



Cambridge Waste Water Treatment Plant Relocation

Stage 2 - Coarse Screening Report

1 July 2020

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Executive summary

- S.1. A site selection process, comprising a number of detailed appraisal steps was developed to identify sites that may be suitable for the relocation of the waste water treatment plant to replace the existing Cambridge WWTP.
- S.2. The first step was an Initial Options Appraisal, which examined the strategic issues to be considered in investigating relocation options, and also identified the most appropriate area in which to search for new WWTP sites (the Study Area).
- S.3. The Initial Options Appraisal concluded that the preferred solution for the relocation of the Cambridge WWTP would comprise a single new WWTP, within a Study Area covering the existing Cambridge and Waterbeach drainage catchment areas.
- S.4. The next step in the process was Stage 1 – Initial Site Selection, which comprised mapping constraints within the Study Area to identify a longlist of potential site areas to be taken forward for further site selection. The initial site selection identified 14 potential areas that could be utilised for the relocation of Cambridge WWTP based on the baseline constraints.
- S.5. After the initial site selection stage, Stage 2 – Coarse Screening of the longlist of site areas is required to identify a shortlist of the best performing site areas, which would then be taken forward for further screening. This stage is the subject of this report.
- S.6. The objective of the Stage 2 coarse screening was to identify preferred site areas based on their cumulative performance against a range of criteria. Each site area was evaluated against 16 criteria using a red, amber and green (RAG) assessment which highlighted the potential significance of the different assessment criteria for each site area. The results for each site area were compared with one another on a qualitative basis to identify the best performing site areas to be included in the shortlist.
- S.7. The following conclusions have been drawn from this study.
- Although the results have been reviewed holistically, certain criteria were considered to be of greater importance in the context of the WWTP relocation. In order of importance these were:
 - Impacts on local communities
 - Shape of land parcel and construction complexity
 - Green Belt policy and site allocation
 - Carbon emissions
 - Where, based on the RAG assessment and option comparison, site areas were clearly disadvantaged, compared with the other site areas, these were removed from further assessment. Site areas D, E, F, G, K, M and N were removed on this basis.
 - The remaining seven site areas fell into two distinct groups:
 - Site areas A, B and C – Site areas that are outside of the Green Belt and have higher tunnelling impacts and risk (due to longer tunnels and greater impact on the Lower Greensand aquifer).
 - Site areas H, I, J and L – Site areas that are within the Green Belt and have lower tunnelling impacts and risk (due to shorter tunnels and reduced impact on the Lower Greensand and Grey Chalk aquifers).

- It was not considered possible to differentiate between the two groups, to remove one or the other from further assessment at this stage of the site selection process. It was also not possible to differentiate between the individual site areas within the groups at this stage.
- Development within Green Belt may be acceptable if certain 'very special circumstances' exist including, for example, there being no feasible alternatives. Therefore, further investigation is needed to confirm whether site areas outside of the Green Belt are feasible or not.

S.8. The seven shortlisted site areas should be taken forward to Stage 3 – Fine Screening, in order to differentiate between the site areas and identify those that are considered to be more suitable. The fine screening stage would include the following assessments:

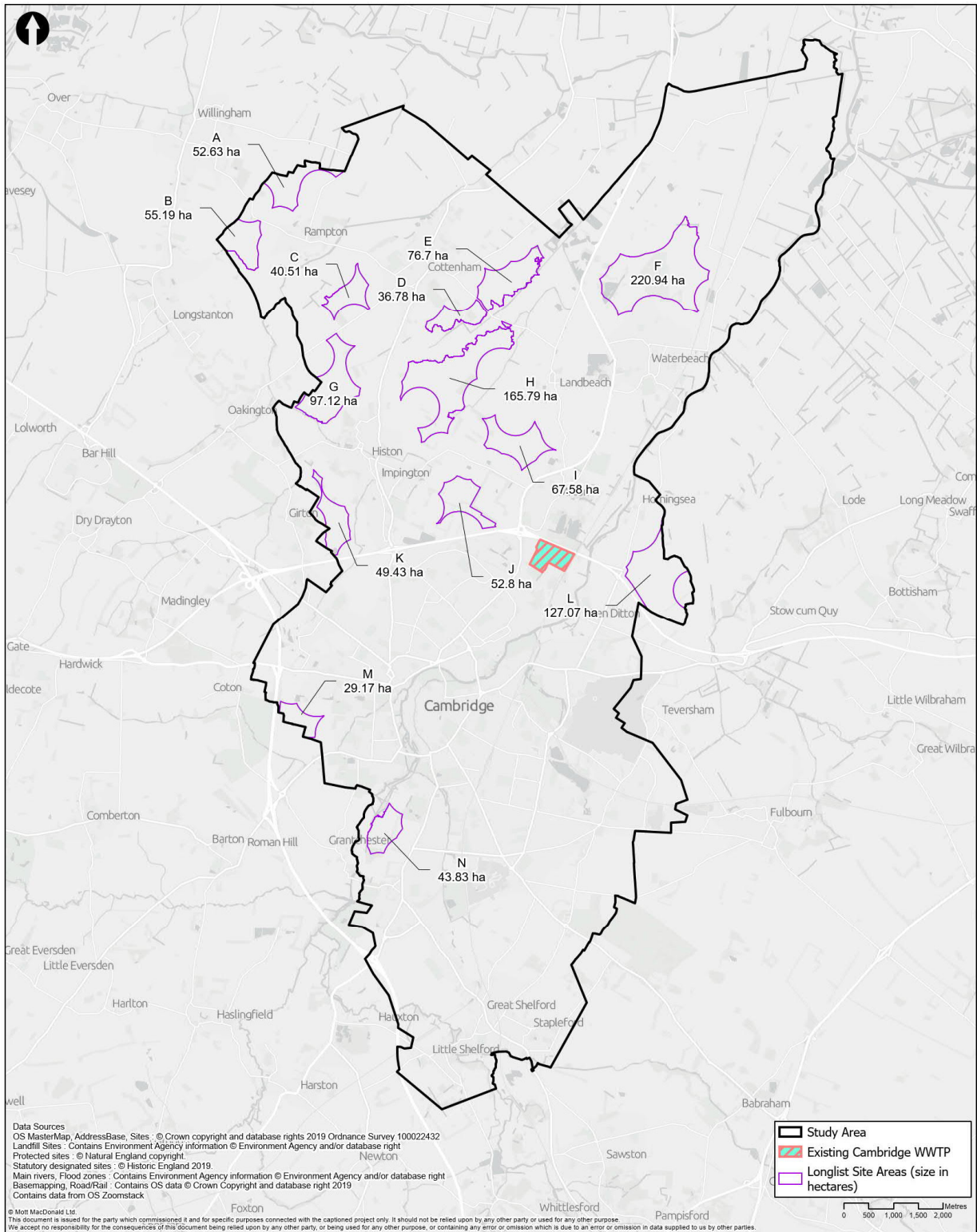
- Development of the waste water transfer infrastructure requirements for each of the shortlisted site areas
- Cost and carbon emissions estimates for development of a WWTP at each shortlisted site area including tunnelling, and
- Further assessment of the planning and environmental constraints at each of the site areas and whether they can be mitigated.

1 Introduction

This section provides an introduction to Stage 2 – Coarse Screening (this report).Background

- 1.1.1 A site selection process, comprising a number of detailed appraisal steps was developed to identify sites that may be suitable for the relocation of the waste water treatment plant to replace the existing Cambridge WWTP.
- 1.1.2 The first step was an Initial Options Appraisal, which examined the strategic issues to be considered in investigating relocation options, and also identified the most appropriate area in which to search for new WWTP sites (the Study Area).
 - 1.1.1 The Initial Options Appraisal concluded that the preferred solution for the relocation of the Cambridge WWTP would comprise a single new WWTP, within a Study Area covering the existing Cambridge and Waterbeach drainage catchment areas (Mott MacDonald Ltd, Cambridge Waste Water Treatment Plant Relocation - Initial Options Appraisal, 2020a).
- 1.1.2 The next step in the process was Stage 1 – Initial Site Selection, which comprised mapping constraints within the Study Area to identify a longlist of potential site areas to be taken forward for further site selection. The initial site selection identified 14 potential areas that could be utilised for the relocation of Cambridge WWTP based on the baseline constraints (Mott MacDonald Ltd, 2020b). The locations of the longlisted potential site areas are shown in Figure 1.1.
- 1.1.3 After the initial site selection stage, Stage 2 – Coarse Screening of the longlist of site areas is required to identify a shortlist of the best performing site areas, which would then be taken forward for further screening. This stage is the subject of this report.

Figure 1.1: Longlisted site areas



Source: Contains OS data © Crown Copyright and database right 2019

2 Stage 2 – Coarse Screening criteria

2.1 Red Amber Green (RAG) Assessment

- 2.1.1 The objective of Stage 2 was to shortlist site areas based on their cumulative performance against a range of community, environmental, operational and planning criteria.
- 2.1.2 Each site area was evaluated against the criteria by means of a RAG assessment. The RAG assessment was used to highlight the potential significance of the criteria for each site area. It is important to note that none of the assessments were exclusionary i.e. a red result for a single criterion did not indicate that a site area should be excluded from further consideration.
- 2.1.3 The assessment criteria adopted at Stage 2 are listed in Table 2.1 below. The approach to assessing each criterion is reported in the following sections.
- 2.1.4 **Error! Reference source not found.** shows the size variation of the potential site areas. It is considered that there is no parameter or criteria that could be used to split the site areas fairly and equally at this stage. Therefore, for the coarse screening exercise, the relative performance of the whole of each site area has been assessed to identify a shortlist of areas.
- 2.1.5 Once a shortlist of areas has been identified, the shortlist will be subjected to detailed analysis at the fine screening stage.

Table 2.1: Assessment Criteria Adopted at Stage 2

Category	Criteria Name	Description
Operational	Size and shape of land parcel	Would the size of the land parcel be sufficient and its shape suitable for the typical layout of the new WWTP?
	Ease of site access during construction and operation	Is the site area located in close proximity to a major road transport route to enable delivery of construction materials and are likely access roads suitable for future operational traffic?
	Waste water transfer infrastructure	Would the construction of the necessary waste water transfer infrastructure (tunnels and pipelines) be more complex and also have higher carbon emissions?
Environmental	Contaminated land	Is the site area located on or in proximity to any historical or operational landfills or land likely to be contaminated due to historical land use?
	Groundwater	Would there be potential adverse impacts on aquifers below the site area? Layers of rock below the ground that hold water (groundwater) are called aquifers. The Environment Agency designates sensitive aquifers that are used for drinking water supply, support flow in rivers or sustain groundwater dependant habitats (e.g. wetlands). Below the Study Area there are two separate layers of rock that are designated as a Principal Aquifers by the Environment Agency; these are the Lower Greensand Group and the Grey Chalk Subgroup.
	Surface water	Would there be potential adverse impacts on rivers and other surface water bodies?
	Nature Conservation and Biodiversity	Is the site area located on a pathway used by wildlife to travel to/from a statutory or non-statutory designated site (e.g. Site of Special Scientific Interest or Local Nature Reserve)?
	Landscape and visual amenity	Would the proposed development impact the character of any statutory landscape designations or the visual amenity of surrounding communities?
	Historic Environment	Would the development impact on adjacent national heritage designations? Are significant local heritage designations present at the site area?
	Agricultural land classification	Would the WWTP be built on 'Best and Most Versatile Agricultural Land'?
Planning	Development constraints	Is the site area or immediate area allocated for significant development or does it have significant policy constraints? Are neighbouring land uses sensitive to the development of a WWTP?
	Green Belt	Is the site area within the Green Belt?
Community	Impacts on local communities	Would construction and operation of the WWTP impact local communities? Would there be a loss of local amenity (i.e. recreational sites and Public Rights of Way (PRoW))?

Source: Mott MacDonald

2.1.6 Maps of the datasets used to assess each of the criteria are provided in Appendix A. Individual drawings are referenced in the following sections. Due to the size of the Study Area, in order to present the datasets at a suitable scale each of the drawings are split into two parts, the northern area (A) and the southern area (B).

2.2 Shape of Site Area

2.2.1 This assessment considers whether the shape of the land parcels of the potential site areas are suitable for constructing a new WWTP.

2.2.2 The shape of the site area was assessed with regard to its suitability for accommodating a typical layout WWTP which relates to the selected treatment type (activated sludge, which is the treatment process at the existing Cambridge WWTP). A typical layout for a WWTP would have treatment stages arranged in the required sequence of treatment and located close to each other in order to minimise pipeline lengths and pumping energy between processes.

2.2.3 A red category has not been used in this assessment as no shape is considered to preclude locating a WWTP on a site area with an area greater than 22ha. However, some shapes are sub-optimal and would constrain the layout of the WWTP and increase the operational complexity.

2.2.4 The following RAG definitions were adopted in the size and shape assessment:

Green	Amber	Red
Site area shape suitable for typical layout	Site area shape not suitable for typical layout	n/a

2.2.5 See Drawing 409071-MMD-00-XX-GIS-Y-0050 in Appendix A.

2.3 Ease of site access during construction and operation

2.3.1 This criterion assessed the proximity of each site area to suitable transport routes for materials imported or exported (i.e. to the national road network) and the suitability of access roads for HGV movements for traffic during both the construction and operational phases.

2.3.2 For these purposes, each site area was assessed in terms of the road most likely to be used for construction and operational traffic, and the suitability of that road.

2.3.3 A number of major road transport links are located within the study area, including the A14, A10, A603, and M11. Site areas situated closer to these roads were considered favourable due to the reduced use of minor roads to provide construction access. The roads most likely to be used for operational traffic were also assessed with regard to their suitability for the expected numbers of HGV movements¹.

2.3.4 The assessment looked at the distance in length of road from the most likely point of entry on the site area perimeter to the assumed major road to be used for access (e.g. A14, A10 or M11).

2.3.5 Suitability of access road was assessed based on the existence of residential areas in the surrounding environment of the access road to the site area.

2.3.6 The RAG categories for the construction access assessment were defined as follows:

Green	Amber	Red
Close proximity to national road network (e.g. A14, A10 or M11) and Access road likely to be used for operational traffic considered suitable for expected levels of HGV movements.	Moderate proximity to national road network (e.g. A14, A10 or M11) or Access road likely to be used for operational traffic considered moderately suitable for expected levels of HGV movements.	Site area significantly distant from national road network (e.g. A14, A10 or M11) or Access road likely to be used for operational traffic considered unsuitable for expected levels of HGV movements.

¹ The Recycling and Environmental Services (RES) department of Anglian Water, has provided an HGV vehicle movements summary for the anticipated movements at the new WWTP. The number of HGV movements to/from the new WWTP are expected to be approximately 150/day.

2.3.7 The following map has been used in this assessment and can be found in Appendix A:

- Ease of Access – 409071-MMD-00-XX-GIS-Y-0063.

2.4 Waste water transfer infrastructure

2.4.1 This assessment considers the potential impact of the main waste water transfer infrastructure to each of the longlisted site areas. This infrastructure comprises the following:

- Waste water transfer tunnel from the inlet works at the existing WWTP to the new WWTP, which will comprise the following:
 - A deep below ground tunnel constructed using a tunnel boring machine between two shafts, one at the existing WWTP and one at the new WWTP, with additional intermediate shafts provided as required to provide safe access during construction and future maintenance.
- Treated effluent discharge pipelines or tunnel from the new WWTP to the existing consented discharge location on the River Cam. There are two options for this element as follows:
 - Treated effluent returned to the existing discharge location via gravity tunnel and final lift pumping station (located at the end of the return tunnel).
 - Treated effluent returned to the existing discharge location using two pumped pipelines (with pumping station located at the new WWTP).

2.4.2 The selected criteria to assess this infrastructure are based on the key risks identified in the Outline Ground Engineering and Tunnelling Overview (Mott MacDonald Ltd, 2019) and the findings of the carbon emissions assessment for waste water transfer infrastructure (Mott MacDonald Ltd, 2020d). The criteria were selected to assess the most significant elements of ground conditions and tunnel and pipeline design that would differentiate between the site areas.

2.4.3 The assessment of the longlist of site areas was carried out using the information collated and conceptual ground models developed for the Outline Ground Engineering and Tunnelling Overview report (Mott MacDonald Ltd, 2019) alongside the outputs from the Stage 1 initial site selection (Mott MacDonald Ltd, 2020b).

2.4.4 Other infrastructure required for the scheme, such as a new rising main from the Waterbeach drainage catchment and diversions of existing risings mains from other villages are not included in the Stage 2 – Coarse Screening assessment. It is considered that the potential impacts of this other infrastructure, comprising small diameter pipelines, are minor in comparison to the scale of the large diameter tunnels and pipelines transferring wastewater from the existing WWTP to the relocated WWTP then treated effluent back to the River Cam. Therefore, it is considered that including this infrastructure in the assessment would not aid the differentiation between potential site areas.

2.4.5 The following RAG definitions were adopted in the tunnelling assessment:

Total length/Carbon emissions of tunnel (realistic based on indicative corridors)

2.4.6 The total length of the tunnel is included as an indicator of the amount of embodied and operational carbon emissions that would result from the construction and operation of the proposed waste water transfer infrastructure. The embodied carbon emissions are related to the length of tunnel, number and depth of shafts required and ground conditions (which affects tunnel and shaft lining design). The operational carbon emissions are due to electricity

consumed in pumping waste water flows to treatment as well as pumping final effluent to the discharge point.

- 2.4.7 The Carbon Assessment – Waste Water Transfer Infrastructure Report (Mott MacDonald Ltd, 2020d) assessed the embodied, operational and whole life carbon emissions of the waste water transfer infrastructure for each of the site areas.
- 2.4.8 The assessment concluded that the more distant site areas (e.g. A and B) had the highest estimated embodied, operational and whole life carbon emissions, whilst site areas which are closer to the existing WWTP (i.e. I, J and L) had the lowest carbon emissions.
- 2.4.9 The length of tunnel from the inlet works at the existing Cambridge WWTP to each of the longest site areas was estimated using indicative tunnelling corridors, avoiding potential surface and below ground constraints where possible.

Green	Amber	Red
≤3km	>3km and ≤6km	>6km

- 2.4.10 Note: this assessment takes account of the increasing number of intermediate shafts and depth of shafts with increasing length. Therefore, separate assessments of shaft depth or number of intermediate shafts are not required.

Total length/Carbon emissions of return pipelines

- 2.4.11 The total length of the return pipelines is included as an indicator of the amount of embodied carbon emissions the development of each site area would represent in relation to the discharge of treated effluent to the River Cam.
- 2.4.12 The Carbon Assessment – Waste Water Transfer Infrastructure Report (Mott MacDonald Ltd, 2020d) assessed the carbon emissions for two separate options for the treated effluent discharge.
 - Option A – Gravity tunnel transferring untreated waste water from the existing Cambridge WWTP to the new treatment plant, with treated effluent returned to the existing discharge location via gravity tunnel and final lift pumping station (located at the end of the return tunnel).
 - Option B – As per Option A, except that treated effluent would be returned to the existing discharge location using two pumped pipelines (with pumping station located at the new WWTP).
- 2.4.13 The assessment concluded that Option B had lower emissions than Option A due to the lower embodied carbon emissions of the return pipelines compared to the return tunnel option.
- 2.4.14 For the purpose of the coarse screening exercise, it was assumed that treated effluent would be taken to the River Cam via buried pipelines as this represents the worst case in terms of surface disruption along the route. The total length of the return pipelines was therefore also included as a criterion and the RAG assessment was carried out as below. The embodied carbon emissions are related to the length of the pipelines.

Green	Amber	Red
≤3km	>3km and ≤6km	>6km

Length of tunnel in a Principal Aquifer

- 2.4.15 Layers of rock below the ground that hold water (groundwater) are called aquifers. The Environment Agency designates sensitive aquifers that are used for drinking water supply, support flow in rivers or sustain groundwater dependant habitats (e.g. wetlands). These aquifers are also classified under the Water Framework Directive (WFD), which is a legislation framework for the protection of inland surface waters, estuaries, coastal waters and groundwater bodies.
- 2.4.16 Below the study area, there are two separate layers of rock that are designated as a Principal Aquifers and WFD groundwater bodies by the Environment Agency; these are the Lower Greensand Group and the Grey Chalk Subgroup.
- 2.4.17 The Lower Greensand Group underlies the Gault Formation across the majority of the study area, and the Grey Chalk Subgroup overlies the Gault Formation in the south-east of the study area. The complexity of constructing the tunnel will increase where these aquifers are encountered due to multiple potential issues, including formation stability, groundwater flow and water pressure.
- 2.4.18 The length of tunnel in the Lower Greensand Group and Grey Chalk Subgroup was estimated by comparing the tunnel route with the extent of these formations from the available geological information.
- 2.4.19 This criterion serves as an assessment of the complexity of tunnel construction.

Green	Amber	Red
Tunnel in Gault Formation only;	0-2km in Lower Greensand Group or Grey Chalk Subgroup	>2km in Lower Greensand Group or Grey Chalk Subgroup

Number of geological transitions

- 2.4.20 Due to the geological succession below the study area, there is the potential for the tunnel to undergo a maximum of two major transitions between geological strata. These transitions are:
- From the Gault Formation into the Lower Greensand Group
 - From the Lower Greensand Group into the Ampthill Clay Formation, and
 - From the Grey Chalk Subgroup into the Gault Formation.
- 2.4.21 The number of transitions each tunnel would undergo has been estimated from the realistic tunnelling route and the available geological information.
- 2.4.22 The number of transitions is also directly comparable with the likely number of shafts that penetrate the Principal Aquifers of the Lower Greensand Group and Grey Chalk Subgroup. The issues related to construction in a Principal Aquifer also apply to shaft construction.
- 2.4.23 Therefore, this is criterion serves as an assessment of the complexity of tunnel and shaft construction.

Green	Amber	Red
0	1	>1

- 2.4.24 There is potential variability in the positioning of intermediate shafts, the length of tunnel in a Principal Aquifer and the number of transitions for all site areas, when combined with a conceptual model created from a small data set. It is considered that the RAG assessment for

these criteria could typically vary by one category (e.g. Amber to Green, Amber to Red). We have exercised professional judgement to provide a conservative assessment of the RAG categories for these criteria.

2.4.25 The following maps have been used in this assessment and can be found in Appendix A:

- Bedrock Geology – Drawing 409071-MMD-00-XX-GIS-Y-0051
- Superficial geology – Drawing 409071-MMD-00-XX-GIS-Y-0052, and
- Tunnelling – Drawing 409071-MMD-00-XX-GIS-Y-0053.

2.5 Contaminated land

2.5.1 This assessment considers the potential risk of locating the WWTP on contaminated land. The land uses of the site areas and neighbouring land were reviewed in order to assess the likelihood of below ground contamination being present. Site areas adjacent or near to landfills are considered to be of higher risk due to two main factors.

- Boundaries of landfills, particularly for historical facilities, can be inaccurate and may vary from how they appear on published maps.
- Landfills can act as a significant source of ground gas which can migrate through permeable strata across site boundaries.

2.5.2 Information which was reviewed as part of this assessment includes:

- Location of existing authorised and historical landfills
- British Geological Survey (BGS) 1:50,000 scale superficial geology, 1:50,000 scale bedrock geology and 1:625,000 scale hydrogeology mapping, and
- Current OS mapping to identify potential additional contamination sources and receptors not identified in the landfills dataset.

2.5.3 Information which was not reviewed as part of this investigation includes:

- Historical mapping of the area.

2.5.4 The following RAG definitions were adopted in the contaminated land assessment.

Green	Amber	Red
Site area is not located within 250m of an active or historical landfill site; or other potentially significant sources of contamination	Site area is located within 250m of an active or historical landfill or other potentially significant sources of contamination	Other potentially significant sources of contamination are located within the site area boundary

2.5.5 The assessment does not include active or historical landfills within the potential site area boundary as landfills were included as constraints in Stage 1 and therefore all of the longlist sites do not contain landfills. The distance of 250m used in the RAG definitions was defined by professional judgement to differentiate between site areas located adjacent to potential sources of contamination and those further away.

2.5.6 The following maps have been used in this assessment and can be found in Appendix A:

- Bedrock Geology - Drawing 409071-MMD-00-XX-GIS-Y-0051
- Superficial geology - Drawing 409071-MMD-00-XX-GIS-Y-0052, and
- Contaminated Land - Drawing 409071-MMD-00-XX-GIS-Y-0055.

2.6 Groundwater

- 2.6.1 This assessment considers the potential impact of the WWTP and waste water transfer infrastructure (tunnel and shafts) on groundwater aquifers below the study area.
- 2.6.2 The construction and operation of the waste water transfer tunnel, intermediate and terminal shafts as well as the WWTP development could have a potential impact on water quality and groundwater flow within WFD classified aquifers as discussed in Section 2.4.15.
- 2.6.3 The shafts and WWTP could also have an impact on shallow aquifers within superficial deposits, which could be connected to WFD classified surface waterbodies. Therefore, this criterion has been devised to assess whether development of each of the longlisted site areas could have a negative impact on the status of WFD ground and surface waterbodies.
- 2.6.4 Risk of below ground contamination on the new WWTP site potentially increases the risk of negative impact on groundwater, therefore the likelihood of contamination has also been included in the criterion. The assessment of contamination risk is based on the contaminated land RAG assessment results.
- 2.6.5 BGS mapping (1:50,000 scale) was used to determine the extent and nature of superficial deposits at each site area assessed. Further investigation would be required in later stages to investigate if these deposits actually contain groundwater and if there is a WFD relevant impact.
- 2.6.6 The extent of bedrock aquifers, i.e. the Lower Greensand Group and the Grey Chalk Subgroup were developed using the available geological information and the assumptions around tunnel routes, shaft depths and locations were developed using the information provided in the Outline Ground Engineering and Tunnelling Overview (Mott MacDonald Ltd, Outline Ground Engineering and Tunnelling Overview, 2019).
- 2.6.7 The following RAG definitions were adopted in the hydrogeology assessment:

Green	Amber	Red
Works will only penetrate unproductive strata.	Works will penetrate a WFD classified bedrock aquifer or A secondary/principal superficial aquifer likely to be connected to a WFD surface waterbody; and No/low risk of contamination being present at new WWTP location.	Works will penetrate a WFD classified bedrock aquifer or A secondary/principal superficial aquifer likely to be connected to a WFD surface waterbody; and Medium to high risk of contamination being present at new WWTP location.

- 2.6.8 The following maps have been used in this assessment and can be found in Appendix A:
- Bedrock Geology – Drawing 409071-MMD-00-XX-GIS-Y-0051
 - Superficial geology – Drawing 409071-MMD-00-XX-GIS-Y-0052
 - Contaminated Land – Drawing 409071-MMD-00-XX-GIS-Y-0055, and
 - Groundwater and Surface water – Drawing 409071-MMD-00-XX-GIS-Y-0054.

2.7 Surface water

- 2.7.1 This assessment considers the potential impacts of the WWTP development on WFD classified surface waterbodies.
- 2.7.2 It is possible that development of the new WWTP could impact the water quality and flows in watercourses located on or near to the site areas. This could have a negative effect on the

status of any WFD classified waterbodies that are downstream of these watercourses or are located in proximity to a site area. Therefore, the assessment considers the proximity of the site areas to WFD waterbodies and their tributaries.

2.7.3 This criterion focuses on the potential impacts due to development of the WWTP site only and does not take the effluent discharge arrangements into account.

2.7.4 The following RAG definitions were adopted in the hydrology assessment:

Green	Amber	Red
Site area is >500m from a WFD classified surface waterbody; and Site area is >50m from an unclassified watercourse that drains to a WFD classified surface waterbody in <1km.	Site area is within 500m of a WFD classified surface waterbody; or Site area is within 50m of an unclassified watercourse that drains to a WFD classified surface waterbody in <1km.	Site area is within 500m of a WFD classified surface waterbody; and An unclassified watercourse that drains to a WFD classified surface waterbody in <1km is within the site area boundary.

2.7.5 The following map has been used in this assessment and can be found in Appendix A:

- Groundwater and Surface water – Drawing 409071-MMD-00-XX-GIS-Y-0054.

2.8 Nature conservation and biodiversity (including locally designated nature sites)

2.8.1 The impact of the WWTP development on any designated areas of nature conservation / biodiversity importance was assessed at each proposed site area. The assessment took the form of a desk-based study utilising GIS software and aerial imagery where available. No site visits were undertaken at this stage.

2.8.2 The assessment comprised:

- Review of potential adverse effects on the protected and statutory designations identified at Stage 1. A 500m buffer was applied around all site areas during Stage 1 of the study. At Stage 2, an assessment was undertaken to identify potential pathways for impact on any protected areas and statutory designations within 5km of each site area. The pathways identified comprised natural routes for wildlife migration, such as watercourses or woodland. The protected areas and statutory designations comprised:
 - National Nature Reserves (NNR)
 - Sites of Special Scientific Interest (SSSI)
 - Ancient Woodland (AW)
 - Special Protection Areas (SPA)
 - Special Areas of Conservation (SAC)
 - Local Nature Reserves (LNR), and
 - Ramsar sites.
- Review of potential adverse effects on the local (non-statutory) designations that were not identified at Stage 1. The same assessment methodology for statutory designated sites described above was conducted to identify potential pathways to locally designated sites. The locally designated sites included:
 - County Wildlife Sites (CWS)
 - City Wildlife Sites (CiWS)

- Protected Road Verges (PRV)
- Local Geological Sites (LGS), and
- Country Parks.

2.8.3 The RAG categories for nature conservation and biodiversity were defined as follows:

Green	Amber	Red
No national, regional or local designations likely to be adversely affected, or effect likely to be positive. i.e. no pathways from site area identified*.	Designation of regional or local importance likely to be adversely affected. i.e. a pathway from site area was identified*. e.g. County Wildlife Sites, Country Parks etc.	Designation of national and/or international importance and/or Ancient Woodland likely to be adversely affected. i.e. pathway from site area was identified*. e.g. National Nature Reserves (NNR), Sites of Special Scientific Interest (SSSI), Ancient Woodland (AW), Special Protection Areas (SPA), Special Areas of Conservation (SAC), Local Nature Reserves (LNR), Ramsar sites.

* All protected areas and statutory designations within 5km of each site area have been considered regarding potential pathways for impact.

2.8.4 The following map has been used in this assessment and can be found in Appendix A:

- Ecology - Drawing 409071-MMD-00-XX-GIS-Y-0056.

2.9 Historic environment

2.9.1 The impact of the WWTP development on any designated heritage assets (identified at Stage 1) and non-designated archaeological remains (identified at Stage 2) was assessed at each proposed site area. The assessment took the form of a desk-based study utilising GIS software where available. No site visits were undertaken at this stage.

2.9.2 In order to attribute a RAG score to each site area, the following definitions of heritage value were applied.

Table 2.2: Definitions for establishing heritage value

Value	Description
High	Designated heritage assets of national importance. These include scheduled monuments, Grade I and II* listed buildings, and Grade I and II* registered parks and gardens.
Moderate	Designated heritage assets of regional importance. These include: Grade II listed buildings, Grade II registered parks and gardens, and conservation areas. Non-designated archaeological remains which are considered to be of regional importance.
Low	Non-designated archaeological remains, artefacts and records which are of local importance, or where no records are present.

Source: Mott MacDonald

2.9.3 The following data sets were consulted:

- National Heritage List for England, managed by Historic England (<https://historicengland.org.uk/listing/the-list/>), and

- Cambridgeshire Historic Environment Record (HER) via HeritageGateway.org, managed by Historic England (<http://www.heritagegateway.org.uk/gateway/>).

2.9.4 Information accessed by HeritageGateway.org only represents a summary of the available historic environment data and is not as complete or as up-to-date as full search of the HER, which requires stakeholder consultation. The available data can also be limited because it depends on random opportunities for research, fieldwork and discovery. Where nothing of historic interest is shown in a particular area, this can be down to a lack of research, or investigation rather than no assets being present.

2.9.5 No other sources of information were used for this assessment.

2.9.6 The RAG categories for the heritage assessment were defined as follows:

Green	Amber	Red
Non-designated heritage asset of low heritage value is identified within the site area boundary, or where no heritage records are present.	Non-designated heritage asset of moderate heritage value is located within the site area boundary. The setting of a moderate value designated heritage asset has the potential to be affected by construction or operation of the scheme.	The setting of a high value designated heritage asset has the potential to be affected by construction or operation of the scheme.

2.9.7 The following maps have been used in this assessment and can be found in Appendix A:

- Heritage – Drawing 409071-MMD-00-XX-GIS-Y-0057.

2.10 Landscape and visual amenity

2.10.1 This high-level assessment identified, predicted and evaluated the potential landscape and visual effects likely to result from the development of a WWTP at each of the site areas.

2.10.2 The assessment was desk-based, utilising GIS software and aerial imagery where available. No site visits were undertaken at this stage of the study.

Landscape character

2.10.3 Landscape character effects have been determined by measuring distance from the site areas to the national, regional or local designations identified during Stage 1 of the study.

2.10.4 The RAG categories for the landscape character assessment were defined as follows:

Green	Amber	Red
Site area does not fall within 1km of a national, regional or local designation. No designations are likely to experience adverse effects.	Site area lies within 1km of but not within 500m of a national, regional or local designation. Designations could experience adverse effects.	Site area lies within 500m of a national, regional or local designation. Designations are likely to experience adverse effects.

2.10.5 The landscape character assessment criteria have been defined to include the following National, Regional and Local Designations. Note that designations have not been differentiated in terms of landscape value.

- Areas of Outstanding Natural Beauty (AONB)

- National Park

2.10.6 A review of the location of these designations show that there are none within or in proximity to the Study Area. This means that there is no differentiation between any of the site areas under this criterion. Therefore, this assessment has been removed from the Stage 2 coarse screening RAG assessment and will not be included in the final comparison of results.

Visual amenity

2.10.7 The method of approximately quantifying the adverse visual effects experienced by potential visual receptors was defined by determining the estimated percentage of the site area perimeter adjoined by communities (more specifically adjoined by the 400m buffers around communities) and other visual receptors.

2.10.8 The visual assessment identifies the location of communities/settlements and receptors potentially affected by the development of a WWTP.

2.10.9 The RAG categories for the visual amenity assessment were defined as follows:

Green	Amber	Red
Approximately less than 50% of the site area perimeter has the potential to adversely affect visual receptors e.g. buffer of residential areas, leisure facility and PRoW adjoining its perimeter. Opportunities to locate WWTP within site area effectively. Fewer visual receptors are likely to experience adverse effects.	Approximately 50% of the site area perimeter has the potential to adversely affect visual receptors e.g. buffer of residential areas, leisure facility and PRoW adjoining its perimeter. Potential opportunity to locate WWTP within the site area effectively. Visual receptors could experience adverse effects.	Majority of the site area perimeter has the potential to adversely affect visual receptors e.g. buffer of residential areas, leisure facility and PRoW adjoining its perimeter. Less opportunity to locate WWTP within the site area effectively. Visual receptors are likely to experience adverse effects.

2.10.10 The visual amenity assessment criterion has been identified and includes the following receptors (receptors have not been differentiated in terms of amenity value):

- Public Rights of Way
- Leisure facilities used by the public, and
- Communities/settlements (defined as 10 dwellings or more within 100m of each other).

2.10.11 Landscape mitigation has not been taken into consideration during the assessment. Mitigation works could include planting to close gaps in hedgerows, planting of intermittent trees, inclusion of woodland copses and embankment planting. All of the above would help mitigate the impacts and assist integration of the WWTP development with the landscape setting. Therefore, a Red score has not resulted in the rejection of site areas for the visual amenity assessment criterion.

2.10.12 The following maps have been used in this assessment and can be found in Appendix A:

- Ecology – Drawing 409071-MMD-00-XX-GIS-Y-0056
- Heritage – Drawing 409071-MMD-00-XX-GIS-Y-0057
- Visual and local residents amenity – Drawing 409071-MMD-00-XX-GIS-Y-0059

2.11 Agricultural Land Classification

2.11.1 The Agricultural Land Classification (ALC) mapping developed by Natural England (Natural England, 2010) was reviewed for the study area, and the extent of 'Best and Most Versatile Land' determined for each site area.

2.11.2 'Best and Most Versatile Land' (BMV) is considered to be Grades 1, 2 and 3a by Natural England. This designation has been adopted to attempt to differentiate between the site areas as the National Planning Policy Framework (Ministry of Housing Communities & Local Government, 2019) indicates that BMV land is of importance to the conservation and enhancement of the natural environment and that areas of poorer quality land should be used instead of higher quality land. There are two datasets available on agricultural land; the post-1988 Agricultural Land classification and the Provisional Agricultural Land classification. The former does not include land grade information for the areas covering the site areas therefore the latter was used. However, the Provisional dataset does not make a distinction between grade 3 and subgrades 3a and 3b. Therefore, all grade 3 land areas were assumed to qualify as 'Best and Most Versatile Land' for the purpose of this assessment.

2.11.3 The RAG categories for the agricultural grade assessment were defined as follows:

Green	Amber	Red
Less than 20% of the site area comprises 'Best and Most Versatile Land'	Between 20 - 50% of the site area comprises 'Best and Most Versatile Land'	More than 50% of the site area comprises 'Best and Most Versatile Land'

2.11.4 A review of the ALC maps covering the study area shows that all of the longlisted site areas comprise greater than 50% 'Best and Most Versatile Land'. This means that there is no clear differentiation between any of the site areas under this criterion. Therefore, this assessment has been removed from the Stage 2 coarse screening RAG assessment and will not be included in the final comparison of results.

2.11.5 The following map has been used in this assessment and can be found in Appendix A:

- Agricultural land – 409071-MMD-00-XX-GIS-Y-0060.

2.12 Development constraints

2.12.1 The development constraints assessment was separated into three categories as follows:

- Planning policy restrictions, including site allocation and planning permissions
- Sensitivity of local and neighbouring land to the development of a WWTP, and
- Location of the site area in relation to the Cambridge Green Belt.

2.12.2 Each of the assessments is detailed in the following sections.

Policy, site allocation and planning permissions

2.12.3 The site areas were assessed in relation to local authority policy constraints. This included a review of planning policy considerations and planning permissions.

2.12.4 The policy, site allocation and planning permissions assessment considered the following two components:

- Adopted and emerging development plan documents which allocate land uses for housing, employment and other uses, and

- Committed sites including those with outline or full planning permission.

2.12.5 The RAG categories for the policy, site allocation and planning permissions assessment were defined as follows:

Green	Amber	Red
The site area is not allocated for significant development, there are no significant permissions or submitted applications*; there are no policy constraints.	The site area has some policy constraints or significant planning permissions but could be overcome.	The site area or immediate area is allocated for significant development or has significant policy constraints. Extant planning permission or planning application has been submitted for significant development and could not be overcome.

*significant defined as sites comprising more than 10 dwellings or larger than 0.5 ha.

Sensitivity of neighbouring land

2.12.6 The sensitivity of neighbouring land and local areas to development of a new WWTP was assessed. This criterion is a measure of the potential restrictions that sensitive current uses of neighbouring land could place on the development or operation of the new WWTP and whether known proposals for the development of neighbouring land potentially conflicts with the proposed WWTP. This was achieved through a review of the local development plan and land use information.

2.12.7 This criterion does not include an assessment of the impact the development of the WWTP would have on sensitive receptors located on neighbouring land and the local area, such as specific community facilities and businesses. The potential impacts on sensitive receptors is covered in the potential impacts on local community criterion.

2.12.8 The RAG categories for the sensitivity of neighbouring land assessment were defined as follows:

Green	Amber	Red
Nature of local land uses not considered likely to constrain the nature and layout of a WWTP.	Nature of local land uses considered sensitive to change resulting from development of a WWTP. They could constrain the nature and layout of a WWTP but are not incompatible with a WWTP on the site area.	Nature of local land uses considered to be very sensitive to development of a WWTP or have the potential to conflict with a WWTP on the site area.

Green Belt

2.12.1 Green Belt policy was established to prevent urban sprawl by keeping land permanently open. Typically, a Green Belt is an area of land surrounding or neighbouring an urban area on which development is restricted by national and local planning policy.

2.12.2 The Cambridge Green Belt designation surrounds the Cambridge urban area, extending up to 5 miles from the edge of the City, and incorporates a number of villages.

2.12.3 The purposes of the Cambridge Green Belt, as set out in the both the Cambridge Local Plan (Cambridge City Council, 2018a) and the South Cambridgeshire Local Plan (South Cambridgeshire District Council, 2018a), are:

- Preserve the unique character of Cambridge as a compact, dynamic city with a thriving historic centre

- Maintain and enhance the quality of its setting, and
- Prevent communities in the environs of Cambridge from merging into one another and with the city.

2.12.4 Both Local Plans state that new development in the Green Belt will only be approved in accordance with Green Belt policy in the National Planning Policy Framework (NPPF) (Ministry of Housing Communities & Local Government, 2019). The NPPF states that inappropriate development is, by definition, harmful to the Green Belt and should not be approved except in very special circumstances.

2.12.5 The NPS for Waste Water (Department for Environment Food and Rural Affairs, 2012) specifies that when located in the Green Belt, waste water infrastructure projects may comprise ‘inappropriate development’. The NPS adds that such development should not be approved except in very special circumstances.

2.12.6 With regard to the potential requirement for intermediate tunnel shafts, it is considered that should any shafts be situated in the Green Belt, they would have a temporary impact during construction and the permanent impact of the shaft would be minor. The impact of likely intermediate tunnel shaft locations will be considered further in Stage 3 – Fine Screening.

2.12.7 The RAG categories for the Green Belt assessment were defined as follows:

Green	Amber	Red
The site area is located outside of the Green Belt.	The site area is partially located within the Green Belt	The site area is wholly located within the Green Belt

2.12.8 The following map has been used in this assessment and can be found in Appendix A:

- Development constraints – Drawing 409071-MMD-00-XX-GIS-Y-0058.

2.12.9 The constraints discussed in the assessment but not shown in the above drawing have been identified using the Adopted Policies Maps in the South Cambridgeshire Local Plan 2018 (South Cambridgeshire District Council, South Cambridgeshire Policies Map, 2018b) and Cambridge Local Plan (Cambridge City Council, 2018b).

2.13 Impacts on local communities

2.13.1 A high-level assessment of the anticipated impact on existing communities surrounding the proposed WWTP sites was carried out taking into consideration the following effects.

- Traffic impact on local communities throughout construction and operation (including spoil removal during tunnelling)
- Noise and air quality during construction
- Local residents’ amenity (i.e. recreational and rights of ways) during construction and operation of the scheme
- Impacts on community facilities and businesses in the local area

2.13.2 As the site areas are relatively broad site search areas at this stage of the study, it is considered that a detailed assessment of the potential impacts on the local community from the WWTP is not possible. Therefore, this assessment has focused on identifying potential receptors in proximity to the entire site area and undertaking a high-level estimate of the potential severity of impacts a WWTP could have on the receptors. A more detailed assessment will follow during

Stage 3 – Fine Screening Stage, when the location of the WWTP within the site areas is better defined.

2.13.3 The potential odour impacts on local communities were not assessed as part of Stage 2 – Coarse Screening. It is considered that the 400m buffer around residential properties employed in Stage 1 – Initial Site Selection is appropriate for the purposes of site selection. Odour control measures, in accordance with industry best practice, would be employed at the new WWTP site. An appropriate odour impact assessment will form part of the Environmental Impact Assessment (EIA) for the site identified to take forward in the Development Consent Order (DCO) application.

2.13.4 The RAG categories for the anticipated impact on local communities were defined as follows:

Green	Amber	Red
Minor increase in traffic within localised area during construction and/or operation. Negligible to minor impact on local residents' amenity during construction, operation and maintenance (noise, air quality, recreation and rights of way). Minor disturbance and disruption to local community facilities and businesses in the local area (access, air quality and noise impacts) during construction, operation and maintenance. There is a wide range of alternative community facilities or businesses and access arrangements available within an easily accessible distance, the resource is infrequently accessed and/or has sufficient capacity to absorb change.	Moderate increase in traffic during construction and/or operation. Moderate impact on local residents' amenity during construction, operation and maintenance (noise, air quality, recreation and rights of way). Moderate disturbance and disruption to local community facilities and businesses in the local area (access, air quality and noise impacts) during construction, operation and maintenance. Moderate disturbance and disruption to local community facilities and businesses in the local area (access, air quality and noise impacts). There is a limited range of alternative community facilities or businesses and access arrangements available within an easily accessible distance, the resource is semi-frequently accessed and/or has limited capacity to absorb change.	Severe traffic impacts within and beyond local area during construction and/or operation. Severe impact on local amenity during construction and operation (noise, air quality, recreation and rights of way). Severe disturbance and disruption to local community facilities and businesses in the local area (access, air quality and noise impacts) during construction, operation and maintenance. No alternative community facilities or businesses and access arrangements are available within an easily accessible distance, the resource is frequently accessed and/or has very little capacity to absorb change.

2.13.5 The following map has been used in this assessment and can be found in Appendix A:

- Visual and local community receptors – Drawing 409071-MMD-00-XX-GIS-Y-0059.

3 Stage 2 – Coarse Screening results

3.1 RAG assessments

- 3.1.1 The detailed RAG assessments for each of the coarse screening criteria are provided in Appendix B.
- 3.1.2 A summary of the RAG assessment results for all longlisted site areas is provided in Table 3.1.

Table 3.1: RAG assessment summary

Site area	Shape of site area	Ease of site access during construction and operation	Waste water transfer infrastructure				Contaminated land	Groundwater	Surface water	Nature conservation and biodiversity	Historic environment	Visual amenity	Development constraints			Impacts on local communities
			Total length/Carbon emissions of tunnel	Total length/Carbon emissions of return pipelines	Length of tunnel in a Principal Aquifer	Number of geological transitions							Green Belt	Policy, site allocation and planning permissions	Sensitivity of neighbouring land	
A																
B																
C																
D																
E																
F																
G																
H																
I																
J																
K																
L																
M																
N																

Source: Mott MacDonald

3.2 Discussion of results

Importance of criteria

3.2.1 Following the completion of the RAG assessments, the results for each site area were compared with one another on a qualitative basis to identify the best performing site areas to be included in the shortlist.

3.2.2 Although the results have been assessed holistically, there are certain criteria that are considered to be of greater importance in the context of the WWTP development. A list of these criteria in order of importance is provided below.

- Impacts on local communities – The purpose of the relocation is to support sustainable growth in and around Cambridge. For the relocation to be a success, the impacts on the local community due to the new WWTP should be minimised.
- Shape of site area and construction complexity – The shape of the site area is important as some shapes are sub-optimal and would constrain the layout of the WWTP and increase the operational complexity. The construction complexity is an indication of how difficult the scheme would be to build both in terms of affordability and duration. In addition, the complexity is an indication of the potential for impact on some sensitive receptors (e.g. Principal Aquifers).
- Green Belt policy – As indicated during Stage 1, Green Belt policy dictates that approval for development within the Green Belt would only be granted in 'very special circumstances'.
- Policy, site allocation and planning permissions – Site areas that have already been allocated for development or have active planning applications are not likely to be an appropriate location for a new WWTP.
- Carbon emissions – Anglian Water has set an ambitious target for net-zero carbon emissions by 2030 the carbon emissions of constructing and operating a WWTP of this magnitude (including carbon emissions savings due to renewable energy generation) should be considered in the selection of suitable site areas.

3.2.3 The remaining criteria, whilst still considered important, either did not add to the differentiation of the potential site areas e.g. Agricultural Land Classification or, where potential impacts were identified, mitigation can be achieved using reasonable technical means, e.g. contaminated land management. However, where possible the results of these criteria were used to aid the differentiation between site areas that perform similarly for the criteria of greater importance.

Site areas removed from further assessment

3.2.4 There are several site areas that are clearly inferior when compared with all others as they performed poorly against all the criteria of greater importance, these are site areas G, K, M and N. The main reasons why these site areas perform poorly are as follows.

- The potential impact on local communities is high due to the following reasons:
 - Construction and operational traffic would have to travel through residential areas to reach site areas G, K and N.
 - Site area M and N present risks of amenity impact during construction due to the prevailing wind direction towards nearby residential areas and an education facility, Cambridge University West Campus, in proximity to site area M. Site area N is also partly within a recreational facility, Cambridge Lakes Golf Course.
 - Public Rights of Way cross or border site areas G, K and M and would likely be impacted by the WWTP development.

- The construction complexity is high due to.
 - The long length of transfer tunnels and interaction with a Principal Aquifer on the routes to site areas G, K and M.
 - The long length of transfer tunnel and return pipelines for site area N would also pose construction risks although to a lesser degree due to the lack of interaction with a Principal Aquifer.
- The length of the transfer tunnel and return pipelines or tunnel for all four site areas would result in high carbon emissions.

3.2.5 For these reasons it was considered reasonable to remove site areas G, K, M and N from further assessment.

3.2.6 There are also several site areas that perform poorly for one or two of the criteria of greater importance but also have other constraints that are considered to be difficult to overcome. These are site areas D, E and F. The main reasons these site areas performed poorly are as follows.

- Site area D presents challenges with regard to its shape, which is not ideal for locating a new WWTP of the required size and layout. A WWTP on this site area would require more interstage pumping within and across the site area, which would be less efficient and more complex to operate. Furthermore, there are development constraints associated with the site area as there is a planning application included in its area (ref: S/4747/18/OL), which is for the demolition of an existing building on site area and erection of replacement Office, Workshop and Security Kiosk. The site area is also within the Green Belt and although there are other site areas (e.g. H, I, and J) that have this constraint, it is considered that, overall, site area D has more disadvantages than these site areas and hence, by comparison, it would not be logical to progress site area D if these other options are available.
- Site area E includes the Cottenham Point to Point Racecourse, which is an important community facility, and it is considered that it would not be possible to overcome this constraint without a significant impact on the local community.
- Site area F is constrained under a number of criteria, but particularly as it encompasses the proposed Waterbeach New Town development. The proposed development is at an advanced stage of planning and hence it is assumed that it would not be possible to overcome this constraint.

3.2.7 Based on the reasons above, site areas D, E and F were excluded from further assessment. A rejection register including justification for rejecting the site areas not included in the shortlist is provided in Table 3.2.

Shortlist of site areas

3.2.8 The remaining site areas fell into two groups, each group containing site areas with similar overall performance for the criteria of greater importance. Both groups have constraints that are potentially difficult to overcome but perform better overall than the site areas removed from further assessment (described above).

3.2.9 The two groups are as follows.

- Site areas A, B and C, which are located outside of the Green Belt but have the disadvantages of high potential impacts on local communities as well as greater construction risks, carbon emissions and risk of impacts to Principal Aquifers associated with longer transfer tunnels and return pipelines.

- Site areas H, I, J and L which, in contrast, perform better for potential impacts on local communities and have shorter tunnels and pipelines, resulting in lower construction risks, carbon emissions and risk of impacts to Principal Aquifers, but are within the Green Belt.

3.2.10 It is not considered appropriate to differentiate between the two groups at this coarse screening stage, to remove one or the other from further assessment. This is because both groups have constraints that are potentially difficult to overcome.

3.2.11 As discussed in the Stage 1 – Initial Site Selection report, development within Green Belt may be acceptable if certain ‘very special circumstances’ exist including, for example, there being no feasible alternatives. Therefore, further investigation was needed to confirm whether site areas outside of the Green Belt are feasible or not.

3.2.12 In addition, within these two groups the assessment results for the remaining criteria are relatively similar and it is not possible to differentiate between the individual site areas during this coarse screening stage.

3.2.13 Therefore, it is considered that there is reasonable justification to carry all seven site areas forward to Stage 3 – Fine Screening and to undertake a more detailed assessment of the potential impacts at each site area, in order to differentiate between the site areas and identify those that are considered to be more suitable.

3.2.14 The RAG assessment results for the remaining seven site areas are provided in Table 3.3.

3.2.15 The locations of the shortlisted and rejected site areas are provided on Drawing 409071-MMD-00-XX-GIS-Y-0061.

Table 3.2: Rejection Register

Site area	Shape of site area	Ease of site access during construction and operation	Waste water transfer infrastructure				Contaminated land	Groundwater	Surface water	Nature conservation and biodiversity	Historic environment	Visual amenity	Development constraints			Impacts on local communities	Removed from further assessment	Justification for removal
			Total length/ Carbon emissions of tunnel	Total length/ Carbon emissions of return pipelines	Length of tunnel in Principal Aquifer	Number of geological transitions							Green Belt	Policy, site allocation and planning permissions	Sensitivity of neighbouring land			
D																	Y	Site area D performs poorly in relation to its shape which is not ideal for locating a new WWTP of the required size and layout. There are also several community facilities located to the immediate north of the site area that are particularly sensitive to any changes in noise or air quality. The facilities include Cottenham Court Care Home, Cottenham Sports Centre, Cottenham Village College and The Centre School (a Social, Emotional and Mental Health school). Additionally, there are development constraints associated with the site area as there is a planning application included in its area. The site area also has the constraint of being in the Green Belt and although there are other site areas (e.g. H, I, J) that have this constraint it is considered that site area D performs poorly compared to these site areas.
E																	Y	Site area contains Cottenham Point to Point Racecourse. Constraint considered difficult to overcome. Since the site area also performs moderately against a number of other criteria such as construction complexity and carbon emissions, it is not considered to be a high-performing option. This in combination with the constraint around the racecourse contribute to the decision to not shortlist the site area for further assessment.
F																	Y	Site area F is constrained as it encompasses the proposed Waterbeach New Town development. The proposed development is at an advanced stage of planning and hence it is assumed that it would not be possible to overcome this constraint. Furthermore, the site area has other constraints such as moderate to high construction complexity, higher risk of contamination due to being located on the former Waterbeach Airfield, etc.). Traffic impacts are likely to be moderate, meaning community facilities and businesses in Waterbeach and the surrounding area may be impacted. Little Stars Day Nursery is also located in Waterbeach to the south of the site area and would be particularly sensitive to any changes in noise or air quality. Hence, this site area has been excluded from the shortlist for further assessment.
G																	Y	Site area G performs poorly in relation to construction complexity and potential impact on the local community. Operational traffic from the A14 would be required to travel through one or more village centres (Girton, Histon and/or Oakington). As traffic increase is predicted to be moderate, community facilities and businesses in these villages may be impacted. The site area has disadvantages with respect to higher construction complexity due to the long length of the transfer tunnel and interaction with a Principal Aquifer. As there are better performing site areas to progress to further assessment it has been excluded from the shortlist. The site area also has the constraint of being in the Green Belt and although there are other site areas (e.g. H, I, J) that have this constraint it is considered that site area G holds more disadvantages compared to these site areas.
K																	Y	Site area K performs poorly in relation to construction complexity and potential impact on the local community. As access to the site area would be required via Histon or Girton, community facilities and businesses in these villages may be impacted by a moderate increase in traffic. The prevailing wind direction towards Impington and Histon means sensitive community resources in these villages (including Histon and Impington Infant School, Histon and Impington Junior School, Histon Early Years Centre, Bramley Court Care Home and Abbeyfield Burdett House) may be impacted by changes in noise and air quality during construction. assessment. The site area has disadvantages with respect to both moderate to high construction complexity due to the length of the transfer tunnel and interaction with a Principal Aquifer. As there are better performing site areas to progress to further assessment it has been excluded from the shortlist. The site area also has the constraint of being in the Green Belt and although there are other site areas (e.g. H, I, J) that have this constraint it is considered that site area K performs poorly compared to these site areas.
M																	Y	Site area M performs poorly in relation to construction complexity and impact on local communities. Several University of Cambridge departmental buildings are located to the north and east of the site area. As these buildings provide an educational purpose, they are sensitive to any changes in noise and air quality. The site area has disadvantages with respect to both high construction complexity due to the long length of the transfer tunnel and interaction with a Principal Aquifer. Therefore, it has been excluded from the shortlist. The site area also has the constraint of being in the Green Belt and although there are other site areas (e.g. H, I, J) that have this constraint it is considered that site area M performs poorly compared to these site areas.

Site area	Shape of site area	Ease of site access during construction and operation	Waste water transfer infrastructure				Contaminated land	Groundwater	Surface water	Nature conservation and biodiversity	Historic environment	Visual amenity	Development constraints			Impacts on local communities	Removed from further assessment	Justification for removal
			Total length/ Carbon emissions of tunnel	Total length/ Carbon emissions of return pipelines	Length of tunnel in Principal Aquifer	Number of geological transitions							Green Belt	Policy, site allocation and planning permissions	Sensitivity of neighbouring land			
N																	Y	Site area N performs poorly in relation to construction complexity and impact on the local community. The long length of transfer tunnel and return pipeline for this site area would pose construction risks although to a lesser degree as there is no interaction with a Principal Aquifer. The site area presents a high risk of impact on local communities during construction and operation due traffic needing to travel through residential areas of Cambridge as well as the prevailing wind direction from the site area towards residential areas. The site area also partially covers the Cambridge Lakes Golf Course recreational facility. The site area also poses constraints with regard to its impact on WFD surface waterbodies (hydrology) and designated nature site areas (ecological risks). Therefore, it has been excluded from the shortlist. The site area also has the constraint of being in the Green Belt and although there are other site areas (e.g. H, I, J) that have this constraint it is considered that site area N performs poorly compared to these site areas.

Table 3.3: Shortlist of site areas

Site area	Shape of site area	Ease of site access during construction and operation	Waste water transfer infrastructure				Contaminated land	Groundwater	Surface water	Nature conservation and biodiversity	Historic environment	Visual amenity	Development constraints			Impacts on local communities	
			Total length/ Carbon emissions of tunnel	Total length/ Carbon emissions of return pipelines	Length of tunnel in Principal Aquifer	Number of geological transitions							Green Belt	Policy, site allocation and planning permissions	Sensitivity of neighbouring land		
A	Green	Red	Red	Red	Red	Red	Green	Yellow	Green	Yellow	Green	Yellow	Green	Green	Green	Green	Red
B	Green	Red	Red	Red	Red	Red	Green	Yellow	Green	Yellow	Green	Yellow	Green	Yellow	Green	Green	Red
C	Green	Red	Red	Red	Red	Red	Green	Yellow	Green	Yellow	Green	Yellow	Green	Green	Green	Green	Red
H	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Yellow	Green	Red	Yellow	Yellow	Red	Yellow	Green	Green	Green
I	Green	Green	Green	Green	Yellow	Yellow	Green	Yellow	Green	Red	Yellow	Yellow	Red	Green	Yellow	Yellow	Yellow
J	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Red	Green	Green	Yellow	Yellow	Red	Yellow	Green	Green	Yellow
L	Green	Green	Green	Green	Yellow	Yellow	Green	Yellow	Yellow	Red	Yellow	Yellow	Red	Green	Green	Green	Green

Source: Mott MacDonald

4 Conclusion and Next Steps

4.1 Conclusions

4.1.1 The following conclusions have been drawn from this study:

4.1.2 Each of the 14 longlisted site areas was evaluated against 17 RAG criteria. The results for each site area were compared with one another on a qualitative basis to identify the best performing site areas to be included in the shortlist.

4.1.3 Although the results have been reviewed holistically certain criteria were considered to be of greater importance in the context of the WWTP development. In order of importance these were:

- Impacts on local communities,
- Shape of land parcel and construction complexity
- Green Belt policy
- Policy, site allocation and planning permissions, and
- Carbon emissions

4.1.4 Where, based on the RAG assessment and option comparison, site areas were clearly inferior compared with the other site areas these were removed from further assessment. Site areas D, E, F, G, K, M and N were removed on this basis.

4.1.5 The remaining seven site areas fell into two distinct groups.

- Site areas A, B and C – Site areas that are outside of the Green Belt and have higher tunnelling impacts and risk (due to longer tunnels and greater impact on the Lower Greensand, which is designated as a Principal Aquifer).
- Site areas H, I, J and L – Site areas that are within the Green Belt and have lower tunnelling impacts and risk (due to shorter tunnels and reduced impact on the Lower Greensand and Grey Chalk, both of which are designated as Principal Aquifers).

4.1.6 It was not considered possible to differentiate between the two groups, to remove one or the other from further assessment at this stage of the site selection process. It is also not possible to differentiate between the individual site areas within the groups at this stage.

4.1.7 Development within Green Belt may be acceptable if certain 'very special circumstances' exist including, for example, there being no feasible alternatives. Therefore, further investigation is needed to confirm whether site areas outside of the Green Belt are feasible or not.

4.2 Next Steps

4.2.1 The seven shortlisted site areas should be taken forward to Stage 3 – Fine Screening in order to differentiate between the site areas and identify those that are considered to be more suitable. The fine screening stage would include the following assessment.

- Development of the infrastructure requirements for each of the shortlisted site areas
- Cost and carbon emissions estimates for development of a WWTP at each shortlisted site area including tunnelling
- Further assessment of the planning and environmental constraints at each of the site areas and whether they can be mitigated

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Appendices

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A. Drawings

B. RAG assessments

B.1 Shape of land parcel

Site	RAG rating	Comments/Justification
A	Green	The site shape is suitable for typical layout.
B	Green	The site shape is suitable for typical layout.
C	Green	The site shape is suitable for typical layout.
D	Amber	The site shape is also not ideal for typical layout.
E	Green	The site shape is suitable for typical layout.
F	Green	The site shape is suitable for typical layout.
G	Green	The site shape is suitable for typical layout.
H	Green	The site shape is suitable for typical layout.
I	Green	The site shape is suitable for typical layout.
J	Green	The site shape is suitable for typical layout.
K	Green	The site shape is suitable for typical layout.
L	Green	The site shape is suitable for typical layout.
M	Amber	The site shape could not accommodate an typical layout for the WWTP.
N	Green	The site shape is suitable for typical layout.

B.2 Ease of site access during construction and operation

Site area	RAG rating	Comments/Justification
A	Red	Significant distance from A-road. Access likely to be through Cottenham road and through Impington, Histon, Cottenham and Rampton.
B	Red	Significant distance from A-road. Access likely to be through Cottenham road and through Impington, Histon, Cottenham and Rampton.
C	Red	Significant distance from A-road. Access likely to be through Cottenham road and through Impington, Histon and Cottenham.
D	Amber	Moderate distance from A-road. Access likely to be through A10 and suitable regional roads.
E	Amber	Moderate distance from A-road. Access likely to be through A10 and suitable regional roads.
F	Green	Site area close to A10. Access likely to be through A10.
G	Red	Significant distance from A-road. Access likely to be through Cottenham road and through Impington, Histon and Cottenham.
H	Amber	Accessible through A10 and suitable regional roads. However, moderately distant from A10.
I	Green	Site area close to A10. Access likely to be through A10 and suitable regional roads.
J	Green	Site area close to A10. Access likely to be through A10 and suitable regional roads.
K	Green	Site area close to A14. Access likely to be through A14.
L	Green	Site area close to A14. Access likely to be through A14.
M	Green	Site area close to M11. Access likely to be through M11 and A603.
N	Amber	Site area close to M11 and A1309. Access likely to be through A1309 or A1134. Although access will be from A-roads, these roads go through some residential areas so moderate impact expected.

B.4 Waste water transfer infrastructure

Site area	Total length/ Carbon emissions of tunnel	Total length/ Carbon emissions of pipelines	Length of tunnel in Principal Aquifer	Number of geological transitions	Comments
A	Red	Red	Red	Red	Length of tunnel and pipelines high. Transition from Gault Formation to Lower Greensand Group and Lower Greensand Group to Ampthill Clay Formation. Expected two intermediate shafts will penetrate Lower Greensand Group, although base of one may be in Ampthill Clay Formation.
B	Red	Red	Red	Red	Length of tunnel and pipelines high. Transition from Gault Formation to Lower Greensand Group and Lower Greensand Group to Ampthill Clay Formation. Expected two intermediate shafts will penetrate Lower Greensand Group, although base of one may be in Ampthill Clay Formation.
C	Red	Red	Red	Red	Length of tunnel and pipelines high. Transition from Gault Formation to Lower Greensand Group and Lower Greensand Group to Ampthill Clay Formation. Expected two intermediate shafts will penetrate Lower Greensand Group
D	Amber	Amber	Amber	Red	Length of tunnel and pipelines moderate. Site area located within area of Lower Greensand Group outcrop. One intermediate and terminal shaft in Lower Greensand Group outcrop. Depth of tunnel means likely to transition into Ampthill Clay Formation.
E	Amber	Amber	Amber	Red	Length of tunnel and pipelines moderate. Site area located within area of Lower Greensand outcrop. One intermediate and terminal shaft in Lower Greensand Group. Depth of tunnel means likely to transition into Ampthill Clay Formation.
F	Red	Amber	Amber	Amber	Length of tunnel high, length of pipelines moderate. Transition from Gault Formation to Lower Greensand Group. Expected that only one intermediate shaft in Lower Greensand Group.
G	Red	Red	Red	Red	Length of tunnel high due to routing around urban areas. Length of pipelines also high. Depth of tunnel means likely to transition into Ampthill Clay Formation.
H	Amber	Amber	Amber	Amber	Length of tunnel and pipelines moderate. Expected that terminal tunnel shaft will penetrate Lower Greensand Group. Intermediate tunnel shaft in Gault Formation only. Tunnel will transition to Lower Greensand Group due to location and depth of terminal shaft.
I	Green	Green	Amber	Amber	Length of tunnel and pipelines low. Site area close to existing treatment works, no intermediate shafts required. Expected that terminal shaft will penetrate Lower Greensand Group. Tunnel will transition to Lower Greensand Group due to location and depth of terminal shaft.
J	Green	Amber	Amber	Amber	Length of tunnel low and length of return pipeline moderate. Site area close to existing treatment works, no intermediate shafts required assuming shaft is not located at the southern side of the site area. Expected that terminal shaft will penetrate Lower Greensand Group. Tunnel will transition to Lower Greensand Group due to location and depth of terminal shaft.
K	Amber	Amber	Amber	Red	Length of tunnel and pipelines moderate. Alignment would likely require deviation from direct tunnel route for intermediate shaft due to surface constraints. Single intermediate shaft only. Both intermediate and terminal shaft expected to penetrate Lower Greensand Group. Depth of tunnel means likely to transition into Ampthill Clay Formation.
L	Green	Green	Amber	Amber	Length of tunnel and pipelines low. Site area close to existing treatment works, no intermediate shafts required. Expected that terminal shaft will penetrate Grey Chalk Subgroup. Tunnel may transition to Grey Chalk Subgroup close to the terminal shaft.
M	Red	Red	Red	Red	Length of tunnel high, increasing depth and number of shafts. Two intermediate shafts required. Section of tunnel in Greensand is likely. At least one intermediate shaft expected to penetrate lower Greensand Group. Tunnel will transition to Greensand and back again due to route around north of Cambridge.
N	Red	Red	Green	Green	Length of tunnel and pipelines high. Intermediate shafts required in Cambridge urban area. Entire length of tunnel and all shafts likely to be in Gault Formation only.

B.5 Contaminated Land

Site area	RAG Rating	Comments/Justification
A	Green	Current land use: undeveloped agricultural land Not within 250m of any landfill or other known significant source of contamination Superficial deposits: none, Bedrock: West Walton Formation, Ampthill Clay Formation and Kimmeridge Clay Formation
B	Green	Current land use: undeveloped agricultural land Not within 250m of any landfill or other known significant source of contamination Superficial deposits: none, Bedrock: West Walton Formation, Ampthill Clay Formation and Kimmeridge Clay Formation
C	Green	Current land use: undeveloped agricultural land Not within 250m of any landfill or other known significant source of contamination Superficial: north west area of site overlies River Terrace Deposits, Bedrock: West Walton Formation, Ampthill Clay Formation and Kimmeridge Clay Formation
D	Green	Current land use: undeveloped agricultural land Not within 250m of any landfill or other known significant source of contamination Superficial deposits: none, Bedrock: Lower Greensand Group (Principal aquifer), and Upper Greensand and Gault Formation
E	Green	Current land use: undeveloped agricultural land Not within 250m of any landfill or other known significant source of contamination Superficial: River Terrace Deposits in the north east, Bedrock: Lower Greensand Group (Principal aquifer), and Upper Greensand and Gault Formation
F	Red	Current land use: disused airfield and associated buildings Located on site of existing disused airfield and within 250m of sewage works. Superficial: River Terrace Deposits to the SW, Bedrock: Gault Formation and Upper Greensand Formation
G	Green	Current land use: undeveloped agricultural land Not within 250m of any landfill or other known significant source of contamination Superficial deposits: Highly productive aquifer in the north of the site area, otherwise Unproductive, Bedrock: Lower Greensand Group (Principal aquifer), and Upper Greensand and Gault Formation
H	Green	Current land use: undeveloped agricultural land Not within 250m of any landfill or other known significant source of contamination Superficial: Partly underlie site area in the SW, Bedrock: Upper Greensand and Gault Formation
I	Green	Current land use: undeveloped agricultural land Not within 250m of any landfill or other known significant source of contamination Superficial: River Terrace Deposits in the east, Bedrock: Upper Greensand and Gault Formation
J	Amber	Current land use: undeveloped agricultural land Adjacent to East Waste Limited landfill site Superficial: River Terrace Deposits in the west, Bedrock: Upper Greensand and Gault Formation
K	Amber	Current land use: undeveloped agricultural land Within 250m of historical Sludge Beds at Cadbury Park Farm Public drain runs along eastern site area boundary and existing reservoir at south of site area Superficial: River Terrace Deposits, Bedrock: Gault Formation and Upper Greensand Formation
L	Green	Current land use: undeveloped agricultural land Not within 250m of any landfill or other known significant source of contamination Small field drain runs north-south through site area Superficial deposits: small area in north of site area underlain by River Terrace Deposits, Bedrock: West Melbury Marly Chalk Formation immediately underlies almost the entire site area
M	Green	Current land use: undeveloped agricultural land Not within 250m of any landfill or other known significant source of contamination Small field drains run east-west through site area Superficial deposits: none, Bedrock deposits: immediately underlain by Gault Formation
N	Green	Current land use: undeveloped agricultural land Not within 250m of any landfill or other known significant source of contamination Superficial deposits: underlain by River Terrace Deposits to in the south-western half of the site area only Bedrock deposits: underlain by Gault Formation in the south-western half of the site area and by West Melbury Marly Chalk Formation in the north-eastern half of the site area

B.6 Groundwater

Site area	RAG rating	Comments/Justification
A	Amber	Tunnel and intermediate shafts will penetrate Lower Greensand Group (WFD groundwater body GB40501G445700). No superficial deposits below the site area. Risk of contamination is low.
B	Amber	Tunnel and intermediate shafts will penetrate Lower Greensand Group (WFD groundwater body GB40501G445700). No superficial deposits below the site area. Risk of contamination is low.
C	Amber	Tunnel and intermediate shafts will penetrate Lower Greensand Group (WFD groundwater body GB40501G445700). North west of site area is underlain by River Terrace Deposits classified as a Secondary A aquifer, potential connection with the Old West River WFD surface waterbody GB205033043375. Risk of contamination is low.
D	Amber	Tunnel and intermediate shafts will penetrate Lower Greensand Group (WFD groundwater body GB40501G445700). No superficial deposits below the site area. Risk of contamination is low.
E	Amber	Tunnel, intermediate and terminal shafts will penetrate Lower Greensand Group (WFD groundwater body GB40501G445700). Site area is underlain by River Terrace Deposits classified as a Secondary A aquifer, no likely connection with WFD surface waterbody. Risk of contamination is low.
F	Red	Tunnel and terminal shafts will penetrate Lower Greensand Group (WFD groundwater body GB40501G445700). South west of site area is underlain by River Terrace Deposits classified as a Secondary A aquifer, likely connection with the Cam WFD surface waterbody GB105033042750. Risk of contamination is moderate.
G	Amber	Tunnel and intermediate shafts will penetrate Lower Greensand Group (WFD groundwater body GB40501G445700). North west of site area is underlain by River Terrace Deposits classified as a Secondary A aquifer, likely connection with the Old West River WFD surface waterbody GB205033043375. Risk of contamination is low.
H	Amber	Tunnel, intermediate and terminal shafts will penetrate Lower Greensand Group (WFD groundwater body GB40501G445700). Site area is underlain by River Terrace Deposits classified as a Secondary A aquifer, no likely connection to WFD surface waterbody. Risk of contamination is low.
I	Amber	Tunnel and terminal shafts will penetrate Lower Greensand Group (WFD groundwater body GB40501G445700). East of site area is underlain by River Terrace Deposits classified as a Secondary A aquifer, likely connection with the Cam WFD surface waterbody GB105033042750. Risk of contamination is low.
J	Red	Tunnel and terminal shafts will penetrate Lower Greensand Group (WFD groundwater body GB40501G445700). Majority of site area is underlain by River Terrace Deposits classified as a Secondary A aquifer, no likely connection with the WFD surface waterbody. Risk of contamination is moderate.
K	Red	Tunnel, intermediate and terminal shafts will penetrate Lower Greensand Group (WFD groundwater body GB40501G445700). East of site area is underlain by River Terrace Deposits classified as a Secondary A aquifer, likely connection with the Old West River WFD surface waterbody GB205033043375. Risk of contamination is moderate.
L	Amber	Terminal shaft will penetrate Grey Chalk Subgroup (part of WFD groundwater body GB40501G400500 – Cam and Ely Ouse Chalk) No superficial deposits below the site area. Risk of contamination is low.
M	Amber	Tunnel and intermediate shafts will penetrate Lower Greensand Group (WFD groundwater body GB40501G445700). No superficial deposits below the site area. Risk of contamination is low.
N	Amber	Tunnel and shafts in Gault Formation only. West of site area is underlain by River Terrace Deposits classified as a Secondary A aquifer, likely connection with the Cam WFD surface waterbody GB105033042750. Risk of contamination is low.

B.8 Surface Water

Site area	RAG rating	Comments/Justification
A	Green	Not within 500m of a WFD water body and drains located within the site area but these are more than 1km from a WFD watercourse.
B	Amber	Not within 500m of a WFD water body Field drains located within the site area are more than 1km from a WFD watercourse. However, Reynolds Ditch runs 8m from the site area boundary to the south and connects to the Old West River WFD surface waterbody GB205033043375.
C	Green	Not within 500m of a WFD waterbody. Field drains within the site area are connected to the Smithy Fen Engine Drain, this runs parallel to the Old West River WFD surface waterbody GB205033043375 but is not believed to be connected to this waterbody within 1km of the site area
D	Green	Not within 500m of a WFD water body Field drains within 50m of the site area are not connected to a WFD water body within 1km
E	Green	Not within 500m of a WFD water body Field drains within 50m of the site area are not connected to a WFD water body within 1km
F	Green	Not within 500m of a WFD water body Field drains within 50m of the site area are not connected to a WFD water body within 1km
G	Amber	The site area is within 500m of the Old West River WFD surface waterbody GB205033043375. There is an unnamed watercourse running through the south east corner of the site area which drains to the Old West River surface waterbody GB205033043375. The watercourse leaves the site area approximately 1.03km upstream of the Old West River WFD surface waterbody GB205033043375 then runs parallel to the south site area boundary, approximately 32m to the south of the site area, the river runs past the south west corner of the site area approximately 490m upstream of its confluence with the Old West River WFD surface waterbody.
H	Green	Not within 500m of a WFD water body Field drains within 50m of the site area are not connected to a WFD water body within 1km
I	Green	Not within 500m of a WFD water body Field drains within 50m of the site area are not connected to a WFD water body within 1km
J	Green	Not within 500m of a WFD water body Field drains within 50m of the site area are not connected to a WFD water body within 1km
K	Red	The north west corner of the site area is approximately 270m from the Old West River WFD surface waterbody GB205033043375. A field drain connects the site area to this waterbody at this location. The distance along the flow route of this drain between the site area and the Old West River surface water body GB205033043375 is approximately 350m
L	Amber	Western boundary of site area is approximately 600m from the Cam WFD surface waterbody GB105033042750 and south-eastern boundary is approximately 600m from the Bottisham Lode - Quy Water WFD surface waterbody GB105033042700. Field drains within the site area boundary connect to Quy Water, the flow route of the drain between the site area and the Quy Water is approximately 750m.
M	Red	The south east corner of the site area is within 400m of the Bin Brook WFD surface waterbody GB105033042680. Field drains within the site area boundary connect to the Bin Brook, the flow route of the drain between the site area and the Bin Brook is approximately 700m.
N	Red	The western boundary of the site area is approximately 200m from the River Cam WFD surface waterbody GB105033042750. A drain within the southern part of the site area connects to the River Cam, the distance along the flow route of this drain between the site area and the River Cam is approximately 300m. In addition, a drain runs parallel to the entire western boundary and several connecting drains flow from this into a small watercourse than is flow parallel to the River Cam, within 20m of the bank of the River.

B.9 Nature Conservation and Biodiversity

Site area	Designated areas within 5 km	Approximate distance	Designation	Potential impact pathway	RAG rating		
A	Ashley Farm Orchard	0.1 km	County Wildlife Site	Potential for impact due to proximity	Amber		
	Cottenham Moat	2.6 km	County Wildlife Site	No pathways identified – impact unlikely			
	River Great Ouse	2.7 km	County Wildlife Site	No pathways identified – impact unlikely			
	Over Railway Cutting	3.2 km	County Wildlife Site	No pathways identified – impact unlikely			
	Haddenham Engine / Adventurers' Head Drainage System	3.3 km	County Wildlife Site	No pathways identified – impact unlikely			
	Beach Ditch and Engine Drain	3.9 km	County Wildlife Site	No pathways identified – impact unlikely			
	Aldreth Pond	4.0 km	County Wildlife Site	No pathways identified – impact unlikely			
	The Pound	4.0 km	County Wildlife Site	No pathways identified – impact unlikely			
	Twenty Pence Pit	4.5 km	County Wildlife Site	No pathways identified – impact unlikely			
	Landbeach Pits Willow Wood	4.6 km	County Wildlife Site	No pathways identified – impact unlikely			
	Fen Side Pollard Willows	4.8 km	County Wildlife Site	No pathways identified – impact unlikely			
	B	Ashley Farm Orchard	0.8 km	County Wildlife Site		No pathways identified – impact unlikely	Green
		Over Railway Cutting	2.1 km	County Wildlife Site		No pathways identified – impact unlikely	
Cottenham Moat		3.2 km	County Wildlife Site	No pathways identified – impact unlikely			
The Pound		3.8 km	County Wildlife Site	No pathways identified – impact unlikely			
River Great Ouse		4.4 km	County Wildlife Site	No pathways identified – impact unlikely			
Mare Fen		4.6 km	County Wildlife Site	No pathways identified – impact unlikely			
Middle Fen		4.8 km	County Wildlife Site	No pathways identified – impact unlikely			
Beach Ditch and Engine Drain		4.8 km	County Wildlife Site	No pathways identified – impact unlikely			
Swavesey Meadows		4.9 km	County Wildlife Site	No pathways identified – impact unlikely			
C		Ashley Farm Orchard	1.3 km	County Wildlife Site	No pathways identified – impact unlikely	Green	
	Cottenham Moat	1.4 km	County Wildlife Site	No pathways identified – impact unlikely			
	Beach Ditch and Engine Drain	1.5 km	County Wildlife Site	No pathways identified – impact unlikely			
	Worts Meadow	3.6 km	Local Nature Reserve	No pathways identified – impact unlikely			
	Landbeach Pits Willow Wood	4.1 km	County Wildlife Site	No pathways identified – impact unlikely			
D	Beach Ditch and Engine Drain	0.1 km	County Wildlife Site	Potential for impact due to proximity	Amber		
	Worts Meadow	1.6 km	Local Nature Reserve	No pathways identified – impact unlikely			
	Landbeach Pits Willow Wood	2.1 km	County Wildlife Site	Potential for impact due to hydrological connectivity to Site via Beach Ditch			
	Cottenham Moat	1.4 km	County Wildlife Site	No pathways identified – impact unlikely			
	Cambridge Road Willow Pollards	3.0 km	County Wildlife Site	No pathways identified – impact unlikely			
	Ashley Farm Orchard	3.2 km	County Wildlife Site	No pathways identified – impact unlikely			
	Twenty Pence Pit	4.1 km	County Wildlife Site	No pathways identified – impact unlikely			
	Clayhithe Pollard Willows	4.2 km	County Wildlife Site	No pathways identified – impact unlikely			
	Milton Country Park	4.3 km	Country Park	No pathways identified – impact unlikely			
	Kings Hedges Hedgerows	4.4 km	City Wildlife Site	No pathways identified – impact unlikely			
	River Cam	4.5 km	County Wildlife Site	No pathways identified – impact unlikely			
	River Great Ouse	4.6 km	County Wildlife Site	Potential for impact due to hydrological connectivity to Site via Beach Ditch			
	Milton Road Hedgerows	4.7 km	City Wildlife Site	No pathways identified – impact unlikely			
E	Beach Ditch and Engine Drain	0.0 km	County Wildlife Site	Potential for impact due to proximity	Amber		
	Landbeach Pits Willow Wood	0.5 km	County Wildlife Site	Potential for impact due to proximity and hydrological connectivity to Site via Beach Ditch			
	Cottenham Moat	1.4 km	County Wildlife Site	No pathways identified – impact unlikely			
	Worts Meadow	1.6 km	Local Nature Reserve	No pathways identified – impact unlikely			

Site area	Designated areas within 5 km	Approximate distance	Designation	Potential impact pathway	RAG rating		
	Twenty Pence Pit	2.6 km	County Wildlife Site	No pathways identified – impact unlikely	Yellow		
	Cambridge Road Willow Pollards	2.8 km	County Wildlife Site	No pathways identified – impact unlikely			
	River Great Ouse	3.2 km	County Wildlife Site	Potential for impact due to hydrological connectivity to Site via Beach Ditch			
	Ashley Farm Orchard	3.7 km	County Wildlife Site	No pathways identified – impact unlikely			
	Clayhithe Pollard Willows	3.9 km	County Wildlife Site	No pathways identified – impact unlikely			
	River Cam	4.0 km	County Wildlife Site	No pathways identified – impact unlikely			
	Milton Country Park	4.3 km	Country Park	No pathways identified – impact unlikely			
	Kings Hedges Hedgerows	4.9 km	City Wildlife Site	No pathways identified – impact unlikely			
	Milton Road Hedgerows	4.8 km	City Wildlife Site	No pathways identified – impact unlikely			
	F	River Cam	0.7 km	County Wildlife Site		No pathways identified – impact unlikely	Green
Beach Ditch and Engine Drain		1.0 km	County Wildlife Site	No pathways identified – impact unlikely			
Landbeach Pits Willow Wood		1.1 km	County Wildlife Site	No pathways identified – impact unlikely			
Cam Washes		2.0 km	Site of Special Scientific Interest	No pathways identified – impact unlikely			
River Great Ouse		3.2 km	County Wildlife Site	No pathways identified – impact unlikely			
Swaffham Poor's Fen		3.5 km	County Wildlife Site	No pathways identified – impact unlikely			
Cottenham Moat		3.7 km	County Wildlife Site	No pathways identified – impact unlikely			
Anglesey Abbey		3.8 km	County Wildlife Site	No pathways identified – impact unlikely			
Wicken Fen		4.0 km	Ramsar Site	No pathways identified – impact unlikely			
Milton Country Park		4.1 km	Country Park	No pathways identified – impact unlikely			
Milton Road Hedgerows		4.9 km	City Wildlife Site	No pathways identified – impact unlikely			
G		Beach Ditch and Engine Drain	0.8 km	County Wildlife Site	No pathways identified – impact unlikely	Green	
		Ashley Farm Orchard	2.4 km	County Wildlife Site	No pathways identified – impact unlikely		
	Cottenham Moat	2.5 km	County Wildlife Site	No pathways identified – impact unlikely			
	Landbeach Pits Willow Wood	4.8 km	County Wildlife Site	No pathways identified – impact unlikely			
	Worts Meadow	3.4 km	Local Nature Reserve	No pathways identified – impact unlikely			
	Kings Hedges Hedgerows	3.5 km	City Wildlife Site	No pathways identified – impact unlikely			
	Histon Road	3.5 km	Site of Special Scientific Interest	No pathways identified – impact unlikely			
	Madingley Brick Pits	3.7 km	County Wildlife Site	No pathways identified – impact unlikely			
	Milton Country Park	4.7 km	Country Park	No pathways identified – impact unlikely			
	Milton Road Hedgerows	4.8 km	City Wildlife Site	No pathways identified – impact unlikely			
	Over Railway Cutting	4.9 km	County Wildlife Site	No pathways identified – impact unlikely			
	H	Beach Ditch and Engine Drain	0.2 km	County Wildlife Site	Potential for impact due to proximity		Red
		Landbeach Pits Willow Wood	2.0 km	County Wildlife Site	Potential for impact due to hydrological connectivity to Site via Beach Ditch		
Worts Meadow		1.1 km	Local Nature Reserve	Potential for impact due to connectivity to Site via hedgerows.			
Kings Hedges Hedgerows		2.1 km	City Wildlife Site	No pathways identified – impact unlikely			
Cottenham Moat		2.2 km	County Wildlife Site	No pathways identified – impact unlikely			
Cambridge Road Willow Pollards		2.2 km	County Wildlife Site	No pathways identified – impact unlikely			
Milton Country Park		2.7 km	Country Park	No pathways identified – impact unlikely			
Histon Road		2.8 km	Site of Special Scientific Interest	No pathways identified – impact unlikely			
Milton Road Hedgerows		2.8 km	City Wildlife Site	No pathways identified – impact unlikely			
Clayhithe Pollard Willows		3.4 km	County Wildlife Site	No pathways identified – impact unlikely			
River Cam		3.7 km	County Wildlife Site	No pathways identified – impact unlikely			
Ashley Farm Orchard		4.1 km	County Wildlife Site	No pathways identified – impact unlikely			
Twenty Pence Pit		4.3 km	County Wildlife Site	No pathways identified – impact unlikely			
Ascension Parish Burial Ground	4.3 km	City Wildlife Site	No pathways identified – impact unlikely				

Site area	Designated areas within 5 km	Approximate distance	Designation	Potential impact pathway	RAG rating
	Traveller's Rest Pit	4.5 km	Site of Special Scientific Interest	No pathways identified – impact unlikely	Red
	Ditton Meadows	4.5 km	City Wildlife Site	No pathways identified – impact unlikely	
	Stourbridge Common	4.5 km	City Wildlife Site	No pathways identified – impact unlikely	
	Midsummer Common	4.6 km	City Wildlife Site	No pathways identified – impact unlikely	
	Conduit Head Bird Sanctuary	4.9 km	City Wildlife Site	No pathways identified – impact unlikely	
	River Great Ouse	4.8 km	County Wildlife Site	Potential for impact due to hydrological connectivity to Site via Beach Ditch	
I	Worts Meadow	0.7 km	Local Nature Reserve	Potential for impact due to proximity and connectivity to Site via hedgerows.	Red
	Milton Country Park	1.1 km	Country Park	No pathways identified – impact unlikely	
	Milton Road Hedgerows	1.4 km	City Wildlife Site	No pathways identified – impact unlikely	
	River Cam	1.7 km	County Wildlife Site	No pathways identified – impact unlikely	
	Beach Ditch and Engine Drain	1.8 km	County Wildlife Site	No pathways identified – impact unlikely	
	Kings Hedges Hedgerows	2.1 km	City Wildlife Site	No pathways identified – impact unlikely	
	Bramblefields	2.7 km	Local Nature Reserve	No pathways identified – impact unlikely	
	Ditton Meadows	3.2 km	City Wildlife Site	No pathways identified – impact unlikely	
	Histon Road	3.3 km	Site of Special Scientific Interest	No pathways identified – impact unlikely	
	Stourbridge Common	3.5 km	City Wildlife Site	No pathways identified – impact unlikely	
	Low Fen Drove Way Grasslands and Hedges	3.5 km	County Wildlife Site	No pathways identified – impact unlikely	
	Barnwell Junction Disused Railway	3.6 km	City Wildlife Site	No pathways identified – impact unlikely	
	Barnwell Junction Pastures	3.6 km	City Wildlife Site	No pathways identified – impact unlikely	
	Stow-cum-Quy Fen	3.6 km	Site of Special Scientific Interest	No pathways identified – impact unlikely	
	St Andrew's, Chesterton	3.8 km	City Wildlife Site	No pathways identified – impact unlikely	
	Barnwell Pit	4.0 km	City Wildlife Site	No pathways identified – impact unlikely	
	Allicky Farm Pond	4.0 km	County Wildlife Site	No pathways identified – impact unlikely	
	Midsummer Common	4.5 km	City Wildlife Site	No pathways identified – impact unlikely	
	Coldhams Common	4.7 km	Local Nature Reserve	No pathways identified – impact unlikely	
	Coldhams Brook	4.7 km	City Wildlife Site	No pathways identified – impact unlikely	
	Ascension Parish Burial Ground	4.8 km	City Wildlife Site	No pathways identified – impact unlikely	
	Anglesey Abbey	4.9 km	County Wildlife Site	No pathways identified – impact unlikely	
J	Kings Hedges Hedgerows	0.5 km	City Wildlife Site	No pathways identified – impact unlikely	Green
	Milton Road Hedgerows	1.4 km	City Wildlife Site	No pathways identified – impact unlikely	
	Milton Country Park	1.1 km	Country Park	No pathways identified – impact unlikely	
	Histon Road	1.4 km	Site of Special Scientific Interest	No pathways identified – impact unlikely	
	Bramblefields	1.7 km	Local Nature Reserve	No pathways identified – impact unlikely	
	River Cam	2.0 km	County Wildlife Site	No pathways identified – impact unlikely	
	Worts Meadow	2.2 km	Local Nature Reserve	No pathways identified – impact unlikely	
	Ditton Meadows	2.4 km	City Wildlife Site	No pathways identified – impact unlikely	
	Stourbridge Common	2.4 km	City Wildlife Site	No pathways identified – impact unlikely	
	Barnwell Junction Disused Railway	2.5 km	City Wildlife Site	No pathways identified – impact unlikely	
	St Andrew's, Chesterton	2.5 km	City Wildlife Site	No pathways identified – impact unlikely	
	Beach Ditch and Engine Drain	2.7 km	County Wildlife Site	No pathways identified – impact unlikely	
	Barnwell Junction Pastures	2.8 km	City Wildlife Site	No pathways identified – impact unlikely	
	Barnwell Pit	2.9 km	City Wildlife Site	No pathways identified – impact unlikely	
	Logan's Meadow	2.9 km	Local Nature Reserve	No pathways identified – impact unlikely	
	Ascension Parish Burial Ground	3.0 km	City Wildlife Site	No pathways identified – impact unlikely	
	Midsummer Common	3.0 km	City Wildlife Site	No pathways identified – impact unlikely	

Site area	Designated areas within 5 km	Approximate distance	Designation	Potential impact pathway	RAG rating		
	Coldhams Common	3.1 km	Local Nature Reserve	No pathways identified – impact unlikely	Green		
	Coldhams Brook	3.1 km	City Wildlife Site	No pathways identified – impact unlikely			
	Traveller's Rest Pit	3.3 km	Site of Special Scientific Interest	No pathways identified – impact unlikely			
	Cambridge Road Willow Pollards	3.4 km	County Wildlife Site	No pathways identified – impact unlikely			
	Bin Brook	3.4 km	City Wildlife Site	No pathways identified – impact unlikely			
	Low Fen Drove Way Grasslands and Hedges	3.4 km	County Wildlife Site	No pathways identified – impact unlikely			
	Conduit Head Bird Sanctuary	3.7 km	City Wildlife Site	No pathways identified – impact unlikely			
	Adams Road Sanctuary	3.8 km	County Wildlife Site	No pathways identified – impact unlikely			
	Mill Road Cemetery	3.8 km	City Wildlife Site	No pathways identified – impact unlikely			
	Trinity Meadow	3.8 km	City Wildlife Site	No pathways identified – impact unlikely			
	Drain at Garret Hostel Lane	3.9 km	City Wildlife Site	No pathways identified – impact unlikely			
	Meadow and Ditch Opposite King's College	4.1 km	City Wildlife Site	No pathways identified – impact unlikely			
	Barton Road Pool	4.2 km	County Wildlife Site	No pathways identified – impact unlikely			
	Scrub East of M11 verge	4.3 km	City Wildlife Site	No pathways identified – impact unlikely			
	Little St Mary's Churchyard	4.0 km	City Wildlife Site	No pathways identified – impact unlikely			
	Coton Path Hedgerow	4.5 km	County Wildlife Site	No pathways identified – impact unlikely			
	Sheep's Green and Coe Fen	4.5 km	Local Nature Reserve	No pathways identified – impact unlikely			
	Hobson's Conduit / Vicar's Brook	4.7 km	City Wildlife Site	No pathways identified – impact unlikely			
	Hedgerows East of M11	4.7 km	County Wildlife Site	No pathways identified – impact unlikely			
	Madingley Brick Pits	4.9 km	County Wildlife Site	No pathways identified – impact unlikely			
	Coton Country Park	5.0 km	Country Park	No pathways identified – impact unlikely			
	Cambridge Botanic Gardens	5.0 km	County Wildlife Site	No pathways identified – impact unlikely			
	K	Histon Road	1.1 km	Site of Special Scientific Interest		No pathways identified – impact unlikely	Green
		Traveller's Rest Pit	1.7 km	Site of Special Scientific Interest		No pathways identified – impact unlikely	
Ascension Parish Burial Ground		1.9 km	City Wildlife Site	No pathways identified – impact unlikely			
Kings Hedges Hedgerows		2.0 km	City Wildlife Site	No pathways identified – impact unlikely			
Conduit Head Bird Sanctuary		2.2 km	City Wildlife Site	No pathways identified – impact unlikely			
Madingley Brick Pits		2.6 km	County Wildlife Site	No pathways identified – impact unlikely			
Scrub East of M11 verge		2.6 km	City Wildlife Site	No pathways identified – impact unlikely			
Beach Ditch and Engine Drain		2.8 km	County Wildlife Site	No pathways identified – impact unlikely			
Coton Path Hedgerow		2.9 km	County Wildlife Site	No pathways identified – impact unlikely			
Adams Road Sanctuary		2.9 km	County Wildlife Site	No pathways identified – impact unlikely			
River Cam		2.9 km	County Wildlife Site	No pathways identified – impact unlikely			
Bin Brook		3.2 km	City Wildlife Site	No pathways identified – impact unlikely			
Midsummer Common		3.2 km	City Wildlife Site	No pathways identified – impact unlikely			
Trinity Meadow		3.2 km	City Wildlife Site	No pathways identified – impact unlikely			
Hedgerows East of M11		3.3 km	County Wildlife Site	No pathways identified – impact unlikely			
Drain at Garret Hostel Lane		3.4 km	City Wildlife Site	No pathways identified – impact unlikely			
Meadow and Ditch Opposite King's College		3.5 km	City Wildlife Site	No pathways identified – impact unlikely			
St Andrew's, Chesterton		3.6 km	City Wildlife Site	No pathways identified – impact unlikely			
Low Fen Drove Way Grasslands and Hedges		3.6 km	County Wildlife Site	No pathways identified – impact unlikely			
Coton Country Park		3.6 km	Country Park	No pathways identified – impact unlikely			
Milton Road Hedgerows		3.7 km	City Wildlife Site	No pathways identified – impact unlikely			
Bramblefields		3.9 km	Local Nature Reserve	No pathways identified – impact unlikely			
Stourbridge Common		3.9 km	City Wildlife Site	No pathways identified – impact unlikely			
Logan's Meadow		3.9 km	Local Nature Reserve	No pathways identified – impact unlikely			

Site area	Designated areas within 5 km	Approximate distance	Designation	Potential impact pathway	RAG rating	
	Milton Country Park	4.0 km	Country Park	No pathways identified – impact unlikely	Green	
	Little St Mary's Churchyard	4.0 km	City Wildlife Site	No pathways identified – impact unlikely		
	Barton Road Pool	4.1 km	County Wildlife Site	No pathways identified – impact unlikely		
	Barnwell Pit	4.2 km	City Wildlife Site	No pathways identified – impact unlikely		
	Mill Road Cemetery	4.4 km	City Wildlife Site	No pathways identified – impact unlikely		
	Barnwell Junction Disused Railway	4.4 km	City Wildlife Site	No pathways identified – impact unlikely		
	Barnwell Junction Pastures	4.4 km	City Wildlife Site	No pathways identified – impact unlikely		
	Sheep's Green and Coe Fen	4.4 km	Local Nature Reserve	No pathways identified – impact unlikely		
	Worts Meadow	4.5 km	Local Nature Reserve	No pathways identified – impact unlikely		
	Ditton Meadows	4.5 km	City Wildlife Site	No pathways identified – impact unlikely		
	Madingley Slip Road RSV	4.5 km	County Wildlife Site	No pathways identified – impact unlikely		
	Lower Vicar's Brook, New Bit and Coe Fen Straits	4.6 km	City Wildlife Site	No pathways identified – impact unlikely		
	Coldhams Common	4.7 km	Local Nature Reserve	No pathways identified – impact unlikely		
	Skaters' Meadow Group	4.8 km	County Wildlife Site	No pathways identified – impact unlikely		
	Perse Girls' School Reedbed	4.8 km	City Wildlife Site	No pathways identified – impact unlikely		
	Cambridge Botanic Gardens	4.9 km	County Wildlife Site	No pathways identified – impact unlikely		
L	Low Fen Drove Way Grasslands and Hedges	0.0 km	County Wildlife Site	Potential for impact due to proximity		Red
	Allicky Farm Pond	0.6 km	County Wildlife Site	Potential for impact due to proximity and connectivity with Site via Black Ditch		
	River Cam	0.6 km	County Wildlife Site	No pathways identified – impact unlikely		
	Milton	1.1 km	Country Park	No pathways identified – impact unlikely		
	Stow-cum-Quy-Fen	1.2 km	SSSI	Potential for impact due to connectivity with Site via Black Ditch		
	Wilbraham Fens	1.3 km	SSSI	No pathways identified – impact unlikely		
	Ditton Meadows	1.6 km	City Wildlife Site	No pathways identified – impact unlikely		
	Bramblefields	1.8 km	Local Nature Reserve	No pathways identified – impact unlikely		
	Milton Road Hedgerows	1.9 km	City Wildlife Site	No pathways identified – impact unlikely		
	Airport Way RSV	1.9 km	County Wildlife Site	No pathways identified – impact unlikely		
	Teversham	1.9 km	Protected Road Verge	No pathways identified – impact unlikely		
	Clayhithe Pollard Willows	1.9 km	County Wildlife Site	No pathways identified – impact unlikely		
	Anglesey Abbey	2.0 km	County Wildlife Site	Potential for impact due to connectivity with Site via Quy Water		
	Barnwell Junction Disused Railway	2.2 km	City Wildlife Site	No pathways identified – impact unlikely		
	Barnwell Junction Pastures	2.2 km	City Wildlife Site	No pathways identified – impact unlikely		
	Little Wilbraham River	2.2 km	County Wildlife Site	No pathways identified – impact unlikely		
	Stourbridge Common	2.2 km	City Wildlife Site	No pathways identified – impact unlikely		
	Barnwell Pit	2.5 km	City Wildlife Site	No pathways identified – impact unlikely		
	Coldham's Common	2.5 km	Local Nature Reserve	No pathways identified – impact unlikely		
	Coldham's Common	2.5 km	County Wildlife Site	No pathways identified – impact unlikely		
	Barnwell Road West LNR	2.5 km	City Wildlife Site	No pathways identified – impact unlikely		
	Barnwell II	2.5 km	Local Nature Reserve	No pathways identified – impact unlikely		
	Barnwell	2.6 km	Local Nature Reserve	No pathways identified – impact unlikely		
	Barnwell Road East LNR	2.6 km	City Wildlife Site	No pathways identified – impact unlikely		
	Cambridge Road Willow Pollards	2.8 km	County Wildlife Site	No pathways identified – impact unlikely		
	Teversham Drift Hedgerow	3.0 km	City Wildlife Site	No pathways identified – impact unlikely		
	Coldham's Lane Old Landfill Sites	3.2 km	City Wildlife Site	No pathways identified – impact unlikely		
	Cherry Hinton Brook	3.2 km	City Wildlife Site	No pathways identified – impact unlikely		
	St Andrew's Chesterton	3.2 km	City Wildlife Site	No pathways identified – impact unlikely		

Site area	Designated areas within 5 km	Approximate distance	Designation	Potential impact pathway	RAG rating	
	CU Officer Training Corps Pit	3.3 km	City Wildlife Site	No pathways identified – impact unlikely	Red	
	Cherry Hinton Churchyard	3.3 km	City Wildlife Site	No pathways identified – impact unlikely		
	Worts Meadow	3.3 km	Local Nature Reserve	No pathways identified – impact unlikely		
	Logan's Meadow LNR	3.3 km	Local Nature Reserve	No pathways identified – impact unlikely		
	Logan's Meadow	3.3 km	City Wildlife Site	No pathways identified – impact unlikely		
	Norman Cement Pits	3.5 km	City Wildlife Site	No pathways identified – impact unlikely		
	King's Hedges Hedgerow	3.6 km	City Wildlife Site	No pathways identified – impact unlikely		
	Swaffham Poor's Fen	3.6 km	County Wildlife Site	No pathways identified – impact unlikely		
	Midsummer Common	3.7 km	City Wildlife Site	No pathways identified – impact unlikely		
	Great Wilbraham Common	3.7 km	SSSI	No pathways identified – impact unlikely		
	Bottisham Park	4.0 km	County Wildlife Site	No pathways identified – impact unlikely		
	Cherry Hinton Hall Bird Sanctuary	4.0 km	City Wildlife Site	No pathways identified- impact unlikely		
	Love Lane Pollards	4.0 km	City Wildlife Site	No pathways identified- impact unlikely		
	Mill Road Cemetery	4.0 km	City Wildlife Site	No pathways identified- impact unlikely		
	Cherry Hinton Hall Brook	4.2 km	City Wildlife Site	No pathways identified- impact unlikely		
	Limekiln Close (and West Pit)	4.4 km	Local Nature Reserve	No pathways identified- impact unlikely		
	Lime Kiln Close LNR	4.4 km	County Wildlife Site	No pathways identified- impact unlikely		
	Fulbourn Fen	4.5 km	SSSI	No pathways identified- impact unlikely		
	East Pit	4.6 km	Local Geological Site	No pathways identified- impact unlikely		
	East Pit	4.6 km	Local Nature Reserve	No pathways identified- impact unlikely		
	Cherry Hinton Pit	4.6km	SSSI	No pathways identified- impact unlikely		
	Histon Road	4.7 km	SSSI	No pathways identified – impact unlikely		
	Cherry Hinton	4.7 km	Protected Road Verge	No pathways identified – impact unlikely		
	Lime Kiln Hill Reservoirs	5.0 km	County Wildlife Site	No pathways identified – impact unlikely		
	Lime Kiln Road Verge and Hedge	5.0 km	City Wildlife Site	No pathways identified – impact unlikely		
	Cambridge Botanic Gardens	5.0 km	County Wildlife Site	No pathways identified – impact unlikely		
	Bin Brook	5.0 km	City Wildlife Site	No pathways identified – impact unlikely		
M	Hedgerows East of M11	0.0 km	County Wildlife Site	Potential for impact due to proximity		Amber
	Coton Path Hedgerow	0.0 km	County Wildlife Site	Potential for impact due to proximity and connectivity via hedgerows		
	Scrub East of M11 Verge	0.1 km	City Wildlife Site	Potential for impact due to proximity and connectivity via hedgerows		
	Coton	0.1 km	Country Park	Potential for impact due to proximity		
	Bin Brook	0.5 km	City Wildlife Site	Potential for impact due to proximity and connectivity via hedgerows and hydrological connectivity via field drains		
	Adams Road Sanctuary	0.7 km	County Wildlife Site	Potential for impact via hydrological connection to Bin Brook		
	Bird Sanctuary Conduitt Head	0.8 km	City Wildlife Site	No pathways identified – impact unlikely		
	Barton Road Pool	0.8 km	County Wildlife Site	No pathways identified – impact unlikely		
	Trinity Meadow	1.2 km	City Wildlife Site	Potential for impact via hydrological connect Bin Brook		
	Traveller's Rest Pit	1.3 km	SSSI	No pathways identified – impact unlikely		
	Drain at Garret Hostel Lane	1.4 km	City Wildlife Site	No pathways identified – impact unlikely		
	Meadow and Ditch Opposite King's College	1.4 km	City Wildlife Site	No pathways identified – impact unlikely		
	Ascension Parish Burial Ground	1.4 km	City Wildlife Site	No pathways identified – impact unlikely		
	River Cam	1.5 km	County Wildlife Site	No pathways identified – impact unlikely		
	Skater's Meadow Group	1.5 km	County Wildlife Site	No pathways identified – impact unlikely		
	Meadow's and Drains	1.7 km	City Wildlife Site	No pathways identified – impact unlikely		
	Sheep's Green and Coe Fen	1.7 km	Local Nature Reserve	No pathways identified – impact unlikely		
	Sheep's Green	1.7 km	County Wildlife Site	No pathways identified – impact unlikely		

Site area	Designated areas within 5 km	Approximate distance	Designation	Potential impact pathway	RAG rating
	Paradise LNR	1.8 km	County Wildlife Site	No pathways identified – impact unlikely	
	Paradise	1.8 km	Local Nature Reserve	No pathways identified – impact unlikely	
	Little St Mary's Churchyard	1.9 km	City Wildlife Site	No pathways identified – impact unlikely	
	Coe Fen	1.9 km	County Wildlife Site	No pathways identified – impact unlikely	
	Perse Girl's School Reedbed	2.0 km	City Wildlife Site	No pathways identified – impact unlikely	
	Lower Vicar's Brook, New Bit and Coe Fen Straits	2.0 km	City Wildlife Site	No pathways identified – impact unlikely	
	Barton Orchard	2.0 km	County Wildlife Site	No pathways identified – impact unlikely	
	Madingley Wood	2.0 km	SSSI	No pathways identified – impact unlikely	
	Hobson's Conduit North	2.3 km	City Wildlife Site	No pathways identified – impact unlikely	
	Cambridge Botanic Gardens	2.5 km	County Wildlife Site	No pathways identified – impact unlikely	
	Eight Acre Wood and Seven Acres Wood	2.5 km	City Wildlife Site	No pathways identified – impact unlikely	
	Midsummer Common	2.5 km	City Wildlife Site	No pathways identified – impact unlikely	
	Hobson's Conduit / Vicar's Brook	2.7 km	City Wildlife Site	No pathways identified – impact unlikely	
	Trumpington Road Woodland	2.8 km	City Wildlife Site	No pathways identified – impact unlikely	
	Clare Wood	3.0 km	City Wildlife Site	No pathways identified – impact unlikely	
	Grantchester Road Plantations	3.0 km	City Wildlife Site	No pathways identified – impact unlikely	
	Mill Road Cemetery	3.1 km	City Wildlife Site	No pathways identified – impact unlikely	
	Bentley Road Paddocks	3.1 km	City Wildlife Site	No pathways identified – impact unlikely	
	Madingley Slip Road RSV	3.1 km	County Wildlife Site	No pathways identified – impact unlikely	
	Histon Road	3.1 km	SSSI	No pathways identified – impact unlikely	
	Long Road Plantation	3.2 km	City Wildlife Site	No pathways identified – impact unlikely	
	Old Mill Plantation	3.2 km	City Wildlife Site	No pathways identified – impact unlikely	
	Byron's Pool	3.2 km	Local Nature Reserve	No pathways identified – impact unlikely	
	Madingley Brickpits	3.3 km	County Wildlife Site	No pathways identified – impact unlikely	
	Logan's Meadow LNR	3.4 km	City Wildlife Site	No pathways identified – impact unlikely	
	Logan's Meadow	3.4 km	Local Nature Reserve	No pathways identified – impact unlikely	
	St Andrew's, Chesterton	3.4 km	City Wildlife Site	No pathways identified – impact unlikely	
	Hobson's Brook Mid	3.5 km	City Wildlife Site	No pathways identified – impact unlikely	
	Triangle North of Long Road	3.7 km	County Wildlife Site	No pathways identified – impact unlikely	
	Stourbridge Common	3.9 km	City Wildlife Site	No pathways identified – impact unlikely	
	River Rhee	3.9 km	County Wildlife Site	No pathways identified – impact unlikely	
	Coldham's Common	4.0 km	County Wildlife Site	No pathways identified – impact unlikely	
	Coldham's Common	4.0 km	Local Nature Reserve	No pathways identified – impact unlikely	
	Barnwell Pit	4.1 km	City Wildlife Site	No pathways identified – impact unlikely	
	Coldham's Brook	4.2 km	City Wildlife Site	No pathways identified – impact unlikely	
	Hobson's Brook South	4.2 km	City Wildlife Site	No pathways identified – impact unlikely	
	Barnwell Junction Pastures	4.3 km	City Wildlife Site	No pathways identified – impact unlikely	
	Ditton Meadows	4.5 km	City Wildlife Site	No pathways identified – impact unlikely	
	Barnwell Road West LNR	4.7 km	City Wildlife Site	No pathways identified – impact unlikely	
	Barnwell II	4.7 km	Local Nature Reserve	No pathways identified – impact unlikely	
	CU Officer Training Corps Pit	4.7 km	City Wildlife Site	No pathways identified – impact unlikely	
	Cherry Hinton Brook	4.7 km	City Wildlife Site	No pathways identified – impact unlikely	
	Norman Cement Pits	4.7 km	City Wildlife Site	No pathways identified – impact unlikely	
	Barnwell Road East LNR	4.8 km	City Wildlife Site	No pathways identified – impact unlikely	
	Barnwell	4.8 km	Local Nature Reserve	No pathways identified – impact unlikely	
	Red Cross Lane Drain	4.9 km	City Wildlife Site	No pathways identified – impact unlikely	

Site area	Designated areas within 5 km	Approximate distance	Designation	Potential impact pathway	RAG rating
N	Lord's Bridge Observatory	4.9 km	County Wildlife Site	No pathways identified – impact unlikely	Yellow
	Hedgerow West of Babraham Road	5.0 km	City Wildlife Site	No pathways identified – impact unlikely	
	Nine Wells	5.0 km	Local Nature Reserve	No pathways identified – impact unlikely	
	Nine Wells	5.0 km	Local Geological Site	No pathways identified – impact unlikely	
	Eight Acre Wood and Seven Acres Wood	0.0 km	City Wildlife Site	Potential for impact due to proximity and hydrological connectivity via field drains	Red
	Meadows and Drains	0.0 km	City Wildlife Site	Potential for impact due to proximity and hydrological connectivity via field drains	
	River Cam	0.2 km	County Wildlife Site	Potential for impact due to proximity and hydrological connectivity via field drains	
	Skaters' Meadow Group	0.3 km	County Wildlife Site	Potential for impact due to proximity and hydrological connectivity via River Cam and field drains	
	Trumpington Road Woodland	0.5 km	City Wildlife Site	Potential for impact due to proximity and connectivity via hedgerows	
	Grantchester Road Plantations	0.5 km	City Wildlife Site	Potential for impact due to proximity and hydrological connectivity via River Cam and field drains	
	Paradise	0.5 km	Local Nature Reserve	Potential for impact due to proximity and hydrological connectivity via River Cam and field drains	
	Paradise LNR	0.5 km	County Wildlife Site	Potential for impact due to proximity and hydrological connectivity via River Cam and field drains	
	Perse Girl's School Reedbed	0.6 km	City Wildlife Site	Potential for impact due to proximity and hydrological connectivity via River Cam and field drains	
	Old Mill Plantation	0.7 km	City Wildlife Site	Potential for impact due to hydrological connectivity via River Cam and field drains	
	Byron's Pool	0.7 km	Local Nature Reserve	Potential for impact due to hydrological connectivity via River Cam and field drains	
	Long Road Plantation	0.7 km	City Wildlife Site	No pathways identified – impact unlikely	
	Sheep's Green	0.8 km	County Wildlife Site	Potential for impact due to hydrological connectivity via River Cam and field drains	
	Sheep's Green and Coe Fen	0.8 km	Local Nature Reserve	Potential for impact due to hydrological connectivity via River Cam and field drains	
	Coe Fen	0.8 km	County Wildlife Site	Potential for impact due to proximity and hydrological connectivity via River Cam and field drains	
	Lower Vicar's Brook, New Bit and Coe Fen Straits	0.8 km	City Wildlife Site	Potential for impact due to proximity and hydrological connectivity via River Cam and field drains	
	Hobson's Conduit / Vicar's Brook	0.9 km	City Wildlife Site	No pathways identified – impact unlikely	
	Hobson's Conduit North	0.9 km	City Wildlife Site	No pathways identified – impact unlikely	
	Clare Wood	0.9 km	City Wildlife Site	No pathways identified – impact unlikely	
	Bentley Road Paddocks	0.9 km	City Wildlife Site	No pathways identified – impact unlikely	
	Cambridge Botanic Gardens	1.0 km	County Wildlife Site	No pathways identified – impact unlikely	
	Hobson's Brook Mid	1.0 km	City Wildlife Site	No pathways identified – impact unlikely	
	Barton Road Pool	1.1 km	County Wildlife Site	No pathways identified – impact unlikely	
	Triangle North of Long road	1.2 km	County Wildlife Site	No pathways identified – impact unlikely	
Little St Mary's Churchyard	1.4 km	City Wildlife Site	No pathways identified – impact unlikely		
Bin Brook	1.5 km	City Wildlife Site	No pathways identified – impact unlikely		
Hobson's Brook South	1.5 km	City Wildlife Site	No pathways identified – impact unlikely		
Meadow and Ditch Opposite King's College	1.6 km	City Wildlife Site	No pathways identified – impact unlikely		
River Rhee	1.9 km	County Wildlife Site	No pathways identified – impact unlikely		
Trinity Meadow	1.9 km	City Wildlife Site	No pathways identified – impact unlikely		
Drain at Garret Hostel	1.9 km	City Wildlife Site	No pathways identified – impact unlikely		
Adams Road Sanctuary	2.1 km	County Wildlife Site	No pathways identified – impact unlikely		

Site area	Designated areas within 5 km	Approximate distance	Designation	Potential impact pathway	RAG rating
	Barton Orchard	2.2 km	County Wildlife Site	No pathways identified – impact unlikely	
	Hedgerows East of M11	2.2 km	County Wildlife Site	No pathways identified – impact unlikely	
	Mill Road Cemetery	2.3 km	City Wildlife Site	No pathways identified – impact unlikely	
	Coton Path Hedgerow	2.3 km	County Wildlife Site	No pathways identified – impact unlikely	
	Nine Wells	2.4 km	Local Geological Site	No pathways identified – impact unlikely	
	Nine Wells	2.4 km	Local Nature Reserve	No pathways identified – impact unlikely	
	Midsummer Common	2.5 km	City Wildlife Site	No pathways identified – impact unlikely	
	Red Cross Lane Drain	2.5 km	City Wildlife Site	No pathways identified – impact unlikely	
	Hedgerow West of Babraham Road	2.5 km	City Wildlife Site	No pathways identified – impact unlikely	
	Coton	2.5 km	Country Park	No pathways identified – impact unlikely	
	Scrub East of M11 Verge	3.0 km	City Wildlife Site	No pathways identified – impact unlikely	
	Netherhall Farm Meadow	3.0 km	County Wildlife Site	No pathways identified – impact unlikely	
	Bird Sanctuary, Conduit Head	3.1 km	City Wildlife Site	No pathways identified – impact unlikely	
	Norman Cement Pits	3.1 km	City Wildlife Site	No pathways identified – impact unlikely	
	Cherry Hinton Brook	3.2 km	City Wildlife Site	No pathways identified – impact unlikely	
	CU Officer Training Corps Pit	3.2 km	City Wildlife Site	No pathways identified – impact unlikely	
	Ascension Parish Burial Ground	3.2 km	City Wildlife Site	No pathways identified – impact unlikely	
	Logan's Meadow	3.3 km	Local Nature Reserve	No pathways identified – impact unlikely	
	Logan's Meadow LNR	3.3 km	City Wildlife Site	No pathways identified – impact unlikely	
	Travellers Rest Pit	3.4 km	SSSI	No pathways identified – impact unlikely	
	St Andrew's, Chesterton	3.5 km	City Wildlife Site	No pathways identified – impact unlikely	
	Barnwell II	3.6 km	Local Nature Reserve	No pathways identified – impact unlikely	
	Coldham's Common	3.6 km	Local Nature Reserve	No pathways identified – impact unlikely	
	Coldham's Common	3.6 km	County Wildlife Site	No pathways identified – impact unlikely	
	Coldham's Brook	3.6 km	City Wildlife Site	No pathways identified – impact unlikely	
	Cherry Hinton Pit	3.6 km	SSSI	No pathways identified – impact unlikely	
	Cherry Hinton	3.6 km	Protected Road Verge	No pathways identified – impact unlikely	
	Lime Kiln Road Verge and Hedge	3.6 km	City Wildlife Site	No pathways identified – impact unlikely	
	East Pit	3.6 km	Local Nature Reserve	No pathways identified – impact unlikely	
	East Pit	3.7 km	Local Geological Site	No pathways identified – impact unlikely	
	Wort's Causeway RSV	3.7 km	County Wildlife Site	No pathways identified – impact unlikely	
	Cherry Hinton Hall Bird Sanctuary	3.7 km	City Wildlife Site	No pathways identified – impact unlikely	
	The Spinney and Hayster Open Space	3.7 km	City Wildlife Site	No pathways identified – impact unlikely	
	Barnwell	3.7 km	Local Nature Reserve	No pathways identified – impact unlikely	
	Barnwell Road East LNR	3.7 km	City Wildlife Site	No pathways identified – impact unlikely	
	Barnwell Pit	3.7 km	City Wildlife Site	No pathways identified – impact unlikely	
	Coldham's Lane Old Landfill Sites	3.8 km	City Wildlife Site	No pathways identified – impact unlikely	
	Cherry Hinton Hall Brook	3.8 km	City Wildlife Site	No pathways identified – impact unlikely	
	Stourbridge Common	3.8 km	City Wildlife Site	No pathways identified – impact unlikely	
	Limekiln Close (and West Pit)	3.9 km	Local Nature Reserve	No pathways identified – impact unlikely	
	Lime Kiln Close LNR	3.9 km	County Wildlife Site	No pathways identified – impact unlikely	
	Love Lane Pollards	4.0 km	City Wildlife Site	No pathways identified – impact unlikely	
	Harston Pit (east of Button End)	4.0 km	County Wildlife Site	No pathways identified – impact unlikely	
	Barnwell Junction Pastures	4.0 km	City Wildlife Site	No pathways identified – impact unlikely	
	Gog Magog Golf Course	4.1 km	SSSI	No pathways identified – impact unlikely	
	The Beechwoods	4.3 km	Local Nature Reserve	No pathways identified – impact unlikely	

Site area	Designated areas within 5 km	Approximate distance	Designation	Potential impact pathway	RAG rating
	Barnwell Junction Disused Railway	4.3 km	City Wildlife Site	No pathways identified – impact unlikely	
	Ditton Meadows	4.3 km	City Wildlife Site	No pathways identified – impact unlikely	
	Lord's Bridge Observatory	4.4 km	County Wildlife Site	No pathways identified – impact unlikely	
	Cherry Hinton Churchyard	4.5 km	City Wildlife Site	No pathways identified – impact unlikely	
	Harston Orchard	4.6 km	County Wildlife Site	No pathways identified – impact unlikely	
	Cambridge – Bedford Disused Railway (Harlton)	4.6 km	County Wildlife Site	No pathways identified – impact unlikely	
	Teversham Drift Hedgerow	4.6 km	City Wildlife Site	No pathways identified – impact unlikely	
	River Granta	4.6 km	County Wildlife Site	No pathways identified – impact unlikely	
	Haslingfield Pit	4.9 km	County Wildlife Site	No pathways identified – impact unlikely	
	Bramblefields	4.9 km	Local Nature Reserve	No pathways identified – impact unlikely	
	Teversham	5.0 km	Protected Road Verge	No pathways identified – impact unlikely	

B.10 Historic Environment

Site area	Potential impact on:				RAG rating	Summary
	Designated heritage assets (High)	Designated heritage assets (Moderate)	Non-designated heritage assets (Moderate)	Non-designated heritage assets (Low)		
A	No	No	No	No	Green	No heritage assets within site area. Impact on Belsar's Hill ringworks mitigated by distance (500m).
B	No	No	No	Yes	Green	No designated heritage assets within site area. No impact on designated heritage assets. All assets of low value within site area.
C	No	No	No	Yes	Green	No designated heritage assets within site area. No impact on designated heritage assets. All assets of low value within site area.
D	No	No	No	Yes	Green	No designated heritage assets within site area. No impact on designated heritage assets. All assets of low value within site area.
E	No	No	No	Yes	Green	No designated heritage assets within site area. No impact on designated heritage assets. All assets of low value within site area.
F	No	No	Yes	Yes	Amber	No designated heritage assets within site area. No impact on designated heritage assets. Assets of moderate and low value within site area.
G	No	No	Yes	Yes	Amber	No designated heritage assets within site area. No impact on designated heritage assets. Assets of moderate and low value within site area.
H	No	No	Yes	Yes	Amber	No designated heritage assets within site area. Impact on moderate value heritage assets. Assets of moderate and low value within site area.
I	No	No	Yes	Yes	Amber	No designated heritage assets within site area. No impact on designated heritage assets. Assets of moderate and low value within site area.
J	No	No	Yes	Yes	Amber	No designated heritage assets within site area. No impact on designated heritage assets. Assets of moderate and low value within site area.
K	No	No	No	Yes	Green	No designated heritage assets within site area. No impact on designated heritage assets. All assets of low value within site area.
L	Yes	Yes	No	Yes	Amber	No designated heritage assets within site area. Potential for low impacts on the settings of three high value designated heritage assets. Potential impact to the setting of three medium value designated heritage assets. Assets of low value within site area.
M	Yes	No	Yes	Yes	Red	No designated heritage assets within site area. Potential for impacts on the setting of a designated heritage asset of moderate/high value. Assets of low to moderate value within site area.
N	Yes	No	Yes	Yes	Red	No designated heritage assets within site area. Potential impact to the settings of three high value designated heritage assets. Assets of low to moderate value within site area.

B.11 Landscape and Visual Amenity

Landscape Character

Site area	Area of Outstanding Natural Beauty	National Park	Comment
A	Green	Green	There are no AONBs or National Parks within the study area.
B	Green	Green	There are no AONBs or National Parks within the study area.
C	Green	Green	There are no AONBs or National Parks within the study area.
D	Green	Green	There are no AONBs or National Parks within the study area.
E	Green	Green	There are no AONBs or National Parks within the study area.
F	Green	Green	There are no AONBs or National Parks within the study area.
G	Green	Green	There are no AONBs or National Parks within the study area.
H	Green	Green	There are no AONBs or National Parks within the study area.
I	Green	Green	There are no AONBs or National Parks within the study area.
J	Green	Green	There are no AONBs or National Parks within the study area.
K	Green	Green	There are no AONBs or National Parks within the study area.
L	Green	Green	There are no AONBs or National Parks within the study area.
M	Green	Green	There are no AONBs or National Parks within the study area.
N	Green	Green	There are no AONBs or National Parks within the study area.

Visual Amenity

Site area	RAG	Comment
A	Amber	PRoW 189/1 runs along the western boundary of the proposed site area. Settlements including Willingham and Rampton to the west and south, respectively, of the proposed site area. No properties border the site area. Mixed size, flat open arable fields, with roads often lined by hedgerows.
B	Amber	PRoW 189/8 crosses the proposed site area. Settlements including Willingham, Northstowe and Rampton to the northwest, southwest and east, respectively, of the proposed site area. No properties border the site area. Mixed size, flat open arable fields, with roads often lined by hedgerows.
C	Amber	Settlements including, Rampton and Cottenham to the northwest and east, respectively, of the proposed site area. No properties border the site area. Small to medium sized, flat open arable fields, with roads often lined by hedgerows.
D	Amber	Cottenham is located to the west relatively close to the boundary of the proposed site area, but planting is located along much of the edge of the village. No properties border the site area. Small to medium sized, flat open arable fields, intermittently lined with hedgerows.
E	Amber	Cottenham is located to the west relatively close to the boundary of the proposed site area, but planting is located along much of the edge of the village. No properties border the site area. Small to medium sized, flat open arable fields, intermittently lined with hedgerows.
F	Red	PRoW 247/14 crosses the proposed site area. The site area encompasses part of the Waterbeach Barracks and associated golf course and lake. Waterbeach is located to the south of the proposed site area and Cambridge Research Park is located to the north. Some properties on the barracks will adjoin the proposed site area.
G	Amber	PRoW 127/5 crosses the proposed site area and PRoW 127/2 runs adjacent to a small proportion of the site area. Histon is located to the southeast relatively close to the boundary of the proposed site area, but planting is located along much of the edge of the village. No properties border the site area. Oakington and Westwick are located to the west. No properties border the site area. Small to medium sized, flat open arable fields, intermittently lined with hedgerows.
H	Amber	Histon and Impington are located to the southwest relatively close to the boundary of the proposed site area, but planting is located along much of the edge of the villages. No properties border the site area. Landbeach is located to the east, with planting along the western boundary of the village. No properties border the site area. Small to medium sized, flat open arable fields, intermittently lined with hedgerows.
I	Amber	PRoW 143/3 crosses the proposed site area. Settlements including Milton and Landbeach, are located to the southeast and north, respectively, of the proposed site area. No properties border the site area. Small to medium sized, flat open arable fields, often lined with hedgerows.
J	Amber	PRoW 143/3 crosses the proposed site area. Settlements including Milton, Impington and Cambridge, are located to the east, west and south, respectively, of the proposed site area. No properties border the site area. Blackwell Traveller's Site is to the south of the proposed site area. Small to medium sized, flat open arable fields, often lined with hedgerows.
K	Amber	PRoW 127/4 and 127/20 cross the proposed site area. Settlements including Girtton and, Impington and Histon are located to the west and east, respectively, of the proposed site area. No properties border the site area. Small to medium sized, flat open arable fields, often lined with hedgerows.
L	Amber	PRoW 85/14, Low Fen Drove Way, is located on the boundary of the proposed site area. Single property – Gate House is located relatively close to the east of the site area, albeit largely enclosed by planting. Fen Ditton is located to the southwest of the proposal site area. Horningsea is located to the northwest of the proposal site area, but planting is located along much of the eastern edge of the village. Small to medium sized, flat open arable fields, intermittently lined with hedgerows. Small copses and areas of woodland to the east.
M	Red	PRoW 55/9 runs along the southern boundary of the proposed site area. PRoW 39/114 crosses the proposed site area. PRoW 39/31 is located to the north of the proposed site area and crosses the northwest corner of the proposed site area. Coton is located to the west of the proposed site area. To the north and the east of the proposed site area is the western edge of Cambridge. Small to medium sized, flat open arable fields, often lined with hedgerows.
N	Amber	Grantchester is located to the west relatively close to the boundary of the proposed site area, but vegetation is located along much of the edge of the village, and along the River Cam which is located between the proposed site area and Grantchester. No properties border the site area. Trumpington is located to the southeast of the proposed site area, albeit largely screened by intervening vegetation. To the north and the east of the proposed site area is the western edge of Cambridge. Small to medium sized, flat open pasture (including Grantchester Meadows) and arable fields, often lined with hedgerows. River Cam running north to south bisects the landscape. Copses and belts of woodland throughout the landscape.

Agricultural Land Classification

Site area	RAG rating	Comments/Justification
A	Red	More than 50% of the site area comprises 'Best and Most Versatile Land' (grades 2 and 3)
B	Red	More than 50% of the site area comprises 'Best and Most Versatile Land' (grades 2 and 3)
C	Red	More than 50% of the site area comprises 'Best and Most Versatile Land' (grades 1, 2 and 3)
D	Red	More than 50% of the site area comprises 'Best and Most Versatile Land' (grades 1 and 3)
E	Red	More than 50% of the site area comprises 'Best and Most Versatile Land' (grades 1, 2 and 3)
F	Red	52% of the site area comprises 'Best and Most Versatile Land' (grades 2 and 3). The remaining 48% comprises Non-Agricultural land
G	Red	More than 50% of the site area comprises 'Best and Most Versatile Land' (grades 1, 2 and 3)
H	Red	More than 50% of the site area comprises 'Best and Most Versatile Land' (grades 2 and 3)
I	Red	More than 50% of the site area comprises 'Best and Most Versatile Land' (grades 2 and 3)
J	Red	More than 50% of the site area comprises 'Best and Most Versatile Land' (grades 2 and 3)
K	Red	More than 50% of the site area comprises 'Best and Most Versatile Land' (grades 2 and 3)
L	Red	More than 50% of the site area comprises 'Best and Most Versatile Land' (grades 2 and 3)
M	Red	More than 50% of the site area comprises 'Best and Most Versatile Land' (grades 2 and 3)
N	Red	More than 50% of the site area comprises 'Best and Most Versatile Land' (grades 2 and 3)

B.12 Development constraints

Site area	RAG rating			Comment
	Green Belt	Policy, site allocation and planning permissions	Sensitivity of Neighbouring Land	
A	Green	Green	Green	There are no significant development constraints on site area or on neighbouring land
B	Green	Amber	Green	This site area is within the Northstowe New Town Area Action Plan (AAP). Northstowe is expected to deliver a significant number of homes and jobs. Part of Site area B is set within the AAP Waste Consultation Area.
C	Green	Green	Green	There are no significant development constraints on site area or on neighbouring land
D	Red	Amber	Amber	There is an application present on the site area (ref: S/4747/18/OL) which is for the demolition of existing building on site area and erection of replacement Office, Workshop and Security Kiosk. There is a Brownfield site area identified within the boundary. There is recreational land use opposite the site area on the other side of Landbeach Road.
E	Green	Amber	Amber	The site area is within a Minerals Safeguarding Area for Sand and Gravel. Manufacturing and Office land uses have been identified adjacent to the western boundary of the site area. Within the site area is a recreational land use
F	Green	Red	Red	This site area covers most of the Waterbeach New Town development strategic site area boundary. Part of this site area has been granted an outline planning permission for up to 6500 dwellings (ref: S/0559/17/OL). Current land uses of the area include: airport (disused), golf course, Waste Water Treatment Plant, and farmland.
G	Red	Green	Green	There are no significant development constraints on site area or on neighbouring land
H	Red	Amber	Green	The site area is within a Minerals Safeguarding Area for Sand and Gravel.
I	Red	Green	Amber	Land uses include residential and service industry on neighbouring land.
J	Red	Amber	Green	Land uses include an adjacent waste use on neighbouring land.
K	Red	Amber	Green	The site area is within a Minerals Safeguarding Area for Sand and Gravel
L	Red	Green	Green	The site area is farmland.
M	Red	Green	Amber	The area immediately north is part of the Cambridge University West Cambridge site, which is allocated in the local plan for development under Policy M13 for the use of higher learning, research, sports, and shared facilities. There is an outline planning application for this site area (Ref: 16/1134/OUT). There is an existing access to the site area from Ada Lovelace Road.
N	Red	Amber	Amber	This site area would require the removal of part of a dense wooded area which is a City Wildlife and Local Nature Reserve + Protected Open Space. It would also encroach on recreational land use to north of the site area. Site area designated as Mineral Safeguarding Area – Sand and Gravel.

B.13 Impacts on local communities

Site area	RAG rating	Comments/Justification
A	Red	<p>Site area is 400m from minor rural road between the villages of Willingham and Rampton. Construction and operational traffic would need to go through more than one village centre to get to the site area from the A14. In addition, a new entrance to the site area will be required on the minor road. Due to long tunnel length spoil volume will be high, therefore traffic impacts are likely to be high during construction. Traffic impact during operation likely to be moderate, meaning community facilities (Willingham Primary School, Willingham Medical Practice, Cambridge Melchior College) and businesses in Willingham, and community facilities (Rampton Village Hall) and businesses in Rampton may be impacted.</p> <p>PRoW 189/1 runs along the western boundary of the proposed site area, only minor disruption during construction likely.</p>
B	Red	<p>Site area is adjacent to minor rural road between the villages of Willingham and Rampton. Construction and operational traffic would need to go through more than one village centre to get to the site area from the A14. In addition, a new entrance to the site area will be required on the minor road. Due to long tunnel length spoil volume will be high, therefore traffic impacts are likely to be high during construction. Traffic impact during construction and operation likely to be moderate, meaning community facilities (Willingham Primary School, Willingham Medical Practice, Cambridge Melchior College) and businesses in Willingham, and community facilities (Rampton Village Hall) and businesses in Rampton may be impacted.</p> <p>Site area approximately 300m north-east of Northstowe new town (under construction) – potential air quality/noise impacts if new homes occupied, though likely mitigated by prevailing wind direction.</p> <p>PRoW 189/8 crosses the proposed site area and potentially would need re-routing almost entirely.</p> <p>PRoW 189/4 runs along the southern boundary of the proposed site area, only minor disruption during construction likely.</p>
C	Red	<p>Site area is adjacent to minor rural road between the villages of Oakington and Cottenham. Construction and operational traffic would need to go through Oakington village centre to get to the site area from the A14. In addition, a new entrance to the site area will be required on the minor road. Due to long tunnel length spoil volume will be high, therefore traffic impacts are likely to be high during construction. Traffic impact during construction and operation likely to be moderate, meaning community facilities (Oakington C of E Community Primary) and businesses in Oakinton may be impacted.</p> <p>Site area is 500m south west of Cottenham village, potential noise and air quality effects during construction due to prevailing wind direction. Sensitive community facilities in Cottenham (including, but not limited to, Cottenham Court Care Home, Cottenham Village College, The Centre School, Cottenham Primary School) may therefore be impacted by any changes in noise and air quality.</p> <p>No PRoWs cross, or are adjacent to, the site area.</p>
D	Green	<p>Site area is adjacent to minor rural road with links to the A10. Construction and operational traffic would be able to access the site area without entering surrounding villages. However, a new entrance to the site area will be required. Traffic impact during construction and operation likely to be low.</p> <p>Farm buildings located adjacent to southern boundary.</p> <p>Cottenham Point to Point is located on the opposite area side of the road to the site area, potential noise and air quality effects during construction due to prevailing wind direction. There are also several community facilities located to the immediate north of the site area that would be particularly sensitive to any changes in noise or air quality. The facilities include Cottenham Court Care Home, Cottenham Sports Centre, Cottenham Village College and The Centre School (a Social, Emotional and Mental Health school).</p> <p>No PRoWs cross, or are adjacent to, the site area.</p>
E	Red	<p>Site area is adjacent to minor rural road with links to the A10. Construction and operational traffic would be able to access the site area without entering surrounding villages. There are existing property entrances located along the site area boundary they could be altered. Traffic impact during construction and operation likely to be low.</p> <p>Cottenham Point to Point Racecourse comprise a large part of the site area, locating the WWTP on this site area would likely require the relocation or closure of the racecourse.</p> <p>No PRoWs cross, or are adjacent to, the site area.</p>
F	Amber	<p>Site area is <500m from the A10 so construction and operational traffic would be able to access site area directly from this main road, without entering surrounding villages. However, a new entrance and potentially a new junction would be required. Traffic impact during construction and operation likely to be moderate, meaning community facilities and businesses in Waterbeach and the surrounding area may be impacted. Little Stars Day Nursery is also located in Waterbeach to the south of the site and would be particularly sensitive to any changes in noise or air quality.</p> <p>The site area encompasses part of the former Waterbeach Barracks and associated golf course and lake, although this is currently not open to the public and therefore is not currently an amenity.</p> <p>PRoW 247/14 crosses the eastern edge of proposed site area, small diversion may be required.</p>
G	Red	<p>Site area is adjacent to minor rural road between the villages of Oakington and Cottenham but is also equidistant to the B1049 between Cottenham and Histon and a minor road from Histon to Girton/Oakington. Construction and operational traffic would need to go through one or more village centre to get to the site area from the A14. In addition, a new entrance to the site area will be required on either of the minor roads or the B1049. Due to long tunnel length spoil volume will be high, therefore traffic impacts are likely to be high during construction. Traffic impact during construction and operation likely to be moderate, meaning community facilities and businesses in these villages may be impacted.</p> <p>PRoW 127/5 (Gun's Lane) crosses the proposed site area and potentially would need re-routing.</p> <p>PRoW 127/2 runs adjacent to a small proportion of the south western boundary.</p>
H	Green	<p>Site area could be accessed from three roads; B1049 between Histon and Cottenham, Butt lane minor road between Histon and the A10 and minor road between Cottenham and the A10. If access were via either of the minor roads construction and operational traffic would be able to access the site area without entering surrounding villages. However, a new entrance to the site area will be required on one of the minor roads. Traffic impact during construction and operation likely to be low.</p> <p>Some small buildings and an area of woodland are located within the site area boundary potentially associated with neighbouring farms. Although due to size of site area the location of the WWTP could be optimised to minimise impact on these buildings.</p> <p>There are office and business premises located at Manor Farm approximately 200m to the south of the site area boundary. These may be affected by construction impacts such as noise, although this is less likely to be significant due to prevailing wind directions.</p> <p>No PRoWs cross, or are adjacent to, the site area.</p>
I	Amber	<p>Site area is equidistant to Butt lane minor road between Histon and the A10 and the minor road between Landbeach and the A10. Therefore, construction and operational traffic would be able to access the site area without entering surrounding villages. However, a new entrance to the site area will be required on one of the minor roads. Traffic impact during construction and operation likely to be low.</p> <p>Site area is 500m south west of Landbeach village, potential noise and air quality effects during construction due to prevailing wind direction. Sensitive community facilities in Landbeach may therefore be impacted.</p> <p>The Milton Maize Maze local attraction is located 200m from the south eastern boundary.</p> <p>A catering company is located approximately 300m from the western boundary of the site area.</p> <p>PRoW 143/3 (Mere Way) crosses the proposed site area and potentially would need re-routing.</p>

Site area	RAG rating	Comments/Justification
J	Amber	<p>Site area is equidistant to Butt lane minor road between Histon and the A10 and the A14/A10 Milton interchange. Therefore, construction and operational traffic would be able to access the site area without entering surrounding villages. However, a new entrance to the site area on Butt Lane or alterations to the A14/A10 Milton interchange would be required for access. Traffic impact during construction and operation likely to be low. The Evolution business park is located approximately 250m north of the site area.</p> <p>PRoW 143/3 (Mere Way) crosses the proposed site area and potentially would need re-routing.</p>
K	Red	<p>Site area is 400m from the villages of Girton and Histon and 500m from a minor rural road linking these villages to Oakington village. Construction and operational traffic would need to go through one or more village centres to get to the site area from the A14. In addition, a new entrance and access road to the site area would be required on the minor road or via residential areas in Histon or Girton. The site area is also adjacent to the A14 dual carriageway and 1.1km from the A14 Histon interchange. It is possible the site area could be accessed from this direction. However, alterations to the interchange would be required and the access road would be adjacent to residential properties. Traffic impact during construction and operation likely to be moderate. Because access to the site area would be required via Histon or Girton, community facilities and businesses in these villages may be impacted by a moderate increase in traffic.</p> <p>Site area is located between the village of Girton, Impington and Histon villages, potential noise and air quality effects during construction due to prevailing wind direction towards Impington and Histon. Sensitive community resources in these villages (including, but not limited to, Histon and Impington Infant School, Histon and Impington Junior School, Histon Early Years Centre, Bramley Court Care Home and Abbeyfield Burdett House) may be impacted by changes in noise and air quality during construction.</p> <p>PRoW 127/4 and 127/20 cross the proposed site area and potentially would need re-routing.</p>
L	Green	<p>The site area adjacent to the A14 and can be accessed through a minor rural road (Low Fen Drove Way). Construction and operational traffic would be able to access the site area without entering surrounding villages, although will come close to a couple of properties near the High Ditch road / Low Fen Drove Way junction. It is unlikely that a new entrance and access road will be required. Tunnel length is assessed as being short therefore spoil volumes are not considered to significantly influence traffic impacts during construction. Traffic impact during operation is likely to be low.</p> <p>PRoW 85/14 runs adjacent to a small proportion of the eastern boundary of the site area, only minor disruption during construction likely.</p>
M	Red	<p>The site area is adjacent to the A603 from where it would likely be accessed. Construction and operational traffic would be able to access the site area without entering surrounding villages. It is likely however that a new entrance and access road will be required or the extension of an existing one. Tunnel length is assessed as being high therefore spoil volumes are considered to have significant impacts on traffic during construction. Traffic impact during operation is likely to be low.</p> <p>A very small part of PRoW 39/31 crosses into site area but it is expected that the site layout could be optimised to mitigate this impact.</p> <p>PRoW 55/9 runs adjacent to the southern site area boundary which would cause only minor disruption. However, part of it crosses the site area and would potentially need re-routing.</p> <p>There are properties at a distance less than 500m to the north-east of the site area. Potential noise and air quality effects during construction due to prevailing wind direction. Several University of Cambridge departmental buildings are located to the north and east of the site area. As these buildings provide an educational purpose, they would be sensitive to any changes in noise and air quality.</p>
N	Red	<p>The site area is approximately 400m from the A1134 from where it would likely be accessed. However, to reach the area of the site area, construction and operational traffic would have to go through either the northern route (M11, A603 and A1134) which passes through some residential areas (e.g. Newnham) or through the southern route (M11, A1309, A1134) which passes through Trumpington. Although these are all A-roads, they do pass through residential areas, so a moderate impact is expected during construction and operation. Additionally, a new access road to the site area will be required.</p> <p>Tunnel length is assessed as being high therefore spoil volumes are considered to have significant impacts on traffic during construction.</p> <p>No PRoWs cross, or are adjacent to, the site area.</p> <p>There are a few properties at a distance less than 500m to the north-east of the site area. Potential noise and air quality effects during construction due to prevailing wind direction.</p>

