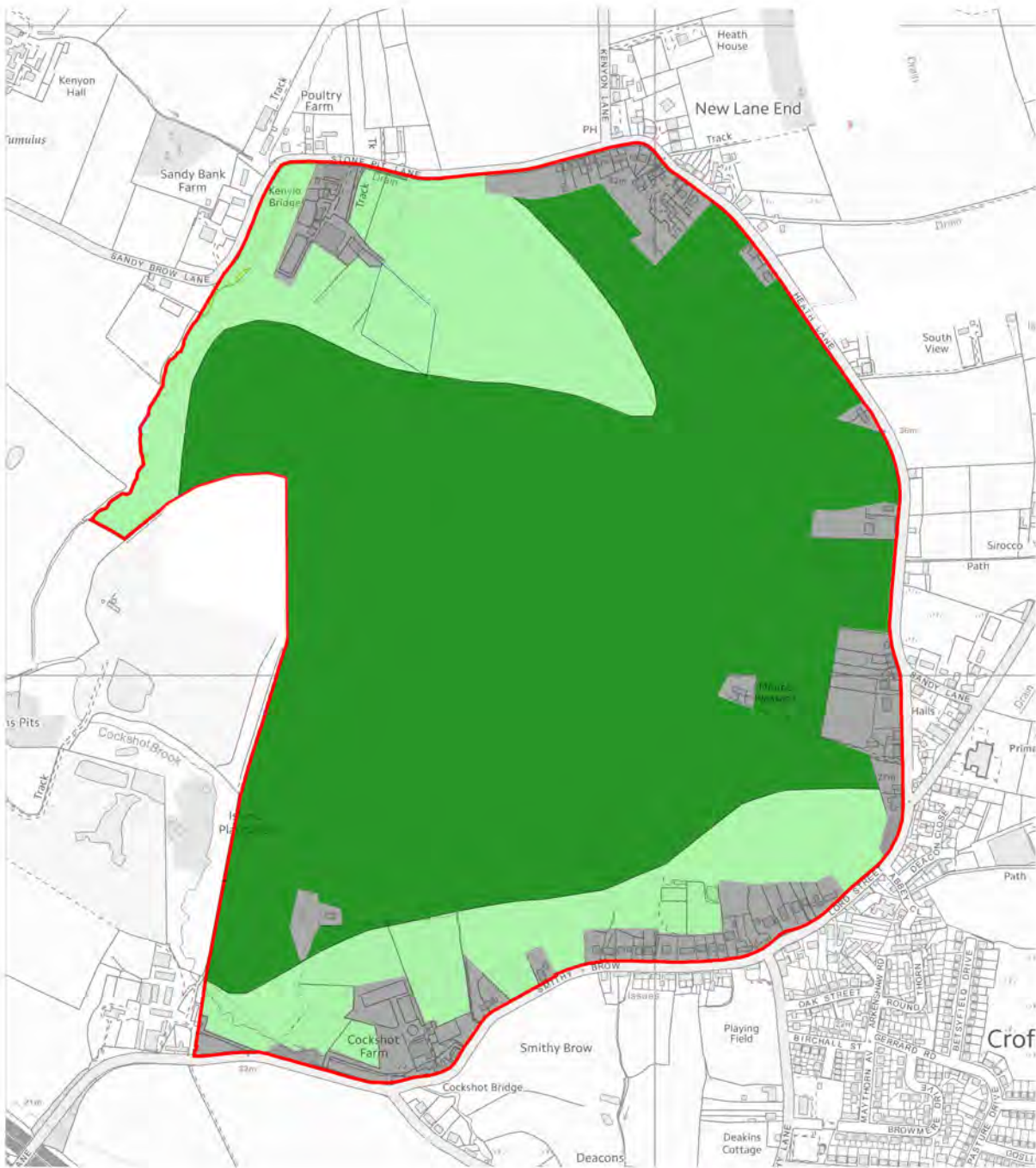
- 3.3 Similar limitations are likely to occur at the site north-west of Croft where the similar soil type (Salop) is mapped. Given that there is a sand extraction pit in the south-west of the site, a second, lighter soil type is also anticipated to be present associated with the Bridgnorth association soils.
- 3.4 Soils of the Salop association which are typically of WC IV are limited by wetness to Subgrade 3b where topsoil is of medium clay loam. Where of WC III, the soils are of Subgrade 3a. Aerial imagery of the site shows a fairly uniform crop particularly across the south, with only slight patchiness in the north, with may be suggestive of Subgrade 3a and 3b land quality areas respectively.
- 3.5 At the south-western boundary of the site, the land is very gently sloping down toward the Cockshot Brook. The brook passes through a small area in the south which is permanent grassland. This field parcel is considered likely to be of Subgrade 3b.
- 3.6 Across the adjacent gently sloping field parcel where the Bridgnorth soils are mapped, the land is in arable use and is not anticipated to be significantly affected by groundwater. These profiles are expected to be limited by wetness to Subgrade 3a.
- 3.7 The likely areas of each ALC grade of land at the site are given in Table 2 and are shown in Figure RAC8025-1b.

Table 2: Agricultural land classification

Grade	Description	Area (ha)	%
3a	Good quality	82.9	67
3b	Moderate quality	28.8	23
Non-Agricultural		12.8	10
Total		124.5	100

- 3.8 Guidance in paragraph 171 of the National Planning Policy Framework⁸ is that where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality. The Provisional ALC map⁶ shows land to the south and south-west of Croft as Grade 2, with the land to the west, north and east as undifferentiated Grade 3. Any significant development of agricultural land around Croft should therefore be directed to the west, north or east of the village to be consistent with paragraph 171 of the NPPF.

⁸ <https://www.gov.uk/government/collections/revISED-national-planning-policy-framework>, accessed 12/06/2019



- | | | |
|---|--------------------------------|--|
|  Grade 1 - excellent quality | } Best and most versatile land |  Subgrade 3b - moderate quality |
|  Grade 2 - very good quality | |  Grade 4 - poor quality |
|  Subgrade 3a - good quality | |  Grade 5 - very poor quality |
|  Not Present | | |

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Scale 1:10,000@A4 May/2019

Figure RAC8025-1b: Predicted ALC
 Site: Land North West of Croft, Warrington
 Client: Peel Holdings (Land and Property) Ltd



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NOISE SCREENING ASSESSMENT

on behalf of

PEEL HOLDINGS (LAND & PROPERTY) LTD

for the site at

NORTH WEST CROFT

REPORT DATE: 11TH JUNE 2019

REPORT NUMBER: 101862_V5

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Summary

Miller Goodall Ltd (MG) has, on behalf of Peel Holdings (Land and Property) Ltd, undertaken a desktop noise screening assessment, a preliminary walk over survey and preliminary noise measurements to review the potential issues associated with noise on a proposed development of a residential led mixed-use development with between 1,500 – 1,800 homes of mixed tenure (including affordable housing), including primary and secondary school and infrastructure as part of the development. The study has been undertaken to support the promotion of the land through the Warrington Local Plan.

The study concludes that noise should not be a barrier to residential development on the land except for the areas in close proximity to industrial areas or transport uses where additional mitigation may be required.

In relation to the impact of the development on the noise environment, information is limited and significance will need to be assessed via detailed modelling at a later date and mitigation measures considered.

Given the location of the road network and industrial noise sources a full noise assessment would be required at the planning stage to ensure all noise sources are fully assessed and appropriate mitigation measures identified as part of a full application.

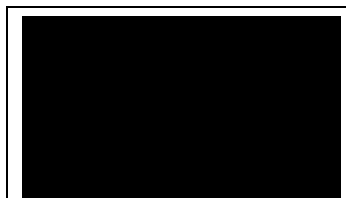
Record of changes

Prepared By Jo Miller MIOA

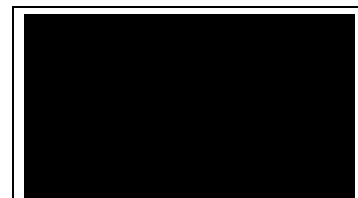
Reviewed By

Matt Wilson MIOA

Signed



Signed



Date

11th June 2019

Date

11th June 2019

Version	Date	Change	Initials
1	9 th July 2018	Initial issue	JLM
2	10 th May 2019	Minor changes	RM
3	14 th May 2019	Minor Amendments	RM
4	15 th May 2019	Minor Amendments	JLM
5	11 th June 2019	Minor Amendments	RM

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1 Introduction

- 1.1 This noise report is submitted in support of a proposed housing allocation within the Warrington Local Plan for a site located to the north of the M6, namely the “North West Croft”. The site sits within the administrative boundary of Warrington Metropolitan Borough Council (WMBC).
- 1.2 This report provides a review of the existing noise sources in proximity to the proposed development site and assesses the potential impact of the proposed development on the local noise environment.
- 1.3 The external noise in urban areas is generally dominated by road traffic sources, along with industrial and commercial sources in some areas. Generally residential areas do not generate significant noise sources of concern.
- 1.4 Noise impacts need to be considered as part of the planning process both to ensure the new development does not create adverse noise impacts on existing receptors and also that new developments are not impacted by the existing noise sources.
- 1.5 An initial review of the area has been undertaken to determine existing and future noise sources and noise sensitive receptors and any potential key noise issues have been identified together with any additional work which may be required.

2 Site Description

- 2.1 The site is approximately 124.5 ha in size and is currently a mixture of agricultural land and tree belts. The site is located immediately to the north west of Croft and is predominately surrounded by agricultural fields. The site is located approximately 250 m north of the M6. Residential dwellings lie along the eastern and north eastern boundary of the site. Along the northern boundary there are residential dwellings as well as a farm. Kenyon village is approximately 640 m north of the development. Agricultural land lies to the west of the site.
- 2.2 To the east of the site is Gaskell Brothers, Southworth Quarry, an operational sandstone quarry.
- 2.3 The site location is shown in Appendix 1.

3 Proposed Development

- 3.1 The masterplan of the development includes approximately 1,513 – 1,765 homes, new primary and secondary schools, retail areas and a network of open spaces.

4 Policy Context

4.1 Noise Policy Statement for England

4.1.1 The Noise Policy Statement for England (NPSE¹), published in March 2010, sets out the long-term vision of Government noise policy. The Noise Policy aims, as presented in this document, are:

“Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- avoid significant adverse effects on health and quality of life;
- mitigate and minimise adverse effects on health and quality of life; and
- where possible, contribute to the improvement of health and quality of life.”

4.1.2 The NPSE makes reference to the concepts of NOEL (No Observed Effect Level) and LOAEL (Lowest Observed Adverse Effect Level) as used in toxicology but applied to noise impacts. It also introduces the concept of SOAEL (Significant Observed Adverse Effect Level) which is described as the level above which significant adverse effects on health and the quality of life occur.

4.1.3 The first aim of the NPSE is to avoid significant adverse effects, taking into account the guiding principles of sustainable development (as referenced in Section 1.8 of the Statement). The second aim seeks to provide guidance on the situation that exists when the potential noise impact falls between the LOAEL and the SOAEL, in which case:

“...all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development”.

4.1.4 Importantly, the NPSE goes on to state:

“This does not mean that such adverse effects cannot occur”.

4.1.5 The Statement does not provide a noise-based measure to define SOAEL, acknowledging that the SOAEL is likely to vary depending on the noise source, the receptor and the time in question. NPSE advises that:

“Not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available”

4.1.6 It is therefore likely that other guidance will need to be referenced when applying objective standards for the assessment of noise, particularly in reference to the SOAEL, whilst also taking into account the specific circumstances of a proposed development.

¹ Noise Policy Statement for England, Defra, March 2010

4.2 National Planning Policy Framework

4.2.1 The National Planning Policy Framework (NPPF²) initially published in March 2012, was updated in February 2019. One of the documents that the NPPF replaces is Planning Policy Guidance Note 24 (PPG 24) "Planning and Noise"³.

4.2.2 The revised NPPF advises that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives). One of these is an environmental objective which is described in par. 8 (c):

"to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."

4.2.3 At par. 170 we are advised that:

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans.

4.2.4 Par. 180 goes on to state:

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

² National Planning Policy Framework, Ministry of Housing, Communities and Local Government, July 2018

³ Planning Policy Guidance 24: Planning and Noise, DCLG, September 1994

4.3 Planning Practice Guidance – Noise

4.3.1 As of March 2014, a Planning Practice Guidance⁴ for noise was issued which provides additional guidance and elaboration on the NPPF. It advises that when plan-making and decision-taking, the Local Planning Authority should consider the acoustic environment in relation to:

- Whether or not a significant adverse effect is occurring or likely to occur;
- Whether or not an adverse effect is occurring or likely to occur; and
- Whether or not a good standard of amenity can be achieved.

4.3.2 In line with the Explanatory Note of the NPSE, the PPG goes on to reference the LOAEL and SOAEL in relation to noise impact. It also provides examples of outcomes that could be expected for a given perception level of noise, plus actions that may be required to bring about a desired outcome. However, in line with the NPSE, no objective noise levels are provided for LOAEL or SOAEL although the PPG acknowledges that:

“...the subjective nature of noise means that there is not a simple relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation”.

4.3.3 Examples of these factors include:

- The source and absolute noise level of the source along with the time of day that it occurs;
- Where the noise is non-continuous, the number of noise events and pattern of occurrence;
- The frequency content and acoustic characteristics of the noise;
- The effect of noise on wildlife;
- The acoustic environment of external amenity areas provided as an intrinsic part of the overall design;
- The impact of noise from certain commercial developments such as night clubs and pubs where activities are often at their peak during the evening and night.

4.3.4 The PPG also provides general advice on the typical options available for mitigating noise. It goes on to suggest that Local Plans may include noise standards applicable to proposed developments within the Local Authority's administrative boundary, although it states that:

“Care should be taken, however, to avoid these being implemented as fixed thresholds as specific circumstances may justify some variation being allowed”.

4.3.5 The PPG was amended in December 2014 to clarify guidance on the potential effect of noise from existing businesses on proposed new residential accommodation. Even if existing noise levels are intermittent (for example, from a live music venue), noise will need to be carefully considered and appropriate mitigation measures employed to control noise at the proposed accommodation.

⁴ Planning Practice Guidance – Noise, <http://planningguidance.planningportal.gov.uk/blog/guidance/noise/>, 06 March 2014

5 Acoustic Standards and Guidance

5.1 ProPG: Planning & Noise – Professional Practice Guidance on Planning & Noise – New Residential Development – May 2017

5.1.1 ProPG: Planning and Noise is new guidance with the aim of delivering sustainable development and promoting good health and well-being through the effective management of noise which may impact on new residential developments. The guidance aims to complement the national planning policy and encourages the use of good acoustic design at the earliest phase of the planning process. It builds upon the recommendations of various other guidance documents including NPPF, NPSE and PPG-Noise, BS 8233 and WHO.

5.1.2 The guidance is applicable to new residential developments which would be exposed predominantly to noise from existing transport sources. The ProPG advocates a risk based approach to noise using a two-stage process:

- Stage 1 – an initial noise risk assessment of the proposed development site; and
- Stage 2 – a systematic consideration of four key elements: –
 - Element 1 – demonstrating a ‘Good Acoustic Design Process’;
 - Element 2 – observing internal ‘Noise Level Guidelines’;
 - Element 3 – undertaking an ‘External Amenity Area Noise Assessment’; and
 - Element 4 – consideration of ‘Other Relevant Issues’.

5.1.3 The ProPG approach is underpinned by the preparation and delivery of an ‘Acoustic Design Statement’ (ADS), whereby the higher the risk for noise at the site, the more detailed the ADS. The ADS should address the following issues:

- Present the initial site noise risk assessment, including the pre-development acoustic conditions prior to development;
- Describe the external noise levels that occur across the site both before and after any necessary mitigation measures have been incorporated. The external noise assessment with mitigation measures in place should use an informed judgement of typical worst-case conditions;
- Demonstrate how good acoustic design is integrated into the overall design and how the proposed acoustic design responds to specific circumstances of the site;
- Confirm how the internal noise level guidelines will be achieved, including full details of the design measures and building envelope specifications;
- A detailed assessment of the potential impact on occupants should be undertaken where individual noise events are expected to exceed 45 dB $L_{AF,max}$ more than 10 times a night inside bedrooms;

- Priority should be given to enable the use of openable windows where practical across the development. Where this is not practical to achieve the internal noise level guidelines with windows open, then full details of the proposed ventilation and thermal comfort arrangements must be provided;
- Present the findings of the external amenity area noise assessment;
- Present the findings of the assessment of other relevant issues;
- Confirm for a low risk site how adverse impacts of noise will be mitigated and minimised;
- Confirm for a medium or high noise risk site how adverse impacts of noise will be mitigated and minimised and clearly demonstrate that a significant adverse noise impact has been avoided.

5.1.4 ProPG target noise levels are based on existing guidance from BS 8233 and WHO (see below). Table 1 below outlines the guidance noise levels for different room types during day and night times.

Table 1: ProPG guideline indoor ambient noise levels for dwellings

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living Room	35 dB $L_{Aeq,16hr}$	-
Dining	Dining room/area	40 dB $L_{Aeq,16hr}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16hr}$	30 dB $L_{Aeq,8hr}$ 45 dB $L_{Amax,F}$

5.1.5 The footnotes to this table suggest that internal noise level limits can be relaxed by up to 5 dB where development is considered necessary or desirable, and still represent “reasonable” internal conditions. They also suggest that in such cases, external levels which exceed WHO guidance target levels (see WHO section below) may still be acceptable provided that reasonable internal noise levels are achieved. Although, where the acoustic environment of external amenity areas is intrinsic to the overall design, “noise levels should ideally not be above the range 50 – 55 dB $L_{Aeq,16hr}$ ”. The wording of ProPG (and BS 8233:2014) is clear that exceedance of guideline noise levels in external areas should not prohibit the development of desirable developments in any event.

5.2 BS 8233:2014 Guidance on Sound Insulation and Noise Reduction for Buildings

5.2.1 This standard provides recommended guideline values for internal noise levels within dwellings which are similar in scope to guideline values contained within the World Health Organisation (WHO) document, Guidelines for Community Noise (1999)⁵. These guideline noise levels are shown in Table 2, below.

⁵ World Health Organisation Guidelines for Community Noise, 1999

Table 2: BS 8233: 2014 guideline indoor ambient noise levels for dwellings

Location	Activity	07:00 to 23:00	23:00 to 07:00
Living Room	Resting	35 dB $L_{Aeq,16hr}$	-
Dining room/area	Dining	40 dB $L_{Aeq,16hr}$	-
Bedroom	Sleeping (daytime resting)	35 dB $L_{Aeq,16hr}$	30 dB $L_{Aeq,8hr}$

5.2.2 BS 8233:2014 advises that:

“regular individual noise events...can cause sleep disturbance. A guideline value may be set in terms of SEL⁶ or $L_{Amax,F}$ depending on the character and number of events per night. Sporadic noise events could require separate values”.

5.2.3 BS 8233:2014 adopts guideline external noise values provided in WHO for external amenity areas such as gardens and patios. The standard states that it is “desirable” that the external noise does not exceed 50 dB $L_{Aeq,T}$ with an upper guideline value of 55 dB $L_{Aeq,T}$ whilst recognising that development in higher noise areas such as urban areas or those close to the transport network may require a compromise between elevated noise levels and other factors that determine if development in such areas is warranted. In such circumstances, the development should be designed to achieve the lowest practicable noise levels in external amenity areas.

5.3 World Health Organisation (WHO) Guidelines for Community Noise 1999

5.3.1 The WHO Guidelines 1999 recommends that to avoid sleep disturbance, indoor night-time guideline noise values of 30 dB L_{Aeq} for continuous noise and 45 dB L_{AFmax} for individual noise events should be applicable. It is to be noted that the WHO Night Noise Guidelines for Europe 2009⁷ makes reference to research that indicates sleep disturbance from noise events at indoor levels as low as 42 dB L_{AFmax} . The number of individual noise events should also be taken into account and the WHO guidelines suggest that indoor noise levels from such events should not exceed approximately 45 dB L_{AFmax} more than 10 – 15 times per night.

5.3.2 The WHO document recommends that steady, continuous noise levels should not exceed 55 dB L_{Aeq} on balconies, terraces and outdoor living areas. It goes on to state that to protect the majority of individuals from moderate annoyance, external noise levels should not exceed 50 dB L_{Aeq} .

⁶ Sound exposure level or L_{AE}

⁷ WHO Night Noise Guidelines for Europe 2009

5.4 BS 4142: 2014 'Methods for rating and assessing industrial and commercial sound'

5.4.1 BS 4142: 2014⁸ provides guidance on the assessment of the likelihood of complaints relating to noise from industrial sources. It replaced the 1997 edition of the Standard in October 2014. The key aspects of the Standard are summarised below.

5.4.2 The standard presents a method of assessing potential noise impact by comparing the noise level due to industrial sources (the Rating Level) with that of the existing background noise level at the nearest noise sensitive receiver in the absence of the source (the Background Sound Level).

5.4.3 The Specific Noise Level - the noise level produced by the source in question at the assessment location - is determined and a correction applied for certain undesirable acoustic features such as tonality, impulsivity or intermittency. The corrected Specific Noise Level is referred to as the Rating Level.

5.4.4 In order to assess the noise impact, the Background Sound Level is arithmetically subtracted from the Rating Level. The standard states the following:

- *Typically, the greater this difference, the greater the magnitude of the impact,*
- *A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context,*
- *A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context,*
- *The lower the Rating Level is relative to the measured Background Sound Level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the Rating Level does not exceed the Background Sound Level, this is an indication of the specific sound source having a low impact, depending on the context.*

5.4.5 In addition to the margin by which the Rating Level of the specific sound source exceeds the Background Sound Level, the 2014 edition places emphasis upon an appreciation of the context, as follows:

An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context.

5.4.6 The 2014 edition of BS 4142 also introduces a requirement to consider and report the uncertainty in the data and associated calculations and to take reasonably practicable steps to reduce the level of uncertainty.

⁸ BS 4142:2014 Methods for rating and assessing industrial and commercial sound

6 Impact of Existing Noise Sources on the Development

6.1 Measurements of Existing Noise Sources

6.1.1 Indicative noise measurements were undertaken at one location identified in Appendix 1 in accordance with BS 7445-1: 2003⁹ by Stephen Maslivec of Miller Goodall Ltd. The measurements were free-field at a height of 1.5 m. The calibration of the sound level meter was checked before and after measurements with negligible deviation (<0.1 dB). Details of the equipment used are shown in Table 3, below.

Table 3: Noise monitoring equipment

Equipment Description	Type Number	Manufacturer	Serial No.	Date Calibrated	Calibration Certification Number
Class 1 Integrating Real Time 1/3 Octave Sound Analyser	NOR 140	Norsonic	1406017	23/05/17	03238/2
Microphone	NOR 1225	Norsonic	151206	23/05/17	03238/2
Class 1 Calibrator	Type 4231	Brüel & Kjær	2478249	18/05/17	03238/1

6.1.2 Indicative specific, background and ambient noise monitoring was undertaken at the times specified in Table 4, below. Weather conditions were determined both at the start and on completion of the survey. It is considered that meteorological conditions were appropriate for environmental noise measurements.

Table 4: Dates, times and weather conditions during noise measurements

Measurement Location	Date	Time	Weather conditions
MP1	06/06/2018	10:07 to 10:23	Sunny, no wind, dry, 14°C

6.1.3 Measurements were taken to establish an estimate of the noise levels in the area. Further more detailed noise monitoring would be required to support a full noise assessment for the site.

6.1.4 The measurement locations are detailed below:

- MP1 Approximately 6 m north of Southworth Lane, on the southern boundary of the site.

6.1.5 The noise sources within the vicinity of the measurement locations are summarised in Table 5, below:

⁹ BS 7445-1: 2003 Description and measurement of environmental noise - Part 1: Guide to quantities and procedures

Table 5: Description of noise sources affecting the site

Measurement Locations	Noise Sources
MP1	Noise from road traffic M6 and Southworth Road, birdsong.

6.2 Monitoring Results

6.2.1 A summary of the broadband measurement data is provided in Table 6 below. All data are sound pressure levels in dB re 20 μ Pa.

Table 6: Summary of noise measurements

Measurement Location	Start Time	$L_{Aeq,T,5}$ mins (dB)	Overall L_{AFmax} (dB)	$L_{AF10,5}$ mins (dB)	$L_{AF90,5}$ mins (dB)
MP1	10:07:47	61.3	73.4	65.2	53.1
MP1	10:12:47	63.4	76.3	67.9	53.4
MP1	10:17:47	61.9	75.2	67.5	52.2
MP1	10:22:47	60.1	69.5	65.7	52.5

6.2.2 Each measurement period consisted of sequential 5 minute samples.

6.2.3 The average noise monitoring results have been assessed against the ProPG noise risk levels to determine the potential effect of noise on the proposed site without mitigation measures. The risk level has been determined based on the measured daytime noise levels at the monitoring positions.

6.2.4 The results indicate that at the monitoring positions the noise levels exceed the guideline values for ProPG, and therefore careful design of the site will be required. The monitoring was purely undertaken to obtain a guide of the levels of noise on the site. No night-time noise measurements have been undertaken to date.

6.2.5 Night-time monitoring is to be undertaken at a later date as part of a full detailed noise assessment.

6.2.6 Noise from the road traffic around the site is likely to result in an adverse impact in relation to noise and therefore would need to be addressed as part of the noise assessment for the site and mitigation provided for this area.

Table 7: ProPG Noise Risk Level Assessment

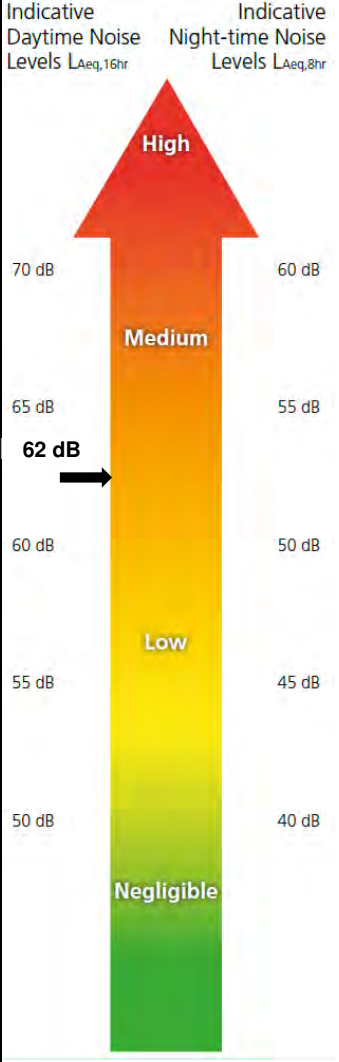
Noise Risk Assessment	Potential Effect Without Noise Mitigation	Pre-Planning Application Advice
	<p>Increasing risk of adverse effect</p>	<p>High noise levels indicate that there is an increased risk that development may be refused on noise grounds. This risk may be reduced by following a good acoustic design process that is demonstrated in a detailed ADS. Applicants are strongly advised to seek expert advice.</p> <p>As noise levels increase, the site is likely to be less suitable from a noise perspective and any subsequent application may be refused unless a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised, and which clearly demonstrate that a significant adverse noise impact will be avoided in the finished development.</p> <p>At low noise levels, the site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised in the finished development.</p> <p>No Adverse effect</p> <p>These noise levels indicate that the development site is likely to be acceptable from a noise perspective, and the application need not normally be delayed on noise grounds.</p>

Table Notes:

- a. Indicative noise levels should be assessed without inclusion of the acoustic effect of any scheme specific noise mitigation measures.
- b. Indicative noise levels are the combined free-field noise level from all sources of transport noise and may also include industrial/commercial noise where this is present but is not dominant.

6.2.7 As can be seen in Table 7 above, the noise levels measured at the site indicate “an increased risk of adverse effect”, however as previously stated these levels are a short-term indication of the noise levels for the site and do not include night-time levels.

6.2.8 Careful design of the site would be required to ensure the target noise levels are achieved. This would be specified by a full noise assessment for the site.

6.2.9 Mitigation specified by a full detailed noise assessment may include:

- The use of buffer zones between proposed dwellings and noise sources;
- Consideration of the location and orientation of buildings in order to provide screening where necessary;
- A glazing and ventilation strategy in order to achieve appropriate noise levels within bedrooms and living rooms;
- The use of barriers and/or bunds where appropriate.

6.3 Noise Mapping

6.3.1 Environmental noise mainly consists of noise from transport sources, such as road, rail and aviation. Department for Environment, Food and Rural Affairs (DEFRA) is responsible for creating noise maps and drawing up Action Plans under the Environmental Noise (England) Regulations 2006 (as amended), which requires Defra to:

- adopt noise maps which show people's exposure to environmental noise;
- adopt action plans based on the results of noise mapping
- aims to preserve environmental noise quality where it is good; and
- provides information to the public on environmental noise and its effects.

6.3.2 Noise mapping has been undertaken by Department of Environment Food and Rural Affairs (DEFRA) in 2012. Maps have been provided for main noise sources including road traffic noise and railway lines. The noise map for the area is shown for road traffic noise in Appendix 3. The results show the predicted $L_{Aeq,16hour}$ results around the site, taken at a grid height of 4 m.

6.4 Road Traffic Noise

6.4.1 The main existing road traffic noise source which has the potential to impact on the site is from the M6 with further potential from Southworth Lane. Road traffic noise from Stone Pit Lane to the north; Heath Lane to the east; Smithy Brow to the south all have the potential to impact on the site. The main parcels of land which are likely to be impacted by the road traffic noise are those located to the south of the development site, close to the M6. These are areas where the road traffic noise levels are predicted to exceed 55 dB $L_{Aeq,16hour}$.

6.4.2 The road network in this area is a significant noise source for the area and further assessments would be needed to ensure that national noise standards are not exceeded. The assessment would need to include the potential noise from road traffic, and the provision of mitigation measures to protect future residents from noise is likely to be required. The mitigation may be in the form of:

- Suitable buffer zones between noise sources and proposed residential developments;
- The use of Noise bunds and barriers to protect future residents from noise; and
- Orientation of properties to provide the most protection to noise sensitive areas, such as bedrooms and private garden areas.

6.5 Railway Noise

- 6.5.1 Results of the noise mapping produced on behalf of DEFRA for the railway identify that railway noise is not a significant impact for the existing network.
- 6.5.2 The proposed HS2 railway line runs SE to NW of the Lady Lane site and is approximately 1.4 km at its nearest point at the NE of the site. This part of the proposed HS2 line is the Golborne Link at this location.

6.6 Industrial and Commercial Noise

- 6.6.1 The main commercial/ industrial noise sources which have the potential to impact on the development site have been identified from a desktop internet search and observations during a site visit. The sources identified are detailed in Table 8 below.

Table 8: Industrial Sources with Potential to Impact on the Site

Location	Name of Site	Type of Operation	Types of Noise Sources
Winnick Lane	Gaskell Brothers, Southworth Quarry	Quarrying	Quarrying activities
Smithy Brow	Southworth Hall Farm	Farming	Machinery
Smithy Brow	Cockshot Farm	Farming	Machinery
Stone Pit Lane	Unknown	Horses	Machinery/vehicle movements; horse activities
Stone Pit Lane	Oak Edge Farm	Horses	Horse activities (low noise impact)
Heath Lane	General Elliot	Public House	People noise (beer garden); plant noise

- 6.6.2 A detailed noise assessment has not been undertaken in relation to these noise sources and consequently a noise assessment would be prepared and submitted alongside future applications to consider these sources in more detail and outline any mitigation measures required.

7 Impact of Noise from the Proposed Development

7.1 Transport Noise

7.1.1 New residential development and infrastructure developments of this size will result in additional vehicles on the local road network. In order to assess whether traffic increases impact on the noise environment, it is useful to determine whether there are any roads increases in traffic flow this may necessitate the requirement for a detailed noise assessment. Design Manual for Roads and Bridges (DMRB) November 2011 section A1.8 (ii) states:

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

7.1.2 If there are any roads with a 25% increase in traffic flow this may necessitate the requirement for a detailed noise assessment.

7.1.3 The Transport Appraisal undertaken by i-Transport for the proposed development identifies the proportional impacts of traffic generated by the proposed development at AM and PM peak hours in Table 6.7 of the report.

7.1.4 This level of traffic increase is likely to require a detailed DMRB traffic noise assessment, however at this stage there is insufficient traffic data to enable a full assessment to be completed. It is expected that this level of increase will lead to a negligible impact on traffic noise levels, however an assessment is likely to be required by the Local Authority.

7.1.5 Although a full detailed assessment of the traffic noise has not as yet been undertaken, it is considered that the impact will not be significant. The detailed assessment will need to consider the new infrastructure and methods to minimise any potential impacts.

7.2 Construction Noise and Vibration Impacts

- 7.2.1 It is common for the control of construction noise, vibration and dust emission to be addressed by the application of Best Practicable Means (BPM) and detailed within a Construction and Environmental Management Plan (CEMP). The impact of construction noise from a development of this size is likely to be the main noise impacting on existing noise sensitive receptors, the site is large and the development is likely to be operational for a period of 5 plus years.
- 7.2.2 Prior to commencement of works, a quantitative noise impact assessment using guidance in BS 5228¹⁰ on site may also be required but in our experience is usually unnecessary, unless there are nearby high risk or noise sensitive receptors, provided a robust CEMP is in place and agreed upon by the Local Authority.
- 7.2.3 Warrington Borough Council are likely to have their own recommended wording for planning conditions relating to the control of noise and vibration from construction works.

7.3 New Commercial and Educational developments

- 7.3.1 Any new commercial, retail and educational developments will need to be considered as part of the planning application for the site. The likely noise sources from these areas will need detailed prediction to ensure their impact is not significant on existing or future residential uses.
- 7.3.2 Good acoustic design incorporated at an early stage in the development of the site will help to reduce the impact of existing noise on these sources along with protecting existing noise sensitive receptors.

7.4 Protecting areas from increased noise.

- 7.4.1 The NPPF recommends protecting areas of tranquillity and areas prized for their recreational and amenity value, no specific tranquil areas have been identified.

8 Summary and Conclusions

- 8.1 A noise screening assessment, site visit and preliminary noise measurements have been undertaken to identify any potential noise sources which are likely to have an impact on the development of a site for a significant housing and infrastructure development.
- 8.2 The assessment has identified noise from the M6 as a primary noise source which may impact on the proposed development, however, it is not considered this noise source is likely to have a significant impact or likely to be a barrier to development. There are a number of recommendations in relation to noise which will assist in minimising the potential impact on both the future and existing noise sensitive receptors. With good acoustic design it is considered that National standards for noise will be achieved for the proposed Masterplan.
- 8.3 The recommendations include:
- Detailed assessment of noise from the M6, including the inclusion of noise mitigation measures as the detailed masterplan is developed for the site.

¹⁰ BS 5228 Noise and Vibration Control on Construction and Open Sites - Part 1: Noise: 2009+A1:2014

-
- Detailed assessment of noise from industrial and commercial sources located around the periphery of the site and include where necessary mitigation measures and use of good acoustic design as the masterplan is developed to a full planning application.
 - There are areas within the site and located close to the site which are considered tranquil areas and careful design of the masterplan should aim to protect the noise environment at these locations.

8.4 It is considered that part of the detailed noise assessment will include the consideration of a number of mitigation measures for acoustics, including;

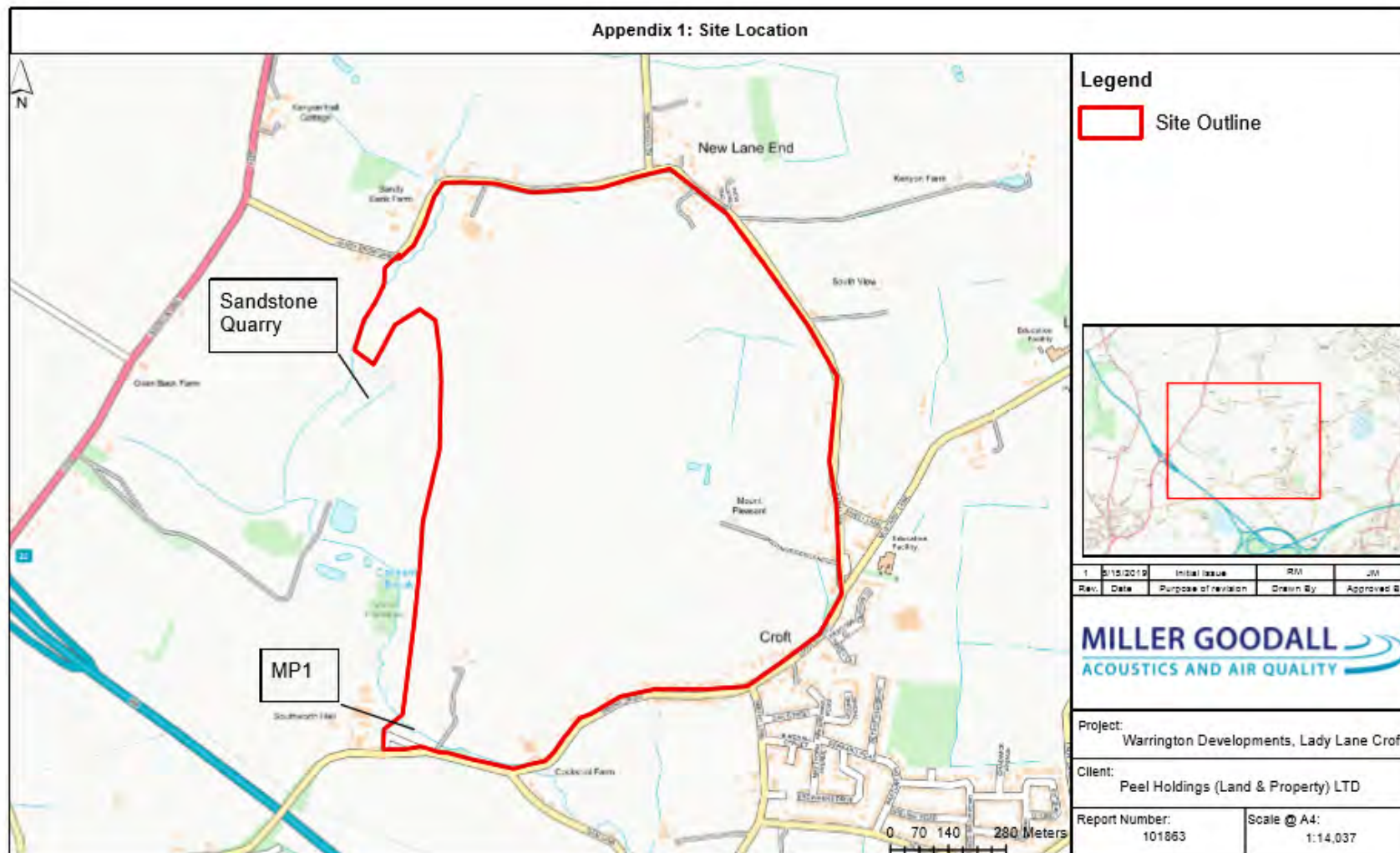
- Careful design of the site to ensure National target for noise are achieved at noise sensitive receptors;
- Consideration of acoustic mitigation measures to control noise levels to National guidance levels, including acoustic glazing and ventilation.

8.5 An assessment of the impact of the development in terms of noise from; transport, new infrastructure and construction will need to be undertaken as part of the planning submission for the application site. The initial screening assessment does not consider that there is likely to be a significant impact as a result of the development. Good acoustic design should be considered as the masterplan is developed to protect existing noise sensitive receptors.

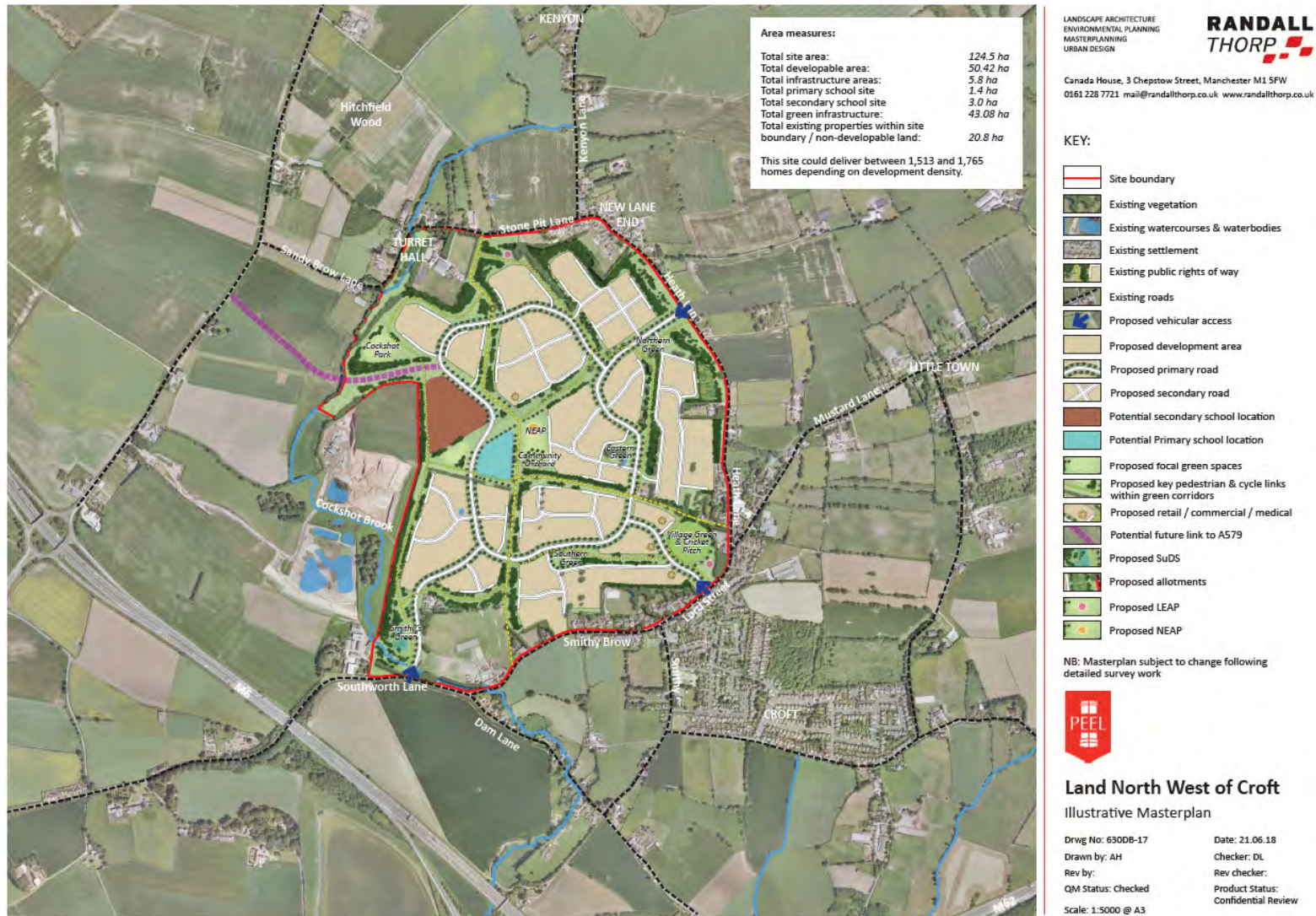
8.6 It is considered that with good acoustic design a suitable and commensurate level of protection against noise will be provided to the occupants of the proposed accommodation. Good acoustic design will also assist in reducing the potential impacts of the development for existing noise sensitive receptors.

APPENDICES

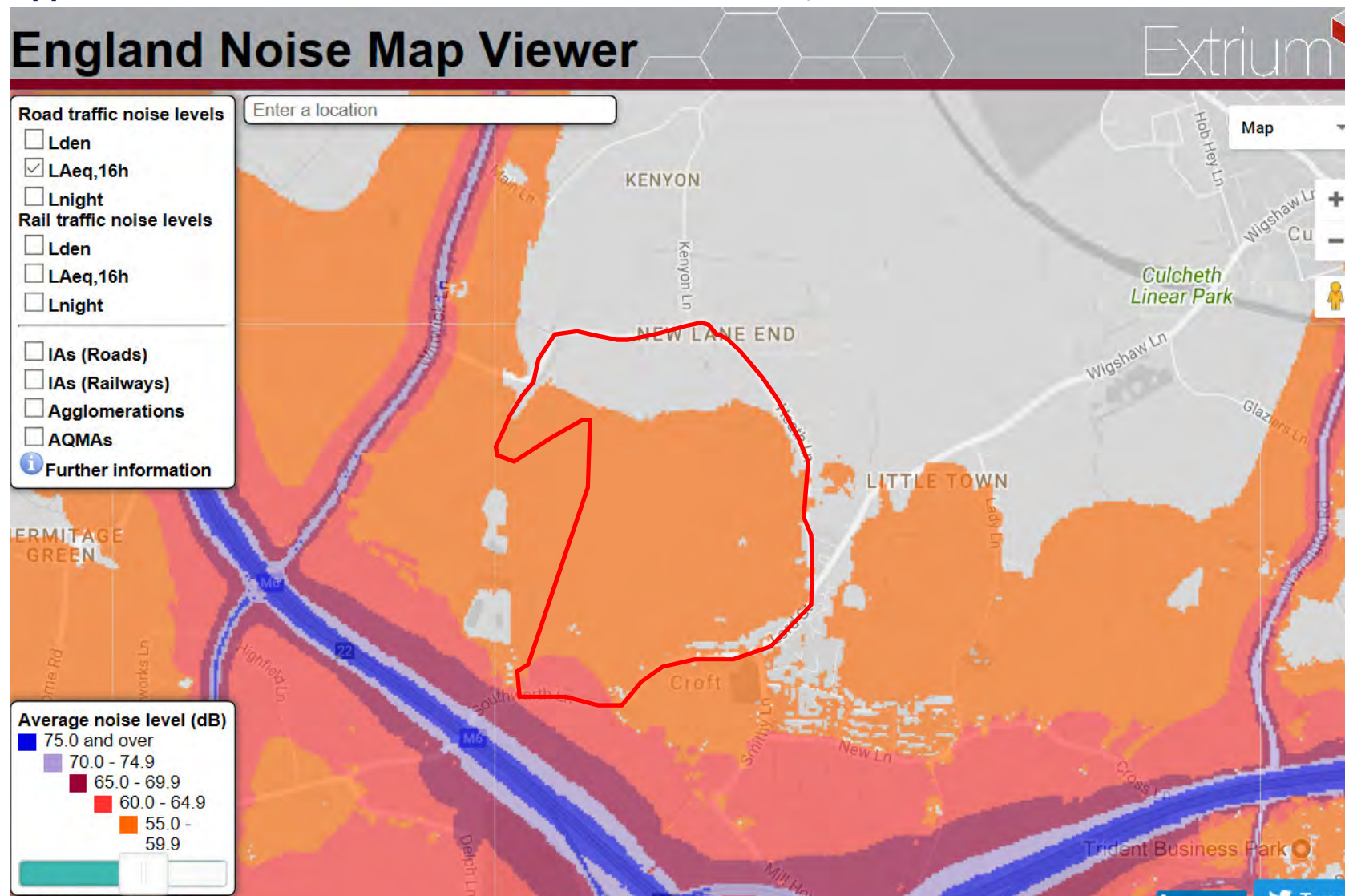
Appendix 1: Location Plan and Monitoring Position



Appendix 2: Illustrative Masterplan



Appendix 3: Road Traffic Predicted Noise Contours $L_{Aeq,16hour}$



Glossary of Terms

- Decibel (dB)** The unit used to quantify sound pressure levels; it is derived from the logarithm of the ratio between the value of a quantity and a reference value. It is used to describe the level of many different quantities. For sound pressure level the reference quantity is 20 μPa , the threshold of normal hearing is in the region of 0 dB, and 140 dB is the threshold of pain. A change of 1 dB is usually only perceptible under controlled conditions.
- dB L_A** Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sounds of different frequency (pitch) in a similar way to the human ear. Measurements in dB L_A broadly agree with an individual's assessment of loudness. A change of 3 dB L_A is the minimum perceptible under normal conditions, and a change of 10 dB L_A corresponds roughly to halving or doubling the loudness of a sound. The background noise level in a living room may be about 30 dB L_A ; normal conversation about 60 dB L_A at 1 meter; heavy road traffic about 80 dB L_A at 10 meters; the level near a pneumatic drill about 100 dB L_A .
- $L_{A90,T}$** The A weighted noise level exceeded for 90% of the specified measurement period (T). In BS 4142: 1997 it is used to define background noise level.
- $L_{Aeq,T}$** The equivalent continuous sound level. The sound level of a notionally steady sound having the same energy as a fluctuating sound over a specified measurement period (T). $L_{Aeq,T}$ is used to describe many types of noise and can be measured directly with an integrating sound level meter.
- L_{Amax}** The highest A weighted noise level recorded during the time period. It is usually used to describe the highest noise level that occurred during the event.
- NOEL** No observed effect level: the level of noise exposure below which no effect at all on health or quality of life can be detected.
- LOAEL** Lowest observed adverse effect level: the level of noise exposure above which adverse effects on health or quality of life can be detected.
- SOAEL** Significant observed adverse effect level: the level of noise exposure above which significant adverse effects on health or quality of life can be detected.





Warrington Borough Council Local Plan

Land North West of Croft

Transport Appraisal

Client: Peel Investments (North) Ltd

i-Transport Ref: SEE/dc/ITM13245-002B R

Date: 13 June 2019

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SECTION 1 Introduction

1.1 Warrington Local Plan Review

- 1.1.1 Warrington Borough Council (WBC) is currently consulting on its Proposed Submission Local Plan (PSLP) which will guide development in the Borough to 2037.
- 1.1.2 WBC's consultation document of March 2019 sets out how the PSLP was developed, including the work undertaken to develop its Preferred Development Option (PDO) which was subject to consultation in 2017. The PDO identified 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. The PSLP generally follows the same approach as the PDO.
- 1.1.3 The Local Plan Key Diagram, identifying the main areas proposed for development is included as Figure 3.1 of the PSLP.

1.2 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 at land North West of Croft which is capable of delivering a new village community, integrated with the existing settlement. It can accommodate up to 1,765 new homes as well as a range of complementary facilities which will also benefit the existing village.
- 1.2.3 The main representations prepared by Turley explain why further development in Croft is needed and how the site can make a very 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 North West Croft.

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 including the opportunity that development at Croft presents to deliver a sustainable community. The key 'tests' of the National Planning Policy Framework (NPPF) paragraphs 108 and 109 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; and Section 6.0 outlines the traffic impacts of the proposals.

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 Croft village. These include two primary schools, a shop and two public houses. Buses already serve Croft and travel along the site's Lord Street frontage, providing connections to the many facilities and services in Culcheth.
- ii The size of the site is such that additional local facilities will be provided and enhanced bus services can be supported, providing benefits for the site but also for existing residents in Croft village.
- iii The site will meet the transport related objectives of the PSLP. Specifically, it will meet objective W4 of the PSLP and strongly meet four of the five specific accessibility criteria defined by the Council.
- iv Therefore the development of the site will fully accord with the NPPF objective related to sustainable travel, with opportunities for such modes taken up.
- v Access to the site is proposed in several locations and feasibility level designs have been produced and the capacity of these considered. All 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.
- vi A potential link road to A579 Winwick Lane will direct traffic generated by the development towards the main road network. Traffic capacity assessments show that impacts of generated traffic on the local highway network will not be severe.

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

1.4.2 Overall, it is therefore concluded that the site at North West Croft 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 PSLP 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 11 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 9. Paragraph 108 sets out the key 'tests' for the consideration of the transport aspects of development proposals, stating that:

"In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

- ***appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;***
- ***safe and suitable access to the site can be achieved for all people; and***
- ***any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."***

2.1.4 Paragraph 109 goes on to confirm:

"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."

2.1.5 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 102 sets out the principal transport matters that should be considered during the preparation of Local Plans:-

“Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:

- a the potential impacts of development on transport networks can be addressed;***
- b opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;***
- c opportunities to promote walking, cycling and public transport use are identified and pursued;***
- d the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and***
- e patterns of movement, streets, parking and other transport consideration are integral to the design of schemes, and contribute to making high quality places.”***

2.1.7 Paragraph 103 goes on to note:

“The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision making.”

2.1.8 Paragraph 104 notes that planning policies should, amongst others:

“a. support an appropriate mix of uses across an area, and within larger scale sites, to minimise the number and length of journeys needed for employment, shopping, leisure, education and other activities;

b. be prepared with the active involvement of local highways authorities, other transport infrastructure providers and operators and neighbouring councils, so that strategies and investments for supporting sustainable transport development patterns are aligned;

c. identify and protect, where there is robust evidence, sites and routes which could be critical in developing infrastructure to widen transport choice and realise opportunities for large scale development;

d. provide for high quality walking and cycling networks and supporting facilities such as cycle parking (drawing on Local Cycling and Walking Infrastructure Plans);”

2.1.9 These submissions will demonstrate that the proposals will facilitate and maximise the use of sustainable travel modes and that Croft as a settlement represents a sustainable location for development on the scale envisaged by Peel. The proposals at Croft will include both primary and secondary schools and other retail, commercial and medical uses allowing local travel to be made within the site by non-car modes and also minimising journey lengths. This is considered in Section 4.0.

2.1.10 Planning Practice Guidance (PPG) sets out further guidance on how the policies in the Framework should be applied and this has been considered in the preparation of this transport appraisal.

Warrington Local Plan

2.1.11 Warrington's Local Plan will provide statutory planning framework for the Borough for the period 2017 to 2037. The Local Plan will replace the 2014 Local Plan Core Strategy.

2.1.12 The PSLP has a series of objectives that include:

"W4. To provide new infrastructure and services to support Warrington's growth; address congestion; promote safer and more sustainable travel; and encourage active and healthy lifestyles."

2.1.13 Section 7 of the PSLP sets out policies related to objective W4 and these include:

"Policy INF1 – Sustainable Travel and Transport

To deliver the Council objectives of improving the safety and efficiency of the transport network, tackling congestion and improving air quality, promoting sustainable transport options, reducing the need to travel by private car and encouraging healthy lifestyles, the Council will expect development to:

- 1 **General Transport Principles:**
 - a ***Be located in sustainable and accessible locations, or in locations that can be made sustainable and accessible;***
 - b ***Ensure priority is given to walking, cycling and public transport within its design, and reducing the need to travel by private car;***
 - c ***Provide infrastructure for the charging of plug-in and other ultra-low emission vehicles, in line with the Council's Parking Standards SPD (2015);***
 - d ***Support proposals that reduce the level of trips made by single occupancy cars;***
 - e ***Consider demand management measures including the effective allocation of road space in favour of public transport, pedestrians and cyclists;***

- f Mitigate its impact(s) or improve the performance of Warrington's Transport Network, including the Strategic Road Network, by delivering site specific infrastructure which will support the proposed level of development;*
 - g Ensure traffic generated by development is appropriate to the type and nature of the routes available and that there is no adverse impact on the local community;*
 - i Consider the impacts of the wider region's Strategic Road Network and work with adjoining Local Planning Authorities and wider stakeholders to assess the impacts of the transport initiatives outside the Borough, where impacts have been identified and need to be mitigated; and*
 - j Consider how development can be futureproofed, through the provision of measures to support new and emerging technologies, such as Autonomous Vehicles.*
- 2 Improve Walking and Cycling Facilities (Active Travel) including:**
- a Give a high priority to the needs and safety of pedestrians and cyclists in new developments, through the provision of high quality cycling and walking networks that seamlessly integrate with existing networks;*
 - b Improve way finding (including route signage);*
 - c Enhance and develop integrated networks of continuous, attractive and safe networks for walking and cycling including well designed and improved roads, Rights of Way and the Greenway Network (as shown on the adopted Policies Map). This should include appropriate segregation of users and high priority should be given to users at junctions. Where appropriate, the Council will consider the use of planning conditions or planning obligations to secure the required improvements;*
 - d Increase accessibility for all members' of society through improvements and the provision of new infrastructure to make the most of potential environmental, social and health benefits;*
 - e Give priority to routes linking residential areas (especially those in recognised areas of deprivation) with employment areas, transport interchanges and hubs, schools, Warrington Hospital and other local services and facilities; and*
 - f Provide high quality secure and conveniently located bicycle parking facilities at new developments, at transport interchanges and hubs, the town centre and community facilities.*
- 3 Improve Public Transport Including:**
- a Secure improvements to public transport infrastructure and services (to include bus, rail, taxi and private hire) in partnership, where appropriate with operators and delivery partners;*
 - b Be located in areas with easy access to high quality regular public transport services, to ensure public transport is a viable and attractive option by integrating the development with existing public transport infrastructure and services;*

- c ***Providing additional public transport infrastructure and services that are related in scale to the proposed development where existing facilities are not available or are in need of improvement or an appropriate subsidy to help mitigate the impacts of the proposed development;***
- d ***Consider options to enhance Bus Priority at junctions and the provision of dedicated Bus lanes;***
- e ***Support proposals for new public transport networks and services, such as future Mass Transit systems;***
- f ***Support proposals for rail infrastructure and services and the provision of rail facilities appropriate;***

7 Transport Assessments and Travel Plans

All major development proposals that are likely to generate significant movements will be accompanied by a Transport Assessment and a Travel Plan in line with Council guidance which will address the following requirements:

- a ***That the proposed development will not result in an unacceptable impact on safety;***
- b ***That trips generated by the development can adequately be served by Warrington's Transport Network, including the Strategic Road Network;***
- c ***Identify where there are any significant effects on Warrington's Transport Network and/or the environment and ensure that appropriate mitigation measures including the required infrastructure are identified and in place before the development is brought into use;***
- d ***Show how the Transport Assessment and associated Travel Plan have demonstrated how the proposed development will link into and enhance walking, cycling or public transport infrastructure;***
- e ***Propose how measures to facilitate and encourage the use of sustainable travel alternatives (such as walking, cycling or public transport use), have been incorporated into development; and***
- f ***Major developments will be required to monitor the effectiveness of the travel plan and the traffic generated by that development and share this data with the Local Authority, on an agreed annual basis."***

2.1.14 The various aspects of this policy are considered throughout this appraisal and are referenced, where appropriate, in Sections 4.0 – 6.0.

Warrington Local Transport Plan

2.1.15 This document sets out the Local Transport Plan (LTP) strategy for the period 2011 – 2030. The objectives of the plan include:-

“To build and manage a transport network that:

- *Is integrated and customer focused and reduces the need to travel by car.*
- *Enables the regeneration of the Borough and supports economic growth.*
- *Maintains the highway, minimises congestion for all modes of travel and enables Warrington’s ‘smart growth’.*
- *Improves everyone’s access to health, employment, education, culture, leisure and the natural environment.*
- *Improves everyone’s access to the town centre by all modes of travel.*
- *Enhances accessibility for those in disadvantaged communities or groups.*
- *Improves neighbourhoods and residential areas.*
- *Improves safety and security for all modes of travel.*
- *Reduces the impact of traffic on air quality in Warrington and helps to reduce carbon emissions and tackle climate change.*
- *Makes Warrington safer, sustainable and healthier.*
- *Integrates with transport networks outside Warrington to enhance the sustainability of cross boundary travel.”*

2.1.16 The plan includes seven themes related to different aspects of transport and these are considered in this report: Active Travel, Public Transport and Smarter Choices (Section 4.0 – Sustainability and Accessibility); Safety and Security (Section 5.0 – Access); and Managing Motorised Travel (Section 6.0 – Traffic Impacts).

2.1.17 The Council is consulting on its LTP4 alongside the PSLP. This sets out Warrington’s transport challenges and the Council’s vision and objectives:-

“Vision

Warrington will be a thriving, attractive and well-connected place with popular, high quality walking, cycling, and public transport networks”

And

“Objectives-through LTP4 we will:

- *Provide people with a choice about how they travel for each journey*
- *Encourage a culture change that reduces the need for people to travel by car*
- *Improve access to the town centre for all sustainable modes*

- ***Develop a resilient and efficient transport network that supports the town's growth***
- ***Reduce traffic congestion***
- ***Reduce emissions from transport***
- ***Maintain and improve all transport infrastructure***
- ***Encourage healthier lifestyles by increasing day-to-day activity***
- ***Improve safety for all highway users***
- ***Make Warrington a more disabled friendly place."***

2.2 Growth in Outlying Settlements

2.2.1 Peel's proposals to the North West of Croft comprise the development of up to 1,765 residential dwellings with complementary and supporting uses. The PSLP proposes limited growth in the outlying settlements with only 75 new homes identified at Croft.

2.2.2 The process adopted by the Council to derive the PSLP does not appear to take account of any detailed numerical analysis of the transport system that would result in a cap on growth in Croft or the other outlying settlements.

2.2.3 The PDO, which included only 60 dwellings at Croft, was derived using a four-stage process. Stage 1 identified development needs and land requirements and Stage 2 sets the objectives for the Local Plan. Stage 3 assessed 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 stated that the evidence base for stage 3 included a 'Transport Review'. Further detail is given at 4.46 and 4.47 of the 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 Croft includes consideration of the assessment criteria for objective W4, noting:

***“Local Highways Network. Small amount of peak hour congestion in centre of village.
No planned local highways improvements in village.”***

2.2.6 Other criteria related to the strategic highways network, public transport and active travel do not raise specific constraints. Regarding active travel, WBC do note that there are very low levels of walking and cycling in this area. It is understood this is based on analysis of Census journey to work data. Section 4.0 below explains how active travel and public transport modes will be promoted, for all journey purposes, demonstrating that the site is capable of achieving sustainable travel patterns.

2.2.7 It is understood that the transport review which was input to the PDO 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 had been undertaken. Indeed, the PDO noted that the development numbers in each settlement will depend on detailed assessment including transport impacts.

2.2.8 Specifically, it is understood no analysis had been undertaken of the road network in the centre of Croft village. Section 6.0 considers off-site traffic impacts and shows that the network will not constrain development of the scale envisaged at North West Croft.

2.2.9 The Council has now undertaken further transport modelling, reported in the ‘PDO: Transport Model Testing of Alternative Scenarios’ report. This notes that the model was not available during the consultation stage of the PDO development.

2.2.10 The report notes that the purpose of the testing is to demonstrate that the PDO does not result in a breakdown of the Warrington transport network and to demonstrate that the transport impacts of alternative development scenarios are not materially better than the PDO.

2.2.11 Six alternative scenarios to the PDO are considered in the report with scenario 3 the only one that tests significant additional growth in the outlying settlements, with dwelling numbers increased from 1,190 (as the PDO) to 4,900. Details are not provided of the specific locations of the additional growth. The results of model testing of the scenarios are presented initially at the

aggregate level across the Borough as a whole and this adopts key performance indicators related to travel distances, times and lengths, average speeds and public transport modal share.

2.2.12 Considering each of these the report concludes:

- Total vehicle hours: scenario 3 is the best performing scenario although there is negligible variation between scenarios.
- Total vehicle kilometres: again, scenario 3 is the best performing scenario but there is negligible variation between scenarios.
- Average trip length: the PDO is the best performing scenario but there is limited variation between the scenarios. The average trip length for scenario 3 is only 0.53% greater than the PDO (a distance of only 50m).
- Public Transport trips and mode share: there is negligible variation between the scenarios with scenario 3 having a slightly higher public transport modal share than the PDO (by 0.69%) and slightly lower number of public transport trips than the PDO (by 0.65%).
- Average speed: the report notes that average speed is an indicator of delay / congestion and that there is little variation between scenarios at the network wide level (scenario 3 has a slightly higher average speed than the PDO, by 0.7%).
- Journey times: there is limited variation between scenarios in journey times through the urban area.

2.2.13 Overall, the analysis shows that greater levels of development in the outlying settlements do not result in adverse travel characteristics. The report concludes that there is no evidence, from the model, that the transport impacts of other scenarios are materially better than the PDO. By definition, they are not materially worse.

2.2.14 The Council has also produced a report 'Transport Model Testing of the PSVLP and Highway Schemes in the IDP'. This does not consider specific locational issues and does not identify any detail of constraints at Croft.

2.2.15 There is therefore no justification, based on sound evidence of transport capacity, to limit development in Croft (or the other outlying settlements) at the level suggested by the Council. This report, which complements the main submissions prepared by Turley, identifies the

potential of the site north west of Croft 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 adjacent to and immediately to the north-west of the existing built development at Croft along Heath Lane, Lord Street and Smithy Brow. The location of the site is shown on Appendix A.
- 3.1.2** Given its position, the site is very well related to the settlement of Croft with its eastern and southern boundaries adjoining the village. The site's western boundary is part-formed by Stone Pit Lane and field boundaries and its northern boundary by Stone Pit Lane.
- 3.1.3** The site is 124.5 hectares in size and currently comprises a mix of agricultural land and small pockets of woodland. 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 1,765 dwellings as well as a centrally located primary school, secondary school, retail and commercial areas, medical facility, a new large village green for Croft and several other areas of open space including 'greens' within the residential areas, Cockshot Park at the north-west corner of the site and a green buffer at the north/north-east.
- 3.2.2** Access to the site is considered in detail in Section 5.0 below: access can be provided in several locations including off Heath Lane, Lord Street and Smithy Brow and with the potential for a new connection to the west, thus reducing the traffic impacts of the proposals.
- 3.2.3** Public right of way (public footpath) FP4 runs on a north-south route through the site and FP24 runs eastwards from FP4 to join Heath Lane just north of Mustard Lane. At its eastern end it is categorised as Wildings Old Lane. The PRow are indicated on the concept masterplan. Existing green links and corridors will be extended through the proposed residential site and these will connect the green space infrastructure. The green links could also accommodate pedestrian and cycle routes, with an emphasis on providing safe routes to the primary and secondary schools.

Sustainable urban drainage features will create further amenity for the open space as well as creating a new habitat to promote diversity of wildlife species.

3.2.4 The design and layout of transport corridors within the site and connections off it will focus on creating places. Street and place design will start with pedestrians and cyclists having priority with managed car access.

3.2.5 Street design will follow the principles of Manual for Streets, 'Living Streets' and modern design guidance such as the Handbook for Cycle Friendly Design; this will result in streets that are destinations worth visiting. Shared surfaces will be encouraged. Speed limits will be low with an appropriate street hierarchy developed, making it the norm to travel slowly within the development. The site will be designed for the mobility impaired with account taken of 'Inclusive Mobility' requirements.

3.2.6 Thus the design philosophy of the masterplan will encourage sustainable travel with local trip making, contributing to the site forming sustainable development in the context of the NPPF.

3.3 Locational Benefits of Development in Croft

3.3.1 The size of the site, the mix of uses such as the schools and retail/community/medical uses on the site which will assist in minimising off site travel, combined with the sites location, adjacent to the existing built area and in close proximity to public transport routes, means that the site presents an excellent opportunity to promote sustainable transport and reduce vehicular traffic generations. The facilities provided on the site, as well as the potential for improved public transport routes, will also bring significant benefits to the existing community at Croft, offering new destinations to travel to locally within the site by active travel modes as well as further afield by public transport.

3.3.2 The location of the site in the northern part of the Borough also has benefits in terms of its close proximity to the location of existing and future jobs in, and close to, Warrington Borough. Much of the existing and proposed employment related development in the Borough is located in and north of the town centre. Residential development at Croft therefore presents an opportunity to locate workers (in new households) close to major centres of employment, thus minimising journey lengths and facilitating the use of public transport.

3.3.3 Appendix B indicates the proximity of Croft and the site to major areas of employment. Those on the northern side of Warrington include:-

- Birchwood – Only c.2.5km south-east of the site with c.17,000 jobs (source: 2011 Census, Journeys to Work to MSOAs) with expansion planned.
- Omega – c.7.5km south west of the site with c.24,000 jobs (source: www.omegaopportunity.com).
- Parkside – in St Helens c.2km west of the site with c.8,000 jobs (source: www.thisisparkside.co.uk / www.sthelens.gov.uk).

3.3.4 Thus locating a pool of workers close to major employment areas will provide opportunities for reduced travel distances. Over time, it is expected that jobs at Birchwood, for example, will be filled by workers in closer proximity, such as at Croft, with reduced in-commuting from outside the Borough. This follows a 'gravity model' principle with trips more likely to be made to/from nearby areas, all else being equal.

3.3.5 At present, the journey to work data for MSOAs in the Birchwood area indicates that only 32% of workers originate in Warrington Borough with the largest in flows from Wigan (10%), St Helens (6%), Cheshire West and Chester (5%), Halton (4%) and Trafford (4%). Thus locating development in areas close to Birchwood, at Croft and in other nearby settlements, has the potential to reduce travel distances and in-commuting to the Borough as a whole.

3.3.6 Furthermore, the size of the site is such that bespoke bus routes and services focussed on employment areas could be created, with benefits also for the existing community at Croft. These would be over short travel distances and could reduce the existing high car driver modal shares in the area.

SECTION 4 Sustainability And Accessibility

4.1 The Case for Development at Croft

4.1.1 Croft is a self-contained settlement with local facilities and services available and with other facilities nearby in Culcheth. Those in the village are within walking distance of residential areas. Development at the North West Croft site will also significantly enhance the facilities available in the village.

4.1.2 To consider the trips that can be made locally, the TEMPRO database has been used to identify the proportions of trips made by residents in Croft for different journey purposes by all modes of travel, using data from MSOA 1:

Table 4.1: TEMPRO Journey Purposes – Croft

Journey Purpose	Proportion of All Trips ¹
Education	15.7%
Shopping	23.5%
Personal Business	8.1%
Recreation / Social	10.1%
Visiting Friends & Relatives	9.6%
Holiday / Day Trips	2.8%
Work	26.4%
Employer's Business	3.8%

¹ Average weekday all modes

4.1.3 Thus trips are made for a variety of journey purposes, many associated with meeting day-to-day needs such as travel to school (c.16%), shopping (c.24%), personal business (c.8%), recreation and social (c.10%) and visiting friends and relatives (c.10%).

4.1.4 It is important to consider the trips likely to be made for each journey purpose with the availability of local facilities and services including those in nearby Culcheth and those that will be available in an expanded Croft; this demonstrates that Croft is a sustainable settlement and a suitable location for new development where trips can be made locally by sustainable travel modes.

Education

- 4.1.5** Around 16% of daily trips by residents are made for education purposes. There are two primary schools (Croft and St. Lewis) in Croft village and a secondary school (Culcheth High School) in Culcheth, providing for the day-to-day education needs of residents. There are direct school bus services between Croft and the High School. The development will facilitate a new primary school and secondary school for the village. TEMPRO data indicates that only 26% of education trips are by a car driver, with these likely to be parents dropping children off at school (the average car occupancy is 2.5 people per car). Thus the majority of trips are made by sustainable modes – walking (24%), cycling (1%), car passenger (38%) and public transport (10%).
- 4.1.6** The compact size of Croft (approximately 1.0km on the east-west axis and 0.8km on the north-south axis) and the location of the primary schools means that many trips can be made on foot, as evidenced by TEMPRO. Trips to the High School at Culcheth can be made by bus; the High School is c.4km distant and the provision of a new secondary school on the site will mean trips to this can be made on foot. The IHT’s document ‘Providing for Journeys on Foot’ suggests a walking distance to school of up to 2km. The distance between residential areas and schools varies by area but the compact nature of the settlement facilitates easy trip making and data from the National Travel Survey (NTS) confirms there is a very good prospect of most school trips being made locally. Information from the NTS demonstrates that trips to local schools are predominantly made on foot:-

Table 4.2: NTS Modal Split of Trips to School

Main Mode	Aged 5 – 10 Years			Aged 11 – 16 Years		
	Under 1 mile (1.6km)	1 to Under 2 Miles	All lengths	Under 1 mile (1.6km)	1 to Under 2 Miles	All lengths
Walk	78%	26%	44%	87%	57%	37%
Bicycle	2%	1%	1%	3%	5%	2%
Car/Van	20%	65%	48%	8%	26%	26%
Bus	-	6%	6%	2%	11%	29%
Other	-	1%	1%	-	1%	5%
Total	100%	100%	100%	100%	100%	100%

Shopping, Personal Business and Recreation

- 4.1.7** Over a third, c.42%, of trips are made for shopping, personal business or recreation reasons. Croft includes some limited facilities that will satisfy day-to-day needs including two public

houses and these will be bolstered by facilities on the site. There are more facilities in Culcheth including:-

- Sainsburys' Supermarket and Co-op Foodstore and a wide range of other shops;
- A library and Post Office;
- Two GP surgeries (Culcheth Medical Centre and Culcheth Health Centre), three dental practices (The Village, Bhawani's and Hob Hey) and pharmacies (the Well Pharmacy and Tims and Parker);
- A range of cafes, restaurants and pubs.

4.1.8 The TEMPRO data shows that around half (51%) of the journeys for shopping, personal business and recreation are made as a car driver. The compact nature of the settlement and its proximity to Culcheth means that there are opportunities for residents to walk, cycle or use the bus for trips to locations nearby. This will be enhanced by the provision of additional facilities on the site, providing for day-to-day needs and resulting in a modal shift away from car use.

Working and Employer's Business

4.1.9 Around 30% of all trips are made for these purposes. There are jobs available in Culcheth, at the local facilities and services, and at major employment areas close to Croft. Around 18% of residents of MSOAs 1 and 2 (which includes Croft) work at home whilst a further 13% work locally. Around 8% work at Birchwood with a further 18% elsewhere in Warrington. Of the work trips made within the MSOAs, over a third are made on foot or by bicycle.

4.1.10 The other trips by residents are to a range of destinations including Wigan, Salford, Trafford and Manchester (each around 6%), the remainder of Greater Manchester (c.4%), Cheshire and Halton (c.5%) and Merseyside (c.6%). Bus connections are available to Warrington.

Overall

4.1.11 Thus, the combination of the existing and proposed facilities available in Croft and at nearby Culcheth and the distances involved and transport connections available makes for the use of integrated and accessible transport. Development in Croft can be focussed on making walking, cycling and bus the most attractive forms of local transport, with residents able to meet their day-to-day needs locally.

4.1.12 Modal split data from TEMPRO identifies this potential with the following mode shares for all journey purposes combined:-

Table 4.3: TEMPRO Modal Shares – Croft

Mode	Proportion of Trips ¹
Walk	13.0%
Cycle	1.5%
Car Driver	54.7%
Car Passenger	24.5%
Bus / Train	6.4%

¹Average weekday all journey purposes

4.1.13 Considering the national and local policies set out earlier in this report:

- Development in Croft will facilitate the use of sustainable modes of transport, given the short-distances involved and availability of buses – meeting NPPF Para 108 and PSLP Policy INF1.
- The need to travel can be minimised and use of sustainable modes can be encouraged – meeting NPPF Para 103.
- Day-to-day activities and key facilities such as primary schools as well as the new facilities on the site will be located within walking distance of properties – meeting NPPF Para 103 and PSLP Policy INF1.

4.1.14 Thus Croft has existing characteristics which will support and promote sustainable development and sustainable travel patterns, will result in many day-to-day needs being met locally and which confirm its suitability as a location for development.

4.2 Overview of the Site's Accessibility

4.2.1 The development proposal at North West Croft offers the opportunity to create an enlarged village community with significantly enhanced facilities available locally and with improved transport connections to nearby areas. This will encourage the use of active travel and public transport, consistent with the objectives and policies in WBC's PSLP, and also improve the overall sustainability of Croft as a location with many of the residents' day-to-day needs being met locally.

4.2.2 The transport strategy for the site will focus on promoting sustainable travel modes and reducing car use, particularly that for single occupancy travel. Within this context, the travel and transport strategy for the site is to:

- i Take advantage of the site's existing locational characteristics close to Croft village;
- ii Seek to minimise the number of vehicular trips generated by the proposal through the provision of mixed uses and high quality design, thus maximising trip internalisation;
- iii Maximise opportunities for walking and cycling trips, particularly over shorter distances;
- iv Encourage external trips to/from the site to be made on foot, by bike, by public transport or through shared transport (e.g. a Car Club);
- v Encourage commuting trips to Warrington and other destinations including Birchwood to be made by bus; and
- vi Where absolutely necessary, mitigate the impacts of residual car borne trips by the introduction of highways improvements.

4.2.3 As well as achieving modal shift, the travel strategy for the site will assist in creating a coherent new community and will reduce the vehicular traffic flows generated by the proposals.

4.2.4 Strategies and measures for encouraging walking/cycling, public transport and the Travel Plan are included in Sections 4.3 – 4.5 with the locational characteristics of the site and existing sustainable travel networks also set out. The accessibility of the site is then considered in Section 4.6.

4.2.5 The site will provide a range of benefits as outlined in the submissions made by Turley. Specific transport benefits of the proposals will include:-

- Everyday facilities located in and close to the development and the rest of Croft village in walkable neighbourhoods, thus putting place first, enhancing inclusion, promoting sustainable lifestyle choices and behavioural change.
- New viable bus services and high quality bus infrastructure that will connect the site with key destinations and will also provide enhanced connectivity for existing residents in Croft.
- Specific and targeted travel plan measures again designed to promote sustainable travel modes.
- Provision of on-plot and on-street electric vehicle charging points and an electric vehicle car club to encourage some vehicular journeys to be made by low emission vehicles.

- Existing access provision off several places on the local road network which can accommodate the traffic generated by the proposals and which will spread traffic around the local networks (considered in Sections 5.0 and 6.0).

4.3 Local Connectivity of the Site

4.3.1 As noted above, the sites lies immediately adjacent to the existing built development within Croft village thus affording the opportunity to make direct and high quality connections as noted above when considering the site masterplan. All the adjacent streets within the village have footways and the site can connect to these. The roads in Croft are generally lightly trafficked and suitable for cycling.

4.3.2 Two PRoW cross the site and these can be enhanced as set out at 3.2 above, also enabling the opportunity (alongside the proposed footway network within the new community) for existing residents of Croft village to easily and safely access the primary and secondary schools, retail/commercial/medical facilities and green areas and proposed country park on the site.

4.3.3 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: improvements to the PRoW that run across the site and their connections to the external street network, such improvements could include widening, better surfacing / drainage, signing and lighting; and where possible, improvements to pedestrian provision in Croft village such as the introduction of dropped kerbs at crossing points and widening of footways or the introduction of new crossings. The above will be complemented by measures included in the Travel Plan for the site (see Section 4.5 below).

4.3.4 The Council's Settlement Profile notes that Croft has very low levels of walking and cycling in the area, likely as a result of the lack of attractive routes and the distance to nearby facilities and services.

4.3.5 This pattern can be reversed by the proposals at North West Croft. Nearby facilities and services, catering for everyday needs such as primary and secondary education, convenience shopping and a GP surgery will be available on the site and will therefore be readily accessible by active travel modes. The on-site street and layout design will facilitate this. These facilities will be available to both residents on the site and within the existing village. There are also many other facilities available within nearby Culcheth (education, health, retail, leisure etc).

4.3.6 The accessibility of the site is considered at 4.6 below but the location of the site, and provision of many every-day facilities which meet day-to-day needs, affords a real opportunity to focus movement locally on active modes of travel and thereby reduce car use.

4.4 Maximising Use of Public Transport

Existing Provision

4.4.1 There are existing bus routes and services in the vicinity of the site as summarised on Appendix C and in the table below.

Table 4.4 Existing Bus Services

Service No.	Route / Destinations Served	Frequency					
		Mon – Fri		Saturday		Sunday	
		Day	Eve	Day	Eve	Day	Eve
19	Leigh – Culcheth - Croft – Winwick – Warrington	60 ¹	60 ²	60	-	60	-
192	Rixton – Culcheth – Croft – Birchwood	1 service					
193	Birchwood – Croft – Culcheth – Glazebury	4 services (MWF)					

1 Additional peak service; 2 Early Evening

4.4.2 Thus these are hourly bus services between Croft and Winwick, Culcheth and Warrington (and also Leigh) and limited services to Birchwood via the 192 and 193 bus services. The 19 bus route has an additional service in the peak hours.

4.4.3 As well as the above scheduled bus services, the 280/281 school bus services run between Croft and Culcheth High School: the 280 departing at 07:50 and arriving at the school at 08:25 and leaving the school at 15:00 and arriving back in Croft at 15:12; and the 281 departing Croft at 08:05 arriving at the school at 08:27 with the return journey leaving at 15:10 and arriving at Croft at 15:19.

4.4.4 The closest railway stations to the site are at Birchwood and Padgate albeit these are outside of walking distance.

Potential Improvements

4.4.5 The size of the site is such that it will support improved bus services, creating a significant revenue stream and providing enhanced connectivity for the site and existing residents in Croft.

If necessary, the development can provide a subsidy to cover any short-fall between additional bus operating costs and the revenues generated along the new/improved routes, the latter from both the dwellings on the site and increased 'background' patronage and revenues.

4.4.6 There are varied options for improving bus services which can be developed as the proposals are progressed, housing delivery rates are established, travel patterns are monitored and the position is established more fully regarding external attractions e.g. new development at Omega and Parkside. Several options are available:-

- i** Improve the frequency of the existing number 19 bus service – improving services to Warrington, Culcheth and Winwick.
- ii** Develop a new bus route to Warrington town centre via Birchwood and one of the railway stations.
- iii** Develop a new service to Warrington town centre via Parkside and Winwick Quay.
- iv** New bus service between the site/Croft and Omega via Parkside, Winwick Quay and Gemini retail park.
- v** Combinations of the above e.g. a 'loop' service serving Croft – Birchwood – town centre – Winwick Quay – Parkside – Croft.

4.4.7 In practice bus provision will be phased and be responsive to both development completions and actual bus usage, the latter monitored by the bus operator(s) and the Travel Plan Co-ordinator (see 4.5 below). A package of funded bus improvements can be agreed with WBC and Network Warrington.

4.4.8 Given the current uncertainty of the allocation of the site and timescales over which development will be phased, then the delivery of specific proposals cannot be identified in detail at this stage. However, it is considered that it will be possible to deliver viable improved bus services (given the size of the site) bringing benefits to the site and the existing community at Croft.

4.4.9 It is therefore proposed that, subject to the allocation of the site in the Local Plan, further liaison is undertaken with the Council and 'Warrington's Own Buses' with the aim of establishing a framework for the provision of bus services and a mechanism to fund such services.

4.4.10 The 'framework' (effectively a service specification) will include details of destinations to be served, operating times (first and last buses by day of the week), service frequencies/headways

(again by day of the week and time of the day), size and quality (e.g. age) of the buses to be used along the routes.

4.4.11 The 'mechanism' will include details of the costs of such services, how fare revenues will be collected and allocated to the site, how background revenues will be identified and allocated to the services and how any revenues in excess of costs will be apportioned. The mechanism will need to determine (through liaison with the Council and 'Warrington's Own Buses') whether bus services are provided solely by the developer(s) or whether funds are paid by the developer to an appropriate collecting authority who will provide and deliver the bus services. The latter will allow better co-ordination and potentially economies of scale.

4.4.12 Further measures to promote bus (and rail) use can be delivered as part of the Travel Plan, see 4.5 below.

4.4.13 In conclusion, the size of the new community at Croft is such that it will create a 'critical mass' of patronage to support new or enhanced existing bus services thus ensuring the site is accessible by bus and is sustainable, in line with the NPPF and PSLP policy aspirations. Improved bus services will also bring enhanced connectivity for existing residents at Croft.

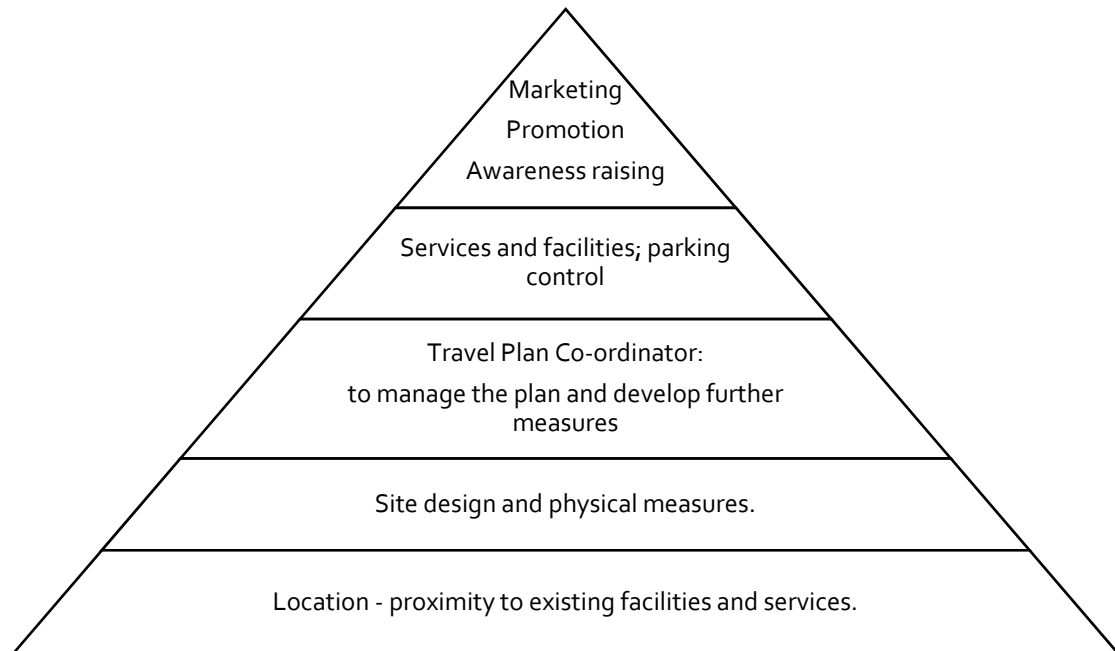
4.5 Promoting Sustainable Travel Choices

Overview

4.5.1 As well as the physical measures to promote walking, cycling and public transport set out above in Sections 4.3 and 4.4, the development of the community will include the production of a comprehensive travel plan to support the proposals. This will primarily identify the delivery of 'soft' measures to encourage the use of sustainable modes, to complement the physical measures, mix of uses and high quality design approach.

Travel Plan Philosophy

Travel Plan Pyramid



- 4.5.2 The DfT document 'Making residential travel plans work: guidelines for new development' notes that the travel plan can be viewed as a pyramid of measures and actions:
- 4.5.3 At the base of the pyramid is the location of the site and its proximity to facilities and services. This should take account of those that will be provided alongside the residential development which will include primary and secondary schools and retail, commercial and medical uses as well as areas of play and a country park. The location of the site itself will therefore encourage active travel.
- 4.5.4 The DfT note that the next stage should include the fundamental characteristics that need to be incorporated into the design of the site to support the use of sustainable modes. The design approach will focus on creating a sense of place, integrating the site with the existing community and promoting sustainable travel making, particularly active travel within the site.
- 4.5.5 The next tier is the Travel Plan Co-ordinator who will develop and manage the travel plan process, be responsible for the delivery of the plan and liaison with the Council, organise monitoring and reviews of the plan and ensure that travel plan targets are achieved.
- 4.5.6 The next level is the services and facilities that will be delivered at the site such as the bus services described above but also a range of other measures outlined below.

4.5.7 The final top tier is the promotion and marketing of the travel plan and services, raising awareness of the plan through various information initiatives and delivered by the travel plan co-ordinator.

Travel Plan Objectives and Targets

4.5.8 The detailed objectives and targets for the travel plan will be discussed and agreed with the Council and other key stakeholders, at the appropriate time. Broad objectives have been considered at this stage:

- i Bring together the mix of uses, design of the site and travel plan measures such that the need to travel is reduced.
- ii Provide measures and initiatives that are inclusive, promote cohesion and provide alternatives for all residents and other users on the site.
- iii Promote 'hard' and 'soft' measures such that sustainable modes are the first mode(s) of choice, rather than the car.
- iv Minimise the traffic generated by the development proposals.
- v Assist in developing a sense of place within the site and wider community.
- vi Promote healthy lifestyle choices through the use of non-car modes with emphasis on active travel.

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

- First, meeting modal share targets and a maximum proportion of car driver trips; and
- Secondly, ensuring that the actual traffic flows generated by the site are consistent with those adopted in future transport assessments, such that there is no severe impact from additional car trips.

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

Travel Plan Measures

4.5.11 Detailed assessment and evaluation will be undertaken to establish the most appropriate measures for the new community 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

4.5.12 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 on first occupation and employee on the site 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

4.5.13 Physical measures, including new footway/cycleways to connect the site with Croft 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.

- Safe routes to school and walking bus: the main pedestrian routes to the primary and secondary schools on the site will be designed and audited using 'Safe Routes to School' principles with funding for the advertising of walking bus schemes and the provision of fluorescent vests for children and walking bus 'drivers'.
- 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.
- Bike buddy: volunteers will be sought to 'buddy-up' with less confident cyclists and the TPC will promote this and seek recruits.

Measures to Promote Public Transport

4.5.14 New bus services and supporting infrastructure will be delivered using the framework as set out above. Further measures will promote the use of buses including:

- 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

4.5.15 Residents will continue to seek to make some journeys by car and the following will be delivered on the site to reduce the impacts of travel:

- The proposed development may be of a sufficient magnitude to warrant and sustain a viable Car Club. Car clubs provide their members with convenient access to newer, cleaner (low emission) vehicles without the expense of ownership. Car clubs also enable communities to share assets and can improve accessibility and support sustainable travel initiatives.

- Car sharing schemes: 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

4.5.16 Raising awareness of the measures and initiatives that will be available at the site is important and therefore information will be provided as follows:-

- Site specific travel guide: a foldable map, setting out the details of bus services and walk and cycle routes, will be developed. It will be included in sales literature and updated regularly for distribution by the TPC. A digital version will be considered.
- Website: a Travel Plan website will be developed for the site giving residents access to up-to-date travel information.
- Notice boards: these will be located within sales offices and at 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.

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

4.5.18 The Travel Plan measures will thus encourage both active travel and the use of public transport, consistent with the NPPF and the transport related objectives and policies of the PSLP.

4.6 Accessibility of the Site

Overview

4.6.1 Strategic objective W4 of the PSLP 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.

4.6.2 Local facilities and services within the vicinity of the site are shown on Appendix D and the distance from the closest of the site accesses (with pedestrian/cycle connections) to the key destinations in the local area are set out in the table below. These take account of the complementary uses proposed on the site.

Table 4.5 Distance to Key Facilities and Services

Use	Name	Distance
Primary School	New School on site	On-site
	Croft Primary School	0.3km
	St Lewis Catholic Primary School	1.0km
	Newchurch Community Primary School	3.1km
Secondary School	New School on-site	On-site
	Culcheth High School	4.0km
Health	GP Surgery on site	On-site
	Culcheth Health Centre	2.5km
	Culcheth Medical Centre	2.8km
	Well Pharmacy	2.9km
	The Village Dental Practice	3.8km
Retail and Leisure	Retail, commercial and community facilities on the site	On-site
	Country park on the site	On-site
	Public Houses in Croft	0.2km
	Sainsbury's	2.9km
	Culcheth Post Office	2.8km
	Culcheth Library	3.1km
	Shops in Culcheth	2.9km

4.6.3 Manual for Streets (MfS) notes that walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes' (c.800m) walking distance of residential areas which residents may access comfortably on foot. It does however go on to note that this is not an upper limit and quotes (the now superseded) PPS13 which stated walking has the greatest potential to replace short car trips, particularly those under 2km.

4.6.4 The IHT document 'Providing for Journeys on Foot' includes suggested acceptable walking distances. The preferred maximum distances for commuting / school / sight-seeing are 2km with 1,200m suggested elsewhere. It is concluded 2km represents an appropriate distance for the consideration of walk distances between households and facilities and services.

4.6.5 In terms of cycle distances, DfT Local Transport note 2/08 'Cycle Infrastructure Design' notes that many utility cycle journeys under three miles (c.5km) but that for commuter journeys a trip distance over 5 miles (c.8km) is not uncommon.

- 4.6.6 Thus consideration of Table 4.5 confirms that the many day-to-day facilities close to the site in Croft and at Culcheth are within walking and cycling distance, with bus connections also available to Culcheth and Warrington.

Accessibility to Education

- 4.6.7 Both primary and secondary schools will be provided on the site, within a short walk or cycle ride from the residential dwellings. There are two other primary schools within Croft, both very close to the site. Croft Primary School is located off Mustard Lane, only c.300m from the proposed access at Lord Street and even closer to the potential pedestrian access at Wildings Old Lane. St Lewis Catholic Primary School is located further along Mustard Lane c.1.0km from the Lord Street access. There is a footway along the western side of Mustard Lane that connects the site to the school. The site is c.4.0km from Culcheth High School, accessed via Mustard Lane and then through Culcheth village. Existing school bus services are available from Croft which can be supported by additional services if necessary.

- 4.6.8 Thus primary and secondary schools will be located on the site, other primary schools are within a very short walking distance of the site and Culcheth High School can be reached via a direct school bus service. Considering the picture of travel to school set out in Table 4.2, it is concluded that the accessibility to education facilities is therefore excellent.

Accessibility to Health Facilities

- 4.6.9 A GP practice will be located within the site, available to new residents and those within the existing village. Further afield, the nearest medical centres are within Culcheth, where there are two at Thompson Avenue and Jackson Avenue. There is a pharmacy at Lodge Drive and the Village Dental Practice is located off Warrington Road, both in Culcheth. Existing bus service 19 connects Croft with Culcheth and the size of the site means there are opportunities to improve this.

- 4.6.10 The accessibility to local health facilities is therefore very good with these catering for the day-to-day needs of residents on the site.

Accessibility to Retail and Leisure Facilities

- 4.6.11 The site will include retail and commercial uses and these will be within an easy walk or cycle ride from all the dwellings on site and from existing dwellings within the village. There are other facilities in Croft including two public houses. The centre of Culcheth to the north-east includes several retail and leisure facilities including Sainsbury's food store, Post Office and library. Thus

a range of facilities will be available locally, encouraging active travel and travel by bus. The accessibility of the site to these facilities is also concluded to be excellent.

Summary

4.6.12 The Council's Sustainability Appraisal Objective related to Accessibility includes criteria as follows, with commentary given on the site:

- ACC1: How accessible is the site to the nearest primary school on foot – school located on the site and others nearby. Therefore significant positive effects likely.
- ACC2: How accessible is the site to the nearest Secondary School – new secondary school to be provided on the site. Therefore significant positive effects likely.
- ACC3: How well served is the site by a bus service – existing bus services run along the site frontage. These will be improved such that they are regular (using WBC's definition). Therefore significant positive effects likely.
- ACC4: How accessible is the site to the nearest train station – the nearest stations at Birchwood and Padgate are some distance away. Therefore significant negative effects likely using WBC's definition which is simply distance based.
- ACC5: What is the overall distance to a GP service or health centre – GP practice to be located on the site within walking distance of the dwellings on the site and in Croft. Therefore significant positive effects likely.

4.6.13 In conclusion, a range of facilities and services will be available locally within walking and/or cycling distance. On the site these include primary and secondary schools, a GP practice, and retail, commercial and community facilities as well as play areas and country park. There are other primary schools in Croft and two public houses.

4.6.14 Buses already serve Croft and travel along the site's Lord Street frontage. The bus strategy will provide enhanced connections to various destinations including Warrington and Birchwood and offer the potential to connect the site to a range of job opportunities as well as Birchwood or Padgate railway stations.

4.6.15 The location of the site close to existing facilities, the complementary uses to be provided on the site and the ability to deliver improved bus connections provides a real opportunity for achieving modal shift, with increased use of active travel modes and public transport.

4.6.16 It is therefore concluded that the new community will be sustainable and accessible via a range of travel modes and will therefore be in accordance with the NPPF and the PSLP policies and objectives.

SECTION 5 Site Access Arrangements

5.1 Overview

- 5.1.1 The concept masterplan shows development across the site with accesses provided off Heath Lane, Lord Street and Smithy Brow/Southworth Lane.
- 5.1.2 Peel will also investigate, with WBC, the potential for a connection between the site and A579 Winwick Lane which leads to Junction 22 of M6. Such a link will provide a high quality route between the site and the motorway network, ensuring that traffic impacts on the local road network are minimised. This is considered further in Section 6.0.
- 5.1.3 Thus several accesses can be provided to and from the site. It is concluded that this approach is consistent with design guidance, including Manual for Streets (MfS) and the Council's Residential and Industrial Estates Road Design Guide.

5.2 Access Proposals

Heath Lane

- 5.2.1 The site has significant frontage lengths on to Heath Lane and therefore there are several options for the provision of an access. The masterplan shows an access adjacent to an entrance green and landscape buffer, leading to the northern green and then towards the centre of the site.
- 5.2.2 A potential priority junction access arrangements is shown in Appendix E (drawing number ITM13245-GA-003). This includes a ghost-island right-turn lane but the need for this will be discussed with the Council given the relatively low traffic flows on Heath Lane.
- 5.2.3 Visibility splays are shown commensurate with the prevailing 30mph speed limit albeit longer distances can be achieved. A 6.75m wide site access road is shown which can accommodate buses which are likely to be routed through the site. Footways are shown, tying in to existing.

Lord Street

- 5.2.4 The masterplan shows an access off Lord Street running next to a new village green which will include retail/commercial/medical uses around its perimeter, creating a new facility for the existing village as well as the development.

5.2.5 A simple 'T' junction access can be provided off Lord Street, between Kingsmead Court and Abbey Close as shown on Appendix F (drawing number ITM13245-GA-004). Visibility is again shown consistent with the 30mph speed limit.

5.2.6 The access road is shown as being 6.75m wide, suitable to accommodate buses when these penetrate the site. The footways provide connections with the existing provision on Lord Street.

Smithy Brow / Southworth Lane

5.2.7 An access off Southworth Lane is shown on the concept masterplan, again adjacent to an entrance green, 'Smithy's Green'. An access road is then shown to skirt around the western edge of the site before turning towards the centre.

5.2.8 A potential site access junction from Southworth Lane is shown on Appendix G (drawing reference ITM13245-GA-007) which includes a ghost-island right-turn lane. Again, the need for such an arrangement will be discussed with WBC given the existing low traffic flows. A 5.5m wide access road is shown but this would be widened if this route accommodates buses.

5.2.9 The access junction is located c.120m to the west of the change in speed limit from 30mph to 40mph. If an access is located as suggested then it would be appropriate to relocate the speed limit to the west and potentially introduce a gateway feature to the village. Visibility splays at the junction are shown for both 30mph and 40mph and can be accommodated within the site and/or highway.

5.2.10 Subject to detailed masterplanning, there are opportunities to locate an access closer to the centre of Croft village or provide additional accesses. Appendix H (drawing reference ITM13245-GA-005) shows priority junction accesses off Smithy Brow (two options) whilst Appendix I drawing reference ITM13245-GA-006) shows an access off Southworth Lane at Cockshot Farm.

Summary

5.2.11 All of the access designs will be subject to refinement and road safety audit at the appropriate time. The access proposals use land that is controlled by Peel. At this stage it is therefore concluded that access to the site is deliverable and therefore achievable.

5.3 Capacity of the Accesses

5.3.1 Traffic surveys have been undertaken to assess the capacity of the site access arrangements with details given in Section 6.0. Peak hour traffic flows have been derived and converted to

Passenger Car Units (PCUs) for use in traffic capacity assessment. The peak hours are 07:45 – 08:45 and 16:15 – 17:15. The peak hour traffic flows at the access points on Smithy Brow, Lord Street and Heath Lane are as follows:

Table 5.1 Existing Peak Hour Traffic Flows

Peak Hour	Smithy Brow			Lord Street			Heath Lane		
	East-bound	West-bound	Two-way	East-bound	West-bound	Two-Way	North-bound	South-bound	Two-Way
AM Peak Hour	611	297	908	260	560	820	110	415	525
PM Peak Hour	282	432	714	481	290	771	395	110	505

5.3.2 Traffic has been growthed to the 2037 end of plan year using factors from TEMPRO, adjusted to take account of the exclusion of land-use related growth. The growth factors are c.10%. Development traffic has been derived using the approach set out in Section 6.0. For the purposes of this appraisal, it has been assumed that development generated traffic uses the access most convenient for travel to the external destination. For the purposes of testing the capacity of the access junctions, the potential connection to A579 has been excluded. This maximises the generated traffic flows at each access and therefore represents a worst case.

5.3.3 The results of the capacity assessments of the priority junction site accesses are summarised in the table below:

Table 5.2 Site Access Capacity Assessment Results

Access	Movement	AM Peak Hour		PM Peak Hour	
		Max RFC	Max Queue	Max RFC	Max Queue
Smithy Brow	Site Access	0.40	1	0.14	0
	Smithy Brow Right Turn	0.10	0	0.19	0
Lord Street	Site Access	0.57	1	0.27	0
	Lord Street Right Turn	0.04	0	0.08	0
Heath Lane	Site Access	0.47	1	0.24	0
	Heath Lane Right Turn	0.12	0	0.34	1

5.3.4 The assessment results demonstrate that all three site accesses will operate comfortably within capacity.

5.3.5 It is therefore concluded that the site accesses will operate within capacity, confirming that satisfactory access to the land at North West Croft can be provided in accordance with the NPPF.

SECTION 6 Traffic Impacts

6.1 The Case for Development in Croft

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 at North West Croft. The modelling work reported at Section 2.2 noted that the aggregate level model results published by the Council do not show adverse travel conditions as a result of further development in the outlying settlements compared to the (then) PDO. 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 terms of traffic conditions in Croft, WBC's Settlement Profile notes with respect to the local road network:

"Small amount of peak hour congestion in centre of village. No planned local highways improvements in village."

The profile also notes that Croft is in close proximity to M6(J22) and M62(J9 and J11).

6.1.3 It is understood the above is not based on detailed analysis of the road network. An indication of peak hour traffic conditions has therefore been obtained from Google traffic maps with these given in Appendix J for the AM and PM peak hours. Google uses four gradations to define traffic speeds from fast to slow: green, orange, red and dark red. These are relative to the speed limits with 'fast' indicating little delay/free flow traffic conditions.

6.1.4 The traffic maps indicate that most roads in and around Croft have 'fast'/free-flow traffic speeds. Only the roads in the centre of Croft village are graded orange. Winwick Lane towards M6 is shown as orange in the AM Peak hour and Cross Lane on the approach to Warrington Road is shown as red. In the PM peak hour, the northbound A579 towards A580 is graded red/dark red. It is considered typical that there is limited congestion in the peak hours, with this resulting from delays at junctions when traffic flows are at their highest.

6.1.5 Existing traffic conditions in Croft have been assessed in more detail using traffic data collected specifically for this assessment. The survey data has been obtained to provide a picture of existing traffic conditions in Croft, focusing on locations close to the site where traffic impacts will be greatest.

6.1.6 Traffic surveys, comprising turning flow counts and queue length observations, were undertaken at the following junctions on the dates shown:

- Smithy Brow / Lord Street / Smithy Lane – Wednesday 18 October 2017
- Lord Street / Heath Lane – Wednesday 18 October 2017
- Sandy Lane / Heath Lane – Wednesday 18 October 2017
- Sandy Lane / Mustard Lane / Wednesday 18 October 2017
- Smithy Lane / New Lane – Wednesday 18 October 2017
- New Lane / Spring Lane – Thursday 19 October 2017
- New Lane / Lady Lane / Cross Lane – Wednesday 18 October 2017
- A574 Warrington Road / Cross Lane – Wednesday 18 October 2017
- Heath Lane / Kenyon Lane – Wednesday 18 October 2017
- A579 Winwick Lane / Sandy Brow Lane – Wednesday 18 October 2017

6.1.7 The traffic data has been processed to obtain the peak hour flows and the data has been converted to Passenger Car Units (PCUs) for use in traffic capacity assessments. The peak hours are 07:45 – 08:45 and 16:15 – 17:15. The peak hour surveyed traffic flows are given in Appendix K.

6.1.8 The survey data indicates significant traffic movements to and from Birchwood in the morning and evening peak hours respectively, with high tidal flows. In particular, the route using Smithy Brow, Smithy Lane, New Lane and Cross Lane has high traffic flows eastbound towards Birchwood in the AM peak hour and the reverse direction, westbound, in the evening peak hour. It is considered likely that traffic is using the route through Croft to avoid traffic congestion on the main road route to Birchwood via M6 and M62 motorways and their junction.

6.1.9 Improvements on the motorway and local network will potentially reduce traffic flows through Croft village. Such improvements include the M62 J10 – J12 Smart Motorway scheme, M6J21a – J26 Smart Motorway scheme, M62J9 traffic signal upgrades and A574 Birchwood Way phases 2 and 3 improvements.

6.1.10 Considering the traffic conditions reported in the Council's Settlement Profile (6.1.2 above), the results from the traffic queue survey at the Smithy Brow / Lord Street / Smithy Lane junction in the centre of Croft village have been analysed and are summarised in the table below:

Table 6.1 Observed Queues at Smithy Brow / Lord Street / Smithy Lane Junction

Movement	AM Peak Hour		PM Peak Hour	
	Average Spot Queue ¹	Maximum Queue	Average Spot Queue ¹	Maximum Queue
Smithy Lane	0	6	1	14
Smithy Brow Right Turn	2	16	0	8

¹ Average of the spot queues recorded on the minute each minute. Used for traffic model validation

- 6.1.11** The queue survey results show that the average spot queues recorded at the junction are short, indicating that overall during the peak hours there is very little congestion at the junction. At times, there is some limited congestion indicated by the maximum queues.
- 6.1.12** Future year baseline traffic flows have been derived for the 2037 end of plan year. Growth factors have been derived from TEMPRO, excluding land use related effects, and are c.10%. The 2037 baseline traffic flows are included in Appendix L.
- 6.1.13** The 2037 traffic flows have been used to assess the capacity of the local highway network at the junctions set out in 6.1.6 above with the results summarised in the table below:

Table 6.2 2037 Baseline Capacity Assessment Results

Junction	Movement	AM Peak Hour		PM Peak Hour	
		Max RFC	Max Queue	Max RFC	Max Queue
Lord Street / Smithy Lane / Smithy Brow	Smithy Lane	0.58	1	1.24	68
	Smithy Brow Right Turn	1.19	69	0.20	0
Lord Street / Heath Lane / Mustard Lane	Heath Lane Left Turn	0.05	0	0.02	0
	Heath Lane Right Turn	0.82	4	0.18	0
	Mustard Lane Right Turn	0.02	0	0.07	0
Sandy Lane / Heath Lane	Sandy Lane Left Turn	0.00	0	0.00	0
	Sandy Lane Right Turn	0.15	0	0.34	1
	Heath Lane Right Turn	0.00	0	0.01	0
Mustard Lane / Sandy Lane	Sandy Lane Left Turn	0.21	0	0.11	0
	Sandy Lane Right Turn	0.01	0	0.02	0
	Mustard Lane Right Turn	0.13	0	0.32	1
Smithy Lane / New Lane	New Lane	0.10	0	0.53	1
	Smithy Lane Right Turn	0.02	0	0.00	0
New Lane / Spring Lane	Spring Lane	0.03	0	0.19	0
	New Lane Right Turn	0.08	0	0.05	0
	Lady Lane	0.22	0	0.13	0

Junction	Movement	AM Peak Hour		PM Peak Hour	
		Max RFC	Max Queue	Max RFC	Max Queue
New Lane / Lady Lane / Cross Lane	Cross Lane Right Turn	0.02	0	0.18	0
A574 Warrington Road	Cross Lane	1.44	68	0.22	0
	A574 South Right Turn	0.01	0	0.00	0
	Silver Lane	0.00	0	0.03	0
	A574 North Right Turn	0.01	0	0.11	0
Heath Lane / Kenyon Lane / Stone Pit Lane	Kenyon Lane	0.47	1	0.20	0
	Heath Lane Right Turn	0.09	0	0.34	1
A579 Winwick Lane / Sandy Brow Lane	Sandy Brow Lane Left Turn	0.30	0	0.55	1
	Sandy Brow Lane Right Turn	0.01	0	0.03	0
	A579 Right Turn	0.80	6	0.37	1

6.1.14 The analysis shows that all junctions operate well within capacity other than the Smithy Brow / Smithy Lane / Lord Street priority controlled junction in the centre of Croft village in both peak hours and the Cross Lane junction with A574 Warrington Road in the AM peak hour.

6.1.15 At the former junction in the centre of Croft, long queues are predicted for the right-turn movement into Smithy Lane in the morning peak hour and the movement from Smithy Lane in the evening peak hour. However, the traffic model for the 2017 baseline (with the observed traffic flows input) also shows long queues with these being significantly greater than those observed during the surveys: in the AM peak, the observed queue was 2 PCUs compared to 15 modelled; and in the PM peak, the modelled queue of 35 PCUs significantly exceeds the observed queue of 1 PCU. Observations on site indicate that the junction operates satisfactorily with drivers giving 'courtesy gaps' to other drivers waiting to make turning movements. Thus the modelling clearly over-estimates the queues and the junction is observed to operate satisfactorily in practice.

6.1.16 At the Cross Lane junction with Warrington Road, the movement from Cross Lane is over-capacity in the AM peak hour. The queue survey also identifies queueing on this movement and the base 2017 traffic model replicates these queues. The queueing appears to result from high traffic movements towards Birchwood in the morning peak hour. As noted above (6.1.9) there is the potential for these to reduce as increased capacity is provided on the strategic road network. There is also the potential to improve the junction such that queues and delays are reduced.

6.1.17 Overall it is therefore concluded that the analysis confirms WBC’s general conclusion that there is a small amount of peak hour congestion in the centre of Croft. This is at a level not sufficient to constrain growth and development and therefore highways infrastructure capacity should not constrain development in the village.

6.1.18 The next sections consider the specific impacts of the development proposals at North West Croft.

6.2 Development Traffic Flows

6.2.1 Traffic flows have been calculated for a development of 1,911 residential dwellings which is based on an earlier version of the masterplan. Taking account of the proposed masterplan, the traffic flows used in the assessments are c.8% greater than would now be the case.

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 and therefore the estimates of traffic generation are very robust.

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 6.3 North West Croft – Trip Generation

Peak Hour	Direction	Trip Rate (per unit)	No. Trips
AM Peak	Arrival	0.127	243
	Departure	0.377	720
	Total	0.504	963
PM Peak	Arrival	0.309	590
	Departure	0.164	313
	Total	0.473	903

6.2.4 Thus the development could generate up to c.900-960 vehicular trips in each of the peak hours (c.840 – 890 with the masterplan development quanta).

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

Table 6.4 North West Croft – Journey Purposes of Car Travel

Trip Purpose	Proportion of Trips	
	AM Peak Period	PM Peak Period
Work	57%	44%
Employer's business	7%	6%
Education	12%	5%
Shopping	13%	18%
Personal business	5%	7%
Recreation/Social	3%	8%
Visiting friends/relatives	1%	9%
Holiday/day trips	2%	3%

6.2.6 Considering the above and the analysis presented earlier in this report related to facilities and services, there is clearly potential for some of the peak hour trips to be made locally and by active travel modes rather than the car: to the schools on site; and to the retail/commercial/medical facilities on the site and within Croft village. In the AM and PM peak periods, 36% and 50% 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 within and out of Croft 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 many 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 6.5 North West Croft – Overall Trip Distribution

Destination/District	Proportion of Trips
Warrington Borough	42%
Salford	6%
Trafford	6%
Manchester	6%
Wigan	11%
Halton	3%
Cheshire West & Chester	2%
Cheshire East	2%

Destination/District	Proportion of Trips
Other	22%
Total	100%

6.2.9 Of the trips to 'other' destinations, larger proportions are made to the rest of Greater Manchester (5%) and Merseyside (10%), with c. half of the latter to St Helens. The above does not take account of new job opportunities in the area (e.g. at Parkside, Omega).

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

Table 6.6 North West Croft – Trip Assignment

Location	Proportion
M62 East via Birchwood Way	24.5%
Mustard Lane to Culcheth	11.1%
Winwick Lane (north)	15.3%
M6 North via J22	2.8%
Myddleton Lane	2.7%
M62 West via M6J22	16.0%
M6 South via J22	10.8%
Birchwood Park Avenue	9.9%
Mill House Lane	6.9%
Total	100.0%

6.2.11 The development traffic flows assigned to the road network in Croft are given on Appendix M, noting these are considered to be an over-estimate for the reasons set out above.

6.3 Traffic Impacts of the North West Croft Site

6.3.1 The local highway network in the vicinity of the site is shown on Appendix N. Lord Street runs through the centre of the village, becoming Mustard Lane as it routes towards Culcheth and Smithy Brow then Southworth Lane as it routes towards Winwick. Smithy Lane joins Lord Street at a 'T' junction in the centre of the village with this then providing a connection to New Lane which provides access to Birchwood via Cross Lane and A574. Heath Lane joins Lord Street/Mustard Lane at a 'T' junction and continues northwards, then turning west to become

Stone Pit Lane then Stoney Brow Lane before connecting with A579 Winwick Lane. To the north this provides a route towards Leigh and, to the south, to M6J22 where the motorway network is accessed.

- 6.3.2** A potential link from the development site to A579 Winwick Lane will focus the traffic movements generated by the site on the main road network rather than through Croft village. Combined with improvements to the motorway network set out at 6.1.9 above, this will provide the best route for generated traffic to access the M6 (north and south), Warrington via A49, M62 west via A49 and Junction 9, M62 east via M6 south and Birchwood via M6 and M62 J11.
- 6.3.3** Whilst this will provide a direct link to and from the site, the road within the site can be designed to avoid background traffic routing through the site to access Winwick Lane and the motorway network.
- 6.3.4** The development generated traffic flows derived at 6.2 above (and shown in Appendix M) have been compared with the 2037 baseline traffic flows derived at 6.1 above (shown in Appendix L), with the development generated flows taking account of the potential link to A579. The resultant total traffic flows at junctions on the local road network close to the site are given in the table below, showing the proportional impacts of the traffic generated by the then assumed 1,911 dwellings at North West Croft.

Table 6.7 Proportional Impacts of Development Generated Traffic

Junction	AM Peak Hour			PM Peak Hour		
	2037 Baseline Flow	Development Flow	Proportional Impact	2037 Baseline Flow	Development Flow	Proportional Impact
Lord Street / Smithy Lane / Smithy Brow	1,431	58	4.1%	1,167	54	4.6%
Lord Street / Heath Lane / Mustard Lane	919	86	9.4%	893	80	9.0%
Sandy Lane / Heath Lane	583	43	7.4%	560	40	7.1%
Mustard Lane / Sandy Lane	706	86	12.2%	716	80	11.2%
Smithy Lane / New Lane	912	51	5.6%	691	48	6.9%
New Lane / Spring Lane	441	51	11.6%	490	48	9.8%
New Lane / Lady Lane / Cross Lane	474	51	10.8%	508	48	9.4%

Junction	AM Peak Hour			PM Peak Hour		
	2037 Baseline Flow	Development Flow	Proportional Impact	2037 Baseline Flow	Development Flow	Proportional Impact
A574 Warrington Road	1,959	51	2.6%	1,816	48	2.6%
Heath Lane / Kenyon Lane / Stone Pit Lane	635	0	0.0%	672	0	0.0%
A579 Winwick Lane / Sandy Brow Lane	1,852	118	6.4%	1,611	111	6.9%
A579 Winwick Lane / Link Road ¹	1,781	621	34.9%	1,562	582	37.3%

¹New Junction. 2037 baseline flows are two-way flows on A579

- 6.3.5** The Guidelines for the Environmental Assessment of Road Traffic state that the day-to-day variation of traffic on a road is frequently at least some + or – 10%. The above table demonstrates that the generated traffic flows associated with the development of 1,911 dwellings at North West Croft will be within typical daily variations at most locations in Croft village. At the Smithy Brow / Lord Street / Smithy Lane junction in the centre of Croft, the development increases traffic flows by less than 5%, well within the daily variations in traffic and indicating that the proposals are unlikely to result in discernible traffic impacts.
- 6.3.6** Traffic increases of greater than 10%, but no more than c.12%, are predicted at some junctions in Croft: at Mustard Lane / Sandy Lane; at New Lane / Spring Lane; and at New Lane / Lady Lane / Cross Lane. The additional development traffic is relatively modest (86 vehicles at the first junction, 51 at the other two) with the proportional increases reflecting the low background flows.
- 6.3.7** The detailed impacts of the traffic flows generated by the proposals have been assessed at junctions on the local road network surrounding the site by comparing the base 2037 assessment results (as set out at Table 6.2) with those when the development generated traffic is added. The A579 Winwick Lane / link road junction has been assessed assuming this is a standard roundabout of 40m diameter. The results are summarised in the table below.

Table 6.8 Impacts of Development Generated Traffic at Junctions

Junction	Movement	2037 Baseline				2037 with Development			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
Lord Street / Smithy Lane / Smithy Brow	Smithy Lane	0.58	1	1.24	68	0.71	2	1.33	96
	Smithy Brow Right Turn	1.19	69	0.20	0	1.25	88	0.22	0
Lord Street / Heath Lane / Mustard Lane	Heath Lane Left Turn	0.05	0	0.02	0	0.29	0	0.05	0
	Heath Lane Right Turn	0.82	4	0.18	0	0.86	5	0.19	0
	Mustard Lane Right Turn	0.02	0	0.07	0	0.05	0	0.14	0
Sandy Lane / Heath Lane	Sandy Lane Left Turn	0.00	0	0.00	0	0.00	0	0.00	0
	Sandy Lane Right Turn	0.15	0	0.34	1	0.15	0	0.35	0
	Heath Lane Right Turn	0.00	0	0.01	0	0.00	0	0.01	0
Mustard Lane / Sandy Lane	Sandy Lane Left Turn	0.21	0	0.11	0	0.22	0	0.11	0
	Sandy Lane Right Turn	0.01	0	0.02	0	0.01	00	0.02	0
	Mustard Lane Right Turn	0.13	0	0.32	0	0.13	0	0.34	1
Smithy Lane / New Lane	New Lane	0.10	0	0.53	1	0.13	0	0.60	2
	Smithy Lane Right Turn	0.02	0	0.00	0	0.02	0	0.00	0
New Lane / Spring Lane	Spring Lane	0.03	0	0.19	0	0.03	0	0.20	0
	New Lane Right Turn	0.08	0	0.05	0	0.09	0	0.06	0
New Lane / Lady Lane / Cross Lane	Lady Lane	0.22	0	0.13	0	0.23	0	0.14	0
	Cross Lane Right Turn	0.02	0	0.18	0	0.02	0	0.19	0
A574 Warrington Road	Cross Lane	1.44	68	0.22	0	1.61	102	0.32	1
	A574 South Right Turn	0.01	0	0.00	0	0.01	0	0.00	0
	Silver Lane	0.00	0	0.03	0	0.00	0	0.03	0
	A574 North Right Turn	0.01	0	0.11	0	0.01	0	0.11	0
Heath Lane / Kenyon Lane / Stone Pit Lane	Kenyon Lane	0.47	1	0.20	0	0.47	1	0.20	0
	Heath Lane Right Turn	0.09	0	0.34	1	0.09	0	0.34	1
A579 Winwick Lane / Sandy Brow Lane	Sandy Brow Lane Left Turn	0.30	0	0.55	1	0.30	0	0.57	1
	Sandy Brow Lane Right Turn	0.01	0	0.03	0	0.01	0	0.03	0
	A579 Right Turn	0.80	6	0.37	1	0.89	11	0.40	1
A579 Winwick Lane / Link Road	Link Road	-	-	-	-	0.54	1	0.20	0
	A579 South	-	-	-	-	0.49	1	0.60	2
	A579 North	-	-	-	-	0.77	3	0.70	2

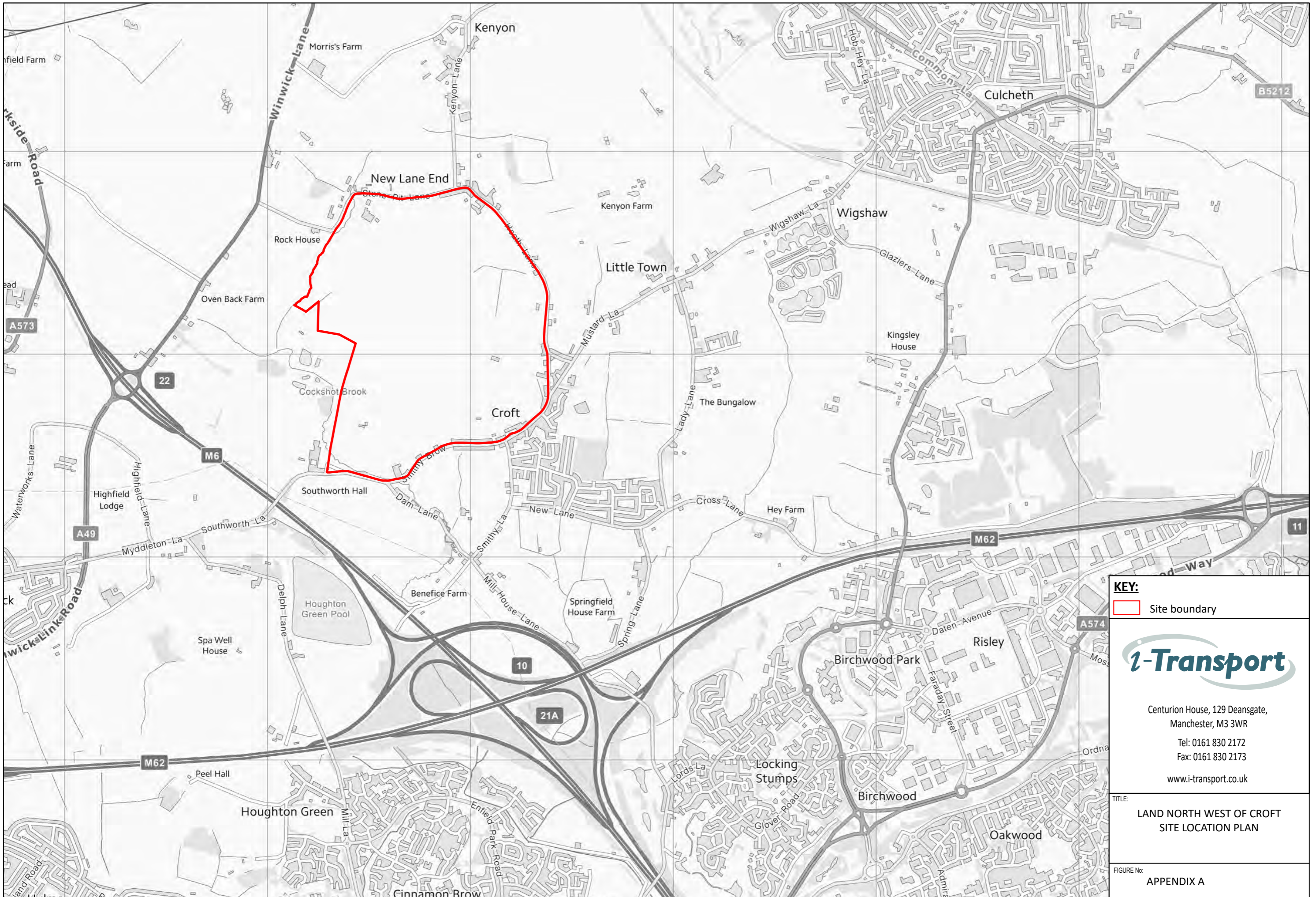
- 6.3.8** All junctions are predicted to operate below capacity when the traffic generated by 1,911 residential dwellings is added, other than the Smithy Brow / Lord Street / Smithy Lane junction in the centre of Croft and the A574 Warrington Road / Cross Lane priority junction to the east of the village.
- 6.3.9** At the junction in the centre of Croft, the traffic model predictions for this junction are significantly worse than observed and the junction is predicted to operate satisfactorily in practice. The assessment results presented in Table 6.8 include for traffic growth in the peak time 'slice' within the peak hour. The development is predicted to increase queues but the increases are concluded not to be severe, taking account of the above and that the development increases traffic flows by less than 5%, within daily variations.
- 6.3.10** At the junction of Cross Lane with A574 Warrington Road, the maximum queue on Cross Lane in the morning peak hour increases from 68 to 102 PCUs. Again, these take account of peak hour growth and are for the peak time slice within the peak hour. The development only adds c.50 PCUs to this junction, less than one per minute and only 2.6% of the baseline traffic flows – well within the daily variation. If necessary, an improvement could be implemented at the junction comprising signalisation and preliminary LINSIG assessments show this will operate within capacity. It is concluded the capacity of this junction will not constrain development at North West Croft.
- 6.3.11** 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 north west of Croft. These are capable of accommodating a new community, integrated with the existing village, of up to 1,765 dwellings (with 1,911 dwelling tested in the traffic assessments).
- 7.2 The Council's proposed allocation at Croft is only for an additional 75 dwellings. No detailed quantitative analysis has been undertaken to analyse the capacity of the transport system and the impacts of higher levels of development other than at an aggregate level which concludes there is no material difference to what was the PDO. There is therefore no justification, based on sound evidence, to limit development in Croft on transport grounds.
- 7.3 The combination of the existing and proposed facilities available in Croft and at nearby Culcheth and the distances involved and transport connections available makes for the use of integrated and accessible transport. Development in Croft can be focussed on making walking, cycling and bus the most attractive forms of local transport, with residents able to meet their day-to-day needs locally. The availability of key facilities and services should not therefore constrain development in Croft.
- 7.4 A transport strategy for the site will be developed which will promote sustainable travel modes and provide benefits for both the development and existing residents in Croft, complementing the new facilities available. The strategy will include improvements to existing PRoW and the delivery of new pedestrian/cycle connections with the size of the site creating a 'critical mass' that will support enhanced bus services. These will be complemented by a Travel Plan.
- 7.5 The site will therefore meet the transport related objectives of the PSLP. Furthermore, it will strongly meet four of the five specific accessibility criteria defined by the Council, when account is taken of the step-change in both facilities and services and bus provision that the site can deliver.
- 7.6 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.
- 7.7 Access to the site is proposed at several locations and feasibility level designs have been produced. Traffic capacity assessments show that all 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.

-
- 7.8 As far as highways capacity is concerned, analysis confirms WBC's general conclusion that there is a small amount of peak hour congestion in the centre of Croft. This is at a level not sufficient to constrain growth and development and therefore highways infrastructure capacity should not constrain development in the village.
- 7.9 Detailed analysis of the impacts of the traffic flows generated by the proposals at North West Croft shows that all junctions are predicted to operate below capacity when the traffic generated by 1,911 residential dwellings is added, other than the Smithy Brow / Lord Street / Smithy Lane junction in the centre of Croft and the A574 Warrington Road / Cross Lane priority junction to the east of the village. At both of these junctions, traffic impacts are concluded not to be severe.
- 7.10 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.
- 7.11 Overall, it is therefore concluded that the site at North West Croft is suitable for allocation in the Council's Local Plan and will form a sustainable development that can provide much needed housing.

APPENDIX A. Site Location Plan



KEY:
 Site boundary

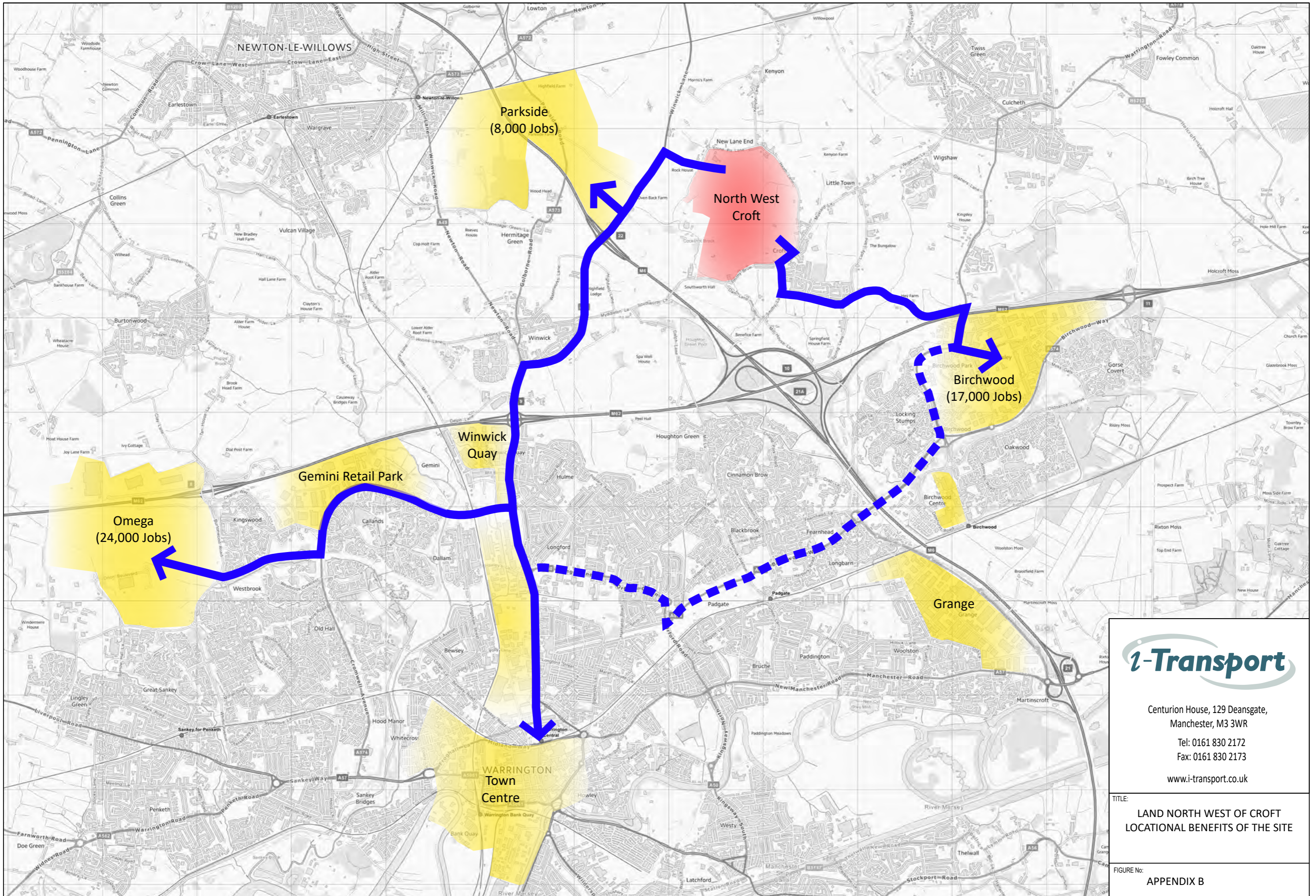
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TITLE:
**LAND NORTH WEST OF CROFT
 SITE LOCATION PLAN**

FIGURE No:
APPENDIX A

APPENDIX B. Locational Benefits of the Site

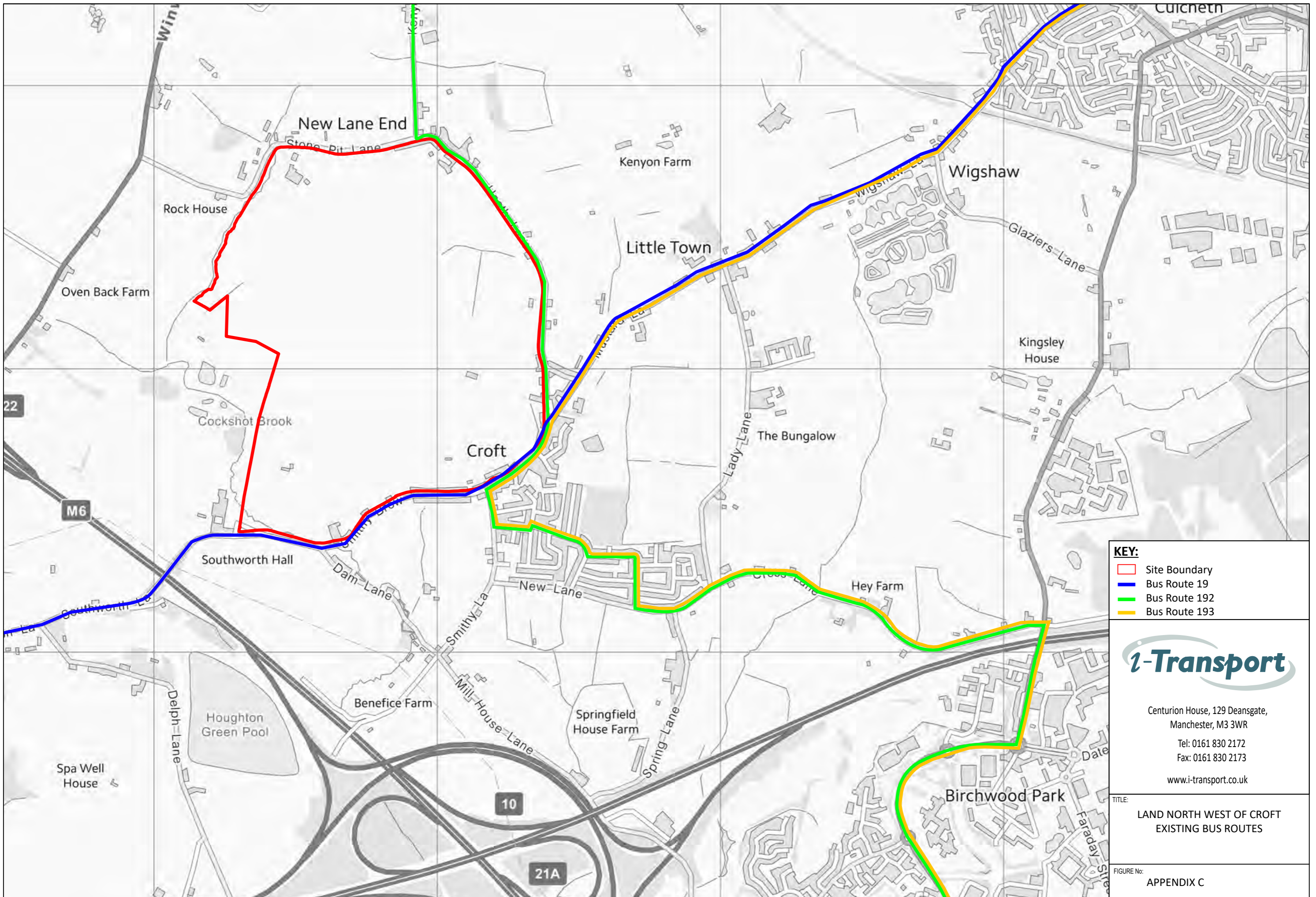


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**LAND NORTH WEST OF CROFT
 LOCALONAL BENEFITS OF THE SITE**

FIGURE No:
APPENDIX B

APPENDIX C. Existing Bus Routes



KEY:

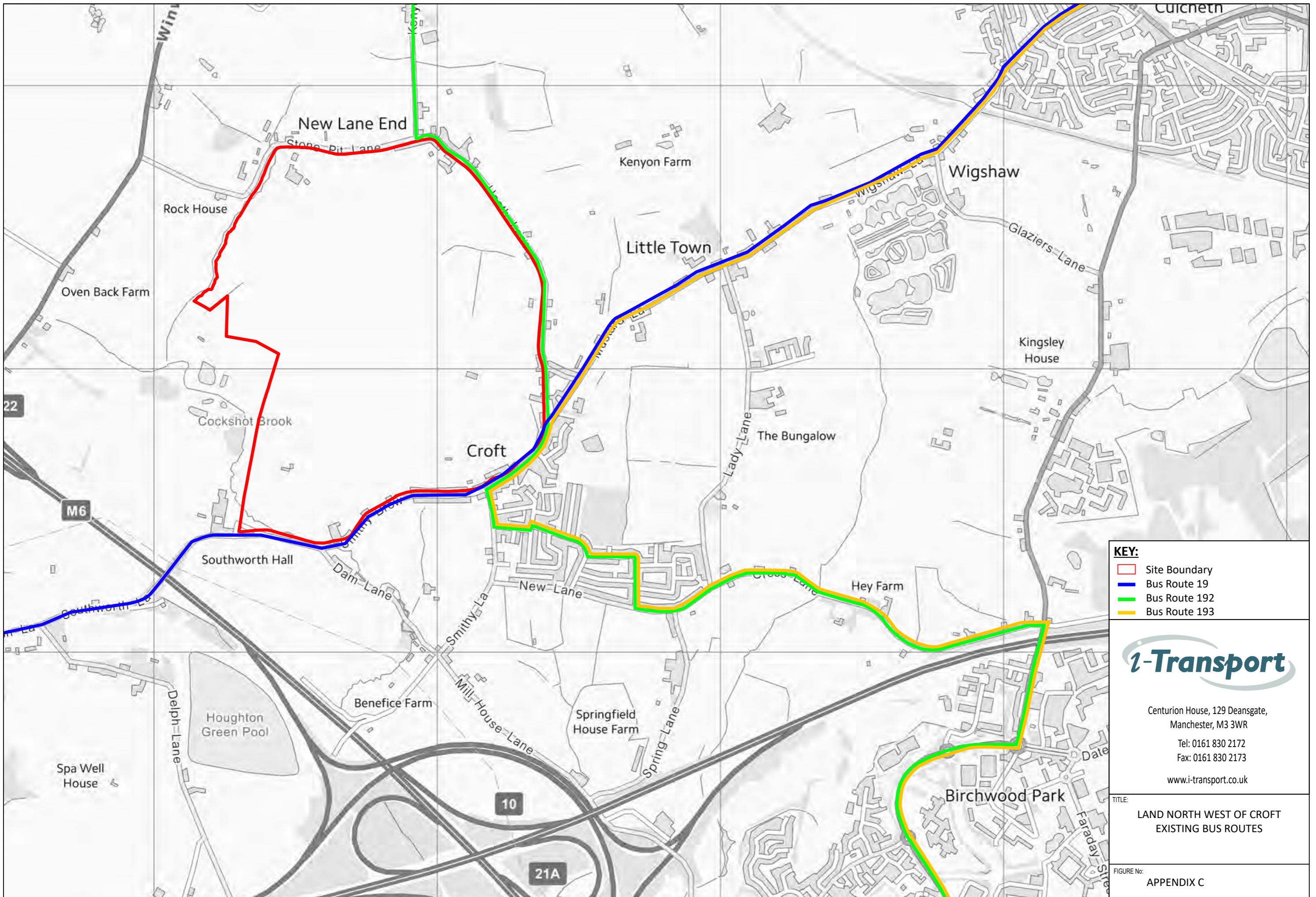
	Site Boundary
	Bus Route 19
	Bus Route 192
	Bus Route 193







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 EXISTING BUS ROUTES**

FIGURE No:
APPENDIX C



KEY:

	Site Boundary
	Bus Route 19
	Bus Route 192
	Bus Route 193

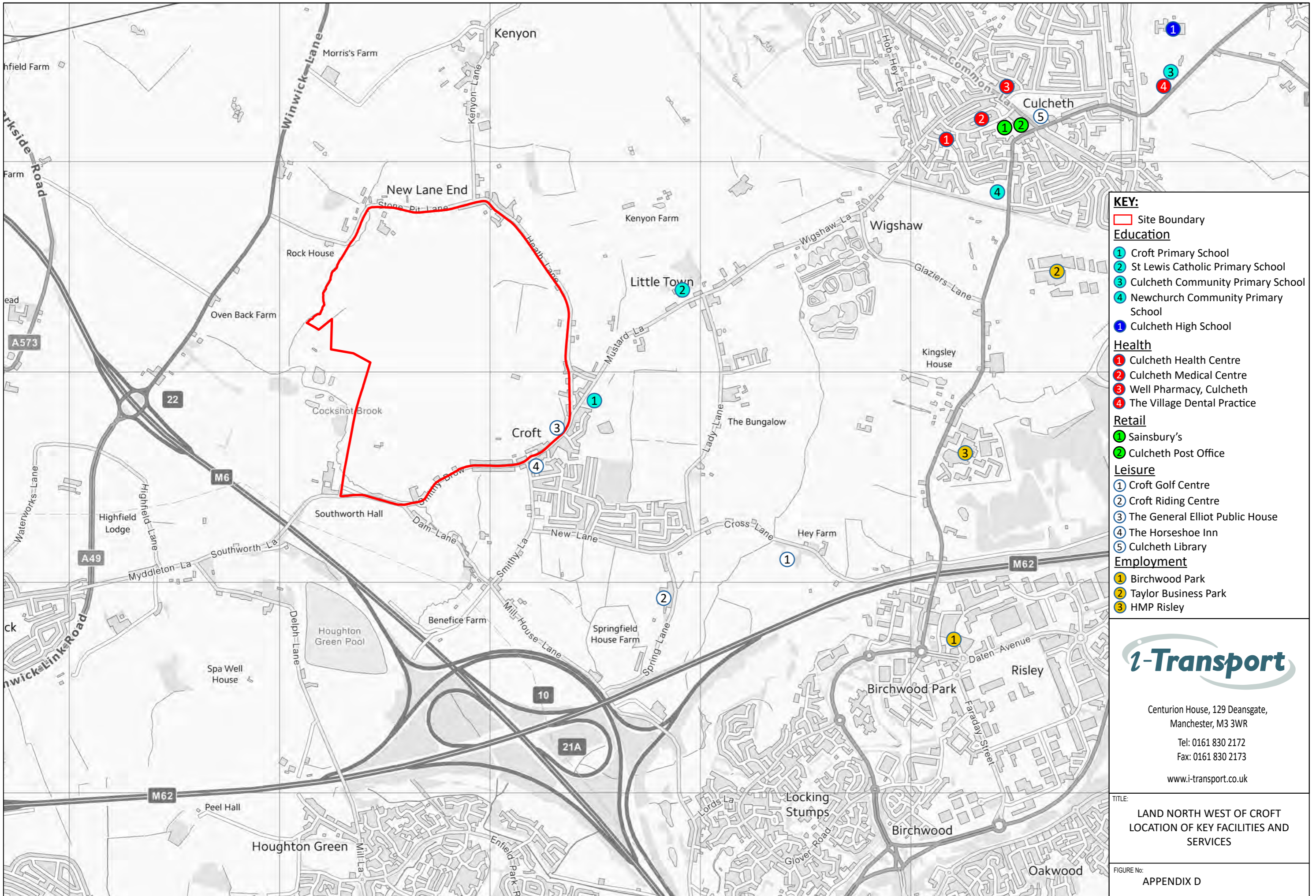


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 EXISTING BUS ROUTES**

FIGURE No:
APPENDIX C

APPENDIX D.Location of Key Facilities and Services



- KEY:**
- Site Boundary
 - Education**
 - ① Croft Primary School
 - ② St Lewis Catholic Primary School
 - ③ Culcheth Community Primary School
 - ④ Newchurch Community Primary School
 - ⑤ Culcheth High School
 - Health**
 - ① Culcheth Health Centre
 - ② Culcheth Medical Centre
 - ③ Well Pharmacy, Culcheth
 - ④ The Village Dental Practice
 - Retail**
 - ① Sainsbury's
 - ② Culcheth Post Office
 - Leisure**
 - ① Croft Golf Centre
 - ② Croft Riding Centre
 - ③ The General Elliot Public House
 - ④ The Horseshoe Inn
 - ⑤ Culcheth Library
 - Employment**
 - ① Birchwood Park
 - ② Taylor Business Park
 - ③ HMP Risley



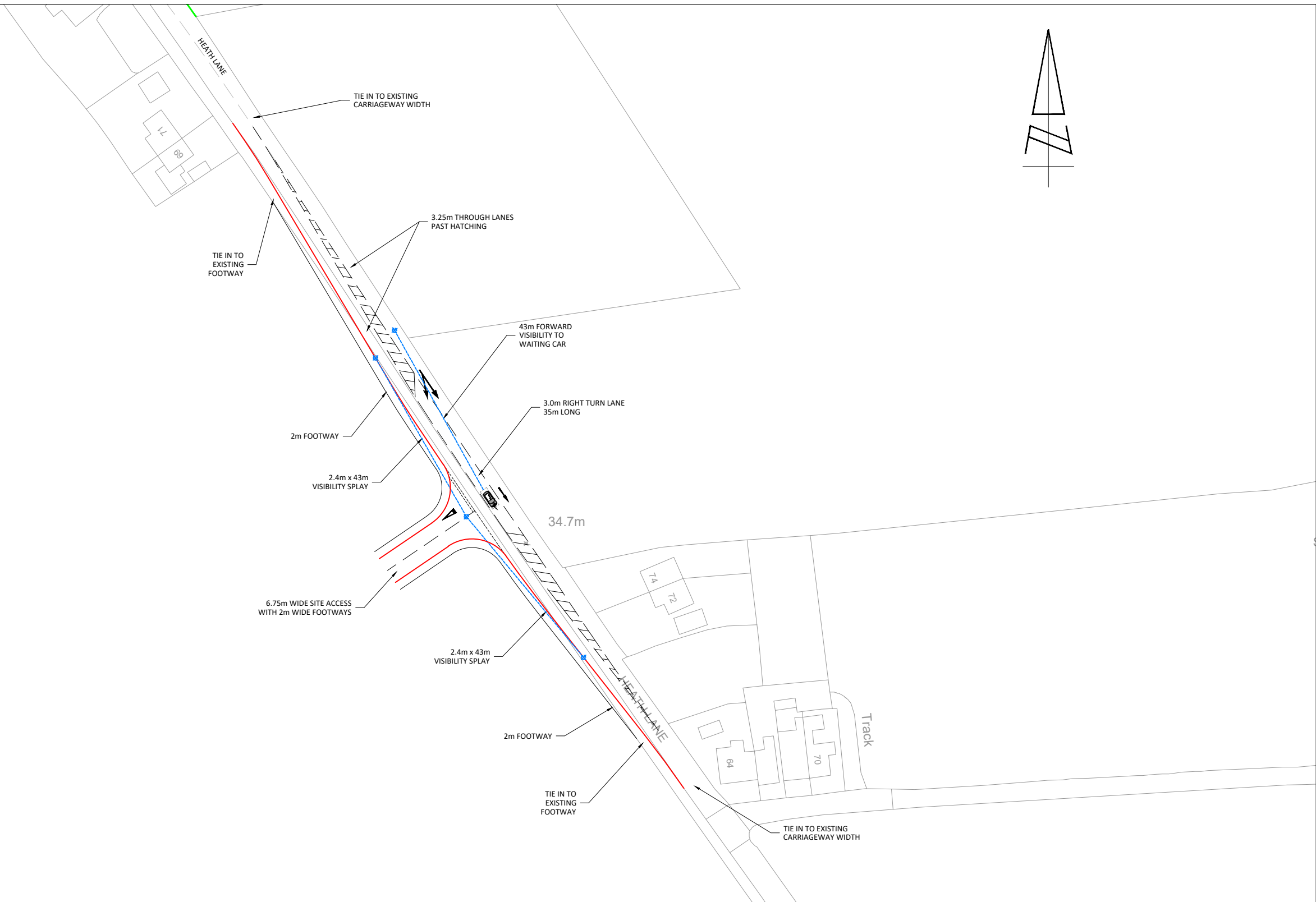
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TITLE:
**LAND NORTH WEST OF CROFT
LOCATION OF KEY FACILITIES AND
SERVICES**

FIGURE No:
APPENDIX D

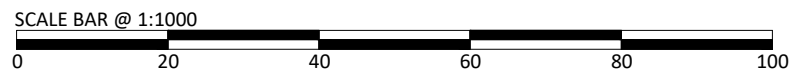
APPENDIX E. Potential Site Access from Heath Lane

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STATUS: DRAFT					

TITLE: POTENTIAL SITE ACCESS FROM HEATH LANE	
PROJECT: LAND NORTH WEST OF CROFT	CLIENT: PEEL INVESTMENTS (NORTH) LIMITED

SCALE @ A3: 1:1000	CHECKED: SEE	APPROVED: SEE
FILE REF: ITM13245-GA	DRAWN: PH	DATE: 24.08.2017
DRAWING No: APPENDIX E (ITM13245 - GA - 003)		
PROJECT No: ITM13245		REV: -

APPENDIX F. Potential Site Access from Lord Street



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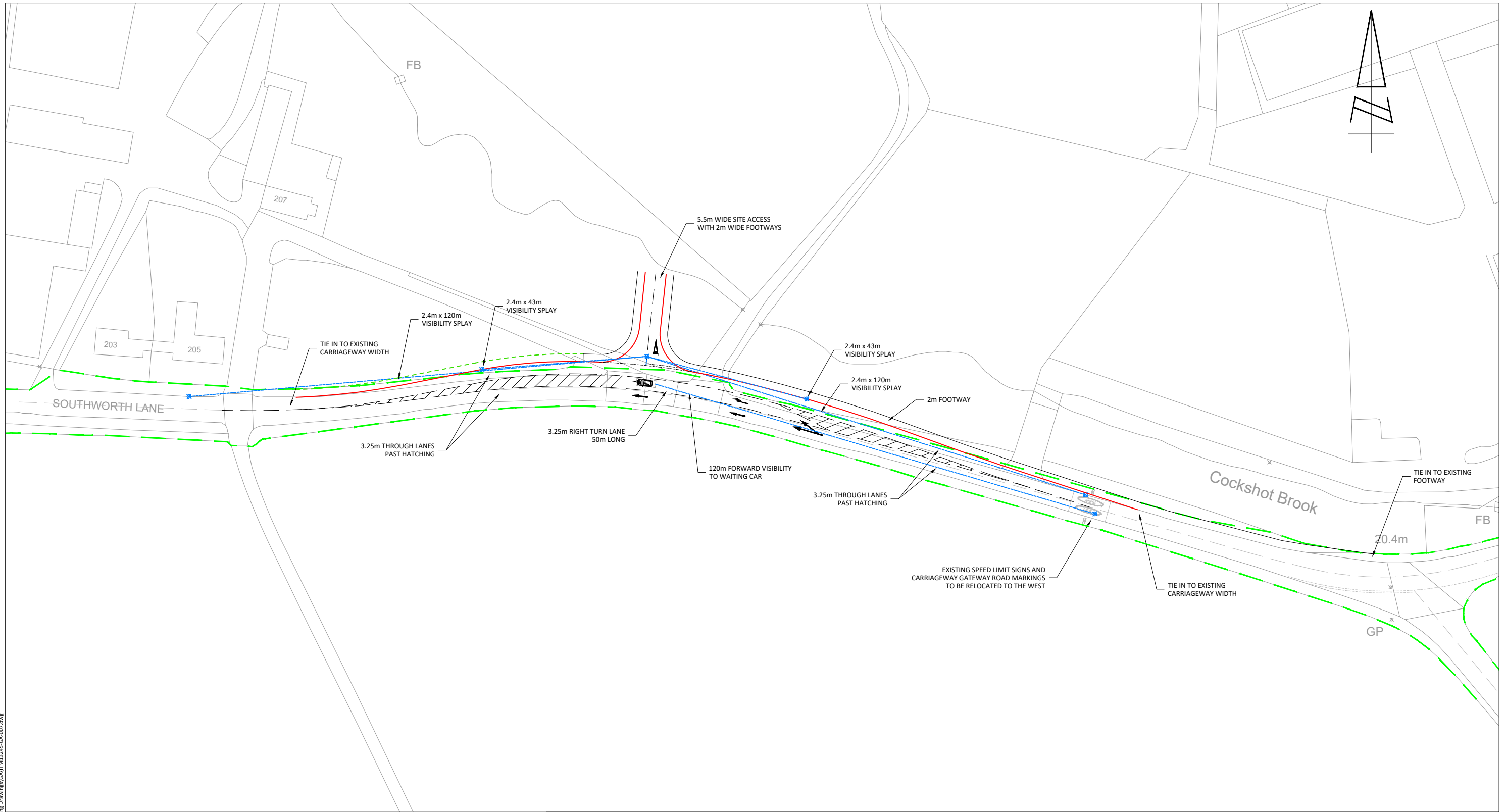
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STATUS: DRAFT					

TITLE: POTENTIAL SITE ACCESS FROM LORD STREET	
PROJECT: LAND NORTH WEST OF CROFT	CLIENT: PEEL INVESTMENTS (NORTH) LIMITED

SCALE @ A3: 1:500	CHECKED: SEE	APPROVED: SEE
FILE REF: ITM13245-GA	DRAWN: PH	DATE: 24.08.2017
DRAWING No: APPENDIX F (ITM13245 - GA - 004)		
PROJECT No: ITM13245	REV: -	

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APPENDIX G. Potential Site Access from Southworth Lane – Southworth Hall Farm



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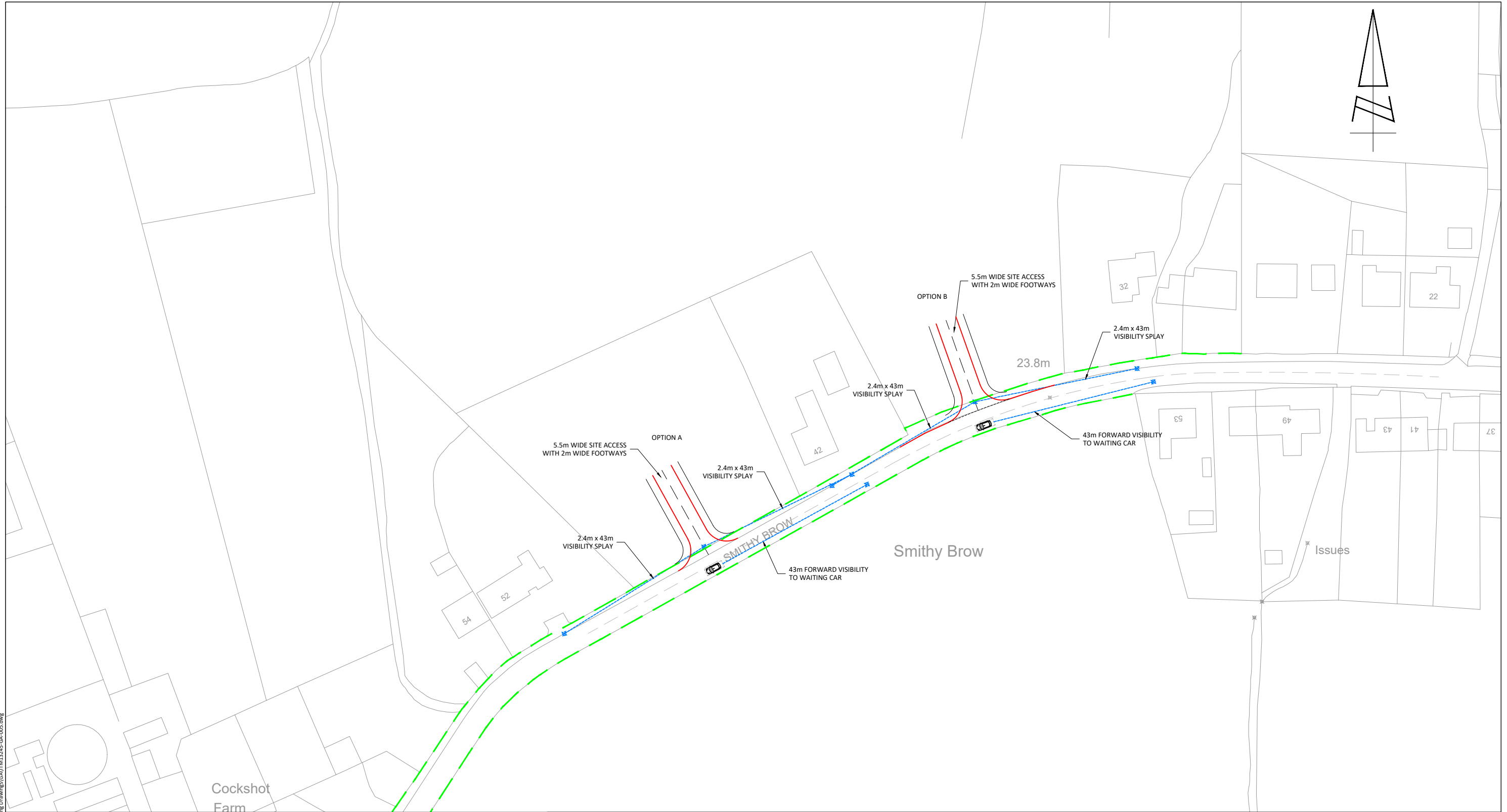
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PROJECT: LAND NORTH WEST OF CROFT
CLIENT: PEEL INVESTMENTS (NORTH) LIMITED

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FILE REF: ITM13245-GA	DRAWN: PH	DATE: 25.08.2017

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PROJECT No: ITM13245
REV: -

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APPENDIX H.Potential Access from Smithy Brow



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SCALE BAR @ 1:1000



--- HIGHWAY BOUNDARY



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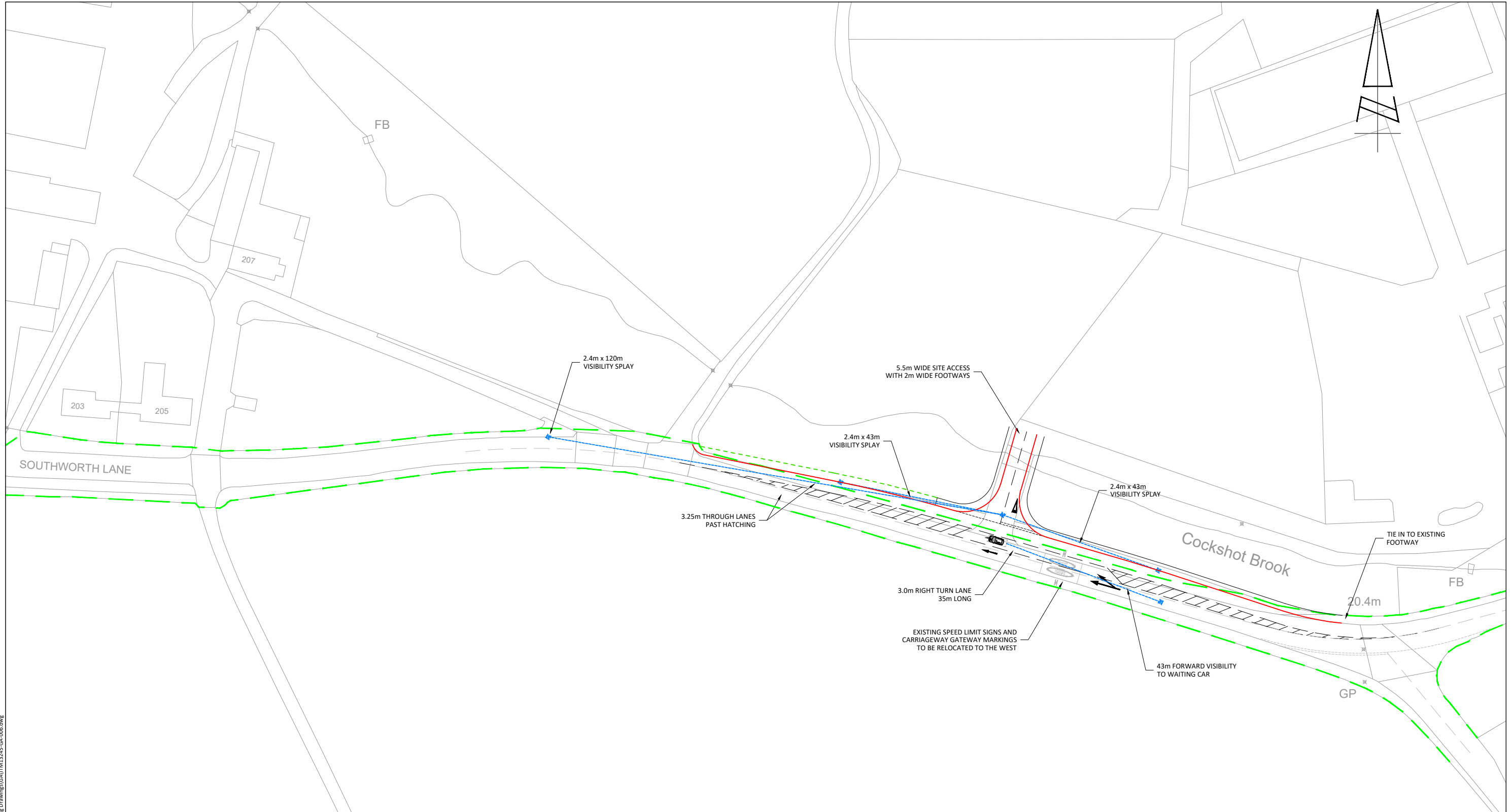
REV	DATE	BY	DESCRIPTION	CHK	APD
STATUS: DRAFT					

TITLE: POTENTIAL SITE ACCESSES FROM SMITHY BROW	
PROJECT: LAND NORTH WEST OF CROFT	CLIENT: PEEL INVESTMENTS (NORTH) LIMITED

SCALE @ A3: 1:1000	CHECKED: SEE	APPROVED: SEE
FILE REF: ITM13245-GA	DRAWN: PH	DATE: 25.08.2017
DRAWING No: APPENDIX H (ITM13245 - GA - 005)		
PROJECT No: ITM13245		REV: -

Z:\Projects\13245\ITM Land North West of Croft\Tech\Drawings\Transport Drawings\GA\ITM13245-GA-005.dwg

APPENDIX I. Potential Site Access from Southworth Lane – Cockshot Farm



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SCALE BAR @ 1:1000



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REV	DATE	BY	DESCRIPTION	CHK	APD
STATUS: DRAFT					

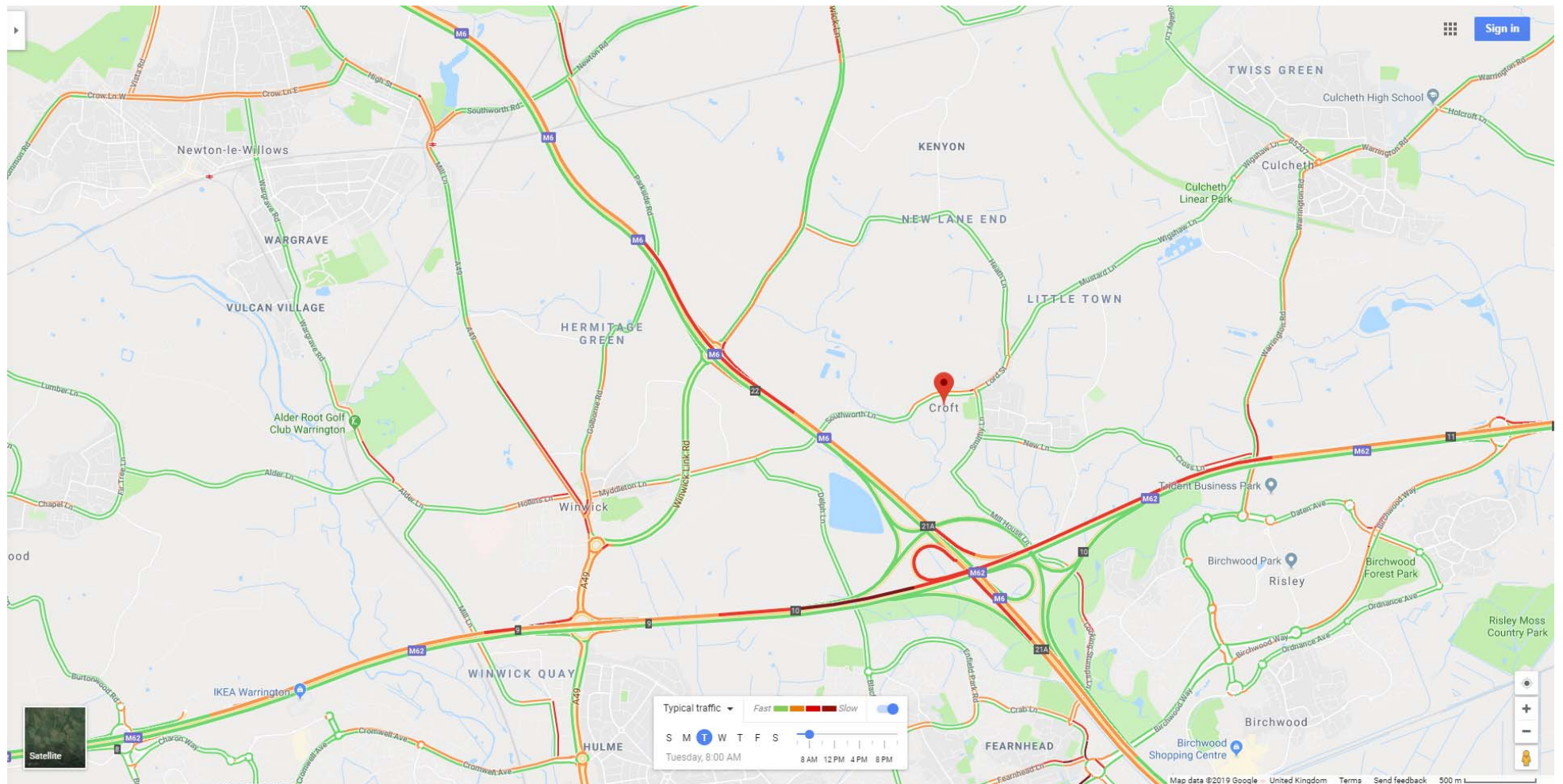
TITLE: POTENTIAL SITE ACCESS FROM SOUTHWORTH LANE - COCKSHOT FARM	
PROJECT: LAND NORTH WEST OF CROFT	CLIENT: PEEL INVESTMENTS (NORTH) LIMITED

SCALE @ A3: 1:1000	CHECKED: SEE	APPROVED: SEE
FILE REF: ITM13245-GA	DRAWN: PH	DATE: 25.08.2017
DRAWING No: APPENDIX I (ITM13245 - GA - 006)		
PROJECT No: ITM13245		REV: -

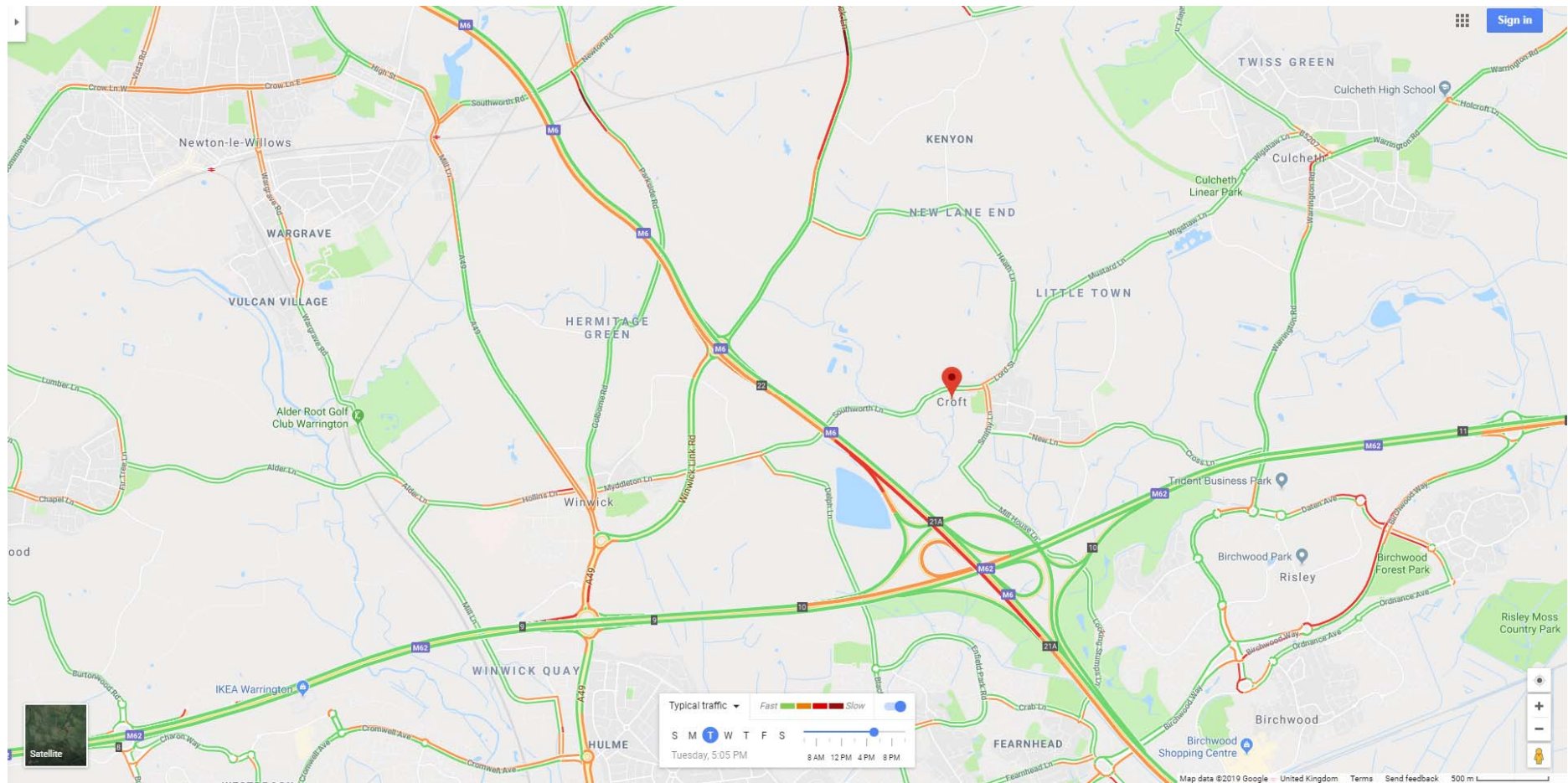
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APPENDIX J. Google Traffic Maps

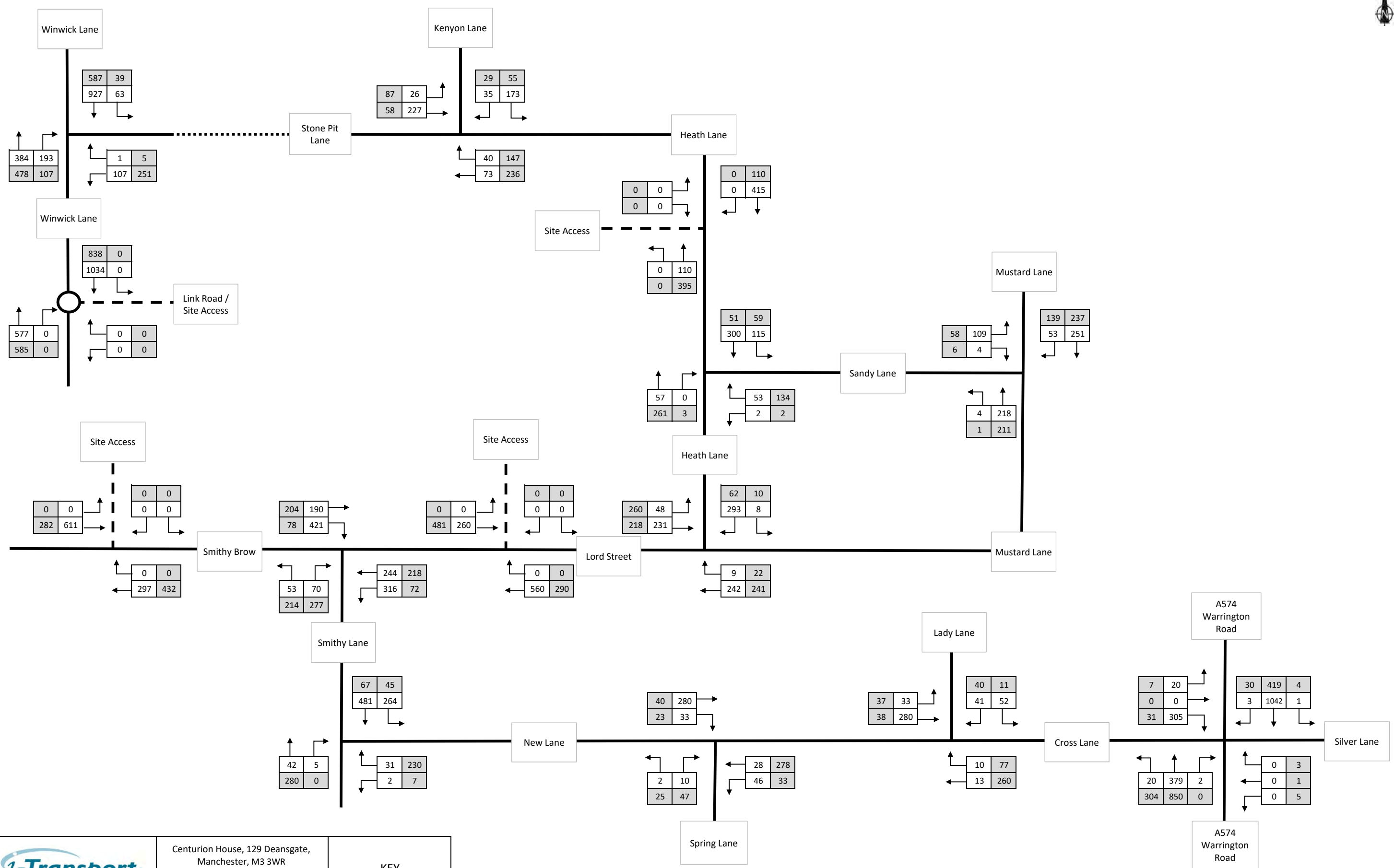
North West Croft – AM Peak (08:00)



North West Croft – PM Peak (17:00)



APPENDIX K. 2017 Observed Traffic Flows



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LAND NORTH WEST OF CROFT

Appendix K

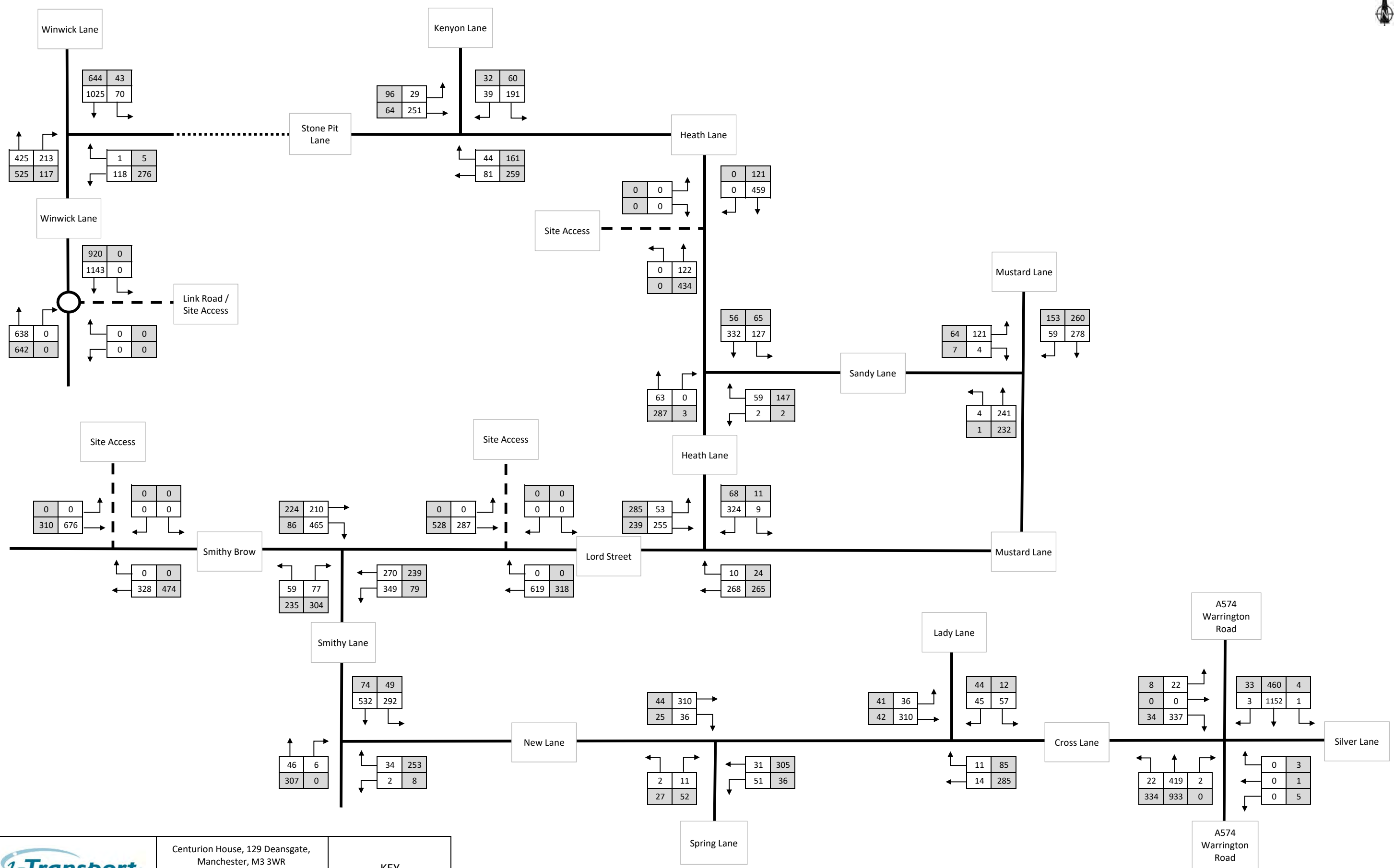
2017 Observed Traffic Flows

KEY

500 = AM PEAK (PCUs)
500 = PM PEAK (PCUs)

Notes:
 AM Peak - 07:45-08:45
 PM Peak - 16:15-17:15

APPENDIX L. 2037 Baseline Traffic Flows



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LAND NORTH WEST OF CROFT

Appendix L

2037 Base Traffic Flows

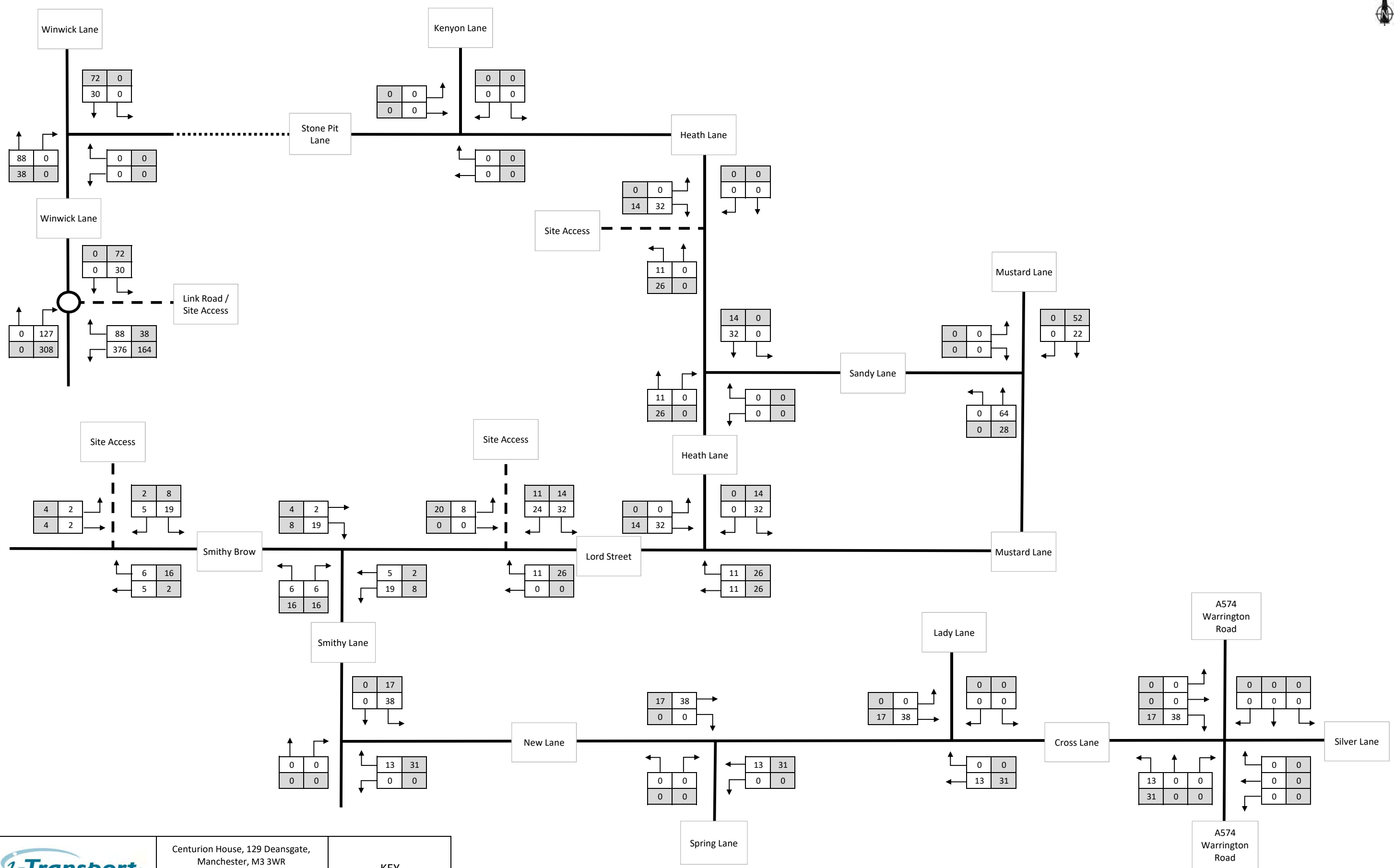
KEY

500 = AM PEAK (PCUs)

500 = PM PEAK (PCUs)

Notes:
 Growth Factors:
 AM Peak = 1.1056
 PM Peak = 1.0978

APPENDIX M. Development Traffic Flows



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LAND NORTH WEST OF CROFT

Appendix M

Development Traffic Flows

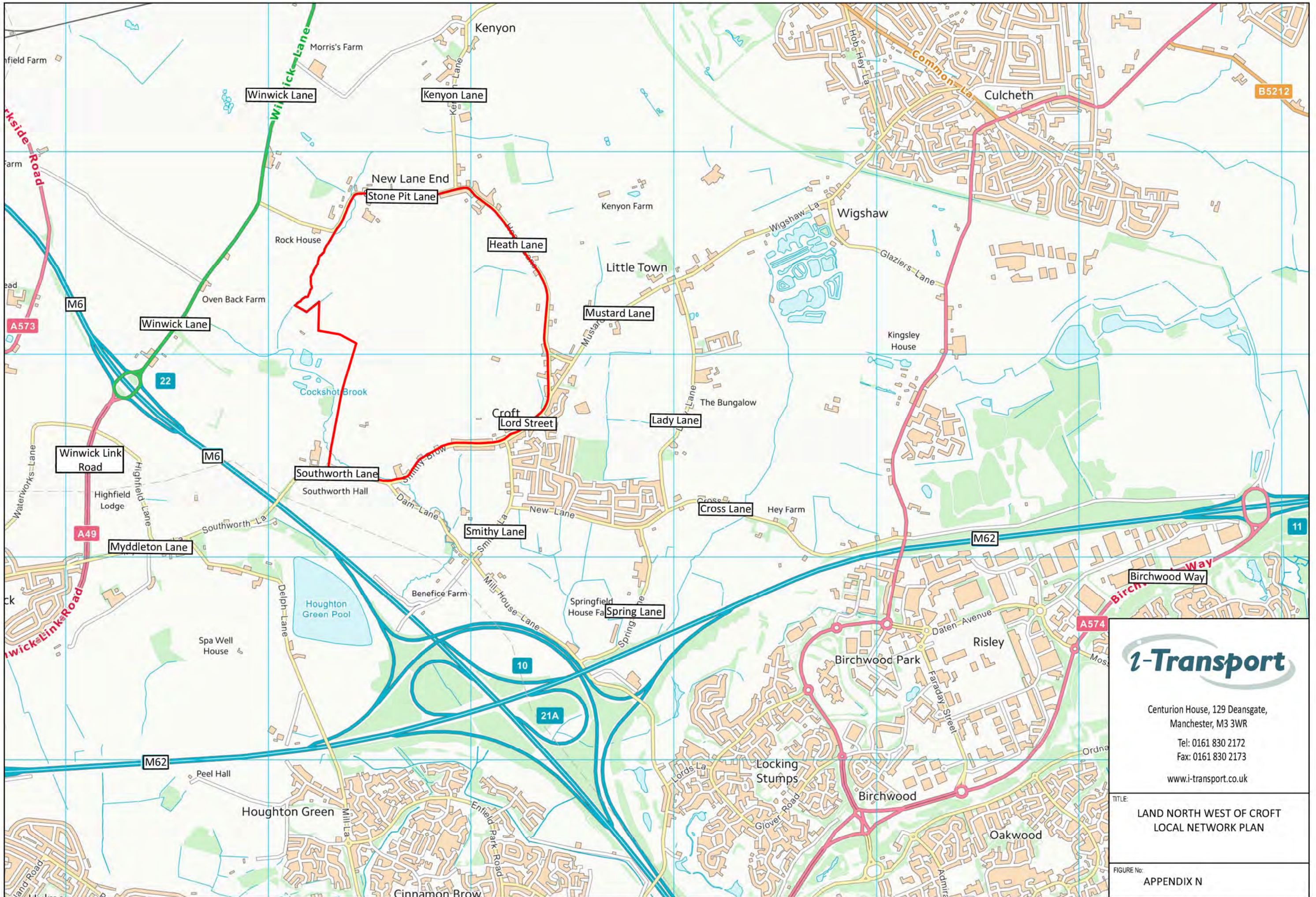
KEY

= AM PEAK (PCUs)

= PM PEAK (PCUs)

Notes:

APPENDIX N. Local Highway Network Plan



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TITLE:
**LAND NORTH WEST OF CROFT
 LOCAL NETWORK PLAN**

FIGURE No:
APPENDIX N

