

L. Historic environment report



Cambridge Waste Water Treatment Plant Relocation

Stage 4 Final Site Selection: Historic
Environment Assessment

November 2020

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Executive summary

Following the results of Stage 3: Fine Screening for the relocation of Cambridge Waste Water Treatment Plant (WWTP), three sites (site areas 1, 2 and 3) were identified as best performing when assessing the outcome of screening across all disciplines. Detailed additional screening of the three shortlisted sites is being undertaken, alongside consultation, to determine the best performing site for the project.

This Stage 4 – Final Site Selection focusses on the potential for impact on the historic environment for the three shortlisted sites. This report provides a baseline for each of the three site areas and presents an initial impact appraisal, which identifies the potential for impact on the built historic environment, historic landscape and on archaeology for each of the three site areas, and their associated infrastructure. Based on this initial impact appraisal and the criteria set out in the methodology section of this report (section 2), each site area has been assigned a Red, Amber or Green (RAG) outcome.

This report provides a more detailed assessment of the three shortlisted sites than was provided at Stage 3, including: a more detailed baseline, a site walkover, and potential impacts on heritage assets identified within a 10km Zone of Theoretical Visibility (ZTV) for the tallest part of the proposed scheme (based on a digester height of c.26m at an indicative location within the indicative WWTP footprint).

Based on the criteria described in section 2 and the impact appraisal in section 4, the RAG outcome for the development of the proposed scheme at **site area 1** is **AMBER**. This is due to the potential for moderate or major impact on archaeological remains of moderate value associated with Iron Age and Roman activity and potential impact on the grade I listed Church of All Saints from change within its setting. With mitigation this rating would remain amber.

Based on the criteria described in section 2 and the impact appraisal in section 5, the RAG outcome for the development of the proposed scheme at **site area 2** is **AMBER**. This is due to the high potential for Iron Age and Roman archaeological remains. With mitigation this rating would remain amber.

Based on the criteria described in section 2 and the impact appraisal in section 6, the RAG outcome for the development of the proposed scheme at **site area 3** is **RED**. This is due to the potential impact on the setting of the Grade II* listed Biggin Abbey. With extensive mitigation, there is potential for this impact to be reduced to **AMBER**.

It is recommended that a tunnel is used instead of a pipeline for the treated effluent corridor to minimise impact on the historic environment, as this would have a lesser impact on buried archaeology. For sites 1 and 2 option A for the corridor is marginally preferable due to previous development within the corridor, which reduces the potential for archaeology as it is likely to have removed or truncated remains. These options do not affect the RAG outcomes above for each site.

1 Introduction

This historic environment report forms part of Stage 4 – Final Site Selection for the relocation of Cambridge Waste Water Treatment Plant (WWTP), conducted by Mott MacDonald for Anglian Water. This report identifies the potential historic environment impacts from the development of the new WWTP ('the proposed scheme') at each of the three shortlisted site areas. These three site areas have been selected for this stage of assessment based on the results of prior stages of site selection, also conducted by Mott MacDonald for Anglian Water, including the results of Stage 3: Fine Screening. This report provides a more detailed assessment of the three shortlisted site areas than was provided in stage 3, including: a more detailed baseline, the results of initial site surveys and potential impacts on designated heritage assets identified within a 10km Zone of Theoretical Visibility (ZTV) for the tallest part of the proposed scheme. This report also includes recommendations for mitigation at each of the proposed site areas (1, 2 and 3) and a reassessment of the likely impact on the historic environment if all mitigation is undertaken.

2 Methodology

This section outlines the methodology used in the production of this report.

2.1 Desk-Based Research

Information on the historic environment has been collected for each shortlisted site area, access routes, pipeline/tunnel options and diversions for the existing waste water transfer network.

The information collected comprised:

- Designated Heritage Assets – Those offered specific legal protection due to their heritage significance, which includes: World Heritage Sites, Listed Buildings, Locally Listed Buildings Scheduled Monuments, Registered Parks and Gardens, Registered Historic Battlefields and Conservation Areas.
- Non-Designated Heritage Assets – Those whose importance is acknowledged and are identified as having a degree of significance meriting consideration in planning decisions, but which are not formally designated assets, including: Historic Buildings, Historic Parks and Gardens, Monuments, Sites, Places, Areas and Landscapes.

Data relating to these assets was obtained from the following sources:

- The National Heritage List for England (NHLE) as held by Historic England¹;
- The Cambridgeshire Historic Environment Record (CHER);
- Geological Mapping information from The British Geological Society (BGS)²;
- Available online heritage and archaeology reports, including those held by the Archaeological Data Service³,
- A rapid historic walkover survey of the shortlisted sites; and
- Available online historic maps.

2.2 Study Area

For the purposes of the Stage 4 – Final Site Selection, a study area of 100m from the indicative boundary was used for non-designated assets identified within the CHER. This 100m study area was used to identify the potential for direct impact to non-designated heritage assets. Data was collected for up to 500m from the edge of each option. Where non-designated assets identified in the CHER in the wider context of site areas 1, 2 and 3 inform archaeological potential, historical development or background, these are also referenced in the text. However, non-designated assets outside of the 100m buffer have not been appraised for potential impact at this stage of the assessment. This study area is appropriate for the high-level appraisal of the options.

A study area of 500m from the indicative boundary of each of the site area options was used to identify the potential for impact to designated assets.

¹ Historic England (2020) *The National Heritage List for England* [online]. Available at: <https://historicengland.org.uk/listing/the-list/> (Accessed August 2020)

² British geological Society (2020) *Geological map of Britain* [online] Available at: www.mapapps.bgs.ac.uk (Accessed August 2020)

³ The Archaeological Data Service (2020) Available at: <https://archaeologydataservice.ac.uk/> (Accessed August 2020)

In addition, a Zone of Theoretical Visibility (ZTV) was produced to identify assets within 10km from which the relocated WWTP may be visible for all three site areas. This has been used to highlight additional assets with the potential to affect the Red, Amber or Green (RAG) outcome (see below) of the three site area options. For the purpose of the Stage 4 – Final Site Selection, the following assets within the ZTV have been appraised for setting impacts; grade II* and grade I buildings (and associated grounds if relevant), registered parks and gardens (all grades), scheduled monuments (where setting contributes to significance) and conservation areas. Non-designated assets and grade II listed buildings within the ZTV have not been considered at this stage, unless they fall within the stated study areas, due to the distance limiting the potential impacts on their settings.

This approach aims to apply a methodology proportionate to the level of this report and is anticipated to identify all assets within the ZTV that have the potential to increase the RAG rating of a site (see section 2.5). There are no world heritage sites or other designated heritage assets within the ZTV, therefore impacts on these have not been assessed. The ZTV uses an indicative location for the tallest part of the scheme, the digesters at an assumed 26m in height. This is not a finalised height or design but is intended to give an indication of where the proposed scheme may be visible, therefore assets identified in the ZTV at this stage of assessment may experience no impact following detailed design; similarly additional assets may be identified as the scheme/ZTV is refined. As listed building data is recorded as points, a 10m buffer was applied to these points when extrapolating data. This aims to better capture listed buildings that may fall within the ZTV, which have the potential to be impacted.

When assessing tunnel and pipeline corridors for the proposed site areas, all options have been considered (i.e. options A and B for site areas 1 and 2 are both considered in this report). A study area of 200m for designated assets has been used from the tunnel and pipeline corridors for the proposed sites, for the following reasons:

- This report is intended to provide a high-level assessment, additional impacts on designated assets outside this search area will be captured in detailed assessment, design and mitigation as part of an Environmental Impact Assessment (EIA) following site selection.
- This boundary captures direct impact (including potential for impact during construction, e.g. from vibration) which would result in major, moderate or minor impact to designated heritage assets.
- The potential for impacts relates to tunnels or buried pipelines, which are not anticipated to impact on the setting of any heritage asset after their construction.
- Additional impacts on designated assets outside this boundary are likely to be very small or negligible, relating to small temporary changes in setting.

A study area of 100m has been used for non-designated assets.

2.3 Site Survey

A rapid site walkover of each of the three site areas and key heritage assets relating to them was undertaken by a heritage professional from Mott MacDonald on Tuesday 18th August 2020 to inform this assessment.

2.4 Consultation

Consultation with stakeholders is ongoing. Where consultation comment has been received before the finalisation of this report it has been factored into site selection where relevant. This includes an initial response from the Cambridgeshire County Council Historic Environment Team and Historic England.

2.5 Assessment of Impact

An understanding of the value of heritage assets is required to assess the potential impact of the proposed scheme on the historic environment. Where the value of heritage assets is discussed, the following criteria have been used:

- High Value – a designated heritage asset of potentially national importance, including scheduled monuments, grade I and grade II* registered parks and gardens and grade I and II* listed structures.
- Moderate Value – a heritage asset of regional importance, including non-designated assets, conservation areas and listed buildings and registered parks and gardens with a grade II designation.
- Low value – non designated assets of local importance or no notable significance.

An initial impact appraisal has been undertaken using the following criteria, for an unmitigated and mitigated scenario. It must be noted that archaeological fieldwork and the ability to record the archaeological remains does not reduce the level of loss/impact.

Table 1: Criteria for assessing impact

Level of impact	Criteria
Major	Total loss or fundamental alteration to a heritage asset's significance or setting. Addition of new features that substantially alter the setting of a high value heritage asset.
Moderate	Partial loss or alteration to a heritage asset or its setting. Addition of new features that form largely inconspicuous elements in the setting of a high value heritage asset to the extent that its significance is slightly impacted.
Minor	Minor loss of an element of a heritage asset or its setting. Addition of new features that form largely inconspicuous elements in the setting of a moderate value heritage asset to the extent that its significance is slightly impacted.
Negligible	Very minor loss of elements of a heritage asset or its setting. Addition of new features that do not alter the setting of a heritage asset.
No change	No change to the heritage asset.

An overall Red/Amber/Green (RAG) assessment was given to each of the site area options. The criteria for the defining the overall score is defined below.

Table 2: RAG criteria for historic environment

Green	Amber	Red
No anticipated impact on non-designated and designated heritage assets. Potential negligible to moderate impact on non-designated assets of low value. Potential negligible to minor impacts on non-designated and designated assets of moderate value.	Potential major impact on non-designated asset of low value. Potential moderate to major impact on non-designated and designated assets of moderate value. Potential negligible to minor impacts on designated and non-designated assets of high value.	Potential for moderate to major impact on non-designated and designated assets of high value.

Comment is made within the impact appraisal sections of this report as to how this assessment relates to the planning terminology of no harm, less than substantial harm and substantial harm. This is intended to inform how this assessment relates to planning context. It should be noted that this terminology may not always provide a useful representation of anticipated impact due to broad categories, and should be understood in the context of the explanatory text and assessment as described above, rather than taken alone.

3 Planning Policy and Legislation

3.1 Legislation

The following legislation is of relevance to the proposed relocation of the WWTP with regard to the historic environment.

3.1.1 Planning (Listed Building and Conservation Areas) Act (1990)

This Act sets out the protection given to buildings of special architectural or historic interest through listing. It also sets out the process for designation of conservation areas, which are recognised as areas of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance.

3.1.2 Ancient Monuments and Archaeological Areas Act (1979)

This Act sets out the legal protection given to archaeological remains in England, Scotland and Wales. The Act outlines the process for scheduling and the protections afforded scheduled monuments and other ancient monuments.

3.2 National Policy Statement (NPS) for Waste Water (2012)

The National Policy Statement (NPS) for Waste Water was issued in March 2012⁴ and sets out the government policy for the provision of major water infrastructure. This framework is the primary basis against which consent for waste water developments that fall within the definition of Nationally Significant Infrastructure Projects (NSIP) as defined in the Planning Act 2008⁵ are decided.

Section 4.10 is concerned with the historic environment. Paragraphs 4.10.1 to 4.10.6 introduce the standard for what is considered to be included in the historic environment, what constitutes a heritage asset and guidance for including non-designated assets in impact assessment. Discussion of heritage assets within this report is conducted in line with the terminology included in these paragraphs.

Paragraphs 4.10.7 to 4.10.9 set out the requirements for the historic environment for the applicant when applying for consent, these relate to the Environmental Statement (ES) which should be prepared and related reports (e.g. desk-based assessment) and are:

4.10.7 “As part of the ES the applicant should provide a description of the significance of the heritage assets affected by the proposed development and the contribution of their setting to that significance. The level of detail should be proportionate to the importance of the heritage assets and no more than is sufficient to understand the potential impact of the proposal on the significance of the heritage asset. As a minimum the applicant should have consulted the relevant Historic Environment Record and assessed the heritage assets themselves using expertise where necessary according to the proposed development’s impact.”

4.10.8 “Where a development site includes, or the available evidence suggests it has the potential to include, heritage assets with an archaeological interest, the applicant should carry

⁴ H M Government (2012) *National Policy Statement for Waste Water*. Via: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69505/pb13709-waste-water-nps.pdf (accessed July 2020)

⁵ H M Government (2008) *Planning Act*. Via: <https://www.legislation.gov.uk/ukpga/2008/29/contents> (accessed July 2020)

out appropriate desk-based assessment and, where such desk based research is insufficient to properly assess the interest, a field evaluation. Where proposed development will affect the setting of a heritage asset, representative visualisations may be necessary to explain the impact."

4.10.9 *"The applicant should ensure that the extent of the impact of the proposed development on the significance of any heritage assets affected can be adequately understood from the application and supporting documents."*

Whilst these requirements relate to later stages of assessment for the proposed scheme, this report aims to identify the potential for the impacts described above, including heritage assets and archaeology with the potential to be impacted, at each of the three potential sites (site area 1, site area 2 and site area 3).

Paragraphs 4.10.10 to 4.10.17 identify the impacts that should be accounted for during the decision-making process. Of relevance to the historic environment and the proposed scheme are the following:

4.10.11 *"In considering the impact of a proposed development on any heritage assets, the decision maker should take into account the particular nature of the significance of the heritage assets, and the value that they hold for this and future generations. This understanding should be used to avoid or minimise conflict between conservation of the significance and proposals for development."*

4.10.12 *"The decision maker should take into account the desirability of sustaining and, where appropriate, enhancing the significance of heritage assets, the contribution of their settings and the positive contribution they can make to sustainable communities and economic vitality. The decision maker should take into account the desirability of new development making a positive contribution to the character and local distinctiveness of the historic environment. The consideration of design should include scale, height, massing, alignment, materials and use. The decision maker should have regard to any relevant local authority development plans or local impact report on the proposed development..."*

4.10.13 *"There should be a presumption in favour of the conservation of designated heritage assets and the more significant the designated heritage asset, the greater the presumption in favour of its conservation should be. Once lost, heritage assets cannot be replaced and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Loss affecting any designated heritage asset should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated assets of the highest significance, including Scheduled Monuments, registered battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional."*

4.10.14 *"Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of development, recognising that the greater the harm to the significance of the heritage asset the greater the justification will be needed for any loss. Where the application will lead to substantial harm to or total loss of significance of a designated heritage asset the decision maker should refuse consent unless it can be demonstrated that the substantial harm to or loss of significance is necessary in order to deliver substantial public benefits that outweigh that loss or harm."*

4.10.15 *"Not all elements of a World Heritage Site or Conservation Area will necessarily contribute to its significance. The policies in paragraphs 4.10.10 – 4.10.14 apply to those*

elements that do contribute to the significance. The decision maker should take into account the relative significance of the element affected and its contribution to the significance of the World Heritage Site or Conservation Area as a whole.”

4.10.16 *“Where the decision maker considers that the loss of significance of any heritage asset has been justified by the applicant based on the merits of the new development, they should consider imposing a requirement on the consent, or requiring the applicant to enter into an obligation, that will prevent the loss occurring until it is reasonably certain that the relevant part of the development is to proceed.”*

4.10.17 *“When considering applications for development affecting the setting of a designated heritage asset, the decision maker should treat favourably applications that preserve those elements of the setting that make a positive contribution to, or better reveal the significance of, the asset. When considering applications that do not do this, the decision maker should weigh any negative effects against the wider benefits of the application. The greater the negative impact on the significance of the designated heritage asset, the greater the benefits that will be needed to justify approval.”*

Paragraphs 4.10.18 to 4.10.21 detail the framework for the mitigation and recording requirements for the application relating to the historic environment. Due to the aims and nature of this report, it does not detail recommended recording or mitigation relating to the historic environment. Therefore, these paragraphs are not of relevance to this report.

3.3 Local Planning Policy

The following local planning policy applies to all shortlisted site options (site areas 1, 2 and 3).

3.3.1 South Cambridgeshire Local Plan

The South Cambridgeshire Local Plan was adopted in 2018⁶ and applies to the whole of the South Cambridgeshire district until 2031; this contains all three shortlisted sites. The following policies from this local plan are of relevance to the proposed scheme with regard to the historic environment.

Policy NH/14: Heritage Assets

- 1. Development proposals will be supported when:**
 - a.** *They sustain and enhance the special character and distinctiveness of the district's historic environment including its villages and countryside and its building traditions and details;*
 - b.** *They create new high quality environments with a strong sense of place by responding to local heritage character including in innovative ways.*
- 2. Development proposals will be supported when they sustain and enhance the significance of heritage assets, including their settings, as appropriate to their significance and in accordance with the National Planning Policy Framework, particularly:**
 - a.** *Designated heritage assets, i.e. listed buildings, conservation areas, scheduled monuments, registered parks and gardens;*
 - b.** *Non-designated heritage assets including those identified in conservation area appraisals, through the development process and through further supplementary planning documents;*

⁶ South Cambridgeshire District Council (2020) *South Cambridgeshire Local Plan 2018*. Via: www.scambs.gov.uk/planning/local-plan-and-neighbourhood-planning/the-adopted-development-plan/south-cambridgeshire-local-plan-2018 (accessed August 2020)

- c. The wider historic landscape of South Cambridgeshire including landscape and settlement patterns;*
- d. Designed and other landscapes including historic parks and gardens, churchyards, village greens and public parks;*
- e. Historic places;*
- f. Archaeological remains of all periods from the earliest human habitation to modern times.*

4 Site area 1

4.1 Baseline

4.1.1 Site Location

Site area 1 is located north-west of Milton and south-west of Landbeach. It is located over Akeman Street/ Mere Way, which follows the route of a Roman Road. It is surrounded on all sides by agricultural land, with the A10 and Landbeach Road close to the east and Butt Lane close to the south. The pipeline corridor to Waterbeach runs north-east, to the east of Landbeach. The waste water transfer pipeline corridor to the existing Cambridge WWTP runs south-east. There are two proposed treated effluent pipeline corridors for site area 1. Option A runs south-east following a similar route to the waste water transfer corridor. Option B runs east, to the north of Horningsea.

4.1.2 Previous Assessment

Site area 1 was referred to as Site I in prior stages of screening for the relocation of the WWTP. Site area 1 underwent an initial archaeology and built heritage appraisal during Stage 2: Coarse Screening and Stage 3: Fine Screening. Site area 1 was assessed as Amber during Stage 2, due to the high archaeological potential associated with Mere Way Roman Road and potential for assets of moderate value within the site boundaries. Site area 1 was again assessed as Amber during Stage 3 due to the Roman Road and high archaeological potential.

4.1.3 Topography and Geology

The bedrock geology is Gault Formation – Mudstone, sedimentary bedrock formed approximately 101 to 113 million years ago. The overlying drift is largely unrecorded, with some inclusions of River Terrace Deposits, 4 - Sand and Gravel, formed up to 3 million years ago.

The topography of site area 1 is mostly level and low, at 9-10m AOD. The land rises slightly in the south towards Butt Lane. Mere Way, a former Roman road and modern trackway, bisects site 1, which is largely farmland.

4.1.4 Historical Development

There is limited early prehistoric evidence for occupation in the study area for site area 1. The exception to this is a single Mesolithic blade (CHER: 05273) which was recovered within 100m of site area 1. No substantial artefact scatters or monuments relating to the Neolithic – Early Bronze Age periods have been recovered within the study area for site area 1. There is some evidence for the use of the wider landscape by early prehistoric peoples, but little within the immediate context of site area 1. There was limited Neolithic material recovered during excavations at Milton Landfill, to the south, however this site was dominated by later prehistoric and Roman activity.⁷

Bronze Age and Iron Age activity is identified in the CHER data for site area 1. No monuments have been identified within the site, however a Bronze Age findspot is recorded (CHER: 08788A). Iron Age finds have been recovered in the wider setting of Site area 1. An aerial photography survey covering a large area at Limes Farm, Landbeach, 250m north-east of site

⁷ Cambridgeshire County Council Archaeological Field Unit (1995) *Evaluation at Milton Landfill Site*.

area 1, found numerous cropmarks⁸. Some of these were later investigated revealing an Iron Age ditched enclosure system⁹. This is evidence of Iron Age activity in the broader landscape, in sites with similar topography and geology, but not of activity directly within the study area for site area 1. Also, in the wider context of the site, considerable prehistoric activity was recovered in excavations for Milton Landfill, largely dating to the Iron Age period and continuing into Roman occupation.

Mere Way/Akeman Street is a Roman Road, which has been in continuous use since this period and is still in use today. Findspots within the study area for site area 1 largely relate to the Roman period and are likely associated with the use of this route. To the south, at Milton Landfill, occupation of the identified Iron Age site continued into the Roman period. This is consistent with the trend of the reutilisation of Iron Age settlement, by Roman invaders as well as the continued use of existing farmsteads by Romano British peoples. The former Roman road bisects site area 1 (to the west of the indicative WWTP location), increasing the potential for additional Roman remains within site area 1. A field walking survey which extended into site area 1, in the south-west corner, found cropmarks and pottery relating to Roman activity.

To the north in Landbeach is a shrunken medieval village (NHLE: 1006870) with surviving areas south-west and north-east of the modern settlement. Occupation of a settlement at Landbeach likely dates to at least the early medieval period, possibly due to the accessibility of the location from Mere Way/ Akeman Street Roman Road. The population peaked into the 11th, 12th and 13th centuries, resulting in the large area which is scheduled representing the former village (NHLE: 1006870). Population declined at Landbeach from the 14th century, before rising again c.1550 when new cottages were constructed on former waste land. Some 16th and 17th century buildings still survive within Landbeach. New building throughout the post-medieval period has largely not expanded into the surrounding farmland but remained around the settlement core. The roads to Cambridge/Ely and to Waterbeach are believed to originate in the post-medieval period, therefore Mere Way/ Akeman Street was likely the main access route to the settlement prior to the construction of these.¹⁰ Today, the settlement is smaller than many surrounding villages, with semi-rural town character centred around one main street and surrounded by open farmland on all sides and contains a conservation area. The church spire is dominant within internal views in Landbeach.

The earliest available historic maps¹¹ of the area show site area 1 under agricultural use. Two medieval findspots are identified in the CHER within the boundary of site area 1, however no medieval sites have been identified. It is likely that the area was under agricultural use from at least the medieval period and may have been farmed to serve the medieval village. Agricultural land use of the site area has continued into the modern period, with no substantial non-agricultural features or structures recorded on historic mapping.¹²

To the south-east the settlement at Milton is larger than that to the north, separated from Cambridge and the existing WWTP by the A14. The A10 borders the settlement to the east and creates a disconnect between site area 1 and the settlement. Like much surrounding settlement it has developed on a raised gravel platform, with evidence of use since the Mesolithic period. The current settlement at Milton was established some time prior to 1066, when the timber churches were replaced with stone. It expanded between the 13th and 17th centuries, with some

⁸ Air Photo Services, Cambridge (1999) *AP assessment, Limes Farm, Landbeach*.

⁹ Palmer, R. and Connor, A. (2000) *An Iron Age ditched enclosure system at Limes farm, Landbeach, Cambridgeshire*. *Antiquity* 74; 284 (p281-282).

¹⁰ A P M Wright and C P Lewis (1989) 'Landbeach: Introduction', in *A History of the County of Cambridge and the Isle of Ely: Volume 9* pp. 138-141. Via: British History Online <http://www.british-history.ac.uk/vch/cambs/vol9/pp138-141> (accessed August 2020)

¹¹ Historic maps accessed via: www.old-maps.co.uk

¹² Historic maps accessed via: www.old-maps.co.uk

post-medieval properties remaining today, including a cluster of 16th and 17th century dwellings near All Saint's Church. In the second world war, land surrounding Milton was used for barracks, a rail depot and a POW camp.¹³ The A10 Milton Bypass was constructed in the late 20th century and the A14 c.1990, separating Milton from Cambridge. It is bordered to the east by the River Cam. The character of Milton is more modern than settlements further into the South Cambridgeshire countryside, however there are areas of strong historic character in key locations, such as surrounding the Church of All Saints.

Today the site area is used for agriculture, with the exception of the Mere Way route, which is a pedestrian and cycle track.

4.1.5 Designated Assets

The details of all designated assets within the study area for site area 1 are given in the gazetteer in Appendix A.1.

4.1.5.1 Site area 1

There are no designated assets located within site area 1, or within 500m of site area 1. The nearest designated asset (c.700m north-east) is:

- Baptist Chapel, grade II listed (NHLE: 1179106).

Designated assets within 500m of site area 1 can be viewed in map 409071-MMD-00-XX-GIS-Y-0472 in Appendix C.1.

4.1.5.2 ZTV for site area 1

In the given criteria (see methodology in section 2) within the ZTV for site area 1 there are:

- 33 grade I listed buildings
- 34 grade II* listed buildings
- 28 scheduled monuments
- One grade I registered park and garden
- Six grade II* registered parks and gardens
- Ten grade II registered parks and gardens
- 22 Conservation Areas

Designated assets within the ZTV for site area 1 can be viewed in map 409071-MMD-00-XX-GIS-Y-0473 in Appendix C.1.

4.1.5.3 Waterbeach transfer pipeline

Assets within the study area for all pipeline corridors for site area 1 can be viewed in map 409071-MMD-00-XX-GIS-Y-0474 in Appendix C.1.

There are no designated assets within the pipeline corridor. Within the 200m study area of the proposed corridor for the Waterbeach transfer pipeline for site area 1 are the following designated assets:

- Baptist Chapel (NHLE:1179106), the same grade II listed building as discussed above
- The Limes, a grade II listed property in Landbeach (NHLE: 1127389)

¹³ Booth, D. (2017) *A Brief History of Milton*. Via: www.milton.org.uk/a-brief-history-of-milton (Accessed August 2020)

4.1.5.4 Treated Effluent Pipeline Option A

There are no designated heritage assets within treated effluent pipeline corridor option A, or within 200m of the pipeline.

4.1.5.5 Treated Effluent Pipeline Option B

There are no designated heritage assets within treated effluent pipeline corridor option B. Within the 200m study area for the treated effluent pipeline corridor option B are the following designated assets:

- Multi-phased settlement east of Milton, a scheduled monument (NHLE: 1457437)
- Lodge to Milton Hall, a grade II listed building (NHLE: 1331320)

4.1.5.6 Access Road

There are no designated heritage assets within the corridor proposed for access to site area 1, or within 200m.

4.1.5.7 Diversions for the Existing Waste Water Transfer Network

There are no designated heritage assets within the corridor for the diversions for the existing waste water transfer network, or within 200m.

4.1.6 Non-Designated Assets

The sections below outline all non-designated assets within the study area for site area 1. These assets are detailed in the gazetteer in Appendix B.1.

Non-designated assets within the study area for site area 1 can be viewed in map 409071-MMD-00-XX-GIS-Y-0475 in Appendix C.1.

4.1.6.1 Site area 1

There are no non-designated assets within the CHER within site area 1. Four non-designated assets are identified within 100m, as follows:

- Mesolithic flint blade, Milton (CHER: 05273)
- Roman Pottery, Milton (CHER: 05273A)
- Medieval Pottery, Milton (CHER: 05273B)
- Post-medieval Pottery, Milton (CHER: 05273C)

In addition, Mere Way/ Akeman Street Roman Road, which may with its associated features hold moderate value, is located running north-south through the centre of site area 1, between 10 and 30m west of the indicative site boundary.

Site area 1 is also located north-west of Milton Cemetery. This cemetery is first shown on historic mapping from 1901 and is considered a heritage asset of local importance, and therefore a low value heritage asset. The countryside setting of the cemetery to the north and west contributes to the sense of place of the cemetery, which are traditionally peaceful and isolated. The presence of the A10 bypass to the south has introduced noise within this setting.

4.1.6.2 Waterbeach transfer pipeline

Assets within the study area for all pipeline corridors for site area 1 can be viewed in map 409071-MMD-00-XX-GIS-Y-0474 in Appendix C.1.

Within the proposed Waterbeach transfer pipeline corridor and 100m of this, there are ten non-designated assets identified in the CHER:

- Cropmarks near Landbeach (CHER: 08317)
- Roman pottery and coin, Landbeach (CHER: 08314)
- Cropmark ditches, Lime Farm (CHER: 11175)
- Cropmark complex, Lime Farm, Landbeach (CHER: 08312a)
- Roman cropmark evidence, Landbeach (CHER: 08844)
- Roman ditch, Landbeach (CHER: 05343)
- Roman cropmark site, Landbeach (CHER: 08847)
- RAF Waterbeach (CHER: CB15155)
- Roman settlement and cemetery, Area 6, Waterbeach Barracks (CHER: MCB24602)
- Roman finds, Waterbeach (CHER: 11331)

4.1.6.3 Treated Effluent Corridor Option A

Within the treated effluent pipeline corridor for site area 1 Option A, there are six non-designated assets identified in the CHER, dating from the Iron Age period to the Second World War. These are:

- Roman finds concentration, Butt Lane, Milton (CHER: MCB17609)
- Iron Age - Romano-British settlement, Milton Park and Ride (CHER: MCB18209)
- Medieval windmill, Milton Park and Ride (CHER: MCB18210)
- Ridge and furrow, S of Butt Lane, Milton (CHER: MCB17518)
- Cropmark enclosure, Milton (CHER: 08320)
- WWII vehicle depot, Trinity Farm, Milton (CHER: MCB17527)

Within 100m of this pipeline are an additional three assets, one is post medieval and two are Roman; one of which (CHER: 05281) has an associated inhumation. These are;

- Post-Medieval and undated features, St. John's Innovation Park, Cowley (CHER: 08330)
- Roman settlement, Milton (CHER: 05281)
- Roman pottery and ditches, Milton (CHER: 05308)

4.1.6.4 Treated Effluent Corridor Option B

Within the treated effluent pipeline corridor for site area 1 Option B, there are nine assets dating from the Roman period to the second World War. These are:

- Site of Rectory Farm, Milton (CHER: MCB27069)
- Milestone, Ely Road, Milton (CHER: MCB18343)
- Cropmark complex, Milton (CHER: 08471)
- Roman pottery, Milton (CHER: 05538)
- Roman site, Penfold Farm (CHER: 08873)
- Roman site, Penfold Farm (CHER: 08313)
- Romano-British features, Cambridge Rowing Lake site (CHER: MCB16009)
- Destroyed pillbox, N of Milton (CHER: MCB27485)
- Destroyed pillbox, N of Milton (CHER: MCB27483)

Within 100m of this corridor are an additional eight assets dating from the prehistoric period to the Second World War. These are:

- Possible rectilinear feature, Milton (CHER: 08315)
- Dubious linear features, Milton (CHER: 08316)
- Roman urns, Horningsea (CHER: 05547)
- Prehistoric remains, Cambridge Rowing Lake site (CHER: MCB16002)
- Flint implement, Horningsea (CHER: 05404)
- Roman pottery scatter, Milton (CHER: MCB17094)
- Destroyed pillbox, N of Milton (CHER: MCB16401)
- Earthwork remains Ridge and furrow, N and NW of Horningsea village (CHER: 05615)

4.1.6.5 Waste water transfer corridor

The following assets are located within the waste water transfer corridor:

- WWII vehicle depot, Trinity Farm, Milton (CHER: MCB17527)

The following assets are located within the 100m study area for the waste water transfer corridor:

- Roman finds concentration, Butt Lane, Milton (CHER: MCB17609)
- Iron Age - Romano-British settlement, Milton Park and Ride (CHER: MCB18209)
- Medieval windmill, Milton Park and Ride (CHER: MCB18210)
- Ridge and furrow, S of Butt Lane, Milton (CHER: MCB17518)
- Cropmark enclosure, Milton (CHER: 08320)
- Post-Medieval and undated features, St. John's Innovation Park, Cowley (CHER: 08330)
- Post-medieval boundary ditch, St John's Innovation Park, Cambridge (CHER: MCB15916)
- Cropmark site, Fen Ditton (CHER: 08327)
- Multi-period finds, A45 Girton to Stow cum Quy fieldwalking survey, field 6 (CHER: 11193)
- Medieval settlement remains, Fen Ditton (CHER: 05535)
- Extractive Pit, Off Green End (CHER: MCB20562)
- Public air raid shelters, Fen Ditton (CHER: MCB25354)
- Roman cropmark system, Horningsea (CHER: 11555)
- Roman pottery, A45 Quy fieldwalking survey field 16 (CHER: 11203)
- Ridge and Furrow, Abbots Ditch Field (CHER: MCB6677)
- Medieval pottery, A45 fieldwalking project field 10 (CHER: 11197)

4.1.6.6 Access Road

There are two non-designated assets within the access area for site area 1, both relating to findspots:

- Roman pottery, Milton (CHER: MCB6755)
- Mesolithic flint blade, Milton (CHER: MCB6424)

An additional five assets are identified in the CHER as being within 100m of the access area for site area 1, mostly relating to Roman settlement at Milton landfill:

- Ridge and furrow, S of Butt Lane, Milton (CHER: MCB17518)

- Medieval windmill, Milton Park and Ride (CHER: MCB18210)
- Iron Age - Romano-British settlement, Milton Park and Ride (CHER: MCB18209)
- Roman finds concentration, Butt Lane, Milton (CHER: MCB17609)
- Roman bronze jug handle, Milton (CHER: 08778)

4.1.6.7 Diversions for Existing Waste Water Transfer Network

There are two non-designated heritage assets within the corridor for the diversions for the existing waste water transfer network, as follows:

- Former Impington Hall Park and Gardens (HER: 12129)
- Tile finds, A45 Girton to Stow cum Quy fieldwalking survey, Field 22 (HER: 11209)

4.1.7 Archaeological Potential

4.1.7.1 Site area 1

There is moderate potential for archaeological remains of the prehistoric period, with two existing CHER points in the study area and further activity identified by archaeological investigation. The numerous prehistoric remains recovered at Milton Landfill demonstrate the high archaeological potential for remains of this period within the context of site area 1 and of Mere Way.

There is a very high potential for archaeological remains relating to the Romano-British period, due to the site area's location adjacent to Mere Way/Akeman Street Roman Road. Roadside Romano-British activity is anticipated, based on the precedent for findspots within the area and the activity identified adjacent to Mere Way at Milton Landfill.

There is a low potential for early medieval remains, as there is no specific evidence for early medieval activity within site area 1 or its immediate surroundings.

There is moderate to high archaeological potential relating to medieval and post medieval agriculture, as this land use is believed to date back to the medieval period. If recovered, agricultural remains are likely to inform of local farming practices but not have significance beyond this and therefore be of low value. There is low potential for remains of other nature dating to the medieval and post-medieval period.

There is low potential for archaeological remains dating to the modern period within site area 1, as there is no recorded land use associated with this period within the study area, with the exception of continuation of agricultural practice.

4.1.7.2 Waterbeach transfer pipeline

The Waterbeach transfer pipeline has high potential for Roman and Late Iron Age archaeology in the south, surrounding site area 1. In addition, the route crosses through an identified crop mark enclosure, likely late prehistoric (CHER: 08314) and two further cropmark settlements, likely Roman. Therefore, there is high potential for archaeology relating to this period along much of the pipeline.

There is also moderate potential for medieval and post medieval remains to the east of Landbeach, associated with the settlement. However, it is likely this land was mostly used for agriculture in these periods.

To the north of the pipeline corridor it crosses centrally through the remains of the former RAF Waterbeach (CHER: CB15155) There is high potential for second world war remains associated with this.

4.1.7.3 Treated Effluent and Waste water Transfer Corridors

Due to the depth of the tunnels for the treated effluent and waste water transfer corridors there is low potential for archaeological remains relating to all periods to be present within these routes. At the access to these tunnels from the site the archaeological potential is the same as discussed above in section 4.1.7.1 until at sufficient depth to be below the archaeological horizon. The output for the waste water transfer corridor has low potential due to prior development in this area. The outputs for options A and B for the treated effluent corridor have low potential for in situ remains due to the presence of the river, and the negative impact of moving water on the survival of archaeological remains. However, the river has been in use since the prehistoric period, with use for transport of goods in particular. Therefore, some remains may be encountered.

If pipelines are used instead of tunnels for the treated effluent corridor, there is greater archaeological potential due to the shallower depth. Options A and B for the treated effluent corridor all have high potential for late prehistoric and Roman archaeology north of the A10. Option A for the waste water transfer corridor has moderate potential for roman and second world war remains. Option B has moderate to high potential for roman remains across its route, except adjacent to the road and railway.

4.1.7.4 Access Road

The access area for site area 1 has high potential for archaeological remains relating to the Late Iron Age and Roman periods, associated with Mere way / Akeman Street Roman Road and the prevalent late prehistoric and early roman activity in the immediate area.

4.1.7.5 Diversions for the Existing Waste Water Transfer Network

The diversion corridor has moderate potential archaeological remains relating to the Late Iron Age and Roman periods, associated with Mere way / Akeman Street Roman Road and the prevalent late prehistoric and early roman activity in the immediate area. The corridor has high potential for archaeological remains relating to the former post-medieval Impington hall park and later post-medieval agriculture.

4.2 Site walkover survey

Site area 1 was surveyed on Tuesday 18th August 2020. Full access was not possible along Mere Way due to road works, however the western half of the site area could be partially observed. This western half of the site area was covered with polytunnels at the time of survey. Mere Way is a wide byway lined with trees, hedges and scrub. It was noted on the site visit that it is in regular use by pedestrians, dog walkers and cyclists.

Figure 4.1: Site 1 polytunnels. Mere Way tree line visible



Source: Mott MacDonald (2020)

Significant road noise was observed from the A10 and the A14. Viewed from the A10, the eastern part of site area 1 was observed to be open farmland. Mere Way is delineated in this landscape by the tall tree/hedge line. The spire of All Saints Church is visible across site area 1 from the A10 (over the Mere Way tree line).

Figure 4.2: Site 1 looking north west. Spire of All Saints Church visible over tree line.



Source: Mott MacDonald (2020)

4.3 Impact Appraisal

This section describes the potential for impact on the historic environment if the proposed scheme is developed at site area 1.

4.3.1 Site area 1

There is potential for all assets identified within the ZTV to experience a negligible to minor impact to their significance as a result of change within their setting. The extent of this impact will depend on the design of the final scheme. As the ZTV has been produced assuming the

tallest height of the new WWTP (26m relating to the height of digesters in an indicative location), assets identified may not be impacted by the final scheme; similarly additional assets may be identified at later stages.

The grade I and II* assets in closest proximity to site area 1 mostly do not fall within the ZTV, therefore the potential for impact to their setting is much lower. High value designated assets identified within the ZTV are mostly at greater distance (1km+) without direct or historic connection to site area 1, therefore change in setting is likely to result in small or negligible, if any, impact to these assets. The exception to this is the grade I listed parish Church of All Saints (NHLE: 1127385) in Landbeach. The spire of this church was designed to dominate within views in the village and be a prominent landscape feature. There is potential that the construction of the digesters at site area 1 may draw attention from the height of the spire, which could result in impact on an asset of high value.

The nearest conservation area is Landbeach Conservation Area. The setting of Landbeach Conservation Area relative to farmland surrounding it makes a positive contribution to its value, due to its historical connection to buildings within the conservation area. Part of this setting would be altered by the construction of the CWWTP at site area 1. However, the area altered represents only part of this element of the setting of the conservation area and does not immediately abut it, therefore this context would not be entirely removed from the setting of the conservation area. The construction of CWWTP at site area 1 has the potential to impact views towards the Landbeach Conservation Area from the south, by detracting from the country feel of existing views. The above considerations for the Church of All Saints are also of consideration for Landbeach Conservation Area, in which it sits. Other listed buildings within the conservation area are mostly of moderate value. It is unlikely that views extending outwards from the conservation area would experience substantial change from the construction of the WWTP at site area 1. Views outward from the conservation area are mostly directed along two key routes; east to west on Cockfen Lane and Waterbeach Road and north-north-west to south-south-east on High Street and Green End. The tallest elements of the WWTP may be visible from within the green space at the centre of the village, although it is not anticipated to dominate when within this space. In an unmitigated form, the WWTP has the potential to change how the village centre is experienced and by introducing urbanising elements. Therefore, this may result in impact to the conservation area. Unmitigated, construction of the WWTP at the indicative footprint within site area 1 is likely to result in a minor impact to the significance of Landbeach Conservation Area, a moderate value heritage asset, as a result of a change within its setting.

There is high archaeological potential for Iron Age and Roman remains within site area 1 related to the presence of a Roman Road (Mere Way/Akeman Street) and the known archaeology of the landscape surrounding the site area. Therefore, construction of the proposed scheme at site area 1 represents the potential for truncation or removal of these remains, if present. This could result in a moderate to major impact on a non-designated asset of moderate value. There are no anticipated impacts on any scheduled monument, the nearest being the Shrunk Medieval Village of Landbeach (NHLE: 1006870), which is located over 1km north. These remains are buried, without above ground earthworks relating to the setting, their value being derived from their archaeological interest and its associated context with the surviving historic core of Landbeach (located adjacent to the scheduled area). Therefore, it is anticipated that there will be no impact on the setting or context of the asset from the construction of the WWTP in site area 1.

The presence of the WWTP has the potential to impact the setting of Milton Cemetery, by impacting the peaceful sense of place by altering the countryside setting. The peaceful sense of

place is however already disturbed by road noise from the A10 to the south. Dependant on the scheme design, there is potential for a minor to moderate impact on a low value heritage asset.

4.3.2 Waterbeach transfer pipeline

The pipeline to Waterbeach is unlikely to impact the designated assets identified within the study area for it, with the exception of a temporary change in their setting. However, the pipeline route has very high archaeological potential for remains across multiple periods along its route. Where archaeological remains are present, these remains would be truncated or removed by excavations for the Waterbeach transfer pipeline. There is potential for Iron Age and Roman remains along most of the pipeline, in addition to remains associated with RAF Waterbeach. Therefore, the Waterbeach transfer pipeline for site area 1 has the potential to result in moderate to major impact to unknown archaeological remains of low and moderate value.

4.3.3 Treated Effluent and Waste water Transfer Corridors

There is no anticipated impact on designated assets from the Waste water Transfer Corridor for site area 1, or the Treated Effluent Corridor, if this is a tunnel. There is unlikely to be an impact on archaeology from below ground works to create the tunnels for these routes, due to their depth and low potential at their outputs.

If pipelines are excavated from the top down this presents the risk of moderate to major impact to unknown and known archaeological remains of moderate value, due to recorded and potential late prehistoric and Roman archaeology on all routes. Within the corridor for Option A, there is an asset with associated inhumation; this option therefore may present greater potential impact to the historic environment than Option B. Option B, however, has greater archaeological potential along its entire length due to being located in a less developed area.

A tunnel is preferable to a pipeline as it would result in a lesser impact to buried archaeology, there is no strong preference between the corridor options, however option A is anticipated to result in slightly lesser impact to the historic environment due to previous development within this corridor. These impacts do not affect the overall RAG rating of the site.

4.3.4 Access Road

The access route for site area 1 has the potential to remove or truncate archaeology relating to the Iron Age and Roman periods. Therefore, there is potential for moderate to major impact of unknown archaeological remains of potentially moderate value.

4.3.5 Diversions for the Existing Water Transfer Network

The diversions for the existing waste water transfer network have the potential to remove or truncate archaeology relating to the Iron Age and Roman periods, as well as the post-medieval period. Therefore, there is potential for moderate to major impact of unknown archaeological remains of potentially moderate value, and likely low value.

4.4 RAG Outcome

Based on the criteria described in section 2 and the above impact appraisal, the RAG outcome for the development of the proposed scheme at site area 1 is **AMBER**.

4.4.1 Reason for RAG outcome

The primary reason for the Amber rating for site area 1 is the high archaeological potential for Roman and Iron Age remains. This results in a likelihood of moderate to major impact to

archaeological remains which may be of low to moderate value, which amounts to substantial harm in accordance with the NPS.

In addition, the pipeline to Waterbeach encounters remains identified in the CHER with potentially moderate value and would result in a moderate to major impact to these. Therefore, the excavation for the pipeline to Waterbeach is anticipated to result in substantial harm to assets of low to moderate value.

In addition, potential for impact to the grade I listed Parish Church of All Saints contributes to the RAG outcome. The change within its setting is likely to result in minor impact to a designated heritage asset of high value. Additionally, minor impact to the grade II listed Baptist Chapel from change within its setting contributes to this outcome. In accordance with the NPS, this amounts to less than substantial harm to designated heritage assets.

4.5 Mitigation

4.5.1 Proposed mitigation

Design considerations should aim to minimise change within the setting of designated heritage assets, with particular consideration to the grade I listed Parish Church of All Saints. Strategic planting and other landscaping between the WWTP and these designated assets may soften the visual impact, especially in conjunction with design measures for the buildings. Buildings and structures over 10m, including the digesters, should be designed to be the minimal feasible height, to further reduce impact on the setting of heritage assets. The exterior of tall elements should be designed to retreat into the landscape, for example by using gradated painting. This mitigation would also reduce potential impact on the Landbeach Conservation Area.

Archaeological investigation would be required if site area 1 is selected. The extent of this investigation would be dependent on the results of further assessment and site survey, as well as consultation with the relevant stakeholders. This is likely to include geophysical survey and archaeological trial trenching as a minimum. Archaeological investigation, importantly, does not amount to mitigation as the remains would still be removed by the proposed scheme; the potential for impact to the buried archaeological remains is therefore the same. However, this does not undermine the importance of undertaking archaeological investigation.

Geophysical survey, trial trenching and/or other survey may identify areas of greater archaeological potential or specific remains of moderate value within the site area. This may allow for the targeting of building and service locations to reduce impact on buried archaeology. However, as the landscape contains a high density of remains and the historic environment is not the only factor of consideration in the scheme design, this is unlikely to materially reduce the potential for impact.

4.5.2 Mitigated RAG Outcome

The proposed mitigation would reduce potential impact on the setting of the grade I listed Parish Church of All Saints. The proposed archaeological mitigation would reduce harm to the historic environment and comply with the requirements of planning policy, however this would not alter the impact on archaeology which results in the RAG rating for the site area. Therefore, even with mitigation in place, site area 1 would still receive an **AMBER** rating.

5 Site area 2

5.1 Baseline

5.1.1 Site Location

Site area 2 is located in farmland between Impington/Histon and Milton. The Waterbeach transfer pipeline corridor runs north before joining the same route as proposed for site area 1. There are two pipeline corridor options for treated effluent from site area 2. Option A runs north, then west, then south, then west, joining a similar route to option A for site area 1. Option B curves to the north-east, north of Milton. The waste water transfer corridor to the existing WWTP runs north, before curving back to the south and taking a similar route as site area 1.

5.1.2 Topography and Geology

The bedrock geology is Gault Formation – Mudstone, sedimentary bedrock formed approximately 101 to 113 million years ago. The superficial geology is primarily River Terrace Deposits, 3 – Sand and Gravel, formed up to 3 million years ago. The topography of site area 2 is mostly level, at 11-14m AOD. The land rises slightly in the south towards a number of hedgerows which divide the farmland in the area.

5.1.3 Previous Assessment

Site area 2 was referred to as Site J in prior stages of screening for the relocation of the WWTP. Site area 2 underwent an initial archaeology and built heritage appraisal during Stage 2: Coarse Screening and Stage 3: Fine Screening, from a longlist of potential relocation sites. Site area 2 was assessed as Amber during Stage 2, due to the high archaeological potential associated with Mere Way Roman Road and potential for assets of moderate value within the site boundaries. Site 2 was again assessed as Amber during Stage 3, due primarily to its high archaeological potential.

5.1.4 Historical Development

Late prehistoric and Roman remains have been identified adjacent to site area 2. During archaeological investigation prior to the construction of Milton Landfill site, evidence of prehistoric and Romano-British settlement was found (CHER: CB15707, MCB19563, CB15711, MCB19987, CB15708, MCB19987, 10211A, 10211E). The vast majority of these features were Iron Age or Roman. Mere Way/ Akeman Street is a known Roman Road, still in use as a route today, and it is likely that Roman activity identified in the area relates to this route.

The wider landscape surrounding site area 2 also shows late prehistoric and Roman activity. The site shown on historic maps as 'site of camp' at King's Hedges is likely prehistoric, but there is little mention of it in available online resources. This is likely due to development at King's Hedges in the mid-20th century, as the last map showing earthworks dates to 1959. There is a precedent for prehistoric, multi-phase hillforts that are later reused in the Romano-British period in the area, for example Arbury Hillfort followed this pattern and was located approximately 1.5km south of site area 2. This site has since been lost underneath the Orchard Park development.¹⁴ The earthworks shown on historic maps adjacent to site area 2 may be

¹⁴ Historic England (2015) *Arbury Camp*. Via: www.pastscape.org.uk/hob.aspx?hob_id=372005 (accessed August 2020).

Romano-British additions or may show use of the Mere Way route predating the roman road. The roman road crosses north-south through the eastern portion of site area 2.

There is little evidence for activity in the early medieval period, however there is evidence for the use of site area 2 during the medieval and post-medieval periods. Ridge and furrow within the site boundaries (CHER: MCB20022) is indicative of agricultural use of the site during the medieval period. Site area 2 is located in closer proximity to Milton, to the west, than site area 1. The history of the development of Milton is described above in section 4.1.4. Site area 2 also lies in proximity to Impington to the east, and Histon beyond. The land at Histon and Impington belonged to a series of large manors and estates from the 11th century AD until the late post-medieval period. The land was mostly under agricultural use during this period, serving the villages under the manor's control.¹⁵ However, the land at site area 2 was eventually incorporated into Impington Hall park and gardens (CHER: 12129), which covers the whole of site area 2 and beyond to the west.

Impington Hall Park and Gardens (CHER:12129) originates in the early post medieval period. Impington Hall was located to the south of the settlement, and at one time had 34 hectares of formal gardens and associated parkland. The formal gardens were in existence by 1661, by 1770 canals had been constructed in the grounds and an ornamental lake was also later added. Some of these features still survived on mapping by the late 19th century, however within site area 2 there is little evidence of ornamental features such as these. By the time the area was first mapped, the park had been reduced to a much smaller area in the west, and the land within site area 2 was in agricultural use. There are several trackways leading to Impington Hall Park and Gardens displayed on post medieval maps. During the early 20th century, a building existed within site area 2; this may have been a house or could have related to Impington Hall and was built adjacent to Mere Way. The building has since been demolished and the area has been returned to agricultural use. Hedgerows now divide the land and there is little evidence of the former park and gardens, with the exception of some boundary banks (CHER: MCB25715), although these themselves may relate to the prior agricultural use of the site area. The house was also demolished in the 20th century¹⁶, therefore these grounds no longer relate to an extant building.

During the Second World War, the Cambridgeshire countryside was utilised for various defensive purposes. It was suitable for vehicle storage, rail depots and airfields due to the level topography and was strategically situated a short distance from London, the east coast and the centre of England as well as populous Cambridge. The former site of the Trinity Second World War Depot (CHER: MCB17527) extends into the eastern part of site area 2. This depot was used partially for tank and vehicle storage and may also have contained a POW camp late in the war. It is believed amphibious vehicles used in the D-Day landings were housed here. The facility was demolished in the post-war period and little evidence remains above ground, however below ground deposits associated with the depot may still be present.¹⁷

Today, the land use is agricultural, divided into several fields. The route of Mere Way is still utilised as a pedestrian and cycling track.

¹⁵ A P M Wright and C P Lewis (198) 'Histon: Manors and other estates', in *A History of the County of Cambridge and the Isle of Ely: Volume 9*. Via: British History Online www.british-history.ac.uk/vch/cambs/vol9/pp94-97 (accessed August 2020)

¹⁶ Parks and Gardens (2020) *Impington Hall, Cambridgeshire*. Via: <https://www.parksandgardens.org/places/impington-hall-cambridge> (accessed August 2020)

¹⁷ CHER record: WWII vehicle depot, Trinity Farm, Milton, MCB17527.

5.1.5 Designated Assets

This section outlines the designated assets within the study area for site area 2. The details of all designated assets within the study area for site area 2 are given in the gazetteer in Appendix A.2.

5.1.5.1 Site area 2

There are no designated assets located within site area 2 or its respective pipeline corridors. There are no designated assets within 500m of site area 2.

The study area for designated assets for site area 2 can be seen in map 409071-MMD-00-XX-GIS-Y-0476 in Appendix C.2.

5.1.5.2 ZTV for site area 2

In the given criteria (see methodology) within the ZTV for site area 2 there are:

- 29 grade I listed buildings;
- 33 grade II* listed buildings;
- 30 scheduled monuments;
- 1 grade I registered park and garden;
- 7 grade II* registered parks and gardens;
- 9 grade II registered parks and gardens;
- 20 Conservation Areas

Heritage assets within the ZTV for site area 2 can be viewed in map 09071-MMD-00-XX-GIS-Y-0477 in Appendix C.2.

5.1.5.3 Waterbeach transfer pipeline

Heritage assets within the study area for all pipeline corridors for site area 2 can be seen in map 409071-MMD-00-XX-GIS-Y-0478 in appendix C.2.

Within the 200m study area for the proposed corridor for the Waterbeach transfer pipeline for site area 2 are the following:

- Baptist Chapel (NHLE:1179106), the same grade II listed building as discussed above for site area 1.
- The Limes (NHLE: 1127389), the same grade II listed building as discussed above for site area 1.

5.1.5.4 Treated Effluent Corridor Option A

There are no designated heritage assets within 200m of treated effluent pipeline corridor option A.

5.1.5.5 Treated Effluent Corridor Option B

Within the study area for the treated effluent pipeline corridor option B are the following;

- Multi-phased settlement east of Milton, a scheduled monument (NHLE: 1457437), as discussed above for site area 1.
- Lodge to Milton Hall, a grade II listed building (NHLE: 1331320), as discussed above for site area 1.

5.1.5.6 Waste water Transfer Corridor

There are no designated assets within the study area for the waste water transfer pipeline corridor for site area 2

5.1.5.7 Access Road

There are no designated heritage assets within the corridor proposed for access to site area 2, or within 200m of this.

5.1.5.8 Diversions for the Existing Waste Water Transfer Network

There are no designated heritage assets within the corridors proposed for the diversion for the existing waste water transfer network, or within 200m of these.

5.1.6 Non-Designated Assets

The below outlines all non-designated assets within the study area for site area 2. These assets are detailed in the gazetteer in Appendix B.2.

5.1.6.1 Site area 2

The following non-designated assets were identified within the HER as being within the indicative site boundary for site area 2:

- Impington Hall park and garden, Impington (CHER: 12129)

The following non-designated assets were identified as being within 100m of this boundary:

- Medieval and post-medieval boundary banks east of Impington (CHER: MCB25715)
- Former Ridge and furrow, Milton (CHER: MCB20022)
- WWII vehicle depot, Trinity Farm, Milton (CHER: MCB17527)
- Iron Age remains (Area C), Milton Landfill Site (CHER: CB15708)
- Features at Milton Landfill Site (CHER: MCB19563)
- Post medieval finds, A45 Girton to Stow cum Quy fieldwalking survey, Field 23 (CHER: MCB13191)

In addition, Mere Way/ Akeman Street Roman Road, which may with its associated features hold moderate value, is located running north-south at the eastern boundary of site area 2.

Non-designated heritage assets within the study area for site area 2 can be seen in map 409071-MMD-00-XX-GIS-Y-0479 in appendix C.2.

5.1.6.2 Waterbeach transfer pipeline

Heritage assets within the study area for all pipeline corridors for site area 2 can be seen in map 409071-MMD-00-XX-GIS-Y-0478 in appendix C.2.

No assets were identified within the HER as being within the proposed pipeline corridor to Waterbeach. Within 100m of Waterbeach transfer pipeline corridor 23 monuments and findspots dating from the prehistoric period to the second world war were identified, these are:

- Medieval and post-medieval boundary banks east of Impington (CHER: MCB25715)
- Cropmarks near Landbeach (CHER: 08317)
- Roman pottery and coin, Landbeach (CHER: 08314)
- Cropmark ditches, Lime Farm (CHER: 11175)

- Cropmark complex, Lime Farm, Landbeach (CHER: 08312a)
- Roman cropmark evidence, Landbeach (CHER: 08844)
- Roman ditch, Landbeach (CHER: 05343)
- Roman cropmark site, Landbeach (CHER: 08847)
- RAF Waterbeach (CHER: CB15155)
- Roman settlement and cemetery, Area 6, Waterbeach Barracks (CHER: MCB24602)
- Roman finds, Waterbeach (CHER: 11331)
- Cropmarks near Landbeach (CHER: 08317)
- Roman pottery and coin, Landbeach (CHER: 08314)
- Cropmark ditches, Lime Farm (CHER: 11175)
- Cropmark complex, Lime Farm, Landbeach (CHER: 08312a)
- Roman cropmark evidence, Landbeach (CHER: 08844)
- Roman ditch, Landbeach (CHER: 05343)
- Roman cropmark site, Landbeach (CHER: 08847)
- RAF Waterbeach (CHER: CB15155)
- Roman settlement and cemetery, Area 6, Waterbeach Barracks (CHER: MCB24602)
- Roman finds, Waterbeach (CHER: 11331)

5.1.6.3 Treated effluent corridor option A

There are seven assets identified in the HER within proposed treated effluent corridor option A for site area 2. These mostly relate to Iron Age and Roman activity around the route of Mere Way (CHER: MCB18209, MCB17518, 07610, MCB17609, as well as Trinity WWII Vehicle Depot (CHER: MCB17527). These are:

- WWII vehicle depot, Trinity Farm, Milton (CHER: MCB17527)
- Iron Age - Romano-British settlement, Milton Park and Ride (CHER: MCB18209)
- Medieval windmill, Milton Park and Ride (CHER: MCB18210)
- Ridge and furrow, S of Butt Lane, Milton (CHER: MCB17518)
- Section through Akeman Street Roman road, Milton (CHER: 07610)
- Cropmark enclosure, Milton (CHER: 08320)
- Roman finds concentration, Butt Lane, Milton (CHER: MCB17609)

Nine features relating to the Mesolithic to post-medieval periods were identified within 100m of proposed treated effluent corridor option A. The roman site (CHER: 05281) has an associated inhumation.

- Post-Medieval and undated features, St. John's Innovation Park, Cowley (CHER: 08330)
- Roman settlement, Milton (CHER: 05281)
- Roman pottery and ditches, Milton (CHER: 05308)
- Mesolithic flint blade, Milton (CHER: 05273)
- Roman pottery, Milton (CHER: 05273A)
- Medieval pottery, Milton (CHER: 05273B)
- Post-medieval pottery, Milton (CHER: 05273C)
- Mesolithic flint blade, Milton (CHER: 05273)
- Roman pottery, Milton (CHER: 05538)

5.1.6.4 Treated effluent corridor option B

There are nine non-designated assets were located within the treated effluent corridor option B for site area 2, these are;

- Site of Rectory Farm, Milton (CHER: MCB27069)
- Milestone, Ely Road, Milton (CHER: MCB18343)
- Cropmark complex, Milton (CHER: 08471)
- Roman pottery, Milton (CHER: 05538)
- Roman site, Penfold Farm (CHER: 08873)
- Roman site, Penfold Farm (CHER: 08313)
- Romano-British features, Cambridge Rowing Lake site (CHER: MCB16009)
- Destroyed pillbox, N of Milton (CHER: MCB27485)
- Destroyed pillbox, N of Milton (CHER: MCB27483)

Within 100m of the treated effluent corridor are the following;

- Possible rectilinear feature, Milton (CHER: 08315)
- Dubious linear features, Milton (CHER: 08316)
- Roman urns, Horningsea (CHER: 05547)
- Prehistoric remains, Cambridge Rowing Lake site (CHER: MCB16002)
- Flint implement, Horningsea (CHER: 05404)
- Roman pottery scatter, Milton (CHER: MCB17094)
- Destroyed pillbox, N of Milton (CHER: MCB16401)
- Earthwork remains Ridge and furrow, N and NW of Horningsea village (CHER: 05615)

5.1.6.5 Waste water Transfer Corridor

Within the waste water transfer corridor for site area 2 seven assets were identified, which all relate to assets already discussed above. These are:

- WWII vehicle depot, Trinity Farm, Milton (CHER: MCB17527)
- Cropmark enclosure, Milton (CHER: 08320)
- Ridge and furrow, S of Butt Lane, Milton (CHER: MCB17518)
- Medieval windmill, Milton Park and Ride (CHER: MCB18210)
- Iron Age - Romano-British settlement, Milton Park and Ride (CHER: MCB18209)
- Roman finds concentration, Butt Lane, Milton (CHER: MCB17609)
- Section through Akeman Street Roman road, Milton (CHER: 07610)
- Impington Hall park and garden, Impington (CHER: MCB14254)

An additional six assets were identified within 100m of this corridor, mostly already discussed above, with the addition of two post-medieval agricultural features at St Johns Innovation Park. These assets are:

- Iron Age - Romano-British settlement, Milton Park and Ride (CHER: MCB18209)
- Cropmark enclosure, Milton (CHER: 08320)
- Roman finds concentration, Butt Lane, Milton (CHER: MCB17609)
- Post-Medieval and undated features, St. John's Innovation Park, Cowley (CHER: 08330)

- Post-medieval boundary ditch, St John's Innovation Park, Cambridge (CHER: MCB15916)
- Furrows and Undated Ditch at St Johns Innovation Park, Cowley Road, Cambridge (CHER: MCB20105)

5.1.6.6 Access Road

Within the access area for site area 2, the following non-designated assets identified in the CHER:

- Former Ridge and furrow, Milton (CHER: MCB20022)
- Impington Hall park and garden, Impington (CHER: MCB14254)
- Section through Akeman Street Roman road, Milton (CHER: 07610)
- Roman finds concentration, Butt Lane, Milton (CHER: MCB17609)
- Iron Age - Romano-British settlement, Milton Park and Ride (CHER: MCB18209)
- Medieval windmill, Milton Park and Ride (CHER: MCB18210)

The following non-designated assets are identified in the CHER within 100m of the access for site area 2:

- Ridge and furrow, S of Butt Lane, Milton (CHER: MCB17518)
- Cropmark enclosure, Milton (CHER: 08320)
- Neolithic and Bronze Age remains (Area D), Milton Landfill Site (CHER: CB15698)
- Iron Age remains (Area D), Milton Landfill Site (CHER: CB15709)
- Iron Age and Roman activity at Milton Landfill (CHER: MCB19987)
- Iron Age remains (Area C), Milton Landfill Site (CHER: MCB15708)
- Features at Milton Landfill Site (CHER: MCB19563)

5.1.6.7 Diversions for the Existing Waste Water Transfer Network

There are two non-designated assets within the corridors for the diversions for the existing waste water transfer network as follows:

- Former Impington Hall Park and Gardens (HER: 12129)
- Tile finds, A45 Girton to Stow cum Quy fieldwalking survey, Field 22 (HER: 11209)

5.1.7 Archaeological Potential

5.1.7.1 Site area 2

There is low-moderate archaeological potential for remains relating to the Palaeolithic, Mesolithic and Neolithic and Bronze Age periods. There is limited precedent for remains for this period within the site boundary and the context of site area 2. Amounting to a single Mesolithic findspot (CHER: 05273) and limited Neolithic/ Bronze Age evidence at Milton landfill.

There is very high potential for Iron Age and Roman remains at site area 2. The Roman road bisects the site, and there is evidence within the immediate surroundings (at Milton Landfill) of roadside settlement relating to it. In addition, numerous findspots within the study area for site area 2 relate to the Roman period.

There is a low potential for early medieval remains, as there is no specific evidence for early medieval activity within site area 2 or its immediate surroundings.

There is moderate potential for remains relating to the medieval period, although the use of the area for Impington Park makes evidence of settlement in this period unlikely. Additionally, it is likely that there was agricultural land use for site area 2 during the medieval period, and this reduces the likelihood of recovering archaeological monuments or finds, as the land use would not have been intense.

There is a high potential for remains relating to the post medieval period, due to the presence of post medieval farmsteads and trackways in the area, and also due to the presence of a post medieval or modern building on historic maps within the boundary of site area 2.

5.1.7.2 Waterbeach transfer pipeline

The Waterbeach transfer pipeline for site area 2 follows the same route as for site area 1 up to a point south of Landbeach, and therefore has the same potential as described 4.1.7.2. It then extends further into an area of high potential relating to extensive Late Iron Age and Roman activity in the landscape surrounding site area 2.

5.1.7.3 Treated Effluent and Waste water Transfer Corridor

Due to the depth of the tunnels for the Treated Effluent and Waste water Transfer Corridors there is low potential for archaeological remains relating to all periods to be present within these routes. At the access to these tunnels from the site the archaeological potential is the same as discussed above in section 5.1.7.1. The output for the waste water transfer corridor has low potential due to prior development in this area. The outputs for options A and B for the treated effluent corridor has low potential for in situ remains due to the presence of the river, and the negative impact of moving water on the survival of archaeological remains. This is much the same as for site area 1.

Options A and B for the treated effluent corridor all have high potential for late prehistoric and roman archaeology north of the A10. The archaeological potential for all of these corridors is much as for the routes for site area 1, as described in section 4.1.7.3, due to the similarity between the routes. Both options cover a greater area within the butt lane area, resulting in greater area with high potential to contain roman and late prehistoric remains, than for the same option for site area 1.

5.1.7.4 Access Road

The access area for site area 2 has high potential for archaeological remains relating to the Late Iron Age and Roman periods, associated with Mere way / Akeman Street Roman Road and the prevalent late prehistoric and Early Roman activity in the immediate area.

5.1.7.5 Diversions for the Existing Waste Water Transfer Network

The diversion corridors have moderate potential archaeological remains relating to the Late Iron Age and Roman periods, associated with Mere way / Akeman Street Roman Road and the prevalent late prehistoric and early roman activity in the immediate area. This potential is slightly greater north of Butt Lane, where there has been less post-medieval disturbance of the ground. The corridor has moderate potential for archaeological remains relating to the former post-medieval Impington hall park, as it covers only a small amount of its former extent, and high potential for remains relating to post-medieval agriculture.

5.2 Site Walkover Survey

A site walkover survey was undertaken on Tuesday 18th August 2020. A complex of farm buildings not previously identified (located 200m east of site area 2), which is dated to 1905,

and now comprise the Wendy House Nursery, was observed and can be understood as a non-designated heritage asset.

Figure 5.1: 1905 Farm buildings (Wendy House Nursery)



Source: Mott MacDonald (2020)

The fields which comprise site area 2 were observed as lined with mature trees; this is likely a remnant of the former historic parkland. Further evidence of the former parkland was identified on New Road, where the park (brick) wall and former gatehouse survives (now developed).

In views towards Impington from site area 2, modern housing contained on the eastern edge of the Impington Conservation Area was partially visible through gaps in the tree line in the north area of the scheme. No historic assets were visible.

Figure 5.2: View west from site 2 towards Impington



Source: Mott MacDonald (2020)

To the south, the A14 is visible from within site area 2. The embankment is raised within the flat landscape and traffic on the A14 may be observed from within the site area. This embankment travels over the route of Mere Way to the south of the site area, via a bridge. Mere Way itself

was observed as a wide footpath lined by trees and scrub. The A14 was noted as a source of noise within the site area.

Figure 5.3: View of Mere Way going under A14 embankment



Source: Mott MacDonald (2020)

The fields had been recently ploughed at time of survey. Only recent material was observed in the plough soil and no archaeological remains were identified.

5.3 Impact Appraisal

This section describes the potential for impact on the historic environment if the proposed scheme is developed at site area 2.

5.3.1 Site area 2

There is potential for all assets identified within the ZTV to experience a negligible to minor impact to their significance as a result of change within their setting. As there are no designated assets within 500m of the site area, it is anticipated that most impacts on assets identified would be minor or negligible. The extent of this impact will depend on the design of the final scheme. As the ZTV has been produced using the maximum tallest height of the new WWTP (26m relating to an indicative height for the digesters), assets identified at this stage may not be impacted by the final proposed scheme if this site is selected; similarly additional assets may be identified at a later date. Assets of high value in the settlements beyond this radius are largely not within the ZTV due to screening from other buildings. Where they are within the boundaries of the ZTV, this is largely within a small isolated area of visibility, rather than an area where the WWTP would be dominant in views throughout. Therefore, the anticipated impact on most designated heritage assets is negligible to minor, as a result of change within long views and their setting.

External views from the Impington – St Andrew's Conservation Area may be altered by the construction of the WWTP at site area 2. However, the farmland setting of the conservation area is also retained to the north, there are established hedgerows and tree lines which would disrupt intervisibility and the indicative footprint is adjacent to Milton Landfill. These factors reduce the potential for impact. Despite this, due the proximity of the site area, and height of some elements, the construction of an unmitigated WWTP at site area 2 may result in minor to moderate impact to the significance of the conservation area, a moderate value asset. Most

assets within the conservation area are shielded by planting and buildings, however their setting is tied to the conservation area.

There is high archaeological potential for Iron Age and Roman remains within site area 2 related to the presence of a Roman Road (Mere Way/Akeman Street) and the known archaeology of the surrounding area. Therefore, the construction of the proposed scheme at site area 2 represents the potential for truncation or removal of these remains, if present. This could result in a moderate to major impact on a non-designated asset of moderate value.

Change in setting is likely for the non-designated complex of farm buildings comprising the Wendy House nursery which dated to 1905. This is likely to result in moderate impact to a non-designated asset of low value.

5.3.2 Waterbeach transfer pipeline

As much of the pipeline route to Waterbeach is the same as for site area 1, most of the potential impacts on the historic environment are the same as described in section 4.3.2. In addition, the extension from the route for site area 1 to the site area 2 area has potential for archaeological remains of moderate value, which could experience a moderate to major impact.

5.3.3 Treated Effluent and Waste water Transfer Corridors

There is no anticipated impact on designated assets from the Waste water Transfer Corridor for site area 2, or the Treated Effluent Corridor, if this is a tunnel. As for site areas 1 and 3, there is unlikely to be an impact on archaeology from below ground works to create the tunnels for these routes, due to their depth and low potential at their outputs. Treated effluent corridor option A has no designated assets within its study area, whereas there are two designated assets within the study area for option B. However, both are located to the edge of the study area and any impact from vibration from tunnelling is likely to amount to negligible or minor impact to these assets.

If pipelines are excavated from the top down this presents the risk of moderate to major impact to unknown and known archaeological remains of moderate value, due to recorded and potential late prehistoric and Roman archaeology on all routes. The impacts are likely to be the same as described for site area 1, as described in section 4.3.3, with additional likelihood of impact to archaeology due to the corridors for site area 2 covering a greater area.

A tunnel is preferable to a pipeline as it would result in a lesser impact to buried archaeology, there is no strong preference between the corridor options, however option A is anticipated to result in slightly lesser impact to the historic environment due to previous development within this corridor. These impacts do not affect the overall RAG rating of the site.

5.3.4 Access Road

The access route for site area 2 has the potential to impact unknown archaeology relating to the Iron Age and Roman periods. Therefore, there is potential for moderate to major impact, due to removal or truncation, of unknown archaeological remains of low or moderate value.

5.3.5 Diversions for the Existing Waste Water Transfer Network

The diversions for the existing waste water transfer network have the potential to remove or truncate archaeology relating to the Iron Age and Roman periods, as well as the post-medieval period. Therefore, there is potential for moderate to major impact of unknown archaeological remains of potentially moderate value, and likely low value.

5.4 RAG Outcome

Based on the criteria described in section 2 and the above impact appraisal, the RAG outcome for the development of the proposed scheme at **site area 2** is **AMBER**.

5.4.1 Reason for RAG outcome

The outcome of the RAG assessment on site area 2 relates to the archaeological potential for Roman and prehistoric remains. The relocation of WWTP to site area 2 would result in moderate to major impact to archaeological remains of potentially moderate value. The pipeline to Waterbeach encounters remains identified in the HER with potentially moderate value and would result in moderate to major harm to these. In both instances this amounts to substantial harm to assets of low and moderate value, in accordance with the NPS.

5.5 Mitigation

5.5.1 Proposed mitigation

Archaeological investigation would be required if site area 2 is selected. The extent of this investigation would be dependent on the results of initial surveys but is likely to include geophysical survey and archaeological trial trenching as a minimum. This does not amount to mitigation, as discussed for site area 1.

Geophysical survey, trial trenching and/or other survey may identify areas of greater archaeological potential or specific remains of moderate value within the site area. This may allow for the targeting of building and service locations to reduce impact on buried archaeology. However, as the landscape contains a high density of remains and the historic environment is not the only factor of consideration in the scheme design this is unlikely to materially reduce the potential for impact, as for site area 1.

Strategic planting and other landscaping may reduce the impact of the proposed development on heritage assets, by reducing the change within their setting. However, as the impact on built heritage does not make substantial contribution to the amber outcome for site area 2 this would not reduce its mitigated RAG rating.

5.5.2 Mitigated RAG Outcome

The proposed mitigation would reduce harm to the historic environment and comply with the requirements of planning policy, however this would not alter the elements of the design which result in the RAG rating for the site area. Therefore, even with mitigation in place, site area 2 would still receive an **AMBER** rating.

6 Site area 3

6.1 Baseline

6.1.1 Site Location

Site area 3 is located south of Horningsea, north of the A14 and east of Stow cum Quy in an area of open farmland. The proposed Waterbeach transfer pipeline corridor runs north, to the east of Horningsea, before joining the Cam. The proposed treated effluent and waste water transfer corridors run west from the south of the site, towards north Cambridge. There are two options for vehicle access to the site; via Horningsea Road and via High Ditch Road.

The route via Horningsea Road is considered in the unmitigated scenario whereas the route via High Ditch Road is considered in the mitigation scenario as it is preferable from a transport perspective. Heritage considerations for both routes are discussed in this report.

6.1.2 Previous Assessment

Site area 3 was referred to as Site L in prior stages of screening for the relocation of the WWTP. Site area 3 underwent Stage 2: Coarse Screening and in Stage 3: Fine screening underwent an initial archaeology and built heritage appraisal. Site area 3 was assessed as Amber during Stage 2, due to high potential for significant archaeological remains of low, moderate and high value. Site area 3 was again assessed as Amber during Stage 3 due to potential for impact on the setting of designated heritage assets and high archaeological potential related to a significant expanse of Roman cropmarks.

6.1.3 Topography and Geology

The bedrock geology of site area 3 is West Melbury Chalk Formation formed approximately 94 to 101 million years ago in the Cretaceous Period. There is no record of superficial deposits at the site.

Site area 3 is located on area of slightly raised flat land (10m AOD) 800m to the North West of the River Cam and north-east the A14). The area is currently farmland and is comprised of several large plots divided by hedges and small trackways.

6.1.4 Historical Development

Site area 3 sits between two historic settlements situated along the east bank of the River Cam. Horningsea, 900m to the north, and Fen Ditton, 900m to the south, both sit on the road from Cambridge to Clayhithe and have historic precedent dating back to the prehistoric period. There is evidence of Iron Age habitation in Horningsea and Neolithic activity in Fen Ditton. The name of Fen Ditton was first recorded in around 950AD as Dittone, meaning "the village by the ditch". This is due to the Fleam Dyke which is a prehistoric ditch that passed through the village, showing at least early activity in this area. It is likely therefore that this area experienced prehistoric activity as evidenced by finds of Bronze Age Worked Flints (CHER: 07812) and other Multiperiod finds (CHER: 11194) dating from the Early Neolithic. Furthermore, the cropmarks (CHER: 11555) within site area 3, located near the road linking Fen Ditton to Horningsea, indicate a potential settlement.

There is significant evidence of Roman commercial activity in this area. The River Cam is known to have been navigated since at least Roman times therefore encouraging development

in this area. The nearest Roman villa has been found just to the west of Quy Hall. The scheduled monument of Car Dyke (NHLE: 1006930) is located 1km to the west. Car Dyke is an 85-mile (137 km) long ditch dating from the Roman period. The scheduled area (1km to the west) is the location where a Roman-era boat and cargo of pottery was discovered in the 1990s leading to assertions that Car Dyke functioned as a canal transporting goods from Horningsea to Lincoln. There have also been finds Roman finds, including a Roman copper coin (CHER: 05344) and other Multiperiod finds (CHER: 11194; CHER: 11193) within the site area. Extensive cropmarks are identified within the south of site area 3, possibly representing a villa and being highly indicative of settlement (CHER: 11555).

The extensive commercial use of the River Cam lent the use of raised platforms either side for industry. Horningsea, the nearest settlement to site area 3, to its north, was used between the 2nd and 4th centuries for the manufacture of pottery. A scheduled monument relating to this is recognised in the NHLE, Horningsea Kilns (NHLE: 1006895). Evidence for settlement at Horningsea in the early medieval period is scarce, however the village was either re-established or still thriving by the medieval period. The grade I listed village church, the Church of St Peter (NHLE: 1331295), was constructed in the A bridge is recognised at Horningsea in the 13th century and this key location as a crossing of the River Cam likely led to the expansion of settlement here. Farmhouses and residential properties were constructed through the latter medieval and the post-medieval periods, with several of these properties listed and extant today, along the major north-south road through the settlement.¹⁸ Today, Horningsea has historic, rural village character and is surrounded by open farmland on all sides except the west, which is bordered by the Cam.

The other two nearest settlements are Fen Ditton to the south and Stow cum Quy to the east. The road linking Fen Ditton to Horningsea (adjacent to the site) was first recorded in the 15th century but its raised position suggests it would have had earlier foundations. Fen Ditton was also likely occupied throughout the medieval and post-medieval periods, remaining a small settlement. The construction of the A14 c.1990 separated it from the land at site area 3. Stow cum Quy is a larger settlement, inhabited from at least the early medieval period. But remaining a small village (17 households at the Domesday Survey) until expansion in the late post-medieval period.¹⁹

Since its use in the Roman period, the land which comprises site area 3 appears to have been used primarily as agricultural land. It may have served Biggin Abbey, or one of the three mains settlements, being located almost centrally between these. Biggin Abbey is a grade II* listed building (NHLE: 1178408) with associated grounds and earlier earthworks of the lost reminder of the residence (CHER: 01095). The 14th and 17th century farmhouse, never used as an abbey, provided residence for the Bishops of Ely.

To the east, beyond Stow Cum Quy and towards Lode (which contains a conservation area), lies Anglesey Abbey (grade I listed, NHLE: 1331433). The abbey started as a hospital c.1135, but by the early 13th Century had been converted into an Augustinian priory. A community of monks lived here until the dissolution of the monasteries by King Henry VIII. In the early 17th century, the ruins of the former priory were converted into a stately home. The gardens and pleasure grounds were developed from the early 19th century, they survive today and are grade II* listed (NHLE: 1000611).

¹⁸ A F Wareham and A P M Wright (2002) 'Horningsea', in *A History of the County of Cambridge and the Isle of Ely: Volume 10, Cheveley, Flendish, Staine and Staploe Hundreds* pp. 160-163. Via: British History Online www.british-history.ac.uk/vch/cambs/vol10/pp160-163 (accessed August 2020)

¹⁹ A F Wareham and A P M Wright (2002) 'Stow Cum Quy', in *A History of the County of Cambridge and the Isle of Ely: Volume 10, Cheveley, Flendish, Staine and Staploe Hundreds* pp. 230-233. Via: British History Online www.british-history.ac.uk/vch/cambs/vol10/pp230-233 (accessed August 2020)

The Barnwell Junction to Mildenhall railway (disused) (CHER: 07633) was part of the Cambridge to Mildenhall line built by the Great Eastern Railway and opened in 1894. It was abandoned in the 20th century and is disused.

The land at site area 3 has continued under agricultural use to the present day.

6.1.5 Designated Assets

This section outlines the designated assets within the study area for site area 3. All designated assets within this study area are provided in Appendix A.3.

6.1.5.1 Site area 3

There are no designated assets located within the indicative boundary for site area 3. There are no designated assets located within 500m of this boundary. The nearest designated asset (c.910m north-west) is:

- Biggin Abbey (NHLE: 1178408), grade II* listed

The study area for designated assets can be viewed in map 409071-MMD-00-XX-GIS-Y-0480 in Appendix C.3.

6.1.5.2 ZTV for site area 3

In the given criteria (see methodology) within the ZTV for site area 3 there are:

- 31 grade I listed buildings;
- 27 grade II* listed buildings;
- 42 scheduled monuments;
- 1 grade I registered park and garden;
- 6 grade II* registered parks and gardens;
- 10 grade II registered parks and gardens; and
- 22 Conservation Areas.

In addition, the non-designated parkland of Quy Hall (NHLE: 1331325), falls within the ZTV and is located 1.2km east of site area 3.

Heritage Assets within the ZTV for site area 3 are shown in map 409071-MMD-00-XX-GIS-Y-0481 in Appendix C.3.

6.1.5.3 Waterbeach transfer pipeline

Heritage assets within the study area for all pipeline corridors for site area 3 are shown in map 409071-MMD-00-XX-GIS-Y-0482 in Appendix C.3.

Within the study area of the proposed corridor for the Waterbeach transfer pipeline for site area 3 are the following;

- 1 scheduled monument;
 - Horningsea Kilns, site of (NHLE: 1006895)
- 16 grade II listed buildings;
 - The Priory (NHLE: 1127374)
 - Village Pump to North of Shelter, (NHLE: 1331292)
 - 86 and 88, High Street (NHLE: 1331293)

- The Square (NHLE: 1178724)
- 52 and 54, High Street (NHLE: 1127375)
- Kings Hatch (NHLE: 1331294)
- K6 Telephone Kiosk (NHLE: 1223639)
- The Thatch (NHLE: 1302271)
- Kings Acre (NHLE: 1331291)
- Crown and Punch Bowl (NHLE: 1127376)
- The Old Rectory (NHLE: 1127377)
- Manor Farmhouse (NHLE: 1178774)
- Barn to North of Lock Farm (NHLE: 1179436)
- Granary to East of Eye Hall (NHLE: 1127368)
- Barn to East South East of Eye Hall (NHLE: 1127369)
- Eye Hall (NHLE: 1127411)

6.1.5.4 Treated Effluent Corridor

Within the study area for the treated effluent pipeline corridor are the following:

- Biggin Abbey, grade II* listed (NHLE: 1178408)
- Poplar Hall, grade II listed (NHLE: 1127400)
- Fen Ditton Conservation Area

6.1.5.5 Waste water Transfer Corridor

There are three designated assets located within the proposed waste water transfer pipeline corridor, as follows:

- Poplar Hall, grade II listed (NHLE: 1127400)
- Lode Cottage, grade II listed (NHLE: 1331301)
- 4, Green End, grade II listed (NHLE: 1127393)
- Fen Ditton Conservation Area

There is 1 additional designated asset within the 200m study area for the proposed waste water transfer pipeline corridor:

- Grassey Cottage, grade II listed (NHLE: 1127392)

6.1.5.6 Access Road

There are no designated heritage assets within the corridor proposed for access from Horningsea Road, or within 200m of this.

One designated asset is located within the proposed access for site area 3 from High Ditch Road:

- Milestone South West of Quy Mill at NGR 505 594 (NHLE: 1331307)

There are no other designated heritage assets within the corridor proposed for from High Ditch Road or within 200m of this.

6.1.6 Non-Designated Assets

The below outlines all non-designated assets within the study area for site area 3. These assets are detailed in the gazetteer in Appendix B.3.

6.1.6.1 Site area 3

Four non-designated assets were identified within the HER as being within the indicative site boundary for site area 3:

- Prehistoric pottery, A45 Quy fieldwalking survey field 8, Horningsea (CHER: 11195)
- Roman pottery, A45 Quy fieldwalking survey field 8, Horningsea (CHER: 11195A)
- Medieval pottery, A45 Quy fieldwalking survey field 8, Horningsea (CHER: 11195B)
- Post-medieval pottery, A45 Quy fieldwalking survey field 8, Horningsea (CHER: 11195C)

The following non-designated assets were identified as being within 100m of this boundary:

- Multiperiod finds, A45 Quy fieldwalking survey field 8, Horningsea (CHER: 11194)
- Ridge and furrow, Horningsea (CHER: 05611)
- Ridge and furrow, Horningsea (CHER: 05798)

Non-designated heritage assets within the study area for site area 3 are shown in map 409071-MMD-00-XX-GIS-Y-0483 in Appendix C.3.

6.1.6.2 Waterbeach transfer pipeline

Heritage assets within the study area for all pipeline corridors for site area 3 are shown in map 409071-MMD-00-XX-GIS-Y-0482 in Appendix C.3.

Three assets were identified within the pipeline corridor to Waterbeach: the site of a former tramway (CHER: MCB28303), the former Eye Hall Park and Garden (CHER: 12122) and Bronze Age rapiers and dirks (MCB27482). The latter is potentially of moderate value.

Five additional assets were identified in the HER within 100m of the pipeline corridor to Waterbeach, relating to Roman archaeology and sites associated with Eye Hall. These are:

- Roman settlement, Horningsea (CHER: 05402)
- Earthwork remains Ridge and furrow, N and NW of Horningsea village (CHER: 05615)
- Roman kiln dump, Horningsea (CHER: 05549)
- Deserted settlement and building remains, Eye Hall (CHER: MCB6772)
- Roman pottery, Eye Hall Farm, Horningsea (CHER: MCB7736)

6.1.6.3 Treated Effluent Corridor

Within the treated effluent corridor three assets are identified in the CHER, two findspots and one monument. The monument relates to cropmarks of unknown date (CHER: 08327). These are as follows:

- Multiperiod finds, A45 Girton to Stow cum Quy fieldwalking survey, field 6 (CHER: 11193)
- Late Saxon - early medieval pottery, Fen Ditton (CHER: 11765)
- Cropmark site, Fen Ditton (CHER: 08327)

Within 100m of this corridor are a further four assets, the most notable of which is the earthworks associated with Biggin Abbey. These are;

- Former clay pit, Fen Ditton (CHER: MCB27455)
- Biggin Abbey (CHER: 01095)
- Roman cropmark system, Horningsea (CHER: 11555)
- Roman pottery and cropmarks, Horningsea (CHER: 11557)

6.1.6.4 Waste water Transfer Corridor

Within the waste water transfer corridor for site area 3 are fifteen assets, dating from the Roman to period to the Second World War.

- Former clay pit, Fen Ditton (CHER: MCB27455)
- Mounds, Fen Ditton (CHER: 10515)
- Mound, Fen Ditton (CHER: 11206)
- Poplar Hall, Fen Ditton (CHER: 05489)
- Roman cropmark system, Horningsea (CHER: 11555)
- Roman artefact scatter, Horningsea (CHER: 05324)
- Ridge and furrow, Horningsea (CHER: 05612)
- Windmill Hill, Fen Ditton (CHER: 05310)
- Former coprolite pit, Horningsea (CHER: MCB27456)
- Public air raid shelters, Fen Ditton (CHER: MCB25356)
- Public air raid shelters, Fen Ditton (CHER: MCB25357)
- Public air raid shelters, Fen Ditton (CHER: MCB25355)
- Roman copper coin, Fen Ditton (CHER: 05344)
- Site of Former Gravel Pit, Sandy Park Road, Milton (CHER: MCB20561)
- Roman settlement, Milton (CHER: MCB6439)

Within 100m of this corridor are an additional eight assets of the same periods.

- Furrows and Undated Ditch at St Johns Innovation Park, Cowley Road, Cambridge MCB20105
- WWII vehicle depot, Trinity Farm, Milton MCB17527
- Roman pottery and ditches, Milton 05308
- Cropmark site, Fen Ditton 08327
- Multiperiod finds, A45 Girton to Stow cum Quy fieldwalking survey, field 6 11193
- Public air raid shelters, Fen Ditton MCB25354
- Medieval settlement remains, Fen Ditton 05535
- Extractive Pit, Off Green End MCB20562

6.1.6.5 Access Road

Within the identified access area for site area 3 from Horningsea Road are the following;

- Roman cropmark system, Horningsea (CHER: 11555);
- Medieval earthworks, Horningsea (CHER: 05324a);
- Roman artefact scatter (CHER: 05324);
- Ridge and furrow, Horningsea (CHER: 05612)

The following additional non-designated assets are identified within 100m of the access area from Horningsea Road;

- Roman pottery, A45 Quay fieldwalking survey field 16, Horningsea (CHER: 11203)
- Medieval pottery, A45 Quay fieldwalking survey field 16, Horningsea (CHER: 11203A)
- Post-medieval pottery, A45 Quay fieldwalking survey field 16, Horningsea (CHER: 11203B)

Within the identified access area for site area 3 from High Ditch Road are the following;

- Roman cropmark system, Horningsea (CHER: 11555)
- Medieval earthworks, Horningsea (CHER: 05324a)
- Ridge and furrow, Horningsea (CHER: 05612)
- Multiperiod finds, A45 Girton to Stow cum Quay fieldwalking survey, field 5 (CHER: 11192)
- High Dyke/ northern section of Fleam Dyke (CHER: MCB12150)
- Anglo-Saxon inhumation, Fleam Dyke at junction of Fen Ditton and Newmarket Roads (CHER: 06303)
- Milestone, Newmarket Road (CHER: MCB18062)

The following additional non-designated assets are identified within 100m of the access area from High Ditch Road;

- Medieval pottery, A45 fieldwalking project field 10, Fen Ditton (CHER: 11197)
- Ridge and furrow, High Ditch Field, Fen Ditton (CHER: 05471)
- Enclosures, Fen Ditton (CHER: 09037)

6.1.7 Archaeological Potential

6.1.7.1 Site area 3

There is a moderate potential for archaeological remains relating to the prehistoric period within site area 3. There is precedent for Neolithic and Bronze Age activity within the CHER, however this is based on findspots only and there is limited occupation for settlement in the site within this period.

There is a very high potential for archaeological remains relating to the Romano-British period. Cropmark evidence (CHER: 11555) suggests settlement in this area. Romano-British settlement associated with commercial pottery industry in this location is anticipated, due to the extensive activity at Horningsea and associated with the River Cam. In addition, numerous findspots and artefact scatters within the site area indicate the presence of Roman settlement or other archaeological activity within the site boundaries.

There is low to moderate potential for early medieval remains, these would likely be to the north, if present, and associated to the settlement at Horningsea.

There is moderate to high potential for remains relating to medieval and post-medieval agriculture. There is low potential for medieval remains relating to other activity. There is high potential for post-medieval remains relating to the defunct railway.

There is low potential for archaeological remains relating to the modern period, there is no recorded non-agricultural use of site area 3 within this period.

6.1.7.2 Waterbeach transfer pipeline

East of Horningsea, the Waterbeach transfer pipeline for site area 3 has high potential for medieval and post-medieval remains relating to the settlement. To the north of this, there is very high potential for archaeological remains due to the activity surrounding the scheduled kilns at Horningsea.

6.1.7.3 Treated Effluent and Waste water Transfer Corridors

Due to the depth of the tunnels for the Treated Effluent and Waste water Transfer Corridors there is low potential for archaeological remains relating to all periods to be present within these routes. At the access to these tunnels from the site the archaeological potential is the same as discussed above in section 6.1.7.1 until at sufficient depth to be below the archaeological horizon. Similar to site areas 1 and 2, the output locations have low archaeological potential for in situ remains but may contain some remains associate with the historic uses of the River Cam.

If pipelines are used instead there is greater archaeological potential along the entirety of both routes, especially relating to Bronze Age, Roman, medieval and post-medieval activity.

6.1.7.4 Access Road

The access area from High Ditch Road has high potential for early medieval remains, relating to the presence of Fleam Dyke and other assets of this period recorded in the HER. Other sections of the length of Fleam Dyke are scheduled, however desk-based research and initial findings of this report indicate that the section adjacent to High Ditch Road may not be of schedulable quality.

The access area from Horningsea Road has high potential for Roman archaeology, relating to the remains identified in the HER within this access route and its surroundings. There is also moderate potential for medieval and post-medieval archaeology, which is likely to relate to agricultural practices.

6.2 Site walkover survey

Site area 3 was surveyed on Tuesday 18th August 2020. From site area three, open and largely treeless views to the north and west were observed. Views to the south are interrupted by the A14 and by associated planting, this also screens Polar Hall (grade II listed) and other assets to the south from the site area. The A14 provides considerable background noise. Beyond the A14 cranes located in Cambridge are visible from the area but there is no other view of the city. Views to the east are screened with thicker hedge/tree lines. Anglesey Abbey and the parkland around Quy Hall was not visible at ground level from Low Fen Drove Way.

From Horningsea Road the main hall at Biggin Abbey is visible, near to the treelined entrance of the abbey. Some of the of the other buildings are also discernible. Also visible from this location is the Grade II listed Wildfowl Cottage, which is located further to the west on the River Cam. Both of these assets are visible at various points as you move up Honey Hill along Low Fen Drove Way. There is some screening from the occasional tree on the eastern side of Horningsea Road (south of Low Fen Drove Way). Planting around the abbey screens most of the buildings except the main hall.

Figure 6.1: Biggin Abbey and Wildfowl Cottage (in far distance) looking west from Horningsea Road



Source: Mott MacDonald (2020)

6.3 Impact Appraisal

This section describes the potential for impact on the historic environment if the proposed scheme is developed at site area 3.

6.3.1 Site area 3

There is potential for moderate to major impact on non-designated archaeological remains of moderate value within site area 3. There is very high potential for archaeology relating to the Roman period within site area 3. Known cropmarks within site area 3 (although not within the indicative boundary) which likely relate to Roman settlement and the known archaeology within the area suggests a likely Roman settlement. Construction of the WWTP at site area 3 could result in truncation or complete removal of these remains.

There is potential for moderate impact on the significance of Biggin Abbey from the development of site area 3 for WWTP. Biggin Abbey is a grade II* listed building located west of site area 3. The ZTV shows that the WWTP may be visible from parts of Biggin Abbey. Biggin Abbey is currently set within an expanse of agricultural land, which is accurate to its historic setting and contributes to its significance. The setting to its west, north and east is more significant than that to the south, which has been compromised by the construction of the A14. Site area 3 has a historic connection to the abbey, as well as a visual one, and was likely included in the farmland which serviced the abbey. This is evidenced by ridge and furrow across site area 3 and the surrounding fields, which is indicative of medieval and post medieval farming. In addition, the avenue lining the driveway to Biggin Abbey aligns towards site area 3 and creates directed views towards the farmland. The indicative footprint falls to the south of this directed area, however elements in the north-east of the indicative footprint may be features when looking down the avenue. Whilst there is some planting within the immediate surroundings of Biggin Abbey, most of the surrounding landscape is characteristically open. This would have provided the abbey with far-reaching views over its related land and continues to create expansive views in gaps between the foliage. Therefore, the setting of the Abbey to the north and east contributes to its significance. The relocation of WWTP to site area 3 could alter this context, both due to visual change and the change in land use, even where the scheme is not

visible from the abbey. As the agricultural land would be removed, this part of the historic context of the abbey would be lost and could no longer be interpreted. In addition, tall and large elements of the scheme have the potential to draw attention from the abbey, minimising its intended dominance in its immediate setting. These elements may also interrupt views to and from the abbey in the wider landscape, including agricultural land beyond the indicative footprint which is also part of the setting of the abbey. The extent of this impact would depend on detailed design, the location of the scheme within the site area and especially the location of tall towers, however due to its proximity and the importance of its setting, it is anticipated that the impact on Biggin Abbey could be moderate.

There is potential for all assets identified within the ZTV to experience a negligible to minor impact to their significance as a result of change within their setting. The extent of this impact will depend on the design of the final scheme. As the ZTV has been produced using assuming the tallest height of the new WWTP (26m relating to the full height of digesters in an indicative location), assets identified at this stage may not be impacted by the final proposed scheme if this site is selected similarly additional assets may be identified at a later date. The assets identified within the ZTV which are of greatest relevance to this assessment, due to their value and/or the anticipated magnitude of impact, of those identified in section 6.1.54.1.55.1.5, are as follows:

- Biggin Abbey (NHLE:1178408), as discussed above.
- Anglesey Abbey (NHLE: 1331433), grade I listed building, and its associated registered park and garden (NHLE: 1000611), grade II* listed. These are of concern due to their proximity to site area 3 (2.3km to the south west of the asset). There is potential for views from the end of the main tree lined avenue, south westerly towards site area 3 to be altered, by the presence of the digesters. There potential for a minor impact on the parkland from change to its setting. However, the extent of this impact is dependent on the final design and detailed assessment of the significance of the south-westerly views.
- Quy Hall's (NHLE 1331325) non-designated parkland. The parkland is contemporary and forms part of the setting of the Grade II* house. The house is screened from site area 3 by existing tree cover but the associated parkland falls within the ZTV and there is potential for there to be a minor impact on the views and character of the parkland, which has the potential to cause a minor impact on the setting of the house. However, the extent of this impact is dependent on the final design and detailed assessment of the significance of westward views, from and within the parkland.
- Horningsea Conservation Area captures the village of Horningsea to the north-west of site area 3. Views out of the conservation area to the south are directed to the south-south-east along Horningsea Road, and due to buildings framing the streets within the conservation area, there are few external views outside of roadways. Therefore, there are no directed views from the conservation area to the indicative footprint within site area 3. Despite this, due to the potential height of some elements of the proposed CWWTP and the positive contribution made by the existing rural farmland to the conservation area, the construction of the WWTP at site area 3 is anticipated to have minor to moderate impact on Horningsea Conservation Area, a moderate value asset.
- Fen Ditton Conservation Area captures the village of Fen Ditton to the west of site area 3. However, the anticipated impact is minimal due to the presence of the A14 and associated manmade screening, which separates the conservation area from the site area.

6.3.2 Waterbeach transfer pipeline

Where the Waterbeach transfer pipeline nears the settlement of Horningsea, the route is in proximity to listed buildings within the centre of the settlement, clustered on Horningsea Road and around St Peter's Church (not itself within 200m, NHLE: 1331295, grade II* listed). These assets are all to the western periphery of the study area, therefore any potential for direct impact is negligible. Their setting is concentrated to the village centre and the church, therefore any temporary change in setting from installing this pipeline would have no negative impact on the significance of these assets. The pipeline corridor is closer to, c.60m west of, the grade II listed Barn to North of Lock Farm (NHLE: 1179436). The asset is not located within the corridor, and the 60m distance is likely to reduce the potential for impact from vibration or other direct impact to minor, however a vibration assessment may be required, dependent on construction methodology. The barn is set in relation to the farmhouse, to its south, and the open farmland in its wider soundings. It is separated from the pipeline corridor by Long Drove. Therefore, any temporary change in setting from above ground works associated with this pipeline corridor, if required, would result in a minor impact to significance.

This route also passes through the former Eye Hall Park and Garden (CHER: 12122). There is potential for impact to remains associated with this asset. Any associated remains would likely be low value; however, the impact could be minor-moderate. Additionally, this pipeline may impact Bronze Age rapiers and dirks (MCB27482) which are of potentially moderate value due to their age. This impact may amount to removal or truncation, which could result in major impact to an asset of moderate value.

There is high potential for unknown Roman archaeological remains relating to the scheduled kiln site north of Horningsea. These remains may be of moderate value, if present, and would experience moderate to major harm from their truncation or removal from construction of the Waterbeach transfer pipeline.

6.3.3 Waste water Transfer and Treated Effluent Corridors

There is no anticipated impact on archaeology from the Waste water Transfer Corridors for site area 3, or the Treated Effluent Corridor, if this is a tunnels. As for site areas 1 and 2, there is unlikely to be impact on archaeology from below ground works to create the tunnels for these routes, due to their depth and low potential at their outputs.

If pipelines are excavated from the top down this presents the risk of moderate to major impact to unknown and known archaeological remains of low and moderate value, based on the archaeological potential of the area. This is likely to impact remains relating to the prehistoric or roman periods, which are likely to be moderate value, in addition to low and moderate value archaeological remains relating to the medieval and post-medieval periods may be impacted. A tunnel is preferable to a pipeline, as this reduces potential impact on buried archaeology.

Designated built heritage assets are located within or adjacent to both of these routes study areas, there is potential for their construction to have a small impact on these assets through vibration or temporary change in setting. The extent of this impact would be dependent on the construction methodology. Impact on Fen Ditton Conservation Area is likely to be temporary and minor, although this is dependent on the use of tunnels or pipelines. Tunnels are preferable with regard to this potential for impact, as they will not temporarily alter the character of the conservation area and will have lesser impact on archaeological remains associated with it.

6.3.4 Access Road

The proposed access route from Horningsea Road utilises an entrance opposite the avenue toward Biggin Abbey and would result in large construction, and later operational, vehicles using the Horningsea Road with greater frequency. The current farm track which runs to the indicative footprint from Horningsea Road is located immediately opposite this entrance, however it is used by agricultural vehicles which are in keeping with the historic land use in the setting of Biggin Abbey; whereas the vehicles which would require access for the construction and operation of the WWTP are not in keeping with this setting. Therefore, there would be a change within the setting of Biggin Abbey, resulting in a minor impact to the significance of the grade II* listed asset. In addition, this route has high archaeological potential associated with a Roman cropmark system, Horningsea (CHER: 11555) and roman activity in the surrounding landscape. This non-designated asset relates to archaeological remains of potentially moderate value.

The proposed access route from High Ditch Road contains a listed Milestone (NHLE: 1331307), located in the centre of the junction at the terminus of Fen Drove. There is potential for this asset to experience damage from heavy construction vehicles or to be required to be moved to open the road, as it is located on the junction between Newmarket Road and High Ditch Road. However, it is on the far side of this junction and therefore further from the potential turning area. In addition, if required it may be removed and replaced back into its original setting. This would result in a small negative impact to a designated asset of moderate value.

Immediately south of High Ditch Road, within the access area, is a section of Fleam Dyke (CHER: MCB12150), a potentially moderate value asset. If any widening of the road to the south was required, this would result in moderate to major impact to an asset of moderate value. Currently the road widening is proposed for the northern side of High Ditch Road, therefore it is assumed that based on the current information there is no anticipated impact on Fleam Dyke. Human inhumations have been identified near Fleam Dyke (CHER: 0603), and there is therefore the potential for human archaeological remains within this access area.

6.4 RAG Outcome

Based on the criteria described in section 2 and the above impact appraisal, the RAG outcome for the development of the proposed scheme at **site area 3** is **RED**.

6.4.1 Reason for RAG outcome

The reason for the RAG outcome is the potential for impact to Biggin Abbey as a result of change within its setting. Without mitigation this may amount to moderate harm to the significance of the asset, this amounts to less than substantial harm in accordance with the NPS but constitutes a red rating within the RAG criteria for this report.

Without this element the site would receive an amber rating due to the potential for impact on buried archaeological remains and lesser impact on Anglesey Abbey. The pipeline to Waterbeach would also likely result in moderate to major impact to archaeological remains of moderate value, if present. This may amount to substantial harm in accordance with the NPS.

There is also potential for impact to the grade II listed Wildfowl Cottage from change within its setting. The access route from Horningsea Road contains Roman archaeological remains of potentially moderate value and has high potential for associated archaeology. The access road from High Ditch Road presents risk to Fleam Dyke, the grade II listed milestone and archaeological human remains that have been recovered in proximity to it. These impacts amount to less than substantial harm.

6.5 Mitigation

6.5.1 Proposed mitigation

The potential for impact on Biggin Abbey, grade II* listed, and its associated grounds and archaeology can be reduced through mitigation. Some strategic planting close to the asset may be achievable to reduce impact, however the landscape is open and excessive planting may have adverse effect on its character. Bunds may help reduce the visual impact on the landscape and landscaping design proposed may contribute to reducing this impact. The visual impact should be softened as much as possible by introducing landscaping features. However, the mitigation factor which will have the greatest effect on reducing potential for impact is the design, height and massing of the WWTP. Reducing the massing and using materials which aid in fading the digester into the skyline, for example gradated painting, would also contribute to reducing impact. The location of the digesters within the footprint will also influence the extent of impact, they should be placed on the far side of the area from the abbey. The height of the digesters should be reduced by the greatest feasible amount. A reduction in potential impact to height is likely to directly correlate to reducing the impact to Biggin Abbey. Other buildings over 10m should also be reduced in height and mass wherever possible.

The use of the access route from Horningsea Road is slightly preferable when considering potential impact to the historic environment; both routes contain archaeological remains of potentially moderate value and Horningsea Road has potential impact to the setting of Biggin Abbey, however only the High Ditch Road access route contains a designated heritage asset. If Horningsea Road is used, the entrance should be offset so that line of sight down the avenue from Biggin Abbey is not directed into site area 3. Landscaping should be used to soften elements in the north-east corner, so they do not dominate views outwards down the avenue entrance. This would reduce the impact from change in setting for the designated asset. Archaeological investigation is also likely to be required for this route.

If High Ditch Road is used for access to site area 3, the listed milestone should only be removed if absolutely necessary for the proposed scheme or necessary to protect the asset from harm. Following construction, it should be returned to its original setting, reducing negative impact to the asset from moderate to minor. Fleam dyke is located north and south of the road for which widening may be required for use by construction vehicles if site area 3 is selected, crossing the road along its length. The road should not be widened unless absolutely necessary. If the road must be widened this should aim to avoid Fleam Dyke rather than focus on widening on only one side of the road. Archaeological investigation is also likely to be required for this route and may be required to determine the route of Fleam Dyke to aid in avoiding the asset. Archaeological investigation would be required if site area 3 is selected. The extent of this investigation would be dependent on the results of initial surveys but is likely to include geophysical survey and some excavation at a minimum. This does not amount to mitigation, as discussed for site areas 1 and 2.

Geophysical survey, trial trenching and/or other survey may identify areas of greater archaeological potential or specific remains of moderate value within the site area. This may allow for the targeting of building and service locations to reduce impact on buried archaeology. However, as the landscape contains a high density of remains and the historic environment is not the only factor of consideration in the scheme design this is unlikely to materially reduce the potential for impact, as for areas 1 and 2.

6.5.2 Mitigated RAG Outcome

With the above mitigation imposed there is potential that the impact may be reduced. This will largely be dependent on the design of the buildings and structures on the site, including the digesters. If all the above mitigation is followed there is potential that the outcome may be reduced to **AMBER**.

7 Conclusions

This stage 4 screening report for the three shortlisted sites (site area 1, site area 2 and site area 3) for the relocation of Cambridge Waste water Treatment Plant, focusses on the potential for impact on the historic environment. This report has provided a baseline for each of the three sites and completed an initial Impact Appraisal which identifies the potential for impact on the built historic environment and on archaeology for each of the three sites. Based on this Impact Appraisal and the criteria laid out in the methodology of this report (section 2) each site has been assigned a Green, Amber or Red (RAG) outcome.

Based on the criteria described in section 2 and the Impact Appraisal in section 4, the RAG outcome for the development of the proposed scheme at **Site area 1** is **AMBER**. This is due to the potential for moderate or major impact on archaeological remains of moderate value associated with Iron Age and Roman activity and potential impact on the grade I listed church from change within its setting. With mitigation this rating would remain amber.

Based on the criteria described in section 2 and the above Impact Appraisal, the RAG outcome for the development of the proposed scheme at **Site area 2** is **AMBER**. This is due to the high potential for Iron Age and Roman archaeological remains. With mitigation this rating would remain amber.

Based on the criteria described in section 2 the Impact Appraisal in section 6, the RAG outcome for the development of the proposed scheme at **Site area 3** is **RED**. This is due to the potential impact on Biggin Abbey, with extensive mitigation there is potential for this impact to be reduced to an amber outcome.

8 References

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A P M Wright and C P Lewis (198) 'Histon: Manors and other estates', in A History of the County of Cambridge and the Isle of Ely: Volume 9. Via: British History Online [/www.british-history.ac.uk/vch/cambs/vol9/pp94-97](http://www.british-history.ac.uk/vch/cambs/vol9/pp94-97) (accessed August 2020)

A P M Wright and C P Lewis (1989) 'Landbeach: Introduction', in A History of the County of Cambridge and the Isle of Ely: Volume 9 pp. 138-141. Via: British History Online <http://www.british-history.ac.uk/vch/cambs/vol9/pp138-141> (accessed August 2020)

Air Photo Services, Cambridge (1999) AP assessment, Limes Farm, Landbeach.

Booth, D. (2017) A Brief History of Milton. Via: www.milton.org.uk/a-brief-history-of-milton (Accessed August 2020)

CHER record: WWII vehicle depot, Trinity Farm, Milton, MCB17527.

Palmer, R. and Connor, A. (2000) An Iron Age ditched enclosure system at Limes farm, Landbeach, Cambridgeshire. *Antiquity* 74; 284 (p281-282).

Parks and Gardens (2020) Impington Hall, Cambridgeshire. Via: <https://www.parksandgardens.org/places/impington-hall-cambridge> (accessed August 2020)

Appendices

A. Designated Assets within Study Areas for shortlisted sites

A.1 Designated assets within the study area for Site area 1

Name	NHLE	Designation
BAPTIST CHAPEL	1179106	Grade II listed
CHURCH OF ST MARY AND ST MICHAEL	1081526	Grade I listed
SIDNEY SUSSEX COLLEGE, THE BUILDINGS SURROUNDING HALL COURT AND CHAPEL COURT	1106237	Grade I listed
Trinity College, The Buildings surrounding Great Court, Nevile's Court and New Court, and including King's Hostel	1106371	Grade I listed
CHURCH OF ST ANDREW	1112541	Grade I listed
THE COCKERELL BUILDING (SQUIRE LAW LIBRARY)	1121518	Grade I listed
GONVILLE AND CAIUS COLLEGE, THE GATE OF HONOUR AND FLANKING WALLS	1125526	Grade I listed
GONVILLE AND CAIUS COLLEGE, THE GATE OF HUMILITY	1125527	Grade I listed
JESUS COLLEGE, THE BUILDINGS SURROUNDING CLOISTER AND OUTER COURTS, AND THE EAST RANGE OF PUMP COURT (EXCLUDING THE NORTH RANGE OF OUTER COURT)	1125529	Grade I listed
KING'S COLLEGE, SCREENS AND ENTRANCE GATEWAY ON KING'S PARADE	1125532	Grade I listed
CHRIST'S COLLEGE, BATHING POOL AND SUMMER HOUSE, INCLUDING THE BUSTS OF CUDWORTH, MILTON AND SAUNDERSON AND STONE VASE IN MEMORY OF JOSEPH MEDE	1125548	Grade I listed
CLARE COLLEGE, GATEWAY ON WEST SIDE OF CLARE BRIDGE WITH FLANKING RAILINGS AND GATES TO COLLEGE GARDEN	1125551	Grade I listed
CHURCH OF ST MARY THE GREAT	1126084	Grade I listed

Name	NHLE	Designation
"CHAPEL OF ST MARY MAGDALENE	1126144	Grade I listed
STOURBRIDGE CHAPEL"	1126204	Grade I listed
ALL SAINTS CHURCH	1126252	Grade I listed
CHURCH OF ST BENE'T	1126260	Grade I listed
CHURCH OF THE HOLY SEPULCHRE	1126266	Grade I listed
TRINITY COLLEGE, FIELD GATES TO QUEEN'S ROAD	1126279	Grade I listed
THE LAW SCHOOL AND UNIVERSITY OFFICES	1127040	Grade I listed
CHURCH OF ST MARY	1127052	Grade I listed
CHURCH OF ST MARY THE VIRGIN	1127115	Grade I listed
CHURCH OF HOLY TRINITY	1127283	Grade I listed
CHURCH OF ST MARY AND ALL THE SAINTS	1127295	Grade I listed
CHURCH OF ALL SAINTS	1127360	Grade I listed
DENNY ABBEY	1127385	Grade I listed
PARISH CHURCH OF ALL SAINTS	1127404	Grade I listed
PARISH CHURCH OF ST ANDREW	1127774	Grade I listed
CHURCH OF ST PETER	1139003	Grade I listed
KING'S COLLEGE, CHAPEL	1139049	Grade I listed
JESUS COLLEGE, NORTH RANGE OF OUTER COURT	1139452	Grade I listed
KING'S COLLEGE, SOUTH RANGE OF FIRST COURT, INCLUDING THE LIBRARY AND THE FORMER PROVOST'S LODGE	1163528	Grade I listed
MADINGLEY HALL AND STABLE COURTYARD	1165597	Grade I listed
THE ABBEY	1115408	Grade I listed
GONVILLE AND CAIUS COLLEGE, THE NORTH AND EAST RANGES OF TREE COURT AND SOUTH WALL	1115639	Grade II* listed
CLARE COLLEGE MEMORIAL COURT	1125496	Grade II* listed
SIDNEY SUSSEX COLLEGE, CLOISTER COURT	1125506	Grade II* listed
NEWNHAM COLLEGE, PFEIFFER BUILDING	1126068	Grade II* listed

Name	NHLE	Designation
30 AND 31, TRINITY STREET	1126076	Grade II* listed
CHURCH OF ST EDWARD, KING AND MARTYR	1126103	Grade II* listed
"BARNWELL PRIORY	1126148	Grade II* listed
BARNWELL PRIORY (THE CELLARER'S CHECKER)"	1126262	Grade II* listed
ARTS THEATRE WORKSHOP AND STORE	1127041	Grade II* listed
CHURCH OF ST CLEMENT	1127071	Grade II* listed
CHURCH OF ST CYRIAC AND JULITTA	1127241	Grade II* listed
THE HALL	1127273	Grade II* listed
PARISH CHURCH OF ALL SAINTS	1127298	Grade II* listed
CHURCH OF ALL SAINTS	1127349	Grade II* listed
CHURCH OF ST MICHAEL	1127351	Grade II* listed
PARISH CHURCH OF ALL SAINTS	1127366	Grade II* listed
MILTON HOUSE	1127378	Grade II* listed
CHURCH OF ST JOHN	1127399	Grade II* listed
IMPINGTON MILL	1127408	Grade II* listed
DITTON HALL	1127430	Grade II* listed
THE OLDE HOUSE	1127431	Grade II* listed
PARISH CHURCH OF ST MARY VIRGIN	1127740	Grade II* listed
THE OLD RECTORY	1127741	Grade II* listed
CHURCH OF ST MARY MAGDALENE	1127744	Grade II* listed
GATEWAY TO STABLE COURTYARD AT MADINGLEY HALL	1162717	Grade II* listed
THE MANOR HOUSE	1163652	Grade II* listed
CHURCH OF ST PETER AND ST PAUL	1164101	Grade II* listed
MADINGLEY MILL, AT MILL FARM, MADINGLEY HILL	1164356	Grade II* listed
CHURCH OF ST ANDREW	1164972	Grade II* listed
CHURCH OF ST ANDREW	1165918	Grade II* listed
CATTELL'S MILL	1167060	Grade II* listed

Name	NHLE	Designation
BURGH HALL	1178408	Grade II* listed
CHURCH OF ST JOHN THE EVANGELIST	1081526	Grade II* listed
BIGGIN ABBEY	1106237	Grade II* listed
Multi-phased settlement east of Milton	1457437	Scheduled Monument
Iron Age ritual enclosure containing a Bronze Age barrow, and Roman cemetery	1465057	Scheduled Monument
Denny Abbey	1012770	Scheduled Monument
Giant's Hill: a motte castle with part of an earlier medieval settlement and associated field system	1011778	Scheduled Monument
Causewayed enclosure 900m west of Great Wilbraham parish church	1009103	Scheduled Monument
Belsar's Hill ringwork	1010368	Scheduled Monument
Swaffham Bulbeck moated site.	1012622	Scheduled Monument
Moated site area 140m south west of Histon Manor	1019181	Scheduled Monument
Moated site 90m south of Bendyshe Farm	1019175	Scheduled Monument
Long barrow 650m NNW of Lythel's Farm	1020843	Scheduled Monument
Moated site at Manor Farm	1019180	Scheduled Monument
Devil's Ditch, Reach to Woodditton	1003262	Scheduled Monument
Worstead Street (Via Devana) near Cambridge	1003263	Scheduled Monument
Romano-British Settlement at Chittering, Cambs	1012359	Scheduled Monument
Roman settlement	1006793	Scheduled Monument
Length of Car Dyke between Green End and Top Moor	1006813	Scheduled Monument
Shrunken medieval village of Landbeach	1006870	Scheduled Monument
Moated site at Manor Farm	1020440	Scheduled Monument
Horningsea kilns, site of	1006895	Scheduled Monument
Deserted medieval village in Bottisham Park	1006900	Scheduled Monument
Roman villa and Iron Age settlement N of Reach Bridge	1006875	Scheduled Monument
Civil War earthworks at the Castle	1006886	Scheduled Monument

Name	NHLE	Designation
Car Dyke	1006930	Scheduled Monument
Old Cheddar's Lane pumping station	1006896	Scheduled Monument
Waterbeach Abbey (site of)	1006888	Scheduled Monument
Cambridge Castle mound	1006905	Scheduled Monument
Settlement site by Caudle Corner Farm	1006878	Scheduled Monument
Romano-British settlement on Bullocks Haste Common	1006897	Scheduled Monument
AMERICAN MILITARY CEMETERY	1001573	Grade I Registered Park and Garden
HISTON ROAD CEMETERY	1001569	Grade II* Registered Park and Garden
BOTANIC GARDEN, CAMBRIDGE	1000612	Grade II* Registered Park and Garden
ANGLESEY ABBEY	1000611	Grade II* Registered Park and Garden
KING'S COLLEGE	1000624	Grade II* Registered Park and Garden
ST JOHN'S COLLEGE	1000632	Grade II* Registered Park and Garden
EMMANUEL COLLEGE	1000619	Grade II* Registered Park and Garden
MILL ROAD CEMETERY	1001561	Grade II Registered Park and Garden
TRINITY HALL	1000634	Grade II Registered Park and Garden
MADINGLEY HALL	1000627	Grade II Registered Park and Garden
WILBRAHAM TEMPLE	1000397	Grade II Registered Park and Garden
SWAFFHAM PRIOR HOUSE	1000396	Grade II Registered Park and Garden
CLARE COLLEGE	1000617	Grade II Registered Park and Garden
CHRIST'S COLLEGE	1000616	Grade II Registered Park and Garden
TRINITY COLLEGE	1000633	Grade II Registered Park and Garden
QUEENS' COLLEGE	1000630	Grade II Registered Park and Garden
Garden of 48 Storey's Way	1422759	Grade II Registered Park and Garden
Reach	N/A	Conservation Area
Swaffham Prior	N/A	Conservation Area
Swaffham Bulbeck	N/A	Conservation Area
Lode	N/A	Conservation Area
Bottisham	N/A	Conservation Area

Name	NHLE	Designation
Trumpington	N/A	Conservation Area
Ferry Lane	N/A	Conservation Area
Chesterton	N/A	Conservation Area
De Freville	N/A	Conservation Area
Storey's Way	N/A	Conservation Area
Conduit Head Road	N/A	Conservation Area
Southacre	N/A	Conservation Area
Brooklands Avenue	N/A	Conservation Area
Barrow Road	N/A	Conservation Area
Central	N/A	Conservation Area
Castle and Victoria Road	N/A	Conservation Area
Kite	N/A	Conservation Area
Mill Road	N/A	Conservation Area
New Town and Glisson Road	N/A	Conservation Area
Newnham Croft	N/A	Conservation Area
Riverside and Stourbridge Common	N/A	Conservation Area
West Cambridge	N/A	Conservation Area
BAPTIST CHAPEL	1179106	Grade II listed
THE LIMES	1127389	Grade II listed
Multi-phased settlement east of Milton	1457437	Scheduled Monument
LODGE TO MILTON HALL	1331320	Grade II listed

Source: Historic England (2020) National Heritage List for England

A.2 Designated assets within the study area for Site area 2

Name	NHLE	Designation
There are no designated assets within Site area 2		
There are no designated heritage assets within 500m of Site area 2		
Designated heritage assets within 10km ZTV for Site area 2		
CHURCH OF ST MARY AND ST MICHAEL	1081526	Grade I listed
SIDNEY SUSSEX COLLEGE, THE BUILDINGS SURROUNDING HALL COURT AND CHAPEL COURT	1106237	Grade I listed
Trinity College, The Buildings surrounding Great Court, Neville's Court and New Court, and including King's Hostel	1106371	Grade I listed
CHURCH OF ST ANDREW	1112541	Grade I listed
ST JOHN'S COLLEGE, GATEWAY TO KITCHEN YARD TO EAST OF OLD BRIDGE	1125488	Grade I listed
GONVILLE AND CAIUS COLLEGE, THE GATE OF HONOUR AND FLANKING WALLS	1125526	Grade I listed
JESUS COLLEGE, THE BUILDINGS SURROUNDING CLOISTER AND OUTER COURTS, AND THE EAST RANGE OF PUMP COURT (EXCLUDING THE NORTH RANGE OF OUTER COURT)	1125529	Grade I listed
KING'S COLLEGE, SCREENS AND ENTRANCE GATEWAY ON KING'S PARADE	1125532	Grade I listed
KING'S COLLEGE, KING'S BRIDGE	1125535	Grade I listed
CHRIST'S COLLEGE, BATHING POOL AND SUMMER HOUSE, INCLUDING THE BUSTS OF CUDWORTH, MILTON AND SAUNDERSON AND STONE VASE IN MEMORY OF JOSEPH MEDE	1125548	Grade I listed
CLARE COLLEGE, GATEWAY ON WEST SIDE OF CLARE BRIDGE WITH FLANKING RAILINGS AND GATES TO COLLEGE GARDEN	1125551	Grade I listed
CORPUS CHRISTI COLLEGE, THE BUILDINGS SURROUNDING THE OLD AND NEW COURTS INCLUDING THE MASTER'S LODGE	1125553	Grade I listed
CHURCH OF ST MICHAEL	1126061	Grade I listed
CHURCH OF ST MARY THE GREAT	1126084	Grade I listed
CHURCH OF ST ANDREW	1126191	Grade I listed
ALL SAINTS CHURCH	1126204	Grade I listed
CHURCH OF ST BENE'T	1126252	Grade I listed
CHURCH OF THE HOLY SEPULCHRE	1126260	Grade I listed
CHURCH OF ST MARY THE VIRGIN	1127052	Grade I listed
CHURCH OF HOLY TRINITY	1127115	Grade I listed

Name	NHLE	Designation
CHURCH OF ST MARY AND ALL THE SAINTS	1127283	Grade I listed
CHURCH OF ALL SAINTS	1127295	Grade I listed
DENNY ABBEY	1127360	Grade I listed
PARISH CHURCH OF ALL SAINTS	1127385	Grade I listed
PARISH CHURCH OF ST ANDREW	1127404	Grade I listed
CHURCH OF ST PETER	1127774	Grade I listed
KING'S COLLEGE, CHAPEL	1139003	Grade I listed
JESUS COLLEGE, NORTH RANGE OF OUTER COURT	1139049	Grade I listed
MADINGLEY HALL AND STABLE COURTYARD	1163528	Grade I listed
WANSTEAD HOUSE	1099114	Grade II* listed
GONVILLE AND CAIUS COLLEGE, THE NORTH AND EAST RANGES OF TREE COURT AND SOUTH WALL	1115408	Grade II* listed
SIDNEY SUSSEX COLLEGE, CLOISTER COURT	1125496	Grade II* listed
13, TRINITY STREET	1126063	Grade II* listed
30 AND 31, TRINITY STREET	1126068	Grade II* listed
CHURCH OF ST EDWARD, KING AND MARTYR	1126076	Grade II* listed
"BARNWELL PRIORY	1126103	Grade II* listed
BARNWELL PRIORY (THE CELLARER'S CHECKER)"	1126148	Grade II* listed
ARTS THEATRE WORKSHOP AND STORE	1126262	Grade II* listed
CHURCH OF ST CLEMENT	1127241	Grade II* listed
PARISH CHURCH OF ALL SAINTS	1127273	Grade II* listed
CHURCH OF ALL SAINTS	1127298	Grade II* listed
CHURCH OF ST MICHAEL	1127349	Grade II* listed
PARISH CHURCH OF ALL SAINTS	1127351	Grade II* listed
MILTON HOUSE	1127366	Grade II* listed
CHURCH OF ST JOHN	1127378	Grade II* listed
IMPINGTON MILL	1127399	Grade II* listed
DITTON HALL	1127408	Grade II* listed
THE OLDE HOUSE	1127430	Grade II* listed

Name	NHLE	Designation
PARISH CHURCH OF ST MARY VIRGIN	1127431	Grade II* listed
THE OLD RECTORY	1127740	Grade II* listed
CHURCH OF ST MARY MAGDALENE	1127741	Grade II* listed
GATEWAY TO STABLE COURTYARD AT MADINGLEY HALL	1127744	Grade II* listed
THE MANOR HOUSE	1162717	Grade II* listed
CHURCH OF ST PETER AND ST PAUL	1163557	Grade II* listed
PARISH CHURCH OF ST MARY	1163652	Grade II* listed
MADINGLEY MILL, AT MILL FARM, MADINGLEY HILL	1164101	Grade II* listed
CHURCH OF ST ANDREW	1164356	Grade II* listed
CHURCH OF ST ANDREW	1164972	Grade II* listed
CATTELL'S MILL	1165918	Grade II* listed
BURGH HALL	1167060	Grade II* listed
CHURCH OF ST JOHN THE EVANGELIST	1178408	Grade II* listed
BIGGIN ABBEY	1099114	Grade II* listed
Multi-phased settlement east of Milton	1457437	Scheduled Monument
Iron Age ritual enclosure containing a Bronze Age barrow, and Roman cemetery	1465057	Scheduled Monument
Wandlebury Camp: a multivallate hillfort, earlier univallate hillfort, Iron Age cemetery and 17th century formal garden remains	1009395	Scheduled Monument
Denny Abbey	1012770	Scheduled Monument
Giant's Hill: a motte castle with part of an earlier medieval settlement and associated field system	1011778	Scheduled Monument
Causewayed enclosure 900m west of Great Wilbraham parish church	1009103	Scheduled Monument
Belsar's Hill ringwork	1010368	Scheduled Monument
Swaffham Bulbeck moated site.	1012622	Scheduled Monument
Moated site area 140m south west of Histon Manor	1019181	Scheduled Monument
Moated site 90m south of Bendyshe Farm	1019175	Scheduled Monument
Long barrow 650m NNW of Lythel's Farm	1020843	Scheduled Monument
Henge 220m ESE of Herring's House	1011716	Scheduled Monument
Moated site at Manor Farm	1019180	Scheduled Monument

Name	NHLE	Designation
Worstead Street (Via Devana) near Cambridge	1003263	Scheduled Monument
Romano-British Settlement at Chittering, Cambs	1012359	Scheduled Monument
Roman settlement	1006793	Scheduled Monument
Length of Car Dyke between Green End and Top Moor	1006813	Scheduled Monument
Shrunken medieval village of Landbeach	1006870	Scheduled Monument
Horningsea kilns, site of	1006895	Scheduled Monument
Over Windmill	1006869	Scheduled Monument
Deserted medieval village in Bottisham Park	1006900	Scheduled Monument
Chesterton Abbey	1006907	Scheduled Monument
Civil War earthworks at the Castle	1006886	Scheduled Monument
Site revealed by aerial photography W of White Hill Farm	1006891	Scheduled Monument
Car Dyke	1006930	Scheduled Monument
Old Cheddar's Lane pumping station	1006896	Scheduled Monument
Waterbeach Abbey (site of)	1006888	Scheduled Monument
Cambridge Castle mound	1006905	Scheduled Monument
Settlement site by Caudle Corner Farm	1006878	Scheduled Monument
Romano-British settlement on Bullocks Haste Common	1006897	Scheduled Monument
AMERICAN MILITARY CEMETERY	1001573	Grade I registered park and garden
HISTON ROAD CEMETERY	1001569	Grade II* registered park and garden
BOTANIC GARDEN, CAMBRIDGE	1000612	Grade II* registered park and garden
ANGLESEY ABBEY	1000611	Grade II* registered park and garden
KING'S COLLEGE	1000624	Grade II* registered park and garden
ST JOHN'S COLLEGE	1000632	Grade II* registered park and garden
EMMANUEL COLLEGE	1000619	Grade II* registered park and garden
CHILDERLEY HALL	1000614	Grade II* registered park and garden
MILL ROAD CEMETERY	1001561	Grade II registered park and garden
TRINITY HALL	1000634	Grade II registered park and garden
MADINGLEY HALL	1000627	Grade II registered park and garden

Name	NHLE	Designation
SWAFFHAM PRIOR HOUSE	1000396	Grade II registered park and garden
CLARE COLLEGE	1000617	Grade II registered park and garden
CHRIST'S COLLEGE	1000616	Grade II registered park and garden
TRINITY COLLEGE	1000633	Grade II registered park and garden
QUEENS' COLLEGE	1000630	Grade II registered park and garden
Garden of 48 Storey's Way	1422759	Grade II registered park and garden
Swaffham Bulbeck	N/A	Conservation Area
Lode	N/A	Conservation Area
Bottisham	N/A	Conservation Area
Trumpington	N/A	Conservation Area
Ferry Lane	N/A	Conservation Area
Chesterton	N/A	Conservation Area
De Freville	N/A	Conservation Area
Storey's Way	N/A	Conservation Area
Conduit Head Road	N/A	Conservation Area
Southacre	N/A	Conservation Area
Brooklands Avenue	N/A	Conservation Area
Barrow Road	N/A	Conservation Area
Central	N/A	Conservation Area
Castle and Victoria Road	N/A	Conservation Area
Kite	N/A	Conservation Area
Mill Road	N/A	Conservation Area
New Town and Glisson Road	N/A	Conservation Area
Newnham Croft	N/A	Conservation Area
Riverside and Stourbridge Common	N/A	Conservation Area
West Cambridge	N/A	Conservation Area
Within 200m of the Waterbeach transfer pipeline corridor		
BAPTIST CHAPEL	1179106	Grade II listed

Name	NHLE	Designation
THE LIMES	1127389	Grade II listed
There are no designated heritage assets within 200m of treated effluent pipeline corridor option A for site area 2		
Within 200m of treated effluent pipeline corridor option B for site area 2		
Multi-phased settlement east of Milton	1457437	Scheduled Monument
LODGE TO MILTON HALL	1331320	Grade II listed
There are no designated assets within 200m of the waste water transfer pipeline corridor for Site area 2		

Source: Historic England (2020) National Heritage List for England

A.3 Designated assets within the study area for Site area 3

Name	NHLE	Designation
There are no designated assets within Site area 3		
Within 500m of Site area 3		
BIGGIN ABBEY	1178408	Grade II* listed
THE PLOUGH AND FLEECE	1127373	Grade II listed
VILLAGE PUMP TO NORTH OF SHELTER	1331292	Grade II listed
Within ZTV for Site area 3		
SIDNEY SUSSEX COLLEGE, THE BUILDINGS SURROUNDING HALL COURT AND CHAPEL COURT	1106237	Grade I listed
Trinity College, The Buildings surrounding Great Court, Neville's Court and New Court, and including King's Hostel	1106371	Grade I listed
CHURCH OF ST ANDREW	1112541	Grade I listed
THE COCKERELL BUILDING (SQUIRE LAW LIBRARY)	1121518	Grade I listed
MAGDALENE COLLEGE, THE BUILDINGS SURROUNDING FIRST COURT	1125500	Grade I listed
GONVILLE AND CAIUS COLLEGE, THE GATE OF HONOUR AND FLANKING WALLS	1125526	Grade I listed
JESUS COLLEGE, THE BUILDINGS SURROUNDING CLOISTER AND OUTER COURTS, AND THE EAST RANGE OF PUMP COURT (EXCLUDING THE NORTH RANGE OF OUTER COURT)	1125529	Grade I listed
KING'S COLLEGE, SCREENS AND ENTRANCE GATEWAY ON KING'S PARADE	1125532	Grade I listed
KING'S COLLEGE, FELLOWS' BUILDING	1125533	Grade I listed

Name	NHLE	Designation
KING'S COLLEGE, KING'S BRIDGE	1125535	Grade I listed
CHRIST'S COLLEGE, BATHING POOL AND SUMMER HOUSE, INCLUDING THE BUSTS OF CUDWORTH, MILTON AND SAUNDERSON AND STONE VASE IN MEMORY OF JOSEPH MEDE	1125548	Grade I listed
CLARE COLLEGE, GATES AND RAILINGS TO TRINITY HALL LANE	1125550	Grade I listed
CLARE COLLEGE, GATEWAY ON WEST SIDE OF CLARE BRIDGE WITH FLANKING RAILINGS AND GATES TO COLLEGE GARDEN	1125551	Grade I listed
CHURCH OF ST MICHAEL	1126061	Grade I listed
CHURCH OF ST MARY THE GREAT	1126084	Grade I listed
SCHOOL OF PYTHAGORAS	1126114	Grade I listed
CHURCH OF ST ANDREW	1126191	Grade I listed
ALL SAINTS CHURCH	1126204	Grade I listed
CHURCH OF ST BENE'T	1126252	Grade I listed
CHURCH OF THE HOLY SEPULCHRE	1126260	Grade I listed
THE LAW SCHOOL AND UNIVERSITY OFFICES	1126279	Grade I listed
CHURCH OF ST MARY	1127040	Grade I listed
CHURCH OF ST MARY THE VIRGIN	1127052	Grade I listed
CHURCH OF HOLY TRINITY	1127115	Grade I listed
DENNY ABBEY	1127360	Grade I listed
PARISH CHURCH OF ALL SAINTS	1127385	Grade I listed
PARISH CHURCH OF ST ANDREW	1127404	Grade I listed
CHURCH OF ST PETER	1127774	Grade I listed
KING'S COLLEGE, CHAPEL	1139003	Grade I listed
JESUS COLLEGE, NORTH RANGE OF OUTER COURT	1139049	Grade I listed
KING'S COLLEGE, SOUTH RANGE OF FIRST COURT, INCLUDING THE LIBRARY AND THE FORMER PROVOST'S LODGE	1139452	Grade I listed
THE ABBEY	1165597	Grade I listed
WANSTEAD HOUSE	1099114	Grade II* listed
GONVILLE AND CAIUS COLLEGE, THE NORTH AND EAST RANGES OF TREE COURT AND SOUTH WALL	1115408	Grade II* listed
CLARE COLLEGE MEMORIAL COURT	1115639	Grade II* listed
SIDNEY SUSSEX COLLEGE, CLOISTER COURT	1125496	Grade II* listed

Name	NHLE	Designation
13, TRINITY STREET	1126063	Grade II* listed
30 AND 31, TRINITY STREET	1126068	Grade II* listed
CHURCH OF ST EDWARD, KING AND MARTYR	1126076	Grade II* listed
"BARNWELL PRIORY	1126103	Grade II* listed
BARNWELL PRIORY (THE CELLARER'S CHECKER)"	1126148	Grade II* listed
ARTS THEATRE WORKSHOP AND STORE	1126262	Grade II* listed
CHURCH OF ST CLEMENT	1126339	Grade II* listed
SIX MILE BOTTOM WINDMILL	1127041	Grade II* listed
CHURCH OF ST CYRIAC AND JULITTA	1127071	Grade II* listed
THE HALL	1127273	Grade II* listed
CHURCH OF ALL SAINTS	1127349	Grade II* listed
PARISH CHURCH OF ALL SAINTS	1127351	Grade II* listed
MILTON HOUSE	1127366	Grade II* listed
CHURCH OF ST JOHN	1127378	Grade II* listed
IMPINGTON MILL	1127399	Grade II* listed
DITTON HALL	1127430	Grade II* listed
PARISH CHURCH OF ST MARY VIRGIN	1127431	Grade II* listed
THE OLD RECTORY	1127875	Grade II* listed
WILBRAHAM TEMPLE	1163652	Grade II* listed
MADINGLEY MILL, AT MILL FARM, MADINGLEY HILL	1164101	Grade II* listed
CHURCH OF ST ANDREW	1167060	Grade II* listed
CHURCH OF ST JOHN THE EVANGELIST	1178408	Grade II* listed
BIGGIN ABBEY	1099114	Grade II* listed
Multi-phased settlement east of Milton	1457437	Scheduled Monument
Iron Age ritual enclosure containing a Bronze Age barrow, and Roman cemetery	1465057	Scheduled Monument
Wandlebury Camp: a multivallate hillfort, earlier univallate hillfort, Iron Age cemetery and 17th century formal garden remains	1009395	Scheduled Monument
Burwell Castle	1015596	Scheduled Monument
Denny Abbey	1012770	Scheduled Monument

Name	NHLE	Designation
Giant's Hill: a motte castle with part of an earlier medieval settlement and associated field system	1011778	Scheduled Monument
Three bowl barrows 640m north west of Hare Park Stud	1016819	Scheduled Monument
Causewayed enclosure 900m west of Great Wilbraham parish church	1009103	Scheduled Monument
Three bowl barrows 640m north west of Hare Park Stud	1016819	Scheduled Monument
Swaffham Bulbeck moated site.	1012622	Scheduled Monument
Moated site area 140m south west of Histon Manor	1019181	Scheduled Monument
Moated site 90m south of Bendyshe Farm	1019175	Scheduled Monument
Long barrow 650m NNW of Lythel's Farm	1020843	Scheduled Monument
Bowl barrow on Copley Hill	1017327	Scheduled Monument
Henge 220m ESE of Herring's House	1011716	Scheduled Monument
Moated site at Manor Farm	1019180	Scheduled Monument
Four bowl barrows at Allington Hill, 420m south west of Allington Hill Farm	1016820	Scheduled Monument
Devil's Ditch, Reach to Woodditton	1003262	Scheduled Monument
Worstead Street (Via Devana) near Cambridge	1003263	Scheduled Monument
Five bowl barrows 270m north of Hare Park Stud	1016818	Scheduled Monument
Bowl barrow 1080m north east of Worsted Lodge Farm, part of a dispersed round barrow cemetery in Charterhouse Plantation	1019989	Scheduled Monument
Romano-British Settlement at Chittering, Cambs	1012359	Scheduled Monument
Four bowl barrows 920m and 950m south east of Heath Farm, part of a dispersed round barrow cemetery in Charterhouse Plantation	1017326	Scheduled Monument
Roman settlement	1006793	Scheduled Monument
Length of Car Dyke between Green End and Top Moor	1006813	Scheduled Monument
Shrunken medieval village of Landbeach	1006870	Scheduled Monument
Mutlow Hill tumulus	1006932	Scheduled Monument
Moated site at Manor Farm	1020440	Scheduled Monument
Horningsea kilns, site of	1006895	Scheduled Monument
Causewayed enclosure and bowl barrow at Little Trees Hill	1011717	Scheduled Monument
Romano-British settlement 200m west of Allington Hill	1006901	Scheduled Monument
Deserted medieval village in Bottisham Park	1006900	Scheduled Monument

Name	NHLE	Designation
Roman villa and Iron Age settlement N of Reach Bridge	1006875	Scheduled Monument
Chesterton Abbey	1006907	Scheduled Monument
Civil War earthworks at the Castle	1006886	Scheduled Monument
Old Cheddar's Lane pumping station	1006896	Scheduled Monument
Car Dyke	1006930	Scheduled Monument
Waterbeach Abbey (site of)	1006888	Scheduled Monument
Cambridge Castle mound	1006905	Scheduled Monument
Settlement site by Caudle Corner Farm	1006878	Scheduled Monument
Romano-British settlement on Bullocks Haste Common	1006897	Scheduled Monument
Fleam Dyke	1006931	Scheduled Monument
AMERICAN MILITARY CEMETERY	1001573	Grade I registered park and garden
HISTON ROAD CEMETERY	1001569	Grade II* registered park and garden
BOTANIC GARDEN, CAMBRIDGE	1000612	Grade II* registered park and garden
ANGLESEY ABBEY	1000611	Grade II* registered park and garden
KING'S COLLEGE	1000624	Grade II* registered park and garden
ST JOHN'S COLLEGE	1000632	Grade II* registered park and garden
EMMANUEL COLLEGE	1000619	Grade II* registered park and garden
MILL ROAD CEMETERY	1001561	Grade II registered park and garden
TRINITY HALL	1000634	Grade II registered park and garden
MADINGLEY HALL	1000627	Grade II registered park and garden

Name	NHLE	Designation
WILBRAHAM TEMPLE	1000397	Grade II registered park and garden
SWAFFHAM PRIOR HOUSE	1000396	Grade II registered park and garden
CLARE COLLEGE	1000617	Grade II registered park and garden
CHRIST'S COLLEGE	1000616	Grade II registered park and garden
TRINITY COLLEGE	1000633	Grade II registered park and garden
QUEENS' COLLEGE	1000630	Grade II registered park and garden
Garden of 48 Storey's Way	1422759	Grade II registered park and garden
Burwell High Town	N/A	Conservation Area
Reach	N/A	Conservation Area
Swaffham Prior	N/A	Conservation Area
Swaffham Bulbeck	N/A	Conservation Area
Lode	N/A	Conservation Area
Bottisham	N/A	Conservation Area
Trumpington	N/A	Conservation Area
Ferry Lane	N/A	Conservation Area
Chesterton	N/A	Conservation Area
De Freville	N/A	Conservation Area
Storey's Way	N/A	Conservation Area
Conduit Head Road	N/A	Conservation Area
Southacre	N/A	Conservation Area
Brooklands Avenue	N/A	Conservation Area
Central	N/A	Conservation Area
Castle and Victoria Road	N/A	Conservation Area

Name	NHLE	Designation
Kite	N/A	Conservation Area
Mill Road	N/A	Conservation Area
New Town and Glisson Road	N/A	Conservation Area
Newnham Croft	N/A	Conservation Area
Riverside and Stourbridge Common	N/A	Conservation Area
West Cambridge	N/A	Conservation Area
Within 200m of Waterbeach transfer pipeline Corridor		
Horningsea kilns, site of	1006895	Scheduled Monument
THE PRIORY	1127374	
VILLAGE PUMP TO NORTH OF SHELTER	1331292	
86 AND 88, HIGH STREET	1331293	
THE SQUARE	1178724	
52 AND 54, HIGH STREET	1127375	
KINGS HATCH	1331294	
K6 TELEPHONE KIOSK	1223639	
THE THATCH	1302271	
KINGS ACRE	1331291	
CROWN AND PUNCH BOWL	1127376	
THE OLD RECTORY	1127377	
MANOR FARMHOUSE	1178774	
BARN TO NORTH OF LOCK FARM	1179436	Grade II listed
GRANARY TO EAST OF EYE HALL	1127368	Grade II listed
BARN TO EAST SOUTH EAST OF EYE HALL	1127369	Grade II listed
EYE HALL	1127411	Grade II listed
Within the study area for the treated effluent pipeline corridor		
BIGGIN ABBEY	1178408	Grade II* listed
POPLAR HALL	1127400	Grade II listed
Within the waste water transfer corridor		

Name	NHLE	Designation
POPLAR HALL	1127400	Grade II listed
LODE COTTAGE	1331301	
4, GREEN END	1127393	
Within 200m of the waste water transfer corridor		
GRASSEY COTTAGE	1127392	

Source: Historic England (2020) *National Heritage List for England*

B. Non-Designated Heritage Assets within the study areas

B.1 Non-designated assets in the study area for Site area 1

Name	CHER	Period and description
Within Site area 1 study area		
Coin finds, Mere Way	MCB16262	Iron Age/ Roman
Roman and medieval finds, Milton	MCB16263	Roman Medieval
Roman bronze coins, Milton	08779	Roman
Metal disc, Milton	08799A	Undated Modern
Roman bronze jug handle, Milton	08778	Roman
Bronze artefacts, Milton	08778A	Undated
Mesolithic flint blade, Milton	05273	Mesolithic
Mere Way/ Akeman Street Roman Road	N/A	Roman
Within Waterbeach transfer pipeline study area for site area 1		
Cropmarks near Landbeach	08317	Roman (?)
Roman pottery and coin, Landbeach	08314	Roman
Cropmark ditches, Lime Farm	11175	Roman
Cropmark complex, Lime Farm, Landbeach	08312a	Undated
Roman cropmark evidence, Landbeach	08844	Roman
Roman ditch, Landbeach	05343	Roman Prehistoric
Roman cropmark site, Landbeach	08847	Roman
RAF Waterbeach	CB15155	WWII
Roman settlement and cemetery, Area 6, Waterbeach Barracks	MCB24602	Medieval Roman

Name	CHER	Period and description
Roman finds, Waterbeach	11331	Roman
Within treated effluent pipeline corridor for site area 1 Option A		
Roman finds concentration, Butt Lane, Milton	MCB17609	Roman
Iron Age - Romano-British settlement, Milton Park and Ride	MCB18209	Iron Age Roman
Medieval windmill, Milton Park and Ride	MCB18210	Medieval
Ridge and furrow, S of Butt Lane, Milton	MCB17518	Medieval or Post-medieval
? Cropmark enclosure, Milton	08320	Undated
WWII vehicle depot, Trinity Farm, Milton	MCB17527	WWII
Within 100m of treated effluent pipeline study area for site area 1 Option A		
Post-Medieval and undated features, St. John's Innovation Park, Cowley	08330	Post-medieval
Roman settlement, Milton	05281	Roman
Roman pottery and ditches, Milton	05308	Roman
Within treated effluent pipeline study area for site area 1 Option B		
Site of Rectory Farm, Milton	MCB27069	Post-medieval
Milestone, Ely Road, Milton	MCB18343	Post-medieval
Cropmark complex, Milton	08471	Undated
Roman pottery, Milton	05538	Roman
Roman site, Penfold Farm	08873	Roman
Roman site, Penfold Farm	08313	Roman
Romano-British features, Cambridge Rowing Lake site	MCB16009	Roman
Destroyed pillbox, N of Milton	MCB27485	WWII
Destroyed pillbox, N of Milton	MCB27483	WWII
Within 100m of the treated effluent pipeline study area for site area 1 Option B		
Possible rectilinear feature, Milton	08315	Undated
Dubious linear features, Milton	08316	Undated
Roman urns, Horningsea	05547	Roman
Prehistoric remains, Cambridge Rowing Lake site	MCB16002	Late Prehistoric

Name	CHER	Period and description
Flint implement, Horningsea	05404	Prehistoric
Roman pottery scatter, Milton	MCB17094	Roman
Destroyed pillbox, N of Milton	MCB16401	WWII
Earthwork remains Ridge and furrow, N and NW of Horningsea village	05615	Medieval
Within waste water transfer corridor study area for site area 1		
Roman finds concentration, Butt Lane, Milton	MCB17609	Roman
Iron Age - Romano-British settlement, Milton Park and Ride	MCB18209	Iron Age Roman
Medieval windmill, Milton Park and Ride	MCB18210	Medieval
Ridge and furrow, S of Butt Lane, Milton	MCB17518	Medieval or Post-medieval
? Cropmark enclosure, Milton	08320	Undated
WWII vehicle depot, Trinity Farm, Milton	MCB17527	WWII
Post-Medieval and undated features, St. John's Innovation Park, Cowley	08330	Post Medieval Undated
Post-medieval boundary ditch, St John's Innovation Park, Cambridge	MCB15916	Post Medieval
Cropmark site, Fen Ditton	08327	Undated
Multiperiod finds, A45 Girton to Stow cum Quy fieldwalking survey, field 6	11193	Roman Post-medieval
Medieval settlement remains, Fen Ditton	05535	Medieval
Extractive Pit, Off Green End	MCB20562	Post-medieval
Public air raid shelters, Fen Ditton	MCB25354	WWII
Roman cropmark system, Horningsea	11555	Roman (?)
Roman pottery, A45 Quy fieldwalking survey field 16	11203	Roman
Ridge and Furrow, Abbots Ditch Field	MCB6677	Post-medieval (?)
Medieval pottery, A45 fieldwalking project field 10	11197	Medieval
Within the study area for the diversions for the existing waste water transfer network		
Former Impington Hall and Gardens	12129	Post-medieval
Tile finds, A45 Girton to Stow cum Quy fieldwalking survey, Field 22	11209	Undated

B.2 Non-Designated Assets within the study area for site area 2

Name	CHER	Period and Description
Within Site area 2		
Impington Hall park and garden, Impington	12129	Post-medieval
Medieval and post-medieval boundary banks east of Impington	MCB25715	Medieval to post-medieval
Former Ridge and furrow, Milton	MCB20022	Medieval
WWII vehicle depot, Trinity Farm, Milton	MCB17527	WWII
Within 100m of site area 2		
Iron Age remains (Area C), Milton Landfill Site	CB15708	Iron Age
Features at Milton Landfill Site	MCB19563	Early Neolithic to Modern
Post medieval finds, A45 Girton to Stow cum Quy fieldwalking survey, Field 23	MCB13191	Post-medieval
Within 100m of Waterbeach transfer pipeline corridor		
Medieval and post-medieval boundary banks east of Impington	MCB25715	Medieval to post-medieval
Cropmarks near Landbeach	08317	Roman (?)
Roman pottery and coin, Landbeach	08314	Roman
Cropmark ditches, Lime Farm	11175	Roman
Cropmark complex, Lime Farm, Landbeach	08312a	Undated
Roman cropmark evidence, Landbeach	08844	Roman
Roman ditch, Landbeach	05343	Roman Prehistoric
Roman cropmark site, Landbeach	08847	Roman
RAF Waterbeach	CB15155	WWII
Roman settlement and cemetery, Area 6, Waterbeach Barracks	MCB24602	Medieval Roman
Roman finds, Waterbeach	11331	Roman
Cropmarks near Landbeach	08317	Roman (?)

Name	CHER	Period and Description
Roman pottery and coin, Landbeach	08314	Roman
Cropmark ditches, Lime Farm	11175	Roman
Cropmark complex, Lime Farm, Landbeach	08312a	Undated
Roman cropmark evidence, Landbeach	08844	Roman
Roman ditch, Landbeach	05343	Roman Prehistoric
Roman cropmark site, Landbeach	08847	Roman
RAF Waterbeach	CB15155	WWII
Roman settlement and cemetery, Area 6, Waterbeach Barracks	MCB24602	Medieval Roman
Roman finds, Waterbeach	11331	Roman
Within the treated effluent corridor option A		
WWII vehicle depot, Trinity Farm, Milton	MCB17527	WWII
Iron Age - Romano-British settlement, Milton Park and Ride	MCB18209	Iron Age and Roman
Medieval windmill, Milton Park and Ride	MCB18210	Medieval
Ridge and furrow, S of Butt Lane, Milton	MCB17518	Medieval
Section through Akeman Street Roman road, Milton	07610	Roman
? Cropmark enclosure, Milton	08320	Undated
Roman finds concentration, Butt Lane, Milton	MCB17609	Palaeolithic to post-medieval
Within 100m of the treated effluent corridor option A		
Post-Medieval and undated features, St. John's Innovation Park, Cowley	08330	Post-medieval
Roman settlement, Milton	05281	Roman
Roman pottery and ditches, Milton	05308	Roman
Mesolithic flint blade, Milton	05273	Mesolithic
Roman pottery, Milton	05273A	Roman
Medieval pottery, Milton	05273B	Medieval
Post-medieval pottery, Milton	05273C	Post-medieval
Mesolithic flint blade, Milton	05273	

Name	CHER	Period and Description
Roman pottery, Milton	05538	Roman
Within treated effluent pipeline study area for site area 1 Option B		
Site of Rectory Farm, Milton	MCB27069	Post-medieval
Milestone, Ely Road, Milton	MCB18343	Post-medieval
Cropmark complex, Milton	08471	Undated
Roman pottery, Milton	05538	Roman
Roman site, Penfold Farm	08873	Roman
Roman site, Penfold Farm	08313	Roman
Romano-British features, Cambridge Rowing Lake site	MCB16009	Roman
Destroyed pillbox, N of Milton	MCB27485	WWII
Destroyed pillbox, N of Milton	MCB27483	WWII
Within 100m of the treated effluent pipeline study area for site area 1 Option B		
Possible rectilinear feature, Milton		
Dubious linear features, Milton		
Roman urns, Horningsea		
Prehistoric remains, Cambridge Rowing Lake site		
Flint implement, Horningsea		
Roman pottery scatter, Milton		
Destroyed pillbox, N of Milton		
Earthwork remains Ridge and furrow, N and NW of Horningsea village		
Within treated effluent pipeline study area for site area 1 Option B		
Site of Rectory Farm, Milton		
Milestone, Ely Road, Milton		
Cropmark complex, Milton		
Roman pottery, Milton		
Within the waste water transfer corridor		
WWII vehicle depot, Trinity Farm, Milton	MCB17527	WWII
? Cropmark enclosure, Milton	08320	Undated

Name	CHER	Period and Description
Ridge and furrow, S of Butt Lane, Milton	MCB17518	Medieval
Medieval windmill, Milton Park and Ride	MCB18210	Medieval
Iron Age - Romano-British settlement, Milton Park and Ride	MCB18209	Iron Age, Roman
Roman finds concentration, Butt Lane, Milton	MCB17609	Palaeolithic to post-medieval
Section through Akeman Street Roman road, Milton	07610	Roman
Impington Hall park and garden, Impington	MCB14254	Post-medieval
Within 100m of waste water transfer corridor		
Iron Age - Romano-British settlement, Milton Park and Ride	MCB18209	Iron Age, Roman
? Cropmark enclosure, Milton	08320	Undated
Roman finds concentration, Butt Lane, Milton	MCB17609	Palaeolithic to post-medieval
Post-Medieval and undated features, St. John's Innovation Park, Cowley	08330	Post-medieval
Post-medieval boundary ditch, St John's Innovation Park, Cambridge	MCB15916	Post-medieval
Furrows and Undated Ditch at St Johns Innovation Park, Cowley Road, Cambridge	MCB20105	Undated
Within the study area for diversions for the existing waste water transfer network		
Former Impington Hall and Gardens	12129	Post-medieval
Tile finds, A45 Girton to Stow cum Quy fieldwalking survey, Field 22	11209	Undated

Non-designated assets listed above are identified in the CHER. Assessment of value is in accordance with the methodology in section 2.

B.3 Non-designated Assets within the study area for site area 3

Name	CHER	Period and description
Within Site area 3		
Roman cropmark system, Horningsea	11555	Roman
Bronze Age worked flints, Horningsea	07812	Bronze Age
Multiperiod finds, A45 Quay fieldwalking survey field 8, Horningsea	11194	Neolithic to Medieval
Prehistoric pottery, A45 Quay fieldwalking survey field 8, Horningsea	11195	Prehistoric
Roman pottery, A45 Quay fieldwalking survey field 8, Horningsea	11195A	Roman
Medieval pottery, A45 Quay fieldwalking survey field 8, Horningsea	11195B	Medieval
Post-medieval pottery, A45 Quay fieldwalking survey field 8, Horningsea	11195C	Post-medieval
Roman pottery, A45 Quay fieldwalking survey field 16, Horningsea	11203	Roman
Medieval pottery, A45 Quay fieldwalking survey field 16, Horningsea	11203A	Medieval
Post-medieval pottery, A45 Quay fieldwalking survey field 16, Horningsea	11203B	Post-medieval
Soilmarks and earthworks, A45 Quay fieldwalking survey field 20, Horningsea	11207	Unknown
Post-medieval pottery, A45 Quay fieldwalking survey field 21, Horningsea	11208	Post-medieval
Ridge and furrow, Horningsea	05611	Post-medieval
Within 100m of site area 3		
Roman pottery, Horningsea	11558	Roman
Ridge and furrow, Horningsea	05798	Medieval
Medieval pottery, A45 fieldwalking project field 10, Fen Ditton	11197	Medieval
Medieval earthworks, Horningsea	05324a	Medieval
Roman artefact scatter, Horningsea	05324	Roman
Ridge and furrow, Horningsea	05612	Medieval
Barnwell Junction to Mildenhall railway	MCB9234	Post-medieval
Within the Waterbeach transfer pipeline Corridor		
Site of former tramway, Horningsea	MCB28303	Post-medieval
Bronze Age rapiers & dirks, Horningsea	MCB27482	Bronze Age
Park and gardens of Eye Hall Farm, Horningsea	12122	Post-medieval and Modern

Name	CHER	Period and description
Within 100m of the Waterbeach transfer pipeline Corridor		
Roman settlement, Horningsea	05402	Roman
Earthwork remains Ridge and furrow, N and NW of Horningsea village	05615	Medieval
Roman kiln dump, Horningsea	05549	Roman
Deserted settlement and building remains, Eye Hall	MCB6772	Post-medieval
Roman pottery, Eye Hall Farm, Horningsea	MCB7736	Roman
Within the treated effluent corridor		
Multiperiod finds, A45 Girtton to Stow cum Quy fieldwalking survey, field 6	11193	Roman – modern
Late Saxon - early medieval pottery, Fen Ditton	11765	Early medieval
Cropmark site, Fen Ditton	08327	Unknown
Within 100m of the treated effluent corridor		
Former clay pit, Fen Ditton	MCB27455	Post-medieval
Biggin Abbey	01095	Medieval to post-medieval
Roman cropmark system, Horningsea	11555	Roman
Roman pottery and cropmarks, Horningsea	11557	Roman
Within the waste water transfer corridor		
Former clay pit, Fen Ditton	MCB27455	Post-medieval
Mounds, Fen Ditton	10515	Undated
Mound, Fen Ditton	11206	Undated
Poplar Hall, Fen Ditton	05489	Post-medieval
Roman cropmark system, Horningsea	11555	Roman
Roman artefact scatter, Horningsea	05324	Roman
Ridge and furrow, Horningsea	05612	Medieval
Windmill Hill, Fen Ditton	05310	Medieval to post-medieval
Former coprolite pit, Horningsea	MCB27456	Post-medieval
Public air raid shelters, Fen Ditton	MCB25356	WWII
Public air raid shelters, Fen Ditton	MCB25357	WWII
Public air raid shelters, Fen Ditton	MCB25355	WWII

Name	CHER	Period and description
Roman copper coin, Fen Ditton	05344	Roman
Site of Former Gravel Pit, Sandy Park Road, Milton	MCB20561	Post-medieval to modern
Roman settlement, Milton	MCB6439	Roman
Within 100m of the waste water transfer corridor		
Furrows and Undated Ditch at St Johns Innovation Park, Cowley Road, Cambridge	MCB20105	Undated
WWII vehicle depot, Trinity Farm, Milton	MCB17527	WWII
Roman pottery and ditches, Milton	05308	Roman
Cropmark site, Fen Ditton	08327	Unknown
Multiperiod finds, A45 Girton to Stow cum Quy fieldwalking survey, field 6	11193	Roman – modern
Public air raid shelters, Fen Ditton	MCB25354	WWII
Medieval settlement remains, Fen Ditton	05535	Medieval
Extractive Pit, Off Green End	MCB20562	Post-medieval and modern

C. Maps

C.1 Site 1

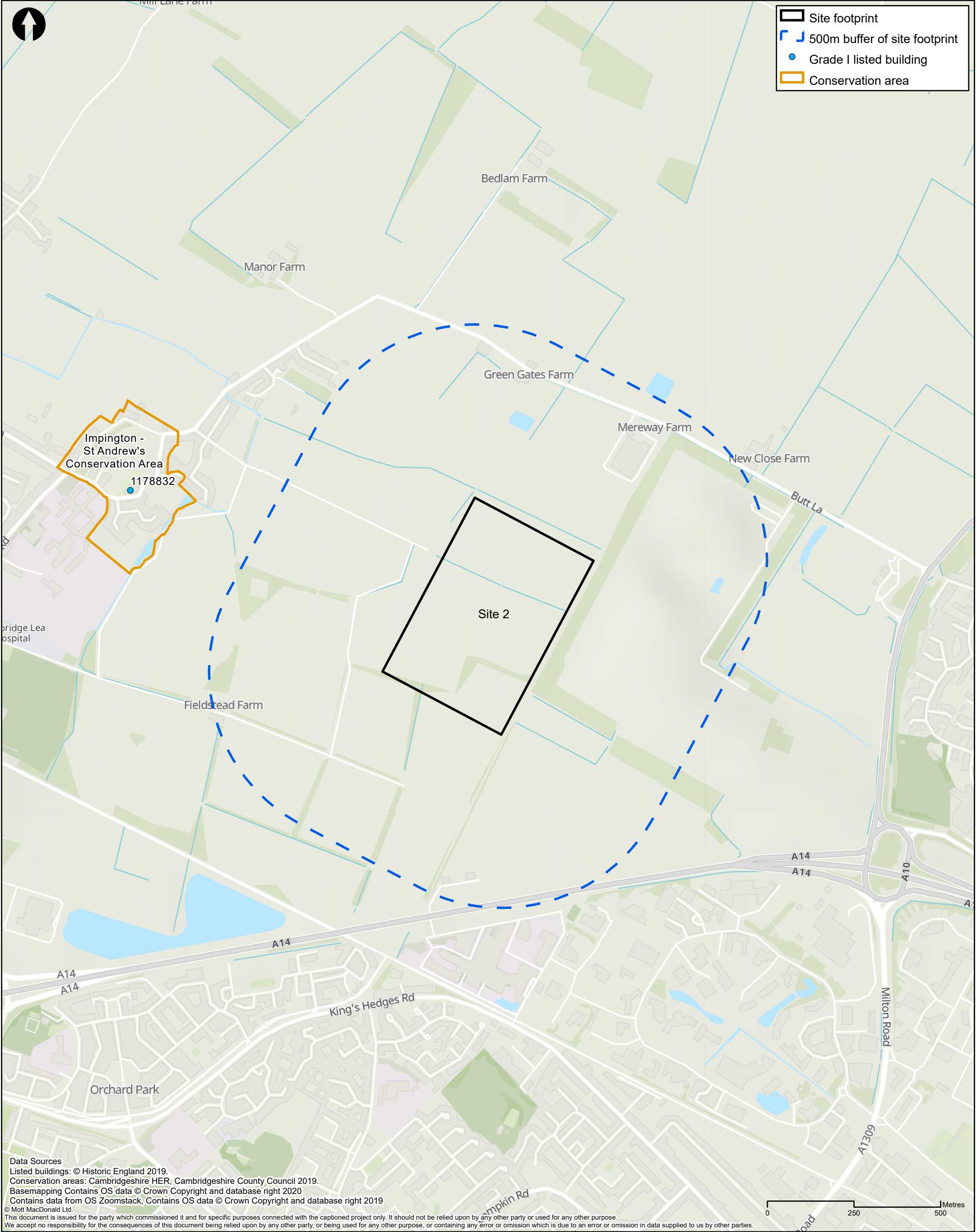


M M MOTT MACDONALD 22 Station Road Cambridge CB1 2JD United Kingdom T +44 (0)20 8774 2000 F +44 (0)20 8681 5706 W mottmac.com	Client anglianwater					Title CWWTPR Project Stage 4 Final Site Selection Nearest Designated Assets to WWTP Footprint Site area 1			Drawn	A Briggs	
	Rev Date Drawn Description Ch'k'd App'd								Checked	M Rickard	
									Approved	J Newton	
						Drawing Number 409071-MMD-00-XX-GIS-Y-0472			Scale at A3 1:10,000		
									Security	Status	Rev
								STD	PRE	G	

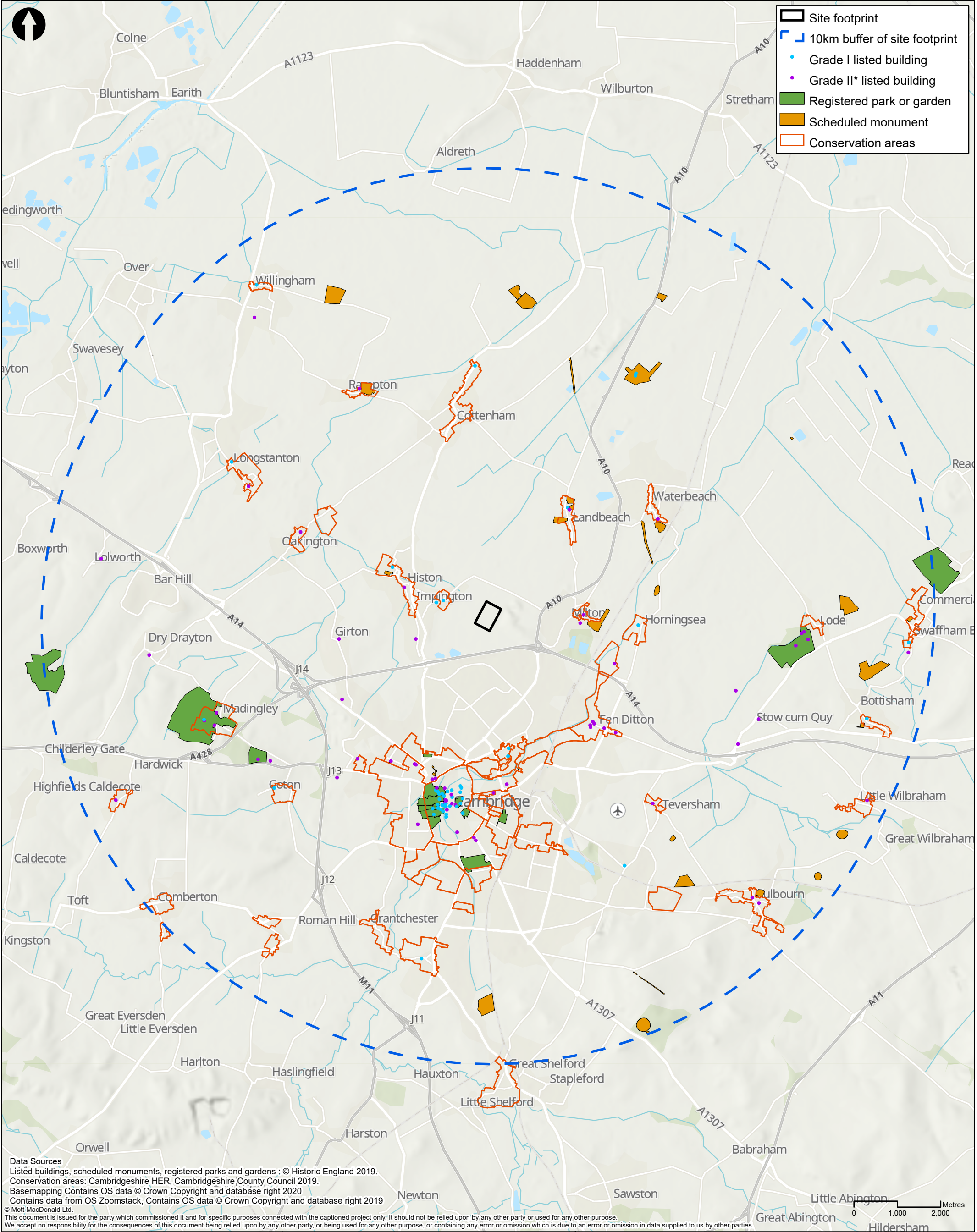


M M MOTT MACDONALD 22 Station Road Cambridge CB1 2JD United Kingdom T +44 (0)20 8774 2000 F +44 (0)20 8681 5706 W mottmac.com	Client						Title CWWTPR Project Stage 4 Final Site Selection Nearest Non Designated Assets to WWTP Footprint Site area 1			Drawn	A Briggs					
	anglianwater									Checked	M Rickard					
										Approved	J Newton					
										Scale at A3 1:5,000						
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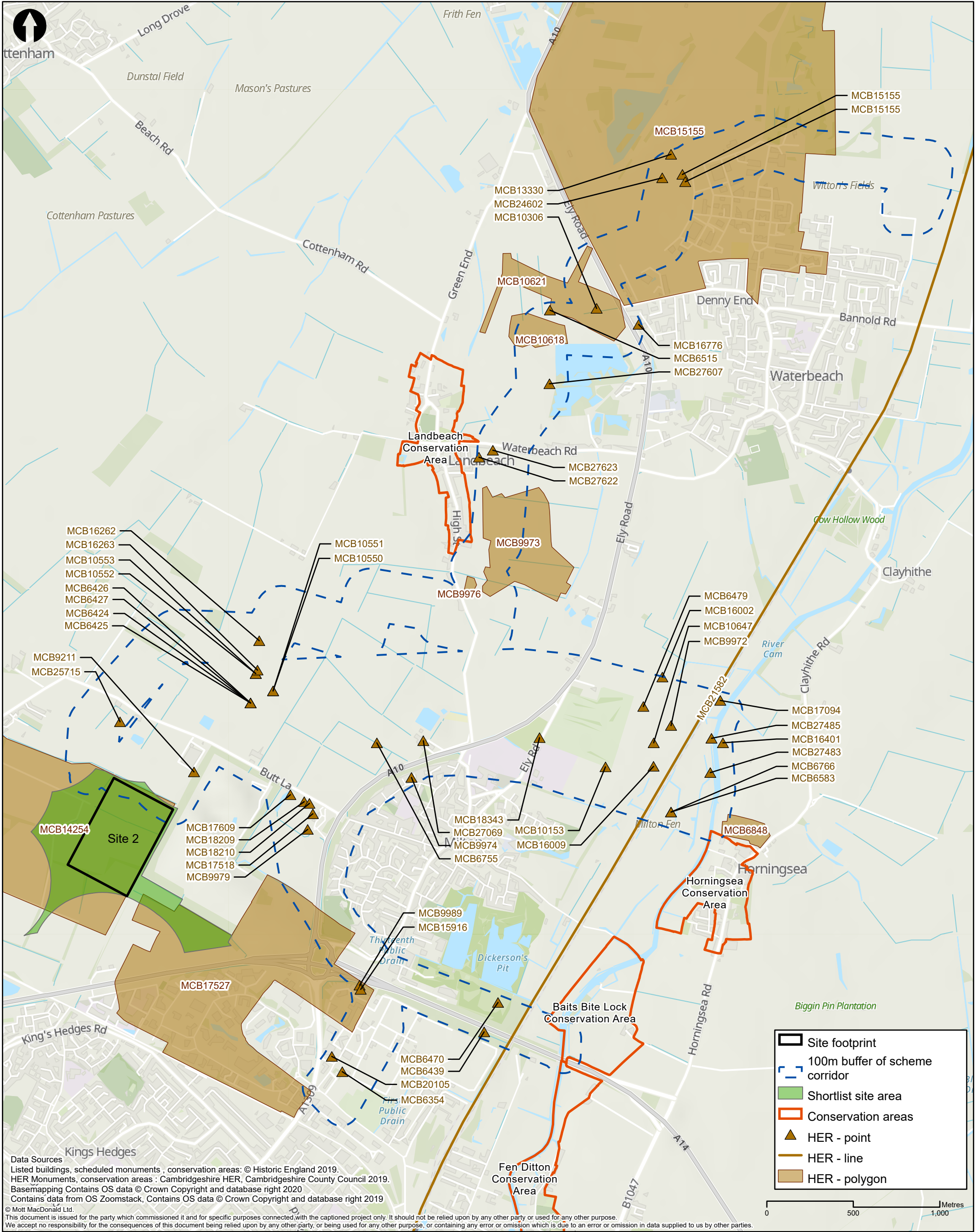
C.2 Site 2



M M MOTT MACDONALD 22 Station Road Cambridge CB1 2JD United Kingdom T +44 (0)20 8774 2000 F +44 (0)20 8681 5706 W mottmac.com	Client					Title CWWTPR Project Stage 4 Final Site Selection Nearest Designated Assets to WWTP Footprint Site area 2			Drawn	A Briggs		
	an glian water								Checked	M Rickard		
											Approved	J Newton
											Scale at A3 1:10,000	
						Rev	Date	Drawn	Description		Ch'k'd	App'd
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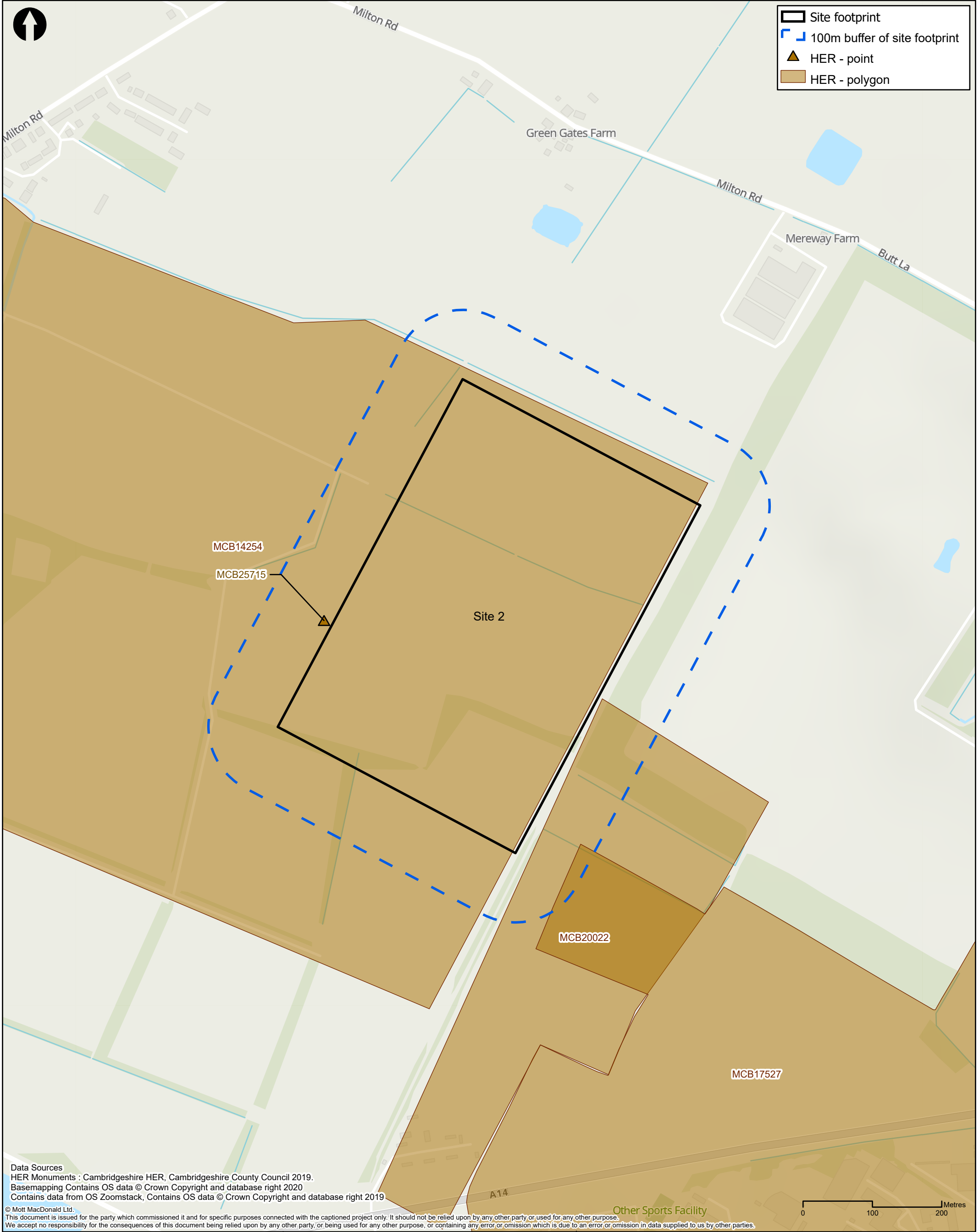


M M MOTT MACDONALD 22 Station Road Cambridge CB1 2JD United Kingdom T +44 (0)20 8774 2000 F +44 (0)20 8681 5706 W mottmac.com	Client					Title CWWTPR Project Stage 4 Final Site Selection Designated Assets within 10km ZTV Site area 2			Drawn	A Briggs		
	an glian water								Checked	M Rickard		
									Approved	J Newton		
	Rev	Date	Drawn	Description		Ch'k'd	App'd	Drawing Number			Security	Status
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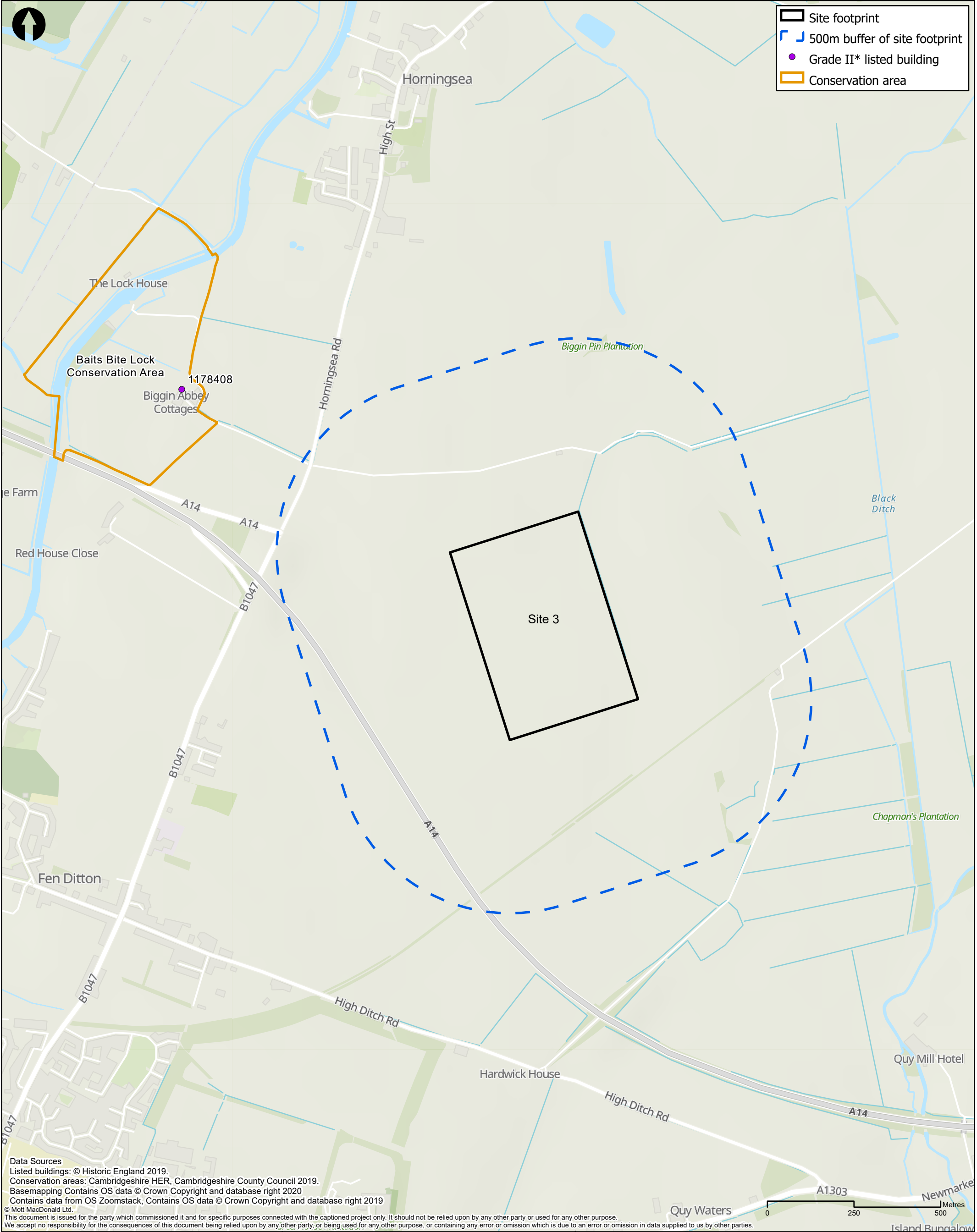
Data Sources
Listed buildings, scheduled monuments, conservation areas: © Historic England 2019.
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M M MOTT MACDONALD 22 Station Road Cambridge CB1 2JD United Kingdom T +44 (0)20 8774 2000 F +44 (0)20 8681 5706 W mottmac.com	Client						Title CWWTPR Project Stage 4 Final Site Selection Assets within 100m of Scheme Corridors Site area 2			Drawn	A Briggs	
	an glianwater									Checked	M Rickard	
										Approved	J Newton	
	Rev	Date	Drawn	Description	Ch'k'd	App'd	Drawing Number			Security	Status	Rev
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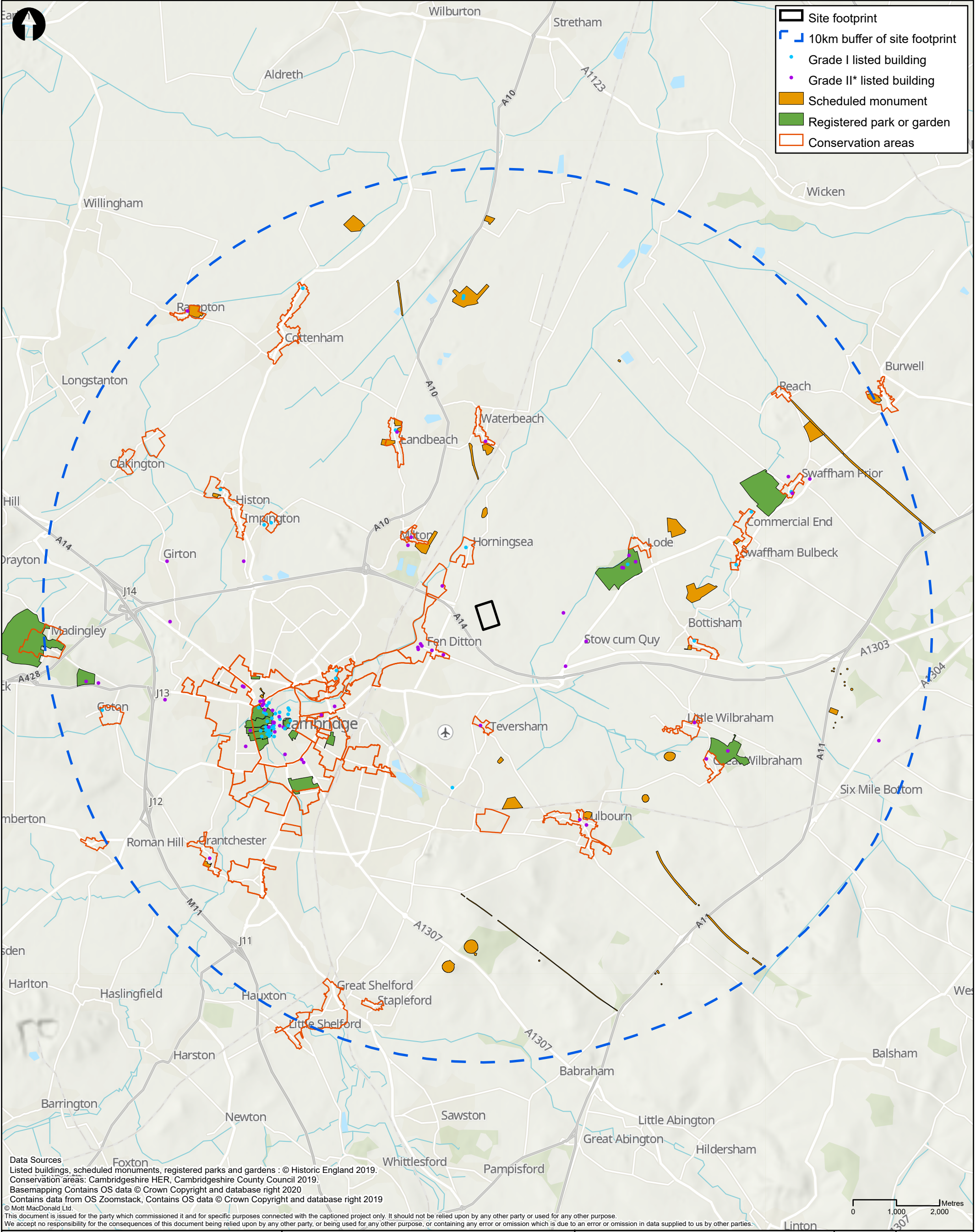


M M MOTT MACDONALD 22 Station Road Cambridge CB1 2JD United Kingdom T +44 (0)20 8774 2000 F +44 (0)20 8681 5706 W mottmac.com	Client					Title			Drawn	A Briggs	
	anglianwater					CWWTPR Project Stage 4 Final Site Selection Nearest Non Designated Assets to WWTP Footprint Site area 2			Checked	M Rickard	
									Approved	J Newton	
						Drawing Number			Scale at A3 1:5,000		
	409071-MMD-00-XX-GIS-Y-0479			Security	Status	Rev					
			STD	PRE	G						

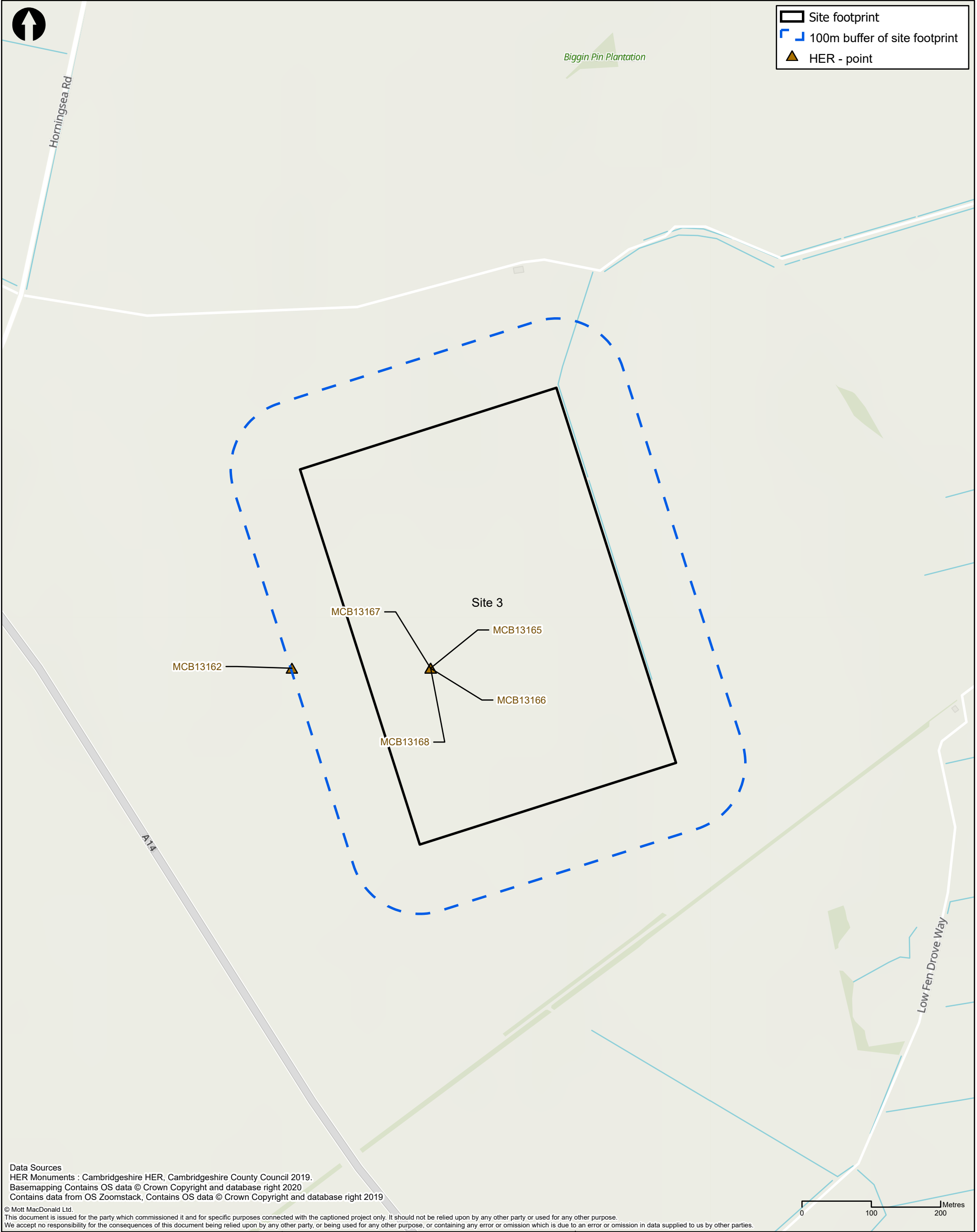
C.3 Site 3



M M MOTT MACDONALD 22 Station Road Cambridge CB1 2JD United Kingdom T +44 (0)20 8774 2000 F +44 (0)20 8681 5706 W mottmac.com	Client					Title CWWTPR Project Stage 4 Final Site Selection Nearest Designated Assets to WWTP Footprint Site area 3			Drawn	A Briggs	
									Checked	M Rickard	
									Approved	J Newton	
	Rev	Date	Drawn	Description	Ch'k'd	App'd	Drawing Number			Security	Status
G	01/21	AB	Final	MR	JN	409071-MMD-00-XX-GIS-Y-0480			STD	PRE	G



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									Checked	M Rickard																		
									Approved	J Newton																		
									Scale at A3 1:80,000																			
<table><tr><th>Rev</th><th>Date</th><th>Drawn</th><th>Description</th><th>Ch'k'd</th><th>App'd</th></tr><tr><td>G</td><td>01/21</td><td>AB</td><td>Final</td><td>MR</td><td>JN</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>					Rev	Date	Drawn	Description	Ch'k'd	App'd	G	01/21	AB	Final	MR	JN							Drawing Number 409071-MMD-00-XX-GIS-Y-0481			Security	Status	Rev
Rev	Date	Drawn	Description	Ch'k'd	App'd																							
G	01/21	AB	Final	MR	JN																							
								STD	PRE	G																		



M M MOTT MACDONALD 22 Station Road Cambridge CB1 2JD United Kingdom T +44 (0)20 8774 2000 F +44 (0)20 8681 5706 W mottmac.com	Client					Title			Drawn	A Briggs	
	anglianwater					CWWTPR Project Stage 4 Final Site Selection Nearest Non Designated Assets to WWTP Footprint Site area 3			Checked	M Rickard	
									Approved	J Newton	
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