Cambridge Waste Water Treatment Plant Relocation Project
Anglian Water Services Limited

Environmental Statement Chapter 15: Landscape and Visual Amenity

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Contents

Tables

Figures

Summary

The Landscape and Visual Impact Assessment (LVIA) assesses the potential impacts of the Proposed Development on landscape and visual amenity during construction, operation and decommissioning. The study area for the assessment includes the area largely within 2km of the Scheme Order Limits. Public and stakeholder consultation informed the assessment and the development of the design of the Proposed Development.

Assessment approach

The assessment parameters include the Proposed Waste Water Treatment Plant (WWTP) and access, waste water transfer tunnel and outfall, Waterbeach Pipeline and the connections within the Existing Cambridge WWTP as described in Chapter 2: Project Description (Application Document Reference 5.2.2). The assessment considers a realistic maximum design envelope based on the maximum scale of the elements.

The assessment initially assesses the significance of effects, taking into account primary and tertiary mitigation measures only. Remaining effects, not mitigated by these measures will be further mitigated and the assessment then assesses the significance of effects, taking into account these secondary measures. Primary and tertiary mitigation measures (implemented within the design) during construction include:

- initial planting along Horningsea Road, Low Fen Drove Way and around site of the proposed waste water treatment plant (WWTP) as shown on the landscape masterplan in the Landscape, Ecological and Recreational Management Plan
  (LERMP) (Appendix 8.14, App Doc Ref 5.4.8.14);
- provision of solid hoardings around Shaft 4 and the outfall compound on the River Cam; and
- sequencing the construction of the earth bank to partially screen views of the construction of the proposed WWTP.

Primary and tertiary mitigation measures (embedded within the design) during operation include:

- implementation of a landscape masterplan comprising a circular earth bank up to 5m high, woodland, trees, hedgerows, grassland and sustainable drainage swales;
- provision of a network of paths across the site of the proposed WWTP and a new bridleway along the existing farm track between Low Fen Drove Way and Station Road;
- a Lighting Design Strategy (Appendix 2.5, App Doc Ref 5.4.2.5) to minimise skyglow, reduce glare and eliminate light spill; and
- design of the outfall to enable re-establishment of riparian vegetation.

Secondary mitigation measures (implemented during construction, operation and decommissioning) include:

- the Code of Construction Practice (CoCP): Part A (Appendix 2.1 App Doc Ref 5.4.2.1) and Part B (Appendix 2.2, App Doc Ref 5.4.2.2) specifying measures to avoid and minimise impacts in construction and the reinstatement of planting removed during construction;
- an Outline Soil Management Plan (Appendix 6.3, App Doc Ref 5.4.6.3) specifying the handling of soils;
- tree protection plans in Arboricultural Impact Assessments (Appendix 8.7 and 8.19 App Doc Ref 5.4.8.17 and 5.4.8.19) showing measures required to protect trees to be retained during construction;
- the LERMP detailing the management and monitoring of the landscape masterplan over a period of 30 years following planting and seeding; and
- a Decommissioning Management Plan (Appendix 2.3 App Doc Ref 5.4.2.3).

Assessment of construction effects

Landscape and visual effects during construction will arise from:

- the introduction of construction activity, machinery, compounds, fencing/hoardings, traffic and lighting associated with construction into the rural landscape;
- earthworks and tunnelling; and
- temporary disruption of Public Rights of Way (PRoW).

Construction effects: the proposed WWTP and access road, treated effluent pipeline and discharge outfall and waste water transfer tunnel (with primary and tertiary mitigation)

The construction works will have temporary significant adverse effects on the Eastern Fen Edge Chalklands Landscape Character Area (LCA). There will be no significant effects on the other LCA in the study area.

The construction works will have temporary significant adverse effects on visual receptors close to the construction works including:

- residential receptors on High Ditch Road, Horningsea Road and Low Fen Drove Way and at Poplar Hall, Poplar Hall Farmhouse, Red House Close and Biggin Abbey House and associated cottages;
- recreational receptors using the PRoW and towpath along the River Cam (Footpath Milton 162/1), the PRoW west of Horningsea Road (Footpaths Fen Ditton 85/6, 85/7 and 85/8 and Footpaths Horningsea 130/1 and 130/2), Low Fen Drove Way (Byway Fen Ditton 85/14) and Horningsea Road. ***Construction effects: the Waterbeach Pipeline (with primary and tertiary mitigation)*** There will be no significant effects on the LCA in the study area.

The construction works will have temporary significant adverse effects on visual receptors close to the pipeline route including:

- residential receptors on Horningsea Road, at Northern Bridge Farm, at Poplar Hall, Poplar Hall Farmhouse and Red House Close, on Clayhithe Road, on Bannold Road and on Burgess Drove in Waterbeach; and
- recreational receptors using the PRoW near Poplar Hall (Footpath Fen Ditton 85/6), between Horningsea and Waterbeach (Footpaths Horningsea 130/5, 130/6, 130/10, 130/12 and 130/13, Bridleway Horningsea 130/8 (Harcamlow Way), Byway Waterbeach 247/14), Horningsea Road, Cambridge Motorboat Club and the Cam Sailing Club.

Construction effects: the proposed WWTP and access road, treated effluent pipeline and discharge outfall, waste water transfer tunnel and Waterbeach Pipeline (with primary, secondary and tertiary mitigation)

There will be no change to the assessment taking into account secondary mitigation measures because, while they will contribute to reducing adverse effects, they will not change the predicted significance of effects in construction.

Assessment of operational effects

The assessment of effects on landscape character and visual amenity in year 1 of operation does not take into account the mitigating effects of new planting as it will be immature at the time of planting and will have little screening effect.

Operation effects year 1: the proposed WWTP and access road, treated effluent pipeline and discharge outfall and waste water transfer tunnel (with primary and tertiary mitigation)

Landscape and visual effects from the operation of the proposed WWTP will arise from:

- the loss of existing vegetation removed during construction;
- the presence of large-scale waste-water infrastructure and lighting in the rural landscape;
- the presence of a new treated effluent discharge outfall structure on the bank of the River Cam;
- the implementation of the landscape masterplan with earth bank, woodlands, hedgerows, tree belts and grasslands; and
- increased activity and road traffic.

There will be permanent significant adverse effects in year 1 of operation on the Eastern Fen Edge Chalklands LCA and permanent non-significant effects on the River Cam Corridor LCA. There will be no effects on the other LCA in the study area.

There will be permanent significant adverse effects on receptors close to the Proposed Development in year 1 of operation including:

- residential receptors on High Ditch Road, Horningsea Road and Low Fen Drove Way and at Biggin Abbey House and associated cottages: and
- recreational receptors using PRoW along the River Cam (Footpath Milton 162/1), west of Horningsea Road (Footpath Fen Ditton 85/8, Footpaths Horningsea 130/1 and 130/2 and Footpath Fen Ditton 85/7), Low Fen Drove Way (Byway Fen Ditton 85/14) and Horningsea Road.

Operation effects year 1: Waterbeach Pipeline (with primary and tertiary mitigation)

Landscape and visual effects during operation will arise from:

- the disturbance to the land along the route of the pipeline; and
- and loss of vegetation during construction.

There will be no significant landscape or visual effects on landscape character or views in operation.

Operation effects year 1: the proposed WWTP and access road, treated effluent pipeline and discharge outfall and waste water transfer tunnel and Waterbeach Pipeline (with primary, secondary and tertiary mitigation)

There will be no change to the assessment taking into account secondary mitigation measures as these cover the maintenance of new seeding and planting which will have no mitigating effect in year 1.

Operation effects year 15: the proposed WWTP and access road, treated effluent pipeline and discharge outfall and waste water transfer tunnel and Waterbeach Pipeline (with primary and tertiary mitigation)

There will be no change to the assessment taking into account primary and tertiary mitigation measures because without the secondary mitigation measures, which cover the maintenance of new planting and the replacement of failed planting, it is not possible to predict how much of a screening effect the planting will have by year 15.

Operation effects year 15: the proposed WWTP and access road, treated effluent pipeline and discharge outfall and waste water transfer tunnel (with primary, secondary and tertiary mitigation)

By year 15 of operation, maturing woodland, tree and hedgerow planting will screen the new infrastructure from the majority of the Eastern Fen Edge Chalklands LCA and integrate the earth bank into the landscape but adverse effects will remain significant. There will be no significant effects on the other LCA in the study area.

By year 15, maturing woodland, hedgerow and tree planting of the landscape masterplan will gradually screen the majority of the structures within the proposed WWTP. There will continue to be permanent significant adverse effects on:

- residential receptors at Parsonage Farm, on Low Fen Drove Way; and
- recreational receptors using Horningsea Road and Low Fen Drove Way.

Operation effects year 15: the Waterbeach Pipeline (with primary, secondary and tertiary mitigation)

There will be no significant landscape or visual effects on landscape character or views.

Decommissioning effects

There will be no significant landscape or visual effects due to the decommissioning of the existing Cambridge WWTP.

Cumulative effects

There will be no significant landscape or visual cumulative effects.

1 Introduction

1.1 Purpose of this chapter

1.1.1 This chapter of the Environmental Statement (ES) presents the findings of Environmental Impact Assessment (EIA) completed in relation to the potential impacts of the Proposed Development on Landscape and Visual Amenity.

1.1.2 The ES has been prepared as part of the application to the Planning Inspectorate (PINS) for development consent. This chapter considers the potential landscape and visual amenity impacts of the Proposed Development during its construction (including commissioning), operation and maintenance, and decommissioning phases.

1.1.3 This chapter summarises information from publicly available data, supporting studies and technical reports, including the Lighting Assessment Report (Appendix 15.3, App Doc Ref 5.4.15.3) and Glint and Glare Assessment (Appendix 15.4, App Doc Ref 5.4.15.4).

Author	Qualification / Professional Membership	Years of experience	Project experience summary
[redacted]	CMLI	30	

	Landscape and visual impact assessment of nationally significant infrastructure projects related to water, hospitals, schools and railways; stakeholder consultation; landscape design; landscape management; and contract management.

1.1.4 This chapter (and its associated figures and appendices) is intended to be read as part of the wider ES, with particular reference to

- Chapter 11: Community (App Doc Ref 5.2.11);
- Chapter 8: Biodiversity (App Doc Ref 5.2.8);
- Chapter 13: Historic Environnent (App Doc Ref 5.2.13);
- Chapter 17: Noise and Vibration (App Doc Ref 5.2.17)
- Chapter 19: Traffic and Transport (App Doc Ref 5.2.19); and
- The Landscape, Ecological and Recreational Management Plan (LERMP) which includes the landscape masterplan (Appendix 8.14, App Doc Ref 5.4.8.14).

1.2 Competency statement

1.2.1 Summaries of the qualifications and experience of the Chapter authors are set out in Table 1-1.

Table 1-1: Competent experts

Author	Qualification / Professional Membership	Years of experience	Project experience summary
[redacted]	CMLI	30	Landscape and visual impact assessment of nationally significant infrastructure projects related to water, flood defence, roads and railways; stakeholder consultation; landscape design, landscape management; and contract management.

1.3 Planning policy context

National Policy Statement (NPS) requirements

1.3.1 Planning policy on waste water Nationally Significant Infrastructure Projects (NSIPs), specifically in relation to landscape and visual amenity, is contained in the National Policy Statement (NPS) for Waste Water (Department of Environment, Food and Rural Affairs, 2012).

1.3.2 Table 1-2 sets out how the scope proposed in this chapter complies with the NPS for Waste Water.

Table 1-2*:* Scope and NPS Compliance

NPS requirement	Compliance of ES scope with NPS requirements
Criteria for good design Paragraph 3.5.1: Good design is about ensuring attractive, usable, durable and adaptable places and contributing to sustainable development. The expectation should be that good aesthetic and functional design can go together although the nature of much waste water infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area. Paragraph 3.5.3: The development should, by the use of good architecture and appropriate landscaping, be as visually attractive as possible. While the applicant may have no, or very limited choice in the physical appearance of some waste water infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting relative to existing and currently planned landscape character, landform and vegetation.	The landscape masterplan referred to in this chapter and contained within the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14) aims to integrate the Proposed Development into the existing landscape. The Design and Access Statement referred to in this chapter (App Doc Ref 7.6) gives further information on how the design of the new structures and buildings of the proposed WWTP will minimise their impact of the landscape and views.
Applicant's assessment Paragraph 4.7.2: The Applicant should carry out a landscape and visual assessment and report it in the ES. It should include reference to any existing landscape character assessment and take account of relevant policies based on these assessments in local development documents.	The Landscape and Visual Impact Assessment (LVIA) refers to and takes account of the Greater Cambridge Landscape Character Assessment (Chris Blandford Associates, 2021) and relevant local planning policies (section 4).

NPS requirement	Compliance of ES scope with NPS requirements
Paragraphs 4.7.3 and 4.7.4: The assessment should include effects during construction and operation of the project on landscape character and visual amenity including light pollution effects.	This chapter reports the impacts of the Proposed Development during construction and operation on landscape character and visual amenity (section 4). The LVIA includes a qualitative assessment of the effects of lighting (section 4.2 and section 4.3Table 4-2). This was informed by the quantitative Environmental Lighting Impact Assessment referred to in this chapter (Appendix 15.3, App Doc Ref 5.4.15.3).

Landscape impact Paragraph 4.7.6: The existing character, quality and value of the landscape and its capacity to accommodate change should be considered in assessing the impact of a project on the landscape. Projects should be designed and sited carefully to minimise harm and provide reasonable mitigation, where possible and appropriate.	The LVIA methodology referred to in this chapter (Appendix 15.5, App Doc Ref 5.4.15.5) sets out the criteria for assessing the landscape value, ability to accommodate change and sensitivity of the existing landscape setting of the Proposed Development. A site selection process was followed to identify the location of the Proposed Development (as outlined in Chapter 3: Site Selection and Alternatives). Preliminary design development focussed on reducing landscape impacts and ensuring the Proposed Development could be adequately mitigated. The landscape masterplan referred to in this chapter and contained within the LERMP (Appendix 8.14, App Doc Ref 5.4.8.) illustrates the proposed landscape mitigation.
Off-site planting Paragraph 4.6.18: It may be appropriate to undertake landscaping off site. For example, filling in gaps in existing tree and hedge lines to mitigate the impact when viewed from a more distant vista.	The landscape masterplan referred to in this chapter and contained within the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14) includes planting on land outside the land required for the operation of the proposed WWTP to reduce impacts on more distant views of the Proposed Development.

National planning policy

1.3.3 National planning policies of particular relevance to landscape and visual amenity are listed below.

- NPS for Waste Water (Department of Environment, Food and Rural Affairs, 2012), with particular reference to:
  - Section 3.5 (Criteria for "good design" for waste water infrastructure);
  - Section 4.7 (Landscape and visual impacts); and
  - Section 4.8 (Land use including open space, green infrastructure and Green Belt).
- National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2021), with particular reference to:
  - Section 12 (Achieving Well Designed Places);
  - Section 13 (Protecting Green Belt Land), particularly paragraph 148; and
  - Section 15 (Conserving and Enhancing the Natural Environment).

Local planning policy

1.3.4 Local planning policy of relevance to the Proposed Development includes:

- South Cambridgeshire District Council Local Plan 2018 (South Cambridgeshire District Council, 2018) with particular reference to Policy HQ/1: Design

principles, Policy S/4: Cambridge Green Belt, Policy NH/2: Protecting and Enhancing Landscape Character, Policy NH/6: Green Infrastructure, NH/7: Ancient Woodlands and Veteran Trees, Policy NH/8: Mitigating the Impact of Development in and adjoining the Green Belt, Policy NH/13: Important Countryside Frontage.

- Cambridge City Council Local Plan 2018 (Cambridge City Council, 2018) with particular reference to Policy 4: The Cambridge Green Belt, Policy 7: The River Cam, Policy 8: Setting of the City, Policy 55: Responding to context, Policy 59: Designing the Landscape and the Public Realm, Policy 60: Tall buildings and the skyline, Policy 71: Trees.
- The Greater Cambridge Green Infrastructure Opportunity Mapping project (South Cambridgeshire District Council and Cambridge City Council, 2021) was undertaken to ensure the forthcoming joint Local Plan is based on sound evidence and supports deliverable interventions to enhance the green infrastructure network. The project aims to deliver benefits such as mitigation and adaptation to climate change, the conserving and enhancing of biodiversity and the improvement of health and wellbeing.
- The Wicken Fen Vision Strategy (National Trust, n.d.) is a 100-year vision which aims to restore habitats and create a diverse landscape-scale space for people and wildlife between Cambridge and the Wicken Fen Nature Reserve (owned by the National Trust). The vision is a strategic element of green infrastructure in the adopted development plans for both South Cambridgeshire District Council (2018) and East Cambridgeshire District Council (2015). The development site lies in the southern end of the Wicken Fen Vision area.
- The South Cambridgeshire District Council (SCDC) Landscape in New Developments Supplementary Planning Document (SPD) (South Cambridgeshire District Council, 2010) identifies that a well-designed landscape scheme can contribute to the natural environment and the community in a number of ways. The SPD sets out a number of key elements to be considered when delivering a high quality landscape. Those of relevance to the Proposed Development include:
  - Respecting Landscape Character;
  - Appropriate Design;
  - Landscape Management and Maintenance;
  - Encouraging Biodiversity; and
  - Sustainable Landscape Schemes.
- South Cambridgeshire District Council: District Design Guide: High Quality and

Sustainable Development in South Cambridgeshire SPD (South Cambridgeshire District Council, 2010) expands on district-wide policies in the Development Control Policies Development Plan Document (2007) and policies in individual Area Action Plans for major developments that may vary from the district-wide policies. It provides additional details on how they will be implemented. Policies seek to ensure that design is an integral part of the development process. The SPD sets out a number of key factors to delivering a high-quality landscape. Specific objectives include:

- Assist Applicants in the achievement of an attractive, sustainable, well-designed, high-quality environment that integrates housing, employment and community uses, together with infrastructure and green areas in conjunction with the surrounding landscape; and
- Assist Applicants' understanding of the local context, help identify features of importance, and ensure that proposals are appropriately designed to be compatible with their surroundings.

- The Waterbeach Neighbourhood Development Plan (2020-2031) (Waterbeach Parish Council, 2022) sets out policies on green infrastructure including:
  - Policy WAT 15 – Development and landscape quality which states that development shall be supported where it respects and retains or enhances the local character and distinctiveness of the local landscape. Beyond the settlement edge, the distinctive sense of remoteness and isolation experienced in our fen edge landscape shall be respected and the long distance, uninterrupted views, out to the north and east, across the flat fenland landscape especially from the River Cam shall be protected or enhanced; and
  - Policy WAT 16 – Important edge of settlement sites on the eastern edge of Waterbeach village which highlights the value to the landscape around Bannold Road (east of Midload Farm) and at Town Holt.

1.3.5 South Cambridgeshire District Council and Cambridge City Council have commenced the joint preparation of the Greater Cambridge Local Plan ('GCLP') and the North East Cambridge Area Action Plan ('NEC AAP').

1.3.6 The GCLP is intended to replace both the adopted Cambridge Local Plan (2018) and South Cambridgeshire Local Plan 2018 and cover the period to 2041. In November/December 2021 public consultation was held on the Greater Cambridge Local Plan - First Proposals ('GCLP') (Regulation 18: Preferred Options) including the Greater Cambridge Local Plan: First Proposals - Sustainability Appraisal (October 2021). Accompanying these documents, the Councils published a number of supporting documents and topic papers which are referenced below where they provide relevant background.

1.3.7 Following consultation in July 2020 on Cambridge City and South Cambridgeshire Councils Joint Draft Regulation 18 NEC AAP, the Councils have now completed the preparation of their Reg.19 Submission version of the NEC AAP which went through respective District and City Council Committee cycles between 30 November 2021 and 11 January 2022. The Reg.19 version of the AAP has now been approved for consultation but shelved pending the outcome of the DCO. The NES AAP covers a 182 hectare brownfield site between the A14, the Cambridge – King's Lynn railway line and the guided busway. The Existing Cambridge Waste Water Treatment Plant is situated in this area. The plan will create a new city district for Cambridge, with new housing, employment opportunities, community facilities and open space.

1.4 Legislation

1.4.1 There is no applicable legislation specific to the assessment of landscape and visual amenity effects.

1.5 Consultation

Scoping

1.5.1 Table 1-[1] provides a summary of key points raised during scoping.

Table 1-3: Key points raised during scoping

ID	Consultee	Inspectorate's comments	Response
3.9.1	PINS	The Applicant proposes to scope out a standalone lighting assessment for the Transfers Zone and Waterbeach Zone. This is because there will be no continuous night-time lighting in the transfer and final effluent zone or the Waterbeach Transfers Zone. The Inspectorate agrees that a standalone lighting assessment is not necessary as part of the ES on this basis. However, the Applicant's assessment and CoCP/CEMP should address the impact of construction task lighting across all zones.	A Lighting Assessment Report (Appendix 15.3, App Doc Ref 5.4.15.3) is provided in the appendix to this chapter.
3.9.2	PINS	The Scoping Report states that *"the ZTV for the transfer and final effluent pipeline and outfall and the Waterbeach Pipeline will not be modelled as these will be largely at or below ground level, apart from the vent stack on the transfer and final effluent pipeline"*. The ZTV for the transfer and final effluent pipeline / outfall and the Waterbeach Pipeline should include the vent stack which is likely to be visible from surrounding viewpoints and may influence the extent and selection of viewpoints.	The vent stack has now been removed from the Proposed Development so this is not represented within the ZTV.
[1] .9.3	PINS	The Scoping Report implies that any glint and glare calculations will be incorporated into the project design and the considerations presented as a technical appendix to the LVIA chapter. However, if	A Glint and Glare Assessment (Appendix 15.4, App Doc Ref 5.4.15.4) is provided in the appendix to this chapter.

ID	Consultee	Inspectorate's comments	Response
ID	Consultee	Inspectorate's comments	Response
		there is the potential for significant effects to occur as a result of glint and/or glare then these should be stated in the ES, along with any proposed mitigation. The Inspectorate also notes the potential from glint and glare from any proposed roof or ground mounted solar panels that are referred to in Chapter 2 of the Scoping Report, and these matters too should be considered.	
n/a	Greater Cambridge Shared Planning	We agree with the proposal that landscape should be scoped in for the EIA, with "no matters to be scoped out across all zones".	Landscape has been scoped in to the LVIA.
n/a	Greater Cambridge Shared Planning	On the matters set out in Section 14.2 and the proposal to consider a distance of 2km of the EIA scoping boundary, we would recommend that any long views identified in the LVIA (including Ely Cathedral) should be 'scoped in' in the EIA.	Long views, outside the 2km study area (including from Ely Cathedral) have been assessed where there could potentially be effects on visual amenity as a result of the Proposed Development (as presented in Figure 15.6 Book of Figures – Landscape and Visual Amenity, App Doc Ref 5.3.15).
n/a	Greater Cambridge Shared Planning	The EIA scoping report makes reference to published landscape assessments and includes a full methodology for the LVIA and we are in agreement with the methodology proposed for this assessment.	Noted.
n/a	Greater Cambridge Shared Planning	Green Belt Assessment (App Doc Ref 7.5.3) based on the purposes of the NPPF and South Cambridgeshire Local Plan (September 2018) – the site is located within an open agricultural field within the rural countryside. Development is permanent. The harm to the Greenbelt is	considered to be significantly adverse and therefore a Green Belt Assessment should be 'scoped in'. The potential impact on the contribution of the site of the proposed WWTP and adjacent Green Belt land to the purposes of the Cambridge Green Belt and the potential harm to the overall Green Belt function

that will potentially arise from the proposed WWTP is assessed in a sitespecific Green Belt Assessment (App Doc Ref 7.5.3).			south-west; and on Footpath Stow cum Quy at various viewpoints
n/a	Greater Cambridge Shared Planning	Lighting Assessment Report – there will be an increase in lighting levels on the site resulting in a change in the existing lighting environment. Lighting impacts are considered to be significantly adverse and therefore a Lighting Assessment Report should be 'scoped in'.	A Lighting Assessment Report (Appendix 15.3, App Doc Ref 5.4.15.3) is provided in the appendix to this chapter.
n/a	Fen Ditton Parish Council	FDPC considers many of the points made in Section 5 of our letter of 11 Sep 2020 to AW still apply and them.	A response to these points is given in Table 1-5 - Statutory s47 local community consultation below. request the Planning Inspectorate to consider
n/a	Fen Ditton Parish Council	FDPC considers the Planning Inspectorate should direct AW to amend the Scoping in line with recommendations made by residents as listed in Table 14.1 and note that "Fen Ditton" includes the new and planned buildings in use in the Marleigh area of the parish. Some of these are taller than older buildings elsewhere.	A representative viewpoint in the Marleigh Development has been included in the assessment and impacts on residential receptors' views have been assessed. There is a deep shelter belt between the development and the ZTV suggests it is not visible from there (as per the Figure 15.6 Book of Figures – Landscape and Visual Amenity, App Doc Ref 5.3.15).
n/a	Fen Ditton Parish Council	Recommended additional representative viewpoints to be included in the assessment due to their sensitivity to change are: on High Ditch Road (either side of the location of the new proposed access junction), at Fen Ditton Recreation Ground looking north-east; on Footpath Fen Ditton 85/3 looking north-east; on Footpath Milton 162/1 to the south of Biggin Abbey and Footpath 85/6 to the south of Biggin (both in River Cam corridor); on Footpath Horningsea 130/6 at the junction with Footpath No. 130/7; on Bridleway Stow cum Quy 218/5 looking	looking south-west. The effects on the Proposed Development on receptors' views from the locations listed in the response or nearby have been included in the assessment (locations of representative viewpoints presented in Figure 15.6 Book of Figures – Landscape and Visual Amenity, App Doc Ref 5.3.15). There is no new proposed access junction on High Ditch Road in the Proposed Development.
n/a	Fen Ditton Parish Council	Green Belt latest plan page 14-9 doc ref 188 states that the latest study as being: LDA Design (2015). Cambridge Inner Green Belt Study Figures. Final	The potential impact on the contribution of the site of the proposed WWTP and adjacent Green Belt land to the purposes of the Cambridge Green Belt and the potential harm to the overall Green Belt function

ID	Consultee	Inspectorate's comments	Response
		Report South Cambridgeshire District Council and Cambridge City Council Final Report Prepared by LUC August 2021. This classifies Green Belt releases as having 'Very High Harm' to the Green Belt at this location.	that will potentially arise from the proposed WWTP is assessed in a sitespecific Green Belt Assessment (App Doc Ref 7.5.3). This Green Belt Assessment was informed by the findings and methodology of the Greater Cambridge Green Belt Assessment (LUC, 2021).
n/a	Fen Ditton Parish Council	Core Zone visible also from PROW network north and south of the Site	Effects on views from both directions are assessed in the LVIA.
n/a	Fen Ditton Parish Council	The assessment should include residents at Wildfowl Cottage (Grade II listed and sensitive heritage/landscape asset to Baits Bite Lock Conservation Area), users of 85/14 Low Fen Drove Way looking south and west, users of Footpath Stow Cum Quy 218/4 looking south-west, users of Footpath Fen Ditton 85/3 and Fen Ditton Recreation Ground looking north-east	The LVIA assesses the effects of the Proposed Development on views from Wildfowl Cottage, the Baits Bite Lock Conservation Area and the PRoW listed except on the view from Footpath Stow cum Quy 218/4 because the ZTV and site survey suggests there would be no view from here. It is a tree-lined path along Quy Water.
n/a	Fen Ditton Parish Council	The assessment should include: users of Fen Ditton Recreation Ground and Footpath Fen Ditton 85/3 looking north-east; users of Byway Fen Ditton 85/14 looking west (south is included); and users of Footpath Horningsea 130/1, Footpath Horningsea	130/2 and Footpath Fen Ditton 85/7 (Harcamlow Way and Fen Rivers Way) (near Biggin Abbey) looking south-east.
n/a	Fen Ditton Parish Council	The assessment should include: effects on views from Fen Ditton in list as affected by proposed development; effects of ancillary structures e.g. the vent stack (15m high), close to the River Cam at Fen Ditton; the discharge outfall on the riverbank which will be permanent new structure in views and should be assessed; and effects on views from Footpath Stow Cum Quy /Harcamlow Way 218/4	The vent shaft has been removed from the design. The impact of the outfall on landscape and views has been assessed. The view from Fen Ditton (from several locations) and from Footpath Fen Ditton 281/4 has been included in the assessment (Figure 15.6 Book of Figures – Landscape and Visual Amenity, App Doc Ref 5.3.15) .

ID	Consultee	Inspectorate's comments	Response
		The effects on the Proposed Development on receptors' views from the locations listed in the response have been included in the assessment (locations of representative viewpoints are illustrated in Figure 15.6 Book of Figures – Landscape and Visual Amenity, App Doc Ref 5.3.15). FDPC considers that more distant viewpoints, as referred to in Clause 14.3.1, should include at least one from each of the general area of the A1303/A14 bridge, Little Wilbraham Road, Chalk escarpment between Dullingham and Balsham, and the Wandlebury Country Park. We consider that these viewpoints are important because of the potential impacts on the boundary of the existing built area	and the undeveloped, unlit areas of the Green Belt and Wicken Fen Vision area. The view from Little Wilbraham Road has been included in the assessment, as have the views from the Horningsea Road and Low Fen Drove Way bridges over the A14. There is no viewpoint on the bridge over the A14 at the A14/A1303 junction as it is surrounded by vegetation and there are only fleeting views of the site from the bridge over the A14. Wandlebury Country Park is 7km away and Chalk escarpment between Dullingham and Balsham is around 8km away: the Proposed Development would not be easily discernible from these places. Night-time landscape and visual impacts in the Wicken Vision area are considered in this chapter.
n/a	Fen Ditton Parish Council	FDPC notes Clause 14.11.8 refers to "the proposed solar array". We consider the Planning Inspectorate should require AW to provide further details particularly as to whether the array is to be entirely within the circular bund as suggested in Clause 2.7.53 and whether the structure heights described in Chapter 2 include any roof mounted arrays.	The solar array will be within the earth bank that will surround the proposed WWTP . A Glint and Glare Assessment (Appendix 15.4, App Doc Ref 5.4.15.4) is provided in the appendix to this chapter.
n/a	Natural England	Natural England would wish to see details of local landscape character areas mapped at a scale appropriate to the development site as well as any report relevant management plans or strategies pertaining	Local landscape character areas are derived and mapped based on the Greater Cambridge Landscape Character Assessment (2021). The Greater Cambridge Green Infrastructure Opportunity Mapping (LUC, 2020) is also referenced. to the area.
n/a	Natural England ~~Natural England~~	We encourage the use of Landscape Character Assessment, based on the good practice guidelines produced jointly by the Landscape ~~We encourage the use of Landscape Character Assessment, based on the good practice guidelines produced jointly by the Landscape Institute and Institute of Environmental Management and Assessment in 2013.~~	The LVIA methodology (Appendix 15.5, App Doc Ref 5.4.15.5) follows guidance set out in the Guidelines for Landscape and Visual Impact ~~The LVIA methodology (Appendix 15.5, App Doc Ref 5.4.15.5)~~

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ID	Consultee		Inspectorate's comments	Response		
			Institute and Institute of Environmental Management and Assessment in 2013.		Assessment. 3rd edition (IEMA, 2013).	~~follows guidance set out in the Guidelines for Landscape and Visual Impact Assessment. 3rd edition (IEMA, 2013).~~
~~n/a~~	n/a	Natural England	Natural England encourages all new development to consider the character and distinctiveness of the area, with the siting and design of the Proposed Development reflecting local design characteristics and, wherever possible, using local materials. The Environmental Impact Assessment process should Doc detail the measures to be taken to ensure the building design will be of a high standard, as well as detail of layout alternatives together with	The LVIA will assess the impacts of the Proposed Development, taking into account the mitigation proposals of the landscape masterplan in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14). The finishes and appearance of the buildings and structures of the proposed WWTP are described and illustrated in the Design and Access Statement (App Ref 7.6). Cumulative effects are included in the assessment.		

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ID	Consultee		Inspectorate's comments		Response	
			justification of the selected option in terms of landscape impact and benefit. The assessment should also include the cumulative effect of the development with other relevant existing or proposed developments in the area. In this context Natural England advises that the cumulative impact assessment should include other proposals currently at Scoping stage. Due to the overlapping timescale of their progress through the planning system, cumulative impact of the Proposed Development with those proposals currently at Scoping stage would be likely to be a material consideration at the time of determination of the planning application.			
n/a	Natural England	~~Natural England~~	As indicated in our response to the Phase Two Consultation, opportunities should be investigated to mitigate the visual impacts of the two ~26m anaerobic digesters, as far as possible; we note that these will be visible above the earth bank, including any screen on top.	~~As indicated in our response to the Phase Two Consultation, opportunities should be investigated to mitigate the visual impacts of the two ~26m anaerobic digesters, as far as possible; we note that these will be visible above the earth bank, including any screen on top.~~	The digesters have been reduced in height and will now be 20 m high, but these and several other structures, including a 24m high boiler stack, will be visible above the earth bank.	~~The digesters have been reduced in height and will now be 20 m high, but these and several other structures, including a 24m high boiler stack, will be visible~~

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ID	Consultee	Inspectorate's comments	Response	
				~~above the earth bank.~~
~~n/a~~	n/a	Natural England	Consideration of options for landscaping and environmental mitigations beyond the edge of the facility's earth bank are particularly welcome. We note these could include creating new species-rich grassland meadow and hedgerows and planting new woodland which will also provide additional screening.	There will be extensive areas of new grassland within the proposed WWTP. Outside the site, additional trees along Horningsea Road, additional trees and hedgerow along Low Fen Drove Way and the strengthening of an existing shelter belt with new planting are also proposed. The planting is shown on the landscape masterplan in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14).

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Date	Consultee

Technical Working Groups

1.5.2 Table 1-4 provides a summary of key points raised during engagement with Technical Working Groups (TWG).

Table 1-4: Key points raised during engagement with the Technical Working Group for landscape and historic environment

Date	Consultee	Points raised	How and where addressed
29 April 2021	Greater Cambridge Shared Planning Service, Cambridgeshire County Council, the National Trust, Historic England and Cambridge Past Present and Future	The progress of the design of the Proposed Development and the LVIA were described. Points raised included: the importance of improving recreational access to the countryside and the Wicken Vision area and Anglesey Abbey and the importance of minimising lighting impacts on the countryside. The TWG asked the reasoning behind the choice of the Rotunda as a final design and what other design options had been considered.	The comments informed the emerging landscape masterplan, and options for improved recreational access were explored. The TWG were shown the alternative options considered for the site layout.
13 December 2021	Greater Cambridge Shared Planning Service, Cambridgeshire County Council, the National Trust, Historic England and Cambridge Past Present and Future	LVIA and photomontages was discussed and the Consultees were updated with the design development since the last meeting. Representative viewpoint locations for the LVIA were proposed and agreed. Additional locations were requested by consultees on High Ditch Road, in the open landscape to the east between Bottisham and Fulbourn, in Ely and from bridges over the A14 and the dismantled railway line. The photomontage locations were also discussed and agreed.	Additional viewpoints have been included in the LVIA. The viewpoint locations are shown on the Representative Viewpoint Locations map (Figure 15.6 Book of Figures – Landscape and Visual Amenity, App Doc Ref 5.3.15).
December 2021	Planning Service and Historic England This was a follow up meeting as the landscape architect from Greater Cambridge Shared Planning Service had been unable to attend the meeting on 7 December 2021. The methodology for the	proposed representative viewpoint locations and photomontage locations confirmed. Additional viewpoints were added to the east of the proposed WWTP – from Little Wilbraham Road, Quy Hall and	

		Points raised	How and where addressed
		extent of woodland in the masterplan and how it was uncharacteristic of the local landscape.	
1 February 2022	Greater Cambridge Shared Planning Service, Cambridgeshire County Council, the National Trust, Historic England and Cambridge Past Present and Future	There was discussion on the best approach to landscape mitigation and the landscape masterplan. Thickets and tree belts were considered more typical of the local landscape character than dense woodland. The TWG proposed more tree planting at the base of the earth bank, there were concerns about establishing trees and hedges around the top of the bank because of dry, windy conditions there. The draft photomontages presented at CON2 were shown and discussed and the layered approach to planting along Low Fen Drove Way and Horningsea Road supported. The proposed WWTP would be prominent in views from the Horningsea Road bridge over the A14 and High Ditch Road.	Further work was done on the design of the bank profile to aid the establishment of planting and on the design of the proposed WWTP to minimise its visual impact on the landscape and views. This included removing a number of structures from the WWTP design or reducing the height of many of the remaining structures. The masterplan was developed further to break up woodland blocks into thickets and tree belts of a similar scale to existing woodlands in the study area. Offsite planting opportunities were included along Horningsea Road and Low Fen Drove Way.
and Visual Amenity, App Doc Ref 5.3.15). The masterplan was developed further to break up woodland blocks into belts of a similar scale to existing woodlands in the		Present and Future Topics discussed included the preparation of a code of construction practice (CoCP) to set out mitigation measures during construction and the preparation	Ref 5.4.2.1 and 5.4.2.2), the Lighting Assessment Report , (Appendix 15.3, App Doc Ref 5.4.15.3), and the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14) set out the
Wilbraham Fen. Concern was expressed about the Additional viewpoints have been included in the LVIA. The location of all representative viewpoints considered in the assessment are shown on the Representative Viewpoint Locations map (Figure 15.6 Book of Figures – Landscape		study area. Offsite planting opportunities were included along Horningsea Road and Low Fen Drove Way. 27 April Greater Cambridge Shared 2022 Planning Service, Cambridgeshire County Council, the National Trust, Historic England and Cambridge Past	of a LERMP setting out the delivery, maintenance and monitoring of the landscape mitigation proposed during the operation of the WWTP. The development of the outfall design (to reduce its landscape and visual impacts) and the approach to the design of lighting during construction and operation were also discussed. The CoCP: Parts A and B (Appendix 2.1 and 2.2, App Doc

Date	Consultee		
proposed approach to landscape mitigation and the lighting design.			

Statutory s42 consultation

1.5.3

1.5.4 provides a summary of key points raised during statutory s42 consultation.

Table 1-5: Key points raised during statutory consultation

Date	Consultee	Points raised	How and where addressed
27 April 2022	Cambridgeshire County Council	Early planting is encouraged, and appropriate fast-growing species selected in order to deliver the relevant visual mitigation measures in the shortest timeframe possible. This should include the southwest corner of the site and entrance. Initial planting will take place during the construction period. This will comprise: a hedge with standard trees along the southern side of a section of Low Fen Drove Way, a woodland belt approximately 7.5m wide along the southern and western boundaries and part of the eastern boundary of the proposed WWTP site and trees planted in gaps between existing trees along the eastern side of Horningsea Road between Low Fen Drove Way and Horningsea. In addition, an existing shelter belt between the WWTP site and Horningsea will be rejuvenated with trees and shrubs to replace failed planting and ongoing landscape maintenance to promote establishment and improve growth rates. The landscape architects for the project have been in discussion with Greater Cambridge Shared Planning Service's Landscape Officer and have incorporated a recommendation to add faster growing species such as black poplar into the species mix	proposed on the landscape masterplan. These are detailed in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14).
27 April 2022	Cambridgeshire County Council	The Applicant should be mindful that users of the PRoW network are visual receptors and so the visual impact of construction works on PRoW should be minimised where possible in order not to discourage NMUs from using the network during the course of construction.	The visual impact on views from the PRoW network has been considered with impacts on 20 representative viewpoint locations on PRoW assessed in construction and operation. The locations are shown on the Representative Viewpoint Locations map (Figure 15.6 Book of Figures – Landscape and Visual Amenity, App Doc Ref 5.3.15). The PRoW network will be maintained open as far as possible, with the use of a four-way gated system where pipeline routes cross a PRoW

Date	Consultee	Points raised	How and where addressed
27 April 2022	East Cambridgeshire District Council	Whilst the landscaping is there to hide the development, it should over time become part of the landscape. The landscape looks very raw at year 1 but by year 15 the development is well assimilated into the landscape. There should be some images in the intervening years. The 3 viewpoints have different results and concern is raised over the landscaping from Fen Ditton.	The landscape masterplan aims to both screen but also to integrate the Proposed Development into its landscape setting. Photomontages (Appendix 15.1, App Doc Ref 5.4.15.1) illustrate the appearance of the proposed WWTP in years 1 and 15 in winter. The photomontages prepared for year 15 of operation are intended to show the likely long-term impacts of the proposed WWTP on the landscape and views as they show how many of the structures of the proposed WWTP will still be visible after the planting is well established. Following consultees' feedback, many of the taller structures on the proposed WWTP which were visible in the initial photomontages shown to stakeholders have

Date	Consultee	Points raised	How and where addressed
			subsequently been reduced in height and the landscape mitigation proposed on the earth bank
			to ensure safe crossing and temporary diversions where a crossing is not feasible or desirable. If a PRoW has to be temporarily stopped up or diverted, this will be discussed prior to commencement of the works with the Local Highway Authority. The provisions relevant to the management of PRoW during construction are set out in the CoCP section 6.7 (Traffic and Transport). All PRoW will be restored to their existing condition at the end of construction.
27 April 2022	Cambridgeshire County Council	The Council requests that the detailed design of the landscape scheme, such as grassland seed mixes and pond designs, are discussed with the relevant ecology and landscape specialists at the relevant local authorities.	Following Phase Three Consultation Responses, the landscape masterplan and more detailed aspects of the plan including seed mixes and plant species were discussed with council officers and their inputs

incorporated into the design. These details are in the LERMP provided within the application (Appendix 8.14, App Doc Ref 5.4.8.14).

Date	Consultee	Points raised	How and where addressed
27 April 2022	Natural England	The project area is not within or close to any statutorily designated landscape and is unlikely to have any significant impact on these sites. Whilst Natural England does not generally provide detailed advice on non-statutory landscape matters, we welcome recognition of sensitive receptors such as PRoW including the Harcamlow Way Trail, the River Cam and Anglesey Abbey registered park and garden. The LVIA should include a detailed assessment of effects on these receptors and identify appropriate mitigation to address adverse impacts.	has been increased to provide further screen planting, especially from Fen Ditton in the south. The LVIA assesses the impact of the Proposed Development on recreational receptors' views from 20 representative viewpoints on PRoW (including four locations along the Harcamlow Way and two locations along the River Cam and from Anglesey Abbey). Mitigation is proposed to reduce the effects of the proposed WWTP on landscape and visual receptors. As the pipelines
4 May 2022	Greater Cambridge Shared Planning	Watering may be essential for establishment and maintenance of vegetation on the earthwork. The gradient of the earth could be varied to make it more capable of supporting vegetation. Earthworks in the Fens tend to have tree growth at the base of the embankments. The establishment, maintenance	The design of the profile of the earth bank and watering methods will be further considered during the ongoing design process. Additional tree planting at the externally facing base of the earth bank has been incorporated into the landscape in response to comments. Landscape maintenance is detailed in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14).
4 May 2022	Greater Cambridge Shared Planning	The initial visualisations for the LVIA show a number of bulky, tall features within the space enclosed by the proposed bund. The individual tallest intrusions seem somewhat less problematic than the very large barn-like structures which tall and have a large footprint as well (as in view east from Low Fen Drove Way in year 1). It would be beneficial if more detail can be provided as part of the DCO to demonstrate how far the harm identified can be further mitigated by appropriate on site and more remote planting plans.	Following consultees' feedback, many of the more substantial structures on the proposed WWTP (which were visible in the initial photomontages) have subsequently been reduced in height and massing. Landscape mitigation planting on the earth bank has been increased since the consultation to provide further screening, especially from Fen Ditton in the south. Some remote planting has been included in the design along Horningsea Road and north of the site. Opportunities for additional remote planting will be explored with stakeholders during the ongoing design process.

Date	Consultee	Points raised	How and where addressed

will be underground, there is no mitigation proposed along the pipeline corridors, however, vegetation removed will be replaced, except where pipeline easements preclude tree planting.

4 May	Greater Cambridge Shared Planning	Based on conclusions formed within the Heritage and long-term maintenance of these areas will need to be detailed as part of the DCO.	The effects
4 May 2022	Greater Cambridge Shared Planning	Woodland is not a dominant feature of the Fens National Character Area or Fen Edge Landscape Character Areas. The woodland planting should be opened out to create a distinct mosaic habitat of pockets of trees, grasslands and scrapes. This would have the added benefit of increasing biodiversity across the planted areas.	In consultation with Greater Cambridge Shared Planning Service, the landscape masterplan has been modified to reduce the scale of woodland blocks, breaking them up with open glades and meadow. The undulating landforms outside the earth bank will provide scrapes and bee banks, benefiting wildlife, as detailed in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14).
2022		Assessment (HA), there is also potential for the works proposed outside of the main area of the relocated WWTP, including the outfall into the river and the proposed ventilation shafts, to have a visual or landscape impact due to their height, shape or form. More information is therefore needed to allow the Council and stakeholders to have a full understanding of the project and properly assess the	of construction and operation of the proposed WWTP, outfall and pipelines have been considered on the River Cam Corridor Landscape Character Area (LCA) and on visual receptors on the River Cam tow path, at Biggin Abbey and other residential properties near the River Cam and on PRoW and long-distance trails along the river and within the study area. The ventilation shafts have been
25 April 2022	National Trust	The Trust has previously raised concerns about the justification for the proposed rotunda design and circular earth bank forming a new key feature in the landscape within the Fen Edge character area. The Trust is concerned about the proposed design approach and its compatibility with the landscape character of the immediate and wider area, which part of the Wicken Fen Vision area falls within.	The landscape masterplan for the proposed WWTP comprises an earth bank up to 5m high, planted with trees and hedgerow species and surrounded by meadows and woodland belts. The masterplan and details of the planting on the earth bank are included in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14). The purpose of the earth bank is to screen the majority of structures on the proposed WWTP site so that from most locations, only the cluster of taller structures at the southern end of the proposed WWTP will be visible above the earth bank.
		placement and impact of these features.	

Date	Consultee	Points raised	How and where addressed

removed from the design and therefore no longer part of the assessment

Date	Consultee	Points raised	How and where addressed
25 April 2022	Cambridge Past Present and Future	The scale of the proposed WWTP will be highly intrusive on the local Fen Edge landscape and will provide a potential bridge for further development into the surrounding countryside that the Cambridge Greenbelt was designed to prevent. The Proposed Development is still prominent in views from Fen Ditton, in particular High Ditch Road, even after 15 years. Accordingly, review whether more can be done to shield the structures from view (e.g. reducing the height of structures or increasing the height of the earth bank, or both).	While the earth bank will be a substantial new feature in the landscape when viewed from Horningsea Road (near the proposed WWTP site) and Low Fen Drove Way, from more distant locations such as High Ditch Road, Biggin Abbey, Horningsea Road (nearer Horningsea) and Footpath Horningsea 130/6, it will appear as a wide feature, low in proportion to its width, and partially screened by intervening vegetation or variations in the landform. By year 15 of operation, as the woodland belts of the landscape masterplan develop, it will be screened by intervening planting in most views. The appearance of the earth bank in years 1 and 15 of operation in both close and more distant views is shown on the photomontages (Appendix 15.1, App Doc Ref 5.4.15.1). There is a site-specific Green Belt Assessment in the Planning Statement (App Doc Ref 7.5.3). The heights of a number of structures within the proposed WWTP have been reduced and now more structures will be screened by the 5m high earth bank than were screened in the design assessed in the preliminary environmental impact assessment. From High Ditch Road, the proposed WWTP will now occupy a much narrower proportion of the view, with a cluster of taller structures at the southern end of the proposed WWTP visible above the earth bank. The height of the earth bank has been determined by balancing the need for screening with minimising the landscape and visual impact of the earth bank itself. Raising the earth bank would not noticeably reduce the visibility of the remaining tall structures, such as the digesters at 20m high, as they are too tall to screen with

Date	Consultee	Points raised	How and where addressed
			earthworks. It would make the earth bank a more prominent feature in the landscape and more difficult to integrate into the landscape satisfactorily. The Design and Access statement (App Doc Ref 7.6) includes suggested colours and finishes for the taller structures on the proposed WWTP site to assist with minimising their prominence in the landscape and views.
25 April 2022	Cambridge Past Present and Future	Keeping trees on banks well-watered can be difficult, especially in drought prone Cambridge. We would recommend that the design of the earth bank should incorporate some form of irrigation or watering system and that any dead trees are replaced.	All planting will be carried out in the winter months (during the dormant season) for the best chance of establishment. The earth bank will be designed to minimise rainwater run-off but it is agreed that embankments tend to be dry and it can be difficult to establish vegetation on them, especially when the spring following planting is dry. The maintenance of the new planting, including watering, is described in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14). The maintenance programme will employ sustainable best practice in relation to irrigation, drainage, soil management, thinning, pruning and replacement of failed planting. The new planting will be monitored to measure the success of the maintenance programmes and to determine if interventions are required to deliver the landscape vision shown on the landscape masterplan.
25 April 2022	Cambridge Past Present and Future	Opportunities for screen planting close to viewpoints should be maximised as shown for Low Fen Drove Way. Fast-growing species should be planted near to viewpoints to screen close views of the WWTP more quickly. Use of evergreen species can also	

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Date	Consultee	Points raised	How and where addressed
		pful. The new junction is elevated above the site and the access road may open up Faster growing species have been included in the species mix for the landscape masterplan. All tree planting will be deciduous to reflect local landscape character. Ivy will be included in the hedgerow mix. Additional woodland planting has been incorporated into the masterplan on both sides of the elevated new junction and access road to views of the plant. The landscaping should be designed to shield these views from the entrance	screen views of the proposed WWTP from the site entrance. into the site.
27 April 2022	Fen Ditton Parish Council	The earth bank should be raised by at least 2 m to a minimum of 7m above existing, external ground level. Semi mature trees as well as saplings and hedging should be planted on the bank as soon as possible after it has been completed. Advance tree planting should be carried out along the A14. The aim of the planting should be to mirror the existing screening at the Existing Cambridge WWTP.	The height of the earth bank has been determined by balancing the need for screening with minimising the landscape and visual impact of the bank itself. Most of the structures of the revised design within the proposed WWTP will now be fully or almost fully screened by the bank. Raising the bank would not noticeably reduce the visual impacts of the remaining tall structures such as the digesters at 20m high as they are too tall to screen with earthworks. It would also make the bank a more prominent feature in the landscape and difficult to integrate into its surroundings satisfactorily. Increased screen planting has been incorporated in the landscape masterplan in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14) since Consultation 3, including semi-mature trees on the earth bank and woodland belts around the proposed WWTP.
27 April 2022	Fen Ditton Parish Council	Additional representative viewpoints should be included in the assessment showing the view from:	

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Date	Consultee	Points raised	How and where addressed
		creation Ground, Footpath Fen Ditton 85/3 and Horningsea Road, next to the village sign. Representative viewpoint photography from Bridleway Stow cum Quy 218/5, Footpath Stow cum Quy 218/2 (between Quy Mill and Stow cum Quy) and Horningsea Footpath 130/6 suggests an underestimation of the impacts of the Proposed Development by including too much screening vegetation. A photomontage should be provided from near River Cam, south-west of Biggin Abbey.	The heights of a number of structures within the proposed WWTP have been reduced since Consultation 3 and more structures will be screened by the 5m high earthwork bank than shown on the Consultation 3 photomontages. The height of the earthwork bank has been determined by balancing the need for screening with minimising the landscape and visual impact of the bank itself. Raising the bank would not noticeably reduce the visual impacts of the remaining tall structures such as the digesters at 20m high as they are too tall to screen with earthworks and it would make the bank a more prominent feature in the landscape and difficult to integrate into the landscape satisfactorily.
		Additional representative viewpoints have been added to the LVIA in response to the comment. There is a representative viewpoint on Footpath Fen Ditton 85/3 where it meets Fen Ditton Recreation Ground. There is a representative viewpoint close to the village sign on Horningsea Road. All the ProW mentioned are lined with vegetation in some locations and open in others but the LVIA assesses the impacts of the Proposed Development on the view from the length of a PRoW, not just the view illustrated in the photograph. A photomontage (Appendix 15.1, App Doc Ref 5.4.15.1) illustrates the view from a similar location, but closer to the proposed WWTP, in years 1 and 15.	
The impact on 27 April 2022	Horningsea Parish Council	AW needs to place significantly more effort into reducing the height of the plant, in lowering the overall plant footprint height, to reinstating aspects of the bund height so a correct balance is achieved between screening and imposition and the provision of additional screening/mitigation. Why has the earthwork bank been reduced to 5 metres high with air gaps, limiting visual screening?	the view from the river corridor will be covered in the assessment.
27 April 2022	Fen Ditton Parish Council	Off-site mitigation planting such as filling gaps in existing hedgerows and single rows of field/verge tree planting should be considered.	Mitigation planting outside the site of the proposed WWTP has been included in the landscape masterplan in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14).

Date	Consultee	Points raised	How and where addressed
27 April 2022	Horningsea Parish Council	The approach to Horningsea Road from Baits Bite Lock is extremely open and Honey Hill is elevated. More planting is required to break up the views of the industrial structures. Views from Waterbeach looking south are extremely open and are not mitigated by the planting such as from the Harcamlow Way between the layby and Quy Fen and from Gayton Farm Campsite.	Increased screen planting has been incorporated in the landscape masterplan in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14) since Consultation 3 and the WWTP will be largely screened from the west by year 15 of operation. There will be distant views of the taller structures of the WWTP from north of the Existing Cambridge WWTP (Footpath Horningsea 130/6, the Harcamlow Way and Gayton Farm Campsite but these will be partial and intermittent due to the presence of intervening tree belts. A photomontage (App Doc Ref 5.4.15.1) illustrates the view from Footpath Horningsea 130/6, just south of the Harcamlow Way, in years 1 and 15.
27 April 2022	Horningsea Parish Council	The density and location of the planting proposed is not sufficient to reduce the visual impact of the	Increased screen planting has been incorporated in the landscape masterplan in the LERMP (Appendix 8.14, App

Date	Consultee	Points raised	How and where addressed
		WWTP and there should be more off-site mitigation. The proposed stretch of mixed standard tree planting from Horningsea Village along Horningsea Rd to the Proposed Development has limited effectiveness and a	15 metres deep tree belt is requested here with horizontal east/west spurs of planting to break up the views. Doc Ref 5.4.8.14) since Consultation 3. Opportunities for offsite mitigation will be explored during the on-going design process. Greater Cambridge Shared Planning Services and other consultees have emphasised the open character of the landscape between Horningsea and Fen Ditton and the value of the open views looking east from Horningsea Road. Consequently, a tree belt has been proposed for along Horningsea Road (north of the proposed WWTP) rather than a woodland belt.
27 April 2022	Horningsea Parish Council	The growth rates suggested in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14) are optimistic. Due to summer drought, free-draining soils and climate change, the mitigation planting will fail.	The growth rates take into account that some trees will be semi-mature when planted. All planting will be carried out in the winter months (dormant season) to improve chances of successful plant establishment and opportunities for watering will be explored at detailed design stage. It is agreed that establishing planting is difficult when growing conditions are unfavourable and with climate change, this occurs more frequently.
27 April 2022	Horningsea Parish Council	The Visitor Car Park will be visible from Horningsea Road A14 bridge and will extend the footprint of the industrial-urban development beyond the 22ha identified as required for the proposed WWTP into the Green Belt. The Discovery Centre and associated parking inside for around 100 spaces, including HGVs and a coach are not appropriate in the Green Belt and will contribute to light pollution.	

Date	Consultee	Points raised	How and where addressed
		The visitor car park will be lit by 5m high lighting columns during working hours in the winter months. The Discovery Centre windows will have blinds or shutters to reduce lighting impacts during working hours in the winter months. There is a separate Green Belt assessment in an Application Document to the Planning Statement (App Doc Ref 7.5) and therefore the assessment of Green Belt impacts is excluded from LVIA.	with Greater Cambridge Shared Planning Service's Landscape Officer, incorporated faster growing species such as black poplar into the species mix and semi-mature trees to the landscape masterplan. The existing shelter belt between the proposed WWTP site and Horningsea will be rejuvenated with trees and shrubs to replace failed planting and ongoing landscape maintenance to promote establishment and improve growth rates. More information can be found in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14)
		mature trees to ensure sufficient by way of mitigation. The existing planting scheme between Horningsea and the proposed site on the east of Horningsea Road is in its 5th year and showing little growth.	
27 April 2022	Quy Fen Trust	The AW landscape document excludes key summary findings from the Green Belt assessment for the proposed site in regard to the parcel A02.	There is a site-specific Green Belt assessment in an Application Document to the Planning Statement (App Doc Ref 7.5) and therefore the assessment of Green Belt impacts is excluded from LVIA
27 April 2022	Stow cum Quy Parish Council	More mature trees should be planted to get fast coverage. The trees on the bund at 15 years, but they barely screen the facility at all.	Increased screen planting has been incorporated in the landscape masterplan in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14) since Consultation 3. A mix of semimature and standard trees is proposed in the landscape masterplan as younger trees establish more easily and over the long term, achieve better growth rates.
27 April 2022	Quy Fen Trust	Mitigation should include a mix of nearby and distant planting and, where necessary, use semi-mature trees to ensure sufficient by way of mitigation. The existing planting scheme between Horningsea and the proposed site on the east of Horningsea Road is in its 5th year and showing little growth. The landscape architects for the project, after discussion	Planting mitigation includes near and distant planting.

Statutory s47 local community consultation

1.5.5 The Consultation Report (App Doc Ref 6.1) describes the consultation process that has been followed and details the responses to all comments made during this consultation. Matters raised in relevance to landscape and visual amenity include:

- The site of the proposed WWTP is in an area which has been given an important role by policy makers for providing countryside recreation to an expanding Cambridge East and is inside the Wicken Fen Vision area. The site encompasses Honey Hill which forms the south-western gateway to an unbroken fenland landscape with far reaching views towards Wicken Fen.
- The planting proposed on the landscape masterplan is insufficient to mitigate the impacts of the proposed WWTP and the growth rates predicted by year 15 of operation are too optimistic, in the light of the recent dry springs and generally low rainfall in the region.
- Off-site mitigation planting, including hedgerows and trees, should be considered to screen views from Fen Ditton, the River Cam and Horningsea Road.
- The earth bank should be 7m high to screen the proposed WWTP.
- There is an opportunity to link footpaths north-east of the A14 with cycle and footpaths in Cambridge.
- The Visitor car park will be visible from Horningsea Road A14 bridge and will extend the footprint of the industrial-urban development beyond the 22ha identified as required for the proposed WWTP into the Green Belt. The Discovery Centre and associated parking for around 100 spaces, including HGVs and a coach are not appropriate in the Green Belt and will contribute to light pollution.

2 Assessment Approach

2.1 Guidance

2.1.1 The following guidance was followed for the assessment of landscape and visual effects:

- Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3) (Swanwick, 2013);
- An Approach to Landscape Character Assessment (Tudor, 2014);
- Landscape Institute Technical Guidance Note 06/19 – Visual Representation of development proposals (Landscape Institute, 2019); and

- Planning Practice Guidance – Light Pollution (Ministry of Housing, Communities and local Government, 2019).

2.2 Assessment methodology

2.2.1 The general approach to assessment is described in Chapter 5: EIA Methodology (App Doc Ref 5.2.5).

2.2.2 Following the preliminary assessment of the likely significant effects of the Proposed Development, any further mitigation measures (secondary mitigation) are identified and described. These mitigation measures would further reduce an adverse effect or enhance a beneficial one. The assessment of likely significant effects is then carried out taking into account the identified secondary mitigation measures to identify the 'residual' environmental effects.

2.2.3 This section provides specific details of the methodology applied to the assessment of the landscape and visual effects of the Proposed Development. The full method of assessment for landscape and visual impacts used of the Proposed Development is detailed in Appendix 15.5 (App Doc Ref 5.4.15.5) of the ES.

2.2.4 The scope of this assessment has been established through the formal EIA scoping process with the planning inspectorate. A request for an EIA scoping opinion was made in 2021 as set out in the Scoping Report (Appendix 4.2, App Doc Ref 5.4.4.2). The points raised at scoping and how they are addressed are provided in Section

1.5.

2.2.5 The spatial scope of assessment for landscape and visual amenity is provided in Section 2.3.

2.2.6 The assessment parameters approach described in Section 1.5 of Chapter 5 is addressed for landscape and visual amenity in Section 2.5.

Impact assessment criteria

2.2.7 The significance of an effect is determined based on the magnitude of an impact and the sensitivity of the receptor affected by the impact of that magnitude. This section describes the criteria applied in this chapter to characterise the magnitude of potential impacts and sensitivity of receptors.

2.2.8 The assessment criteria used to assess the potential effects on landscape and visual amenity arising from the Proposed Development differ from the generic EIA methodology and are described below. The terms used to define magnitude and sensitivity are based on the criteria set out in the method of assessment for Landscape and Visual Amenity (Appendix 15.5, App Doc Ref 5.4.15.5). **Magnitude of impact**

2.2.9 The criteria for defining magnitude for the assessment of impacts on landscape and visual amenity are defined in Table 2-1.

Table 2-1: Impact magnitude criteria

Magnitude of change		Criteria
No change		**Landscape** No noticeable alteration or improvement, temporary or permanent, of landscape character of existing features and elements. **Visual amenity** No part of the Proposed Development would be discernible.
Negligible	Adverse	**Landscape** Very minor loss, damage or alteration to existing landscape character of one or more features and elements. A short-term change to an LCA or its setting. **Visual amenity** Only a small part of the Proposed Development would be discernible or being at such a distance it would form a barely noticeable feature or element of the view; and/or adverse changes almost entirely obscured by intervening vegetation and/or built form. A short-term change to the view.
	Beneficial	**Landscape** Very minor improvement of character by the restoration of one or more existing landscape features and elements. A short-term change to an LCA or its setting. **Visual amenity** Only a small part of the Proposed Development would be discernible or being at such a distance it would form a barely noticeable feature or element of the view; and/or beneficial changes almost entirely obscured by intervening vegetation and/or built form. A short-term change to the view.
Minor	Adverse:	**Landscape** Slight loss or damage to existing landscape character of one (or more) key features and elements; and/or addition of uncharacteristic new features and elements; and/or changes that will alter a small proportion of the landscape character area (LCA) and its immediate setting. A short/medium-term change to an LCA or its setting. **Visual amenity**
Magnitude of change		**Criteria**
		The Proposed Development or part of it would be perceptible but seen as one of a series of components in the wider panoramic view, affecting a small proportion of the view and not altering the balance of features in the view; and/or adverse changes within the background of the view or viewed obliquely and largely filtered by intervening vegetation and/or built form. A short/medium-term change to the view.

	Beneficial	**Landscape** Slight improvement of landscape character by the restoration of one (or more) key existing features and elements; and/or the addition of new characteristic features; and/or changes that will alter a small proportion of the LCA and its immediate setting. A short/medium-term change to an LCA or its setting **Visual amenity** The Proposed Development or part of it would be perceptible but seen as one of a series of components in the wider panoramic view, affecting a small proportion of the view and not altering the balance of features in the view; and/or beneficial changes within the background of the view or viewed obliquely and largely filtered by intervening vegetation and/or built form. A short/medium-term change to the view.
Moderate	Adverse	**Landscape** Partial or noticeable damage to existing landscape character or distinctive features or elements; and/or addition of new uncharacteristic, noticeable features or elements (i.e. infrastructure), but which do not necessarily conflict with key characteristics of the existing landscape. A medium/long-term or permanent change to an LCA or its setting. **Visual amenity** The Proposed Development or part of it would form a noticeable feature or element of the view, readily apparent to the receptor; and/or a noticeable adverse change partially filtered by intervening vegetation and/or built form or viewed obliquely. A medium/long-term or permanent change to the view.
	Beneficial	**Landscape** Partial or noticeable improvement of landscape character by restoration of existing features or elements; and/or addition of new characteristic features or elements or removal of noticeable detracting features or elements. A medium/long-term or permanent change to an LCA or its setting. **Visual amenity** The Proposed Development or part of it would form a noticeable feature or element of the view, readily apparent to the receptor; and/or a noticeable beneficial change partially filtered by intervening vegetation and/or built form and/or viewed obliquely. A medium/long-term or permanent change to the view.
Major	Adverse	**Landscape** Total loss or large-scale damage to existing landscape character or distinctive features or elements; and/or addition of new uncharacteristic, conspicuous features or elements (i.e. infrastructure), and/or changes that would alter a substantial proportion of the LCA; and/or introduction of long-term and/or irreversible changes to an LCA or its setting. A long-term/permanent change to an LCA or its setting. **Visual amenity**
Magnitude of		**Criteria change**
		The Proposed Development or part of it would become the dominant feature or focal point of the view; and/or addition of new features visible across the majority of the view; and/or total loss or substantial adverse alteration to key characteristics of the view. A long-term/permanent change to a view.

	Beneficial	**Landscape** Large scale improvement of landscape character to features and elements; and/or addition of new distinctive features or elements, or removal of conspicuous infrastructure elements; and/or changes that would alter a substantial proportion of the LCA. A long-term/permanent change to an LCA or its setting. **Visual amenity** The Proposed Development or part of it would become the dominant feature or focal point of the view; and/or addition of new features visible across the majority of the view; and/or substantial beneficial change to key characteristics of the view. A long-term/permanent change to a view.

Source: Criteria based on guidance in GLVIA3 (LI and IEMA, 2013)

Sensitivity of receptor

2.2.10 The criteria for defining receptor sensitivity for the assessment of impacts to landscape and visual amenity are defined within Table 2-2.

Table 2-2: Receptor sensitivity criteria

Sensitivity	Criteria
Low	**Landscape** Undesignated landscape of low value, able to accommodate change (i.e. non-designated or designated areas of local recognition or areas with little sense of place). A landscape with limited tranquillity, components that are easily replaced or substituted and scope for effective mitigation in character with the existing landscape. A low susceptibility to change due to the type of development proposed. **Visual amenity** People at work, at school, engaging in formal sport, commuting in urban areas and travelling at high speed on main roads or railways. Typically, views may include predominantly discordant or unattractive features. Low value views which are undesignated and undocumented.
Medium	**Landscape** Landscape of medium value and local or regional recognition of importance, able to accommodate some change (i.e. with features worthy of conservation, some sense of place or value through use of perception). A landscape with moderate tranquillity, components that are easily replaced or substituted and scope for effective mitigation in character with the existing landscape. A medium susceptibility to change due to the type of development proposed. **Visual amenity** People working outdoors in or travelling through rural areas, people walking or cycling through urban areas and visiting outdoor, publicly accessible open space. Views in which neither attractive nor discordant features are dominant. Medium value views which may be undesignated and undocumented.
High	**Landscape**
Sensitivity	**Criteria**

	Landscape of high importance, rarity and value with distinctive features/elements with limited ability to accommodate change without incurring substantial loss/gain (i.e. designated areas, registered parks and gardens, country parks and landscapes with a strong sense of place). Landscape with elevated tranquillity, components not easily replaced or substituted and limited scope for effective mitigation in character with the existing landscape. A high susceptibility to change due to the type of development proposed. **Visual amenity**
	Occupiers of residential properties, PRoW users and visitors to places whose attention is focussed on the landscape. Views with few detracting features. High value views which may be designated or undocumented.

Source: Criteria based on guidance in the GLVIA3 (LI and IEMA, 2013)

Significance of effect

2.2.11 The significance of the effect upon landscape character and visual amenity is determined by assigning an impact magnitude and sensitivity to the receptor. Table 2-3 sets out the significance matrix used to determine significant effects. Where a range of significance is presented, the final assessment for each effect is based upon professional judgement.

2.2.12 For the purpose of this assessment, any effects with a significance level of slight or neutral are not considered to be significant.

Table 2-3: Significance matrix

		Sensitivity		
		Low	**Medium**	**High**
~~Magnitude~~	**No change**	Neutral Not significant	Neutral Not significant	Neutral Not significant
	Negligible	Neutral Not significant	Neutral/slight Not significant	Slight Not significant
	~~**Minor**~~	~~Neutral/slight~~ ~~Not significant~~	~~Slight~~ ~~Not significant~~	~~Slight~~ ~~Not significant~~ ~~**Moderate**~~ ~~**Significant**~~
	~~**Moderate**~~	~~Slight~~ ~~Not significant~~	~~**Moderate**~~ ~~**Significant**~~	~~**Moderate/large**~~ ~~**Significant**~~
	~~**Major**~~	~~Slight~~ ~~Not significant~~ ~~**Moderate**~~ ~~**Significant**~~	~~**Moderate/large**~~ ~~**Significant**~~	~~**Large**~~ ~~**Significant**~~
Magnitude	**Minor**	Neutral/slight Not significant	Slight Not significant	Slight Not significant **Moderate** **Significant**
	Moderate	Slight Not significant	**Moderate** **Significant**	**Moderate/large** **Significant**
	Major	Slight Not significant **Moderate** **Significant**	**Moderate/large** **Significant**	**Large** **Significant**

2.3 Residual effect

2.3.1 The assessment of effects follows the approach set out within Chapter 5: EIA Methodology (App Doc Ref 5.2.5). Effects have been assessed to take into account

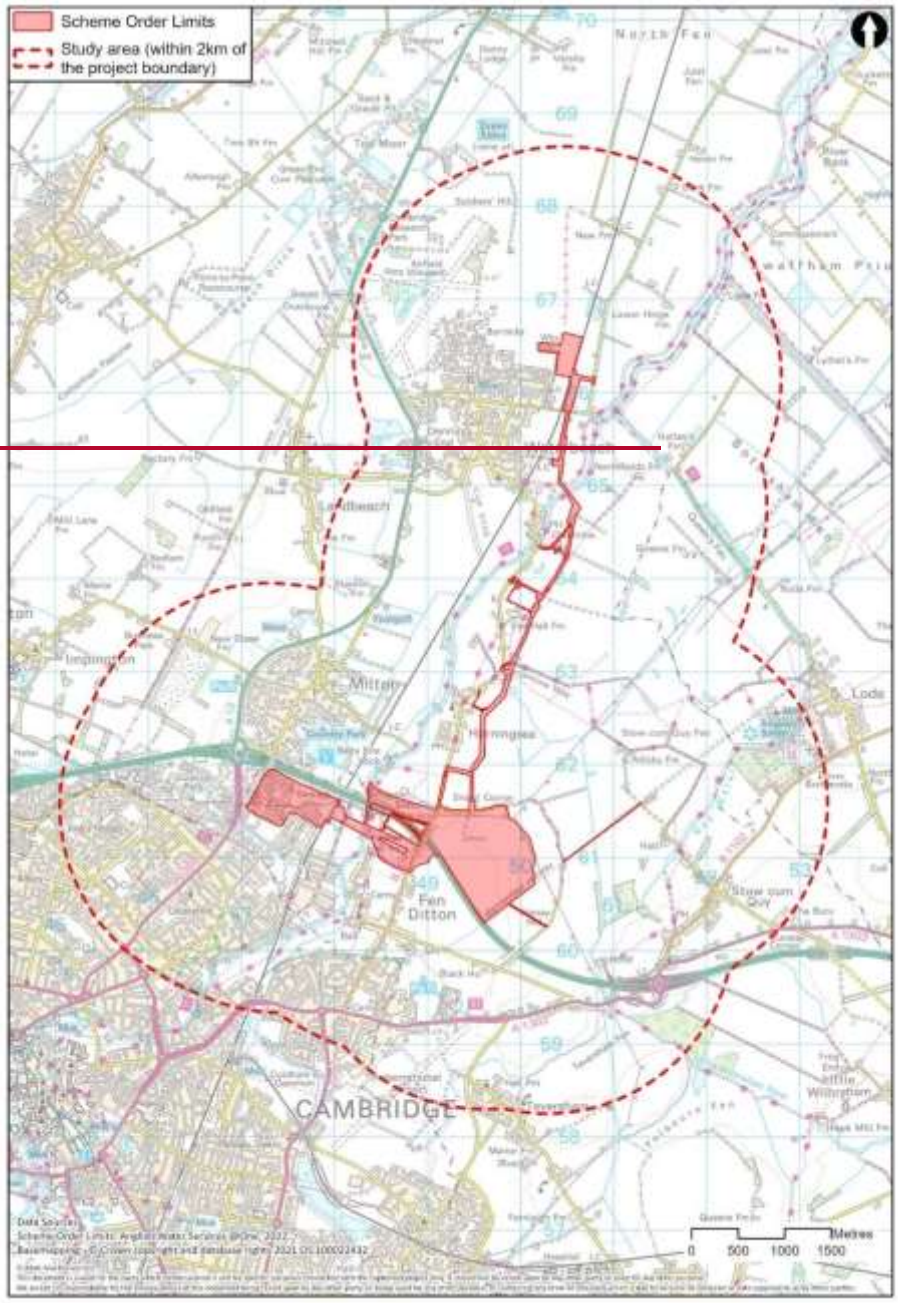
for both embedded (primary) mitigation, best practice and measures secured by legal requirements (tertiary mitigation), and after the application of further mitigation measures (secondary mitigation). Effects after mitigation are referred to as 'residual effects'.

2.4 Study area

2.4.1 The maximum area of land required for the construction, operation, and maintenance of the Proposed Development and decommissioning of the existing Cambridge WWTP, including land required for permanent and temporary purposes, is within the Scheme Order Limits. The study area includes the area within 2km of the Scheme Order Limits. This is the area within which there could potentially be landscape and visual effects. In practice, effects are likely to be contained by

intervening vegetation, variations in the local landform and existing development to a smaller area, especially along the pipeline routes. The extent of the study area was determined by digitally mapping the zone of theoretical visibility (ZTV) of the proposed WWTP (the most prominent element of the Proposed Development) and by site survey. The study area was extended in a small number of places to include more distant locations, such as Ely Cathedral, where there was a potential for longer views. Figures showing the ZTV in Year 1 of operation (Figure 15.1 Book of Figures – Landscape and Visual Amenity, App Doc Ref 5.3.15) and Year 15 of operation, assuming all landscape mitigation is taken into account (Book of Figures – Landscape and Visual Amenity, App Doc Ref 5.3.15), are provided in Volume 5.3 of the ES. A figure illustrating the location of representative viewpoints (Book of Figures – Landscape and Visual Amenity, App Doc Ref 5.3.15) is provided in Volume 5.3 of the ES.

2.4.2 The full extent of the study area and Scheme Order Limits is shown on the map on Figure 2.1 below.


Scheme Order Limits
Study area (within 2km of the project boundary)
Mitton
Fen Ditton
CAMBRIDGE
Lode
Metres
0 500 1000 1500

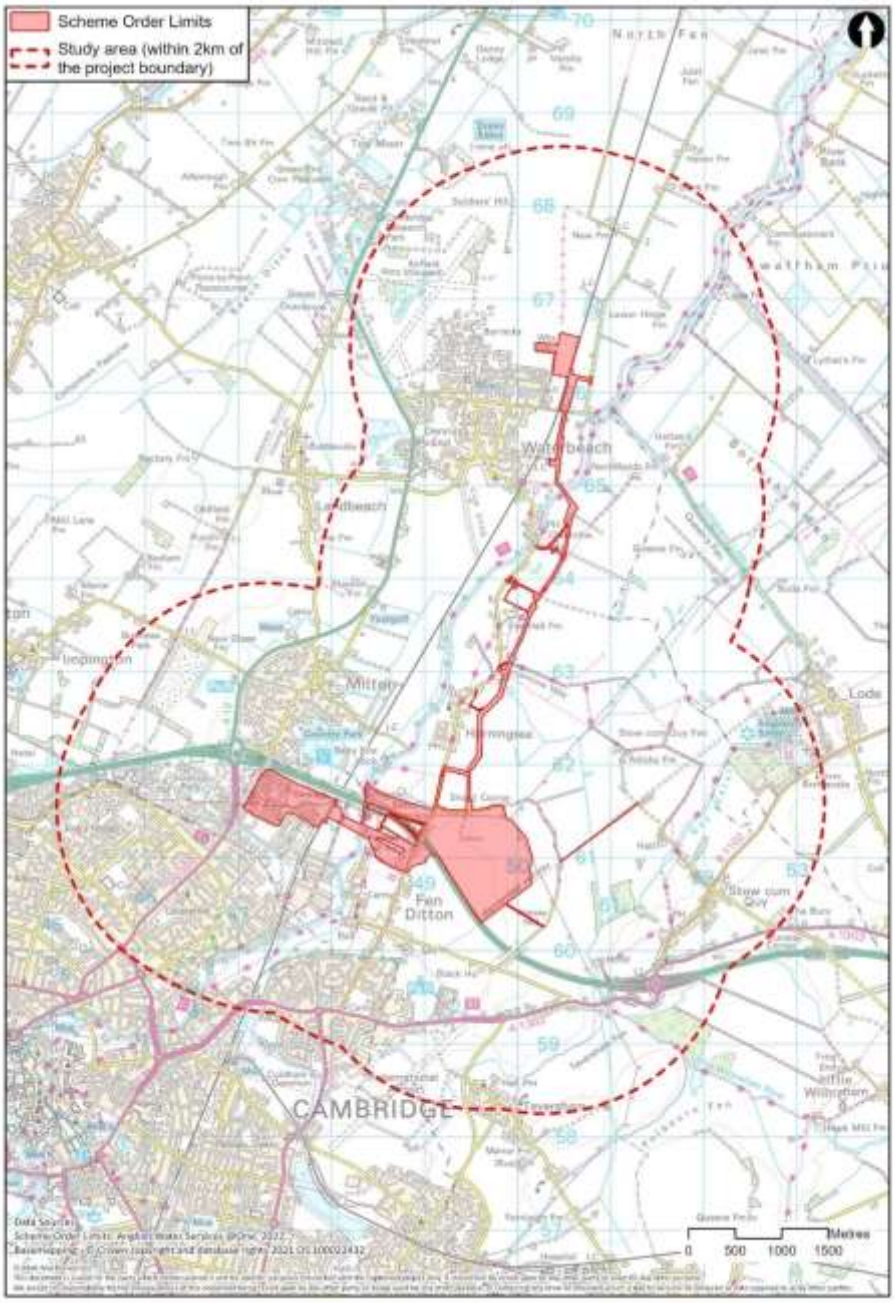


Figure 2.1: The Scheme Order Limits and landscape and visual amenity study area

2.5 Temporal scope of the assessment

Construction

2.5.1 The assessment years for construction include the entire construction period of 45 months. However, the impacts resulting from the removal of trees and hedgerows during construction are assessed under operational effects as these will continue after the end of construction until the replacement planting, where feasible, has become established and its contribution to landscape character and visual amenity restored.

2.5.2 The construction phase assessment is within year 1 and year 4 of construction (assumed to be 2024-2028).

Operation and maintenance

2.5.3 The assessment years for operation are year 1, when the Proposed Development is complete and fully operational, and year 15, when the planting of the landscape masterplan and along the routes of the pipelines is established and providing a positive contribution to the landscape character and visual amenity of the study area.

Duration of effects

2.5.4 Timescales associated with these effects, regardless of phase are as follows:

- Short-term – endures for up to 12 months after construction or decommissioning;
- Medium-term – endures for 1-5 years;
- Long-term – endures for 5-15 years; and
- Permanent – endures for more than 15 years and/or effects which cannot be reversed.

2.6 Baseline study

Desktop data

2.6.1 Baseline information within the landscape and visual amenity study area was collected through a detailed desktop review of existing studies and datasets. These are summarised in Table 2-4 below.

2.6.2 PRoW, the Green Belt, a registered park and garden, conservation areas and designated historical and ecological features which contribute to landscape character are shown on the Designated Landscape, Ecological and Heritage Features and PRoW map, Figure 15.3 Book of Figures – Landscape and Visual Amenity (App Doc Ref 5.3.15).

Table 2-4: Baseline data reviewed

Item or feature	Year	Source
National Character Area profiles	2014	Natural England
Landscape character area descriptions	2021	Greater Cambridge Landscape Character Assessment
Green Infrastructure Opportunity Mapping	2021	Greater Cambridge Green Infrastructure Opportunity Mapping report
Aerial photography	2022	Google Earth
Mapping	2021	Ordnance Survey

Surveys

2.6.3 In addition to the desk top review, summer and winter baseline surveys were completed to verify the findings of the review and the ZTV mapping and to take photographs to illustrate the assessment.

2.6.4 The photographs are provided within the appendices to this chapter (Appendix 15.2, App Doc Ref 5.4.15.2). Table 2-5 details the landscape and visual surveys completed in relation to the Proposed Development.

Table 2-5: Surveys

Landscape and visual survey	Date	Location
Winter baseline survey (deciduous vegetation not in leaf)	March and December 2021	Study area
Summer baseline survey (deciduous vegetation in leaf)	September and October 2021 May 2022	Study area
Photography	March, September, October and December 2021 January and May 2022	Study area

2.7 Maximum design envelope (Rochdale) parameters for assessment

2.7.1 The design parameters and assumptions presented are in line with the 'maximum design envelope' approach (base scheme design) as described in the introductory chapters of the ES (Chapter 2: Project Description and Chapter 5: EIA Methodology). For each element of this chapter the maximum design envelope parameters detailed within Table 2-6 have been selected as those having the potential to result in the greatest effect on an identified receptor or receptor group.

The assessment parameters are based on the design of the proposed WWTP and access, transfer tunnel route and outfall location, Waterbeach Pipeline route and connections within the Existing Cambridge WWTP as described in Chapter 2: Project Description (App Doc Ref 5.2.2). The assessment considers a realistic maximum design envelope based on the maximum scale of the elements and as a result no greater significant effects than those assessed are likely.

Table 2-6: Maximum design envelope for the landscape and visual amenity assessment

Potential impact	Maximum design scenario	Justification
Construction		
Introduction of construction compounds, fencing, hoardings, hard surfacing, office accommodation and construction machinery affecting landscape character and views over the rural landscape. As illustrated on the General Arrangement Plans (App Doc Ref 4.2)	Construction compounds, site offices, machinery, fencing, hoardings, hard surfacing, materials stockpiles, cranes and earthworks will be present within the land required for the construction of the proposed WWTP and implementation of the landscape design will be required for up to 39 months. Construction compounds, machinery, welfare units, lighting, and fencing along proposed WWTP corridor will be required for up to 14 months. The construction compound, machinery, cranes, and hoardings at Shaft 4 will be required for up to 24 months (active for three months during shaft construction and then again for the removal of equipment over the course of four to five days). The site will remain fenced, secure and unlit when not in use. The construction compound, machinery, cranes, and fencing at Shaft 5 will be required for up to 24 months. The construction compound, hoarding and equipment at the outfall/final effluent compound will be required for up to 12 months.	Represents the most adverse change in landscape character and views in the study area during construction.
Earthworks and tunnel excavation through farmland affecting landscape character and views over the rural landscape. As illustrated on the General Arrangement Plans (App Doc Ref 4.2.0). Six shafts will be required for the construction of the waste water transfer tunnel between the Existing	Cambridge WWTP and proposed WWTP for 24 months. The construction of the Waterbeach Pipeline will affect a corridor of land between the Existing Cambridge WWTP and the Waterbeach water recycling centre. Soil stripping, open cut trenches, drill pits and materials stockpiles will be required along the Waterbeach Pipeline corridor for up to 14 months. Laydown areas, a maximum of 20m x 80m, will be required along the route approximately every 1km to store sections of the pipeline whilst the construction takes place. Open cut trenches and materials stockpiles along the treated effluent pipeline corridor between the Existing Cambridge WWTP and the River Cam will be required for up to 12 months.	Represents the most adverse change in landscape character and views in the study area during construction.

Potential impact	Maximum design scenario	Justification
Temporary introduction of lighting into unlit rural landscape, affecting landscape character and visual amenity.	The lighting strategy is described in the Lighting Design Strategy (Appendix 2.5, App Doc Ref 5.4.2.5). Lighting will be required during working hours on construction compounds and task lighting will be required along the pipeline routes and at the treated effluent discharge outfall for: • up to 12 months at the construction compound near the outfall; • up to 14 months at the construction compound for Waterbeach pipeline, with 24-hour lighting on horizontal directional drilling sites when work is in progress; • intermittently at Shaft 4 with up to three months during shaft construction, then up to five days for each event to recover the tunnelling equipment; • up to 24 months at the compound at Shaft 5; • up to 39 months at the land required for the construction of the proposed WWTP and completion of the landscaping proposals; and • navigational warning lights will be within the river for up to four months for the construction of the outfall.	Represents the maximum reasonable change in nighttime light levels within the study area during construction.
Temporary PRoW diversion or of gated crossings leading PRoW connectivity	Temporary disruptions for users of PRoW crossed by the construction/works corridor requiring the implementation and use of four-way gated system for the duration of the construction of the pipelines. Maximum disruption of six to 12 months at each PRoW crossing location. Temporary diversion of PRoW 85/6 for up to four months during the construction of the outfall.	Represents the longest introduction duration of disruption for to a reduction of PRoW users.
Construction activity and traffic leading to a reduction in perception of tranquillity, affecting landscape character.	Refer to Chapter 19: Traffic and Transport (App Doc Ref 5.2.19), Table 2.5 for maximum design scenario for vehicle movements.	Represents maximum likely levels of additional noise and activity.
Temporary structures within the River Cam and along PRoW 85/6 to construct the outfall structure affecting	A temporary coffer dam will extend into the river by up to 8m, providing a dry working area. There will be associated warning signs, and lighting. The height of the cofferdam will be set at a height agreed with the Environment Agency,	Represents the most adverse temporary change in landscape character and views in the landscape

Potential impact	Maximum design scenario	Justification
character and visual for 4 months	but it is likely to be 150mm above the adjacent river bank.	River Cam corridor. amenity. The maximum duration will be
Operation Introduction of infrastructure (WWTP) into the rural landscape, affecting landscape character and visual amenity. Tall structures in the proposed WWTP including: Represents the maximum • sludge thickening building	• odour control unit vent stack (16m AFGL); of up to 2m. • filtration plant (10m AFGL) • digesters (21.5m AFGL); • heating, pasteurisation and hydrolysis tanks (15m AFGL); • cake storage barn (9m AFGL); • liquor treatment plant (9m AFGL); • nutrient recovery tower (18m AFGL)	
Introduction of a permanent outfall structure and replacement of grass riverbank with sheet piling on the eastern bank of the River Cam affecting landscape character and visual amenity.	The concrete treated effluent discharge outfall will occupy a stretch of the river bank up to 12m long by 6m wide, with river bank protection either side so that the total length of affected bank will be up to 55mm. The river bank protection will be in the form of rip rap bed protection, below water level and sheet piling. The outfall will be a pre-cast concrete structure and will be designed to ensure it aligns with existing ground levels and will not therefore obstruct Footpath Fen Ditton 85/6. The roof of the outfall chamber will be slightly below existing ground levels and will be covered in soil and seeded with grass seed. The outfall will be accessed via an existing 4m wide track from Biggin Lane.	Represents the most adverse change in landscape character and views in the River Cam corridor.
and blending tank (10m above finished heights of the tallest structures ground level (AFGL)); within in the proposed WWTP taking into account a tolerance	• biogas holder (16m AFGL); • biogas flare stack (15m AFGL); • biogas upgrading plant (12m AFGL); • boiler building (8.5m AFGL); • boiler stack (2m diameter and 24m AFGL); • gateway building (approximately 9m AFGL); and • workshop (approximately 10m AFGL).	

Potential impact	Maximum design scenario	Justification
Introduction of lighting into unlit rural landscape, affecting landscape character and visual amenity. The existing streetlighting on Horningsea Road will be extended north to Low Fen Drove Way by approximately 100m south of the southern A14 on-slip signalised junction. The streetlighting on	Horningsea Road will be to National Highways Standards. The visitor car park (outside the earth bank) will be lit during office hours only from Monday to Friday. Light columns will be up to 5m high. The gateway building will be lit during working hours but light pollution will be mitigated by the installation of blinds or screens over the windows. Within the earth bank, lighting columns along pathways, at building entry points and in the staff car park will be a maximum of 5m high. This lighting will be activated by motion sensors, with 30-minute timers. Task lighting on the proposed WWTP (including on tops of structures) will be used when required. There will be flashing red navigation warning lights on the taller structures including the boiler exhaust stag, biogas bag and digesters. The lighting design	is described in detail in the Lighting Design Strategy (Appendix 2.5, App Doc Ref 5.4.2.5). Represents the maximum reasonable change in light levels within and around the proposed WWTP and on Horningsea Road.
Implementation of the landscape masterplan changing the landscape character and views.	The landscape masterplan within the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14) will be implemented and the planting will be maintained in accordance with the management measures set out in the LERMP. The woodland belts shown on the landscape masterplan, if maintained in accordance with the management measures set out in LERMP, will have reached around 7.5m high and hedgerows will have reached 2.5m high by year 15. However, seasonal drought may result in poor growth and establishment and lower growth rates.	Represents the visibility of the Proposed Development after 15 years when the planting shown on the landscape masterplan and described in the LERMP is sufficiently established to provide a screening and landscape integration function. This will enable the assessment to consider the maximum impacts on landscape and visual amenity.
Increased traffic and activity leading to reduction in perception of tranquillity changing the landscape character.	Refer to Chapter 19: Traffic and transport (App Doc Ref 5.2.19), Table 2.5 for maximum design scenario for vehicle movements.	Represents maximum likely a levels of additional noise and activity generated by traffic movements at the proposed

Potential impact	Maximum design scenario	Justification
		WWTP and their impact on tranquillity.
Removal of vegetation affecting landscape character and visual amenity.	The existing trees and hedgerows to be removed during construction are shown on the Hedgerow Regulations and Tree Preservation Plans (App Doc Ref 4.8.0 – 4.8.10). These plans should be read alongside Schedule 153 (Removal of Hedgerows) of the Draft Development Consent Order (App Doc Ref 2.1) and the Works Plans (App Doc Ref 4.3). All vegetation within the areas required for construction will be removed. Up to 70m of marginal vegetation will be removed from the riverbank in the location of the treated effluent discharge outfall. The area will remain disturbed in the first year as new planting establishes. No trees will be removed for the construction of the Waterbeach Pipeline but crown lifting may be required to facilitate construction. The pipeline corridor through arable farmland and pasture will be evident as a 30m wide strip of disturbed land in the first year after completion. The arable farmland and pasture affected by pipeline corridors and drill pits will be evident as areas of disturbed land in the first year after completion.	Represents maximum vegetation to be removed.

2.8 Impacts scoped out of the assessment

2.8.1 No impacts have been scoped out. The LVIA aims to assess potential impacts and effects on landscape character and visual amenity during construction, operation and decommissioning due to the Proposed Development.

2.9 Mitigation measures adopted as part of the Proposed Development

2.9.1 This section refers to the mitigation types, as defined in Section 1.5 of Chapter 5: EIA Methodology (App Doc Ref 5.2.5), and how they apply to the assessment of impacts on landscape and visual amenity.

2.9.2 In developing the Proposed Development through an iterative process including consultation and engagement with consultees, and through the Environmental Impact Assessment, (EIA) the Applicant has sought to identify and incorporate suitable measures and mitigation for potentially significant adverse effects, as well as maximising beneficial effects where possible.

2.9.3 Some measures are **'embedded'** in the design of the Proposed Development for which consent is sought by virtue of the scope of the authorised development as set out in Schedule 1 to the DCO and the accompanying Works Plans. These are considered **primary mitigation**. For example, adjustment of Order Limits to avoid sensitive features, amending the sizing and location of temporary access routes and compounds.

2.9.4 Secondary measures may be detailed activities such as the maintenance, management and monitoring of the mitigation planting as described in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14). These secondary measures are differentiated from the good practice measures

2.9.5 Tertiary measures comprise good practice measures (such as measures within Considerate Contractors Scheme) and measures integrated into legal requirements secured through environmental permits and consents (least flexible as either the legislation exists to create the mitigation or does not (i.e. Protected Species Licensing).

2.9.6 Section 1.5 of Chapter 5: EIA Methodology sets out required permits and consents related to the Proposed Development.

2.9.7 Where beneficial effects are voluntarily introduced without the requirement to mitigate an effect, these are termed 'enhancement measures'.

2.9.8 The remainder of this section sets out the embedded measures (primary), legal requirements (tertiary) and additional measures (secondary) relevant to the assessment of impacts on landscape and visual amenity.

Primary (embedded) and tertiary measures

2.9.9 Primary and tertiary mitigation form part of the Proposed Development and therefore, the preliminary assessment of effects takes account of these measures.

2.9.10

2.9.11 Table 2-7 sets out the primary and tertiary mitigation measures that will be adopted during the construction, operation, maintenance and decommissioning of the Proposed Development.

Table 2-7: Primary and tertiary mitigation measures relating to landscape and visual amenity adopted as part of the Proposed Development

Mitigation measures	Type	Applied to	Justification
Construction			
Initial planting is to be carried out during construction. This comprises a hedge with standard trees along part of Low Fen Drove Way (southern side), a woodland belt approximately 7.5m wide along the southern and western boundaries and part of the eastern boundary of the proposed WWTP site and trees planted in gaps between existing trees along the eastern side of Horningsea Road between the proposed WWTP entrance and Horningsea. Replacement of failed planting in existing shelter belt east of Horningsea Road and maintenance of the shelter belt to help establishment of the new planting and improvement of growth rates of the existing planting. The initial planting is shown in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14).	Primary	Low Fen Drove Way, Horningsea Road and the existing shelter belt east of Horningsea Road.	The initial planting will advance the time when the landscape mitigation becomes effective as a screen, reducing impacts on views in the later phases of construction and in operation.
Provision of acoustic screens between Shaft 4 construction compound and Red House Close and Poplar Hall.	Primary	Shaft 4.	Will partially screen views of the compound during construction.
Provision of solid hoardings at the outfall compound.	Primary	Outfall compound.	Will partially screen views of the compound during construction.
Sequencing the construction of the earth bank so that it partially screens the construction of the proposed WWTP.	Primary	Area of land required for the construction of the earth bank.	Will provide screening function in construction.
Operation			
Unlit access road.	Primary	Access road from existing junction with Horningsea Road and the A14 off slip.	To minimise increase of street lighting in an unlit rural location

Mitigation measures	Type	Applied to	Justification
Implementation of the landscape masterplan within the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14) setting out the approach to the landscape design for the proposed WWTP site. The masterplan comprises a circular earth bank up to 5m high, woodland, trees, hedgerows, grassland and sustainable drainage swales. The earth bank will surround the Proposed WWTP and will be made from soils excavated from the footprint of the Proposed WWTP and from the tunnel and pipelines. The earth bank will be made up of four curved landforms, sloping down to ground level at the end of each landform to allow an air gap for ventilation across the Proposed WWTP. The ends of the landforms will overlap, forming oblique gaps in the earth bank. The outside slopes of the bank will be gently sloped and seeded with grass and wildflowers and planted with trees. A hedgerow with groups of standard trees will be planted around the top of the earth bank.	Primary	Site of the proposed WWTP.	To integrate the proposed WWTP into its landscape setting and screen views of the new structures from sensitive receptors in the study area.
Inclusion of all areas of planting as set out in the landscape masterplan. Gently undulating land, resembling ridge and furrow farmland, in the meadow surrounding the earth bank will soften the transition between the bank and the low-lying landscape of the surrounding area. Woodland belts around much of the proposed WWTP perimeter will, when established, provide a screen between the proposed WWTP and the surrounding landscape. The woodland will vary in character with a mosaic of different habitat types including traditional, more densely planted woodland near Horningsea Road and the A14 and lighter, more informal woodland with open glades and rides nearer the proposed WWTP.	Primary	Site of the proposed WWTP.	To integrate the proposed WWTP into its landscape setting and screen views of the new structures from sensitive receptors in the study area.
Provision of a new publicly accessible path across the eastern part of the landscape masterplan and a new bridleway along the existing farm track between Low Fen Drove Way and Station Road.	Primary	Site of the proposed WWTP Section of disused railway line.	To increase recreational opportunities for walkers and horse riders.
Lighting designed and maintained to minimise skyglow, reduce glare and eliminate light spill. Use of task lighting mainly activated by infra-red sensors on the proposed WWTP where possible.	Primary	Site of the proposed WWTP.	To minimise light pollution.

Mitigation measures	Type	Applied to	Justification
Riverbank protection designed to allow damp grassland vegetation to reestablish on land adjacent to the new bank.	Primary	Extent of bank protection along the River Cam either side of the outfall.	Will aid the integration of the outfall into its landscape setting.
Design of materials, colours and finishes for the new structures within the proposed WWTP.	Primary	Structures within the proposed WWTP.	To ensure the proposed WWTP has a well-designed appearance, enabling it to be integrated into its landscape setting and to minimise its visual impacts.
Decommissioning			
No primary or tertiary mitigation measures are proposed	N/A	N/A	No landscape or visual impacts will arise from the decommissioning of the Existing Cambridge WWTP.

Secondary measures

Construction

2.9.12 During the construction phase, the Code of Construction Practice (CoCP): Parts A and B (Appendix 2.1 and 2.2, App Doc Ref 5.4.2.1 and 5.4.2.2), and associated management plans will specify the range of measures to avoid and minimise impacts that may occur in construction. The following section of the CoCP contain measures relevant to landscape and visual amenity:

- Section 5.3 (Site compound set-up) includes measures relating to fencing and boundary protection of compounds, including requirements for temporary fencing or other boundary treatments to be maintained in a tidy condition and be fit for purpose for the duration of construction;
- Section 5.9 (Site Lighting) includes measures in relation to temporary lighting in construction, a requirement to comply with The Institution of Lighting Professionals: Guidance Note 1 for the reduction of obtrusive light 2021 and implementation of a lighting strategy during the construction period;
- Section 5.13 (River Work) covers work to the River Cam which are located within the Baits Bite Lock Conservation Area;
- Section 5.14 (Other Watercourse/Drainage Channels) covers work to other watercourses and drains and includes measures related to reinstatement;
- Section 7.2 (Ecology and Nature Conservation) includes a number of measures covering safeguarding of trees and hedgerows and reinstatement, including:
  - a requirement that where feasible working widths for pipeline construction will be reduced and that existing gaps in hedgerows will be used or areas where the hedgerow is weaker;
  - a requirement for reinstatement planting to be undertaken in the first available planting season following construction. Species mixes will match or increase the diversity of species of the existing trees and hedgerows; and
  - a requirement for any planting as part of the Proposed Development that dies or becomes seriously damaged or diseased within five years after completion of construction will be replaced in the first available planting season.
- Section 7.7 (Noise and Vibration) includes measures to reduce/control noise and vibration at the source including switching off equipment between use and the use of engine covers on plant. This will reduce adverse noise impacts and the potential impact additional noise will have on the perception of tranquillity in the landscape.

2.9.13 The Soil Management Plan (Appendix 6.3, App Doc Ref 5.4.6.3) will be implemented which specifies that topsoil will be handled and stored in accordance with BS 3882:2015 – Specification for topsoil. All topsoil removed for construction will be reused on site within the Proposed Development.

2.9.14 The existing trees and hedgerows to be protected during the construction of the Waterbeach Pipeline are shown on the Tree Protection Plans in the proposed WWTP Arboricultural Impact Assessment (Appendix 8.17, App Doc Ref 5.4.8.17). Where trees are to be retained, tree protection areas/exclusion zones will be fenced using an approved fencing system and other measures outlined in the Arboricultural Impact Assessments. The existing trees and hedgerows potentially affected by the construction of the proposed WWTP are shown on the Hedgerow Regulations and Tree Preservation Plans (App Doc Ref 4.8.0 – 4.8.10). These plans should be read alongside Schedule 153 (Removal of Hedgerows) of the Draft Development Consent Order (App Doc Ref 2.1) and the Works Plans (App Doc Ref 4.3).

2.9.15 The LERMP (Appendix 8.14, App Doc Ref 5.4.8.14) describes the activities required to protect existing hedgerows, trees, field ditches to be retained and to ensure the successful establishment and continued growth of the initial planting (shown on the landscape masterplan in the LERMP) which will be carried out during the construction period. ***Operation***

2.9.16 The LERMP (Appendix 8.14, App Doc Ref 5.4.8.14) describes the activities required to ensure the successful establishment and continued growth of the planting and the management of the proposed recreational areas shown on the landscape masterplan (in the LERMP) for a period of 30 years following the end of construction. After the granting of the DCO and prior to commencement of the landscape works, an updated management plan would be prepared and agreed with the local authorities.

Decommissioning

2.9.17 Decommissioning of the Existing Cambridge WWTP would be subject to a Decommissioning Management Plan which is to be agreed with the Environment Agency. An Outline Decommissioning Plan (App Doc Ref 5.4.2.3) describes the measures applied to this activity.

2.10 Assumptions and limitations

2.10.1 Access to viewpoints linked to potential visual receptors was restricted to publicly accessible areas and private land where prior access was agreed. Where access to a potential viewpoint was not possible, a survey was undertaken from the nearest accessible location and noted in the assessment. The evaluation of impacts on views from private and/or inaccessible viewpoints was based therefore on the professional judgement of qualified and experienced specialists.

2.10.2 Restrictions arising from the Covid-19 pandemic prevented face to face meetings with stakeholders but meetings were held online. The winter site surveys took place unaffected by Covid restrictions. The summer site surveys were delayed by Covid restrictions in 2021 but took place when deciduous vegetation was still fully in leaf.

3 Baseline Environment

3.1 Current baseline

3.1.1 The baseline conditions for landscape and visual amenity within the study area are described below. The baseline conditions were established through site surveys and the use of aerial photography and Ordnance Survey mapping. They were further informed by the Greater Cambridge Landscape Character Assessment and the Greater Cambridge Green Infrastructure Opportunity Mapping report. **National Landscape Character**

3.1.2 The study area includes parts of three national character areas (NCA) (Natural England, 2014): NCA 88: Bedfordshire and Cambridgeshire Claylands, NCA 87: East Anglian Chalk and NCA 46: The Fens. **Local Landscape Character**

3.1.3 The Cambridge Inner Green Belt Boundary Study (South Cambridgeshire District Council, 2015) and the Greater Cambridge Landscape Character Assessment (Greater Cambridge Partnership, 2021) both evaluated the landscape character of the majority of the study area. The assessments came to broadly similar conclusions on landscape character and they, along with the Greater Cambridge Green Infrastructure Opportunity Mapping report, were used to establish LCAs for the LVIA. There is no up-to-date current published landscape character assessment for the part of the study area within East Cambridgeshire District, so the landscape character of this area has been evaluated for the LVIA by site surveys and the use of mapping and aerial photography. The Cambridge Inner Green Belt Boundary Study also evaluated the townscape character of the city and this has informed the baseline assessment for the urban part of the study area. Figures illustrating the designated landscape, ecological and heritage features and PRoW in the study area (Book of Figures – Landscape and Visual Amenity, App Doc Ref 5.3.15) and the topography of the study area (Figure 15.4, Book of Figures – Landscape and Visual Amenity, App Doc Ref 5.3.15).

The landscape setting of the study area

3.1.4 The Proposed Development will be situated partly in the Green Belt and on arable farmland between Fen Ditton and Waterbeach. This is an open landscape of large fields, separated by low hedgerows, drainage ditches and woodland belts along field boundaries and around settlement edges. The area is flat but slopes gently down towards the River Cam in the west. The A14 detracts from the openness of the landscape where it rises to cross the River Cam but generally it has a fairly discreet presence, being mainly at ground level or in slight cutting. It is lined with trees and scrub for much of its length but passing tall vehicles can be seen above the vegetation. Pylons and powerlines are prominent features of the landscape. The River Cam towpath, Fen Rivers Way, Harcamlow Way and the cycle path along

Horningsea Road provide important recreational walking and cycling routes between Cambridge and the landscape to the north-east.

3.1.5 A figure showing the LCA potentially affected by the Proposed Development in construction and operation (Figure 15.5 Book of Figures – Landscape and Visual Amenity, App Doc Ref 5.3.15). The LCA are listed below:

- Eastern Fen Edge Chalklands LCA;
- Waterbeach-Lode Fen LCA;
- River Cam Corridor LCA;
- Western Fen Edge Claylands LCA;
- North-east Cambridge LCA;
- Cambridge Airport LCA; and
- Little Wilbraham Fen LCA.

3.1.6 The key characteristics and the value of each LCA are summarised in Table 3-1.

Table 3-1: Local landscape character areas

Landscape character area	Description	Value
Eastern Fen Edge Medium Chalklands LCA	An open landscape of low-lying farmland separated by drainage ditches, hawthorn hedges, tree-lined farm tracks and woodland belts. There are distant views of the centre of Cambridge from higher ground in the east of the LCA, but the city is not visible from the study area. Villages with defined, well-vegetated settlement edges are situated above the fen floodplain. They retain their rural setting, with the urban edge meeting farmland in most directions. Church spires and towers are prominent in the landscape. The LCA includes a network of PRoW, including the Harcamlow Way Trail. There is a registered park and garden at Anglesey Abbey (National Trust) which contributes to the value of the landscape and is described in Chapter 13: Historic Environment (App Doc Ref 5.2.13). The A14 severs Cambridge from the landscape to the north and east and overhead power lines are prominent vertical features. The area is relatively tranquil away from the A14 and through roads. The villages are lit at night, but the minor roads in rural areas are not lit and overall, the landscape is relatively dark at night. Skyglow above Cambridge is apparent. Overall, the landscape has a medium value.	
Waterbeach-Lode Fen LCA	A farmed landscape of fields bordered by drainage ditches, low hedgerows and woodland belts. The peaty soils are dark brown, supporting intensive arable agriculture. The landscape has an expansive, open character and the horizon and sky are an important component of panoramic, distant views. Around Quy Fen, there are areas of unploughed wildflower meadow, grazed by cattle. Willows and poplars mark the course of the River Cam and line drainage ditches and ponds. Other settlement is dispersed, with isolated farms situated on slightly higher land and along straight roads or farm tracks. The area is tranquil, with little through traffic, and dark at night. Overall the landscape has a medium value.	Medium
River Cam Corridor LCA	The narrow LCA has a rural and pastoral character, even close to the city centre, and forms a distinctive approach to Cambridge from the north-east, through meadows and commons. The river, lined with willow, poplar and alder, feels secluded along much of its length, but there are frequent views from the river and towpath out over farmland through gaps in the trees. The river has been heavily modified over the years and the sheet piled banks and lock structure at Bait's Bite Lock are characteristic features of the river management system. The LCA is relatively dark at night and is tranquil except where it passes under the A14 and railway line. The towpath is a well-used shared cycle and footpath, with the Fen Rivers Way, on the west bank, linking Cambridge with Ely and the Wash. The LCA is in the conservation area. Overall, the landscape has a medium value.	Medium
Western Fen Edge Claylands LCA	The well-settled rural landscape includes a number of large villages with historic cores on elevated 'islands' above the fens. The village of Waterbeach is situated on slightly higher land on the eastern boundary of the LCA. It has expanded substantially and is continuing to do so, with the Waterbeach New Town development,	Medium

~~Landscape character area~~ Landscape character area	~~Description~~ Description	~~Value~~ Value
	which received planning permission in 2019 (S/0559/17/OL) and 2021 (S/2075/18/OL) and other developments. There are pockets of remnant parkland and orchards, hedgerows and shelterbelts close to villages. The outskirts of Cambridge and the major road network in the south are discordant with the otherwise rural character of the LCA. Overall, the landscape has a medium value.	
North-east Cambridge LCA	The area is dominated by 20th and 21st century suburban housing, with front and rear gardens. Nearer to the city centre, there is more variation in housing age and type. Large-scale commercial, light industrial and office development, including the Cambridge Science Park and the Existing Cambridge WWTP, characterises the area immediately south of the A14 and along the railway corridor. There are a number of redevelopment sites where construction is ongoing in the LCA and cranes are a common skyline feature. Tranquillity is low due to the nearby presence of the airport, extensive road network (including the A14, A1309 and A1310) and the many construction sites. Overall, the landscape has a low value.	Low
Cambridge Airport LCA	The area is largely occupied by the runway, site roads and large sheds associated with the functioning of the airport and other buildings in industrial and commercial use. Most of the buildings have a utilitarian character apart from some of the original terminal buildings which are listed and date from the 1930s. The LCA has an open character with large areas of grassland around the runway and there are expansive views, especially towards the east. Tranquillity is low due to the activity and noise generated by planes and other traffic using the airport and main roads nearby (including the A14, A1309 and A1310) and the many construction sites. Overall, the landscape has a low value.	Low
Little Wilbraham Fen LCA	The LCA is has a secluded character, with areas of fen, open water, woodland and pasture. The Little Wilbraham River passes through the fen and field boundaries are formed by drainage ditches and hedgerows. There are glimpsed views of Little Wilbraham from the PRoW which cross the area. There are few detracting features and the area is tranquil except near the A14, where traffic noise is noticeable. Lighting on the A14/A1303 roundabout and skyglow above Cambridge are sources of light nearby and consequently the area is not wholly dark at night. Overall, the landscape has a medium value.	Medium

Source: Desk based assessment and site survey

The visual amenity of the study area

3.1.7 Views across the study area are predominantly rural in character, with little existing built development visible, but power and transport infrastructure are detracting elements. Tree belts and woodland, which become more frequent around Quy Fen, Stow cum Quy and Lode, limit views across the farmed landscape from much of the PRoW network but longer views of the study area are possible from the farmland north of the A14, where the landscape is more open. There are panoramic views towards the study area from the Little Wilbraham Road which runs along the chalk ridge to the east and south-east. The site of the proposed WWTP, north-east of the A14, is clearly visible from Low Fen Drove Way, B1047 Horningsea Road and the A14. It can also be seen from residential properties on the northern edge of Fen Ditton, from Biggin Abbey House and associated cottages and the PRoW nearby to the west, though many of these views are partially screened by roads or intervening vegetation. Views of the study area from Stow cum Quy, Horningsea and Waterbeach are generally screened or filtered by vegetation growing in gardens and along field boundaries.

Representative viewpoints

3.1.8 For the assessment viewpoints were identified to represent the views of people living, engaged in recreation or travelling in the study area likely to be affected by the Proposed Development. Specific viewpoints were also selected to illustrate effects on key views from landscapes of high visual amenity or to illustrate a particular effect or issue. This follows the approach to visual assessment set out in GLVIA 3. The representative viewpoints were selected in consultation with Greater Cambridge Shared Planning Service, Historic England, the National Trust and Cambridge Past Present and Future. They are listed in Table 3-2, with a description and evaluation of the existing view. The existing view at night is also described for residential receptors but not for recreational or transport receptors as impacts on their views at night are not included in the assessment. A figure illustrating the location of representative viewpoints is provided in the ES (Figure 15.6 Book of Figures – Landscape and Visual Amenity, App Doc Ref 5.3.15). Photographs illustrating the existing view from the representative viewpoints in winter and summer are provided in the ES (Appendix 15.2, App Doc Ref 5.4.15.2).

Table 3-2: Representative viewpoints

Viewpoint	Visual receptor	Description of the existing view	View value number
1	Users of Little Wilbraham Road looking west	There are expansive views over open farmland to the west. The A14 crosses the view in cutting and is not visible, but vehicles on the road can be seen moving through the landscape. Pylons are evident north-west in the background above intervening vegetation in Stow cum Quy, Wilbraham Fen and around the elevated junction of the A14 and A1303. The tower of St Mary's, Stow cum Quy breaks the skyline.	Medium
2	Users of Footpath Teversham 229/6 and the PRoW network in and around Little Wilbraham Fen and Teversham Fen looking north-west	There are open views over the fenland landscape and reed lined drainage ditches. Scrub woodland on Little Wilbraham Fen and other intervening vegetation along watercourses screen views of the A1303 and A14. Apart from pylons visible above the trees, there are no detracting elements in the view.	Medium
3	Residents of Church Road and Orchard Street, Stow cum Quy looking west	There are open views across large arable fields. Quy Mill can be seen amongst the trees and traffic is visible on the A14 passing under the Low Fen Drove Way overbridge beyond. Residential properties in Fen Ditton are discernible beyond the A14. A powerline crosses the view. Night-time views from	Medium
4	Users of Footpath Stow cum Quy 218/2 (Harcamlow Way) and guests at the Quy Mill Hotel looking north-west	There are open views across large arable fields, framed by woodland belts at Quy Mill and along Black Ditch. A group of pylons, where three powerlines meet, is prominent on the skyline above intervening vegetation. Night-time views from residential properties on the western boundary of the village are over unlit farmland, but streetlighting in Fen Ditton and Cambridge lights the background. Skyglow is evident in the night sky above Cambridge.	Medium
5	Residents on Newmarket Road around Quy Waters looking north-west	Vegetation growing along the boundary between the flat, arable field in the foreground and the A14 partially screens vehicles using the road. The wooded embankments of the Low Fen Drove Way overbridge limit views north-west. A powerline and pylons cross the view north, beyond the A14. Night-time views from residential properties are over unlit farmland but skyglow is evident in the night sky above Milton and Horningsea.	Medium
6	Users of Byway Fen Ditton 85/14 and Low	There are expansive views north-west from the bridge over the A14 over a flat landscape of arable fields, divided by trees belts and hedgerows. A line of trees and shrubs crossing the view marks the route of the dismantled railway line and a power line and pylons cross the view. The A14 and vehicles using the road detract from the rural character of the view. Views west from ground level	Medium

		residential properties on the western boundary of the village are over unlit farmland, but streetlighting in Fen Ditton and Cambridge lights the background. Skyglow is evident in the night sky above Cambridge.	vehicles using the road. The wooded embankments of the Low Fen Drove Way overbridge limit views north-east and vegetation growing along the dismantled railway line limits views north-west. A powerline and pylons cross the view north, beyond the A14. Night-time views from residential properties are over unlit farmland but the headlights of passing vehicles on the A14 are apparent. Streetlighting in Fen Ditton and Cambridge lights the background and skyglow is evident in the night sky above Cambridge.
Viewpoint number	**Visual receptor**	**Description of the existing view**	**View value**
	Fen Drove Way looking west and north-west	are less open, due to the presence of filtering and screening vegetation bordering field boundaries, the dismantled railway and the road.	
7	Residents of Orchard House, Black House and Hardwick House on High Ditch Road, Fen Ditton looking north Vegetation growing along the boundary between the flat, arable field in the foreground and the A14 Medium partially screens		
8	Future residents of the Marleigh Development (under construction) looking north	The viewpoint is on a construction site and therefore it has not been possible to take a photograph illustrating the existing view. A mature tree belt, approximately 40m wide, screens views north from the development. Views from the properties on the northern boundary of the Proposed Development will be of dark woodland, but the development will be lit with streetlighting and skyglow above Cambridge will lighten the night sky.	Medium
9	Users of High Ditch Road looking north	An elevated view of flat arable fields from the bridge over the dismantled railway line is framed by vegetation lining the road. The roofs of a garden centre in Horningsea can be seen amongst vegetation growing in and around the village, but the village itself is largely screened. A group of pylons, where three powerlines meet, is prominent on the skyline above intervening vegetation.	Medium
10	Residents of High Ditch Road, Fen Ditton looking north-east	Traffic on the A14 can be seen beyond flat arable fields in the foreground. A group of pylons, where three powerlines meet, is prominent on the skyline above intervening vegetation. Views at night are over unlit farmland but the headlights of moving vehicles on the A14 are apparent where the road is visible.	Medium

11	Residents on the B1047 Horningsea Road and Musgrave Way, Fen Ditton looking north and north-east	There are expansive views over flat arable fields from a small number of properties where there is Medium little boundary vegetation, but most views north-east are screened by vegetation growing around property boundaries and along the A14. The wooded embankments of the Horningsea Road bridge over the A14 limit views north, but a powerline and pylons cross the view north-east, beyond the A14. Views at night are over unlit farmland but the headlights of moving vehicles on the A14 are apparent where the road is visible.	

Viewpoint number	Visual receptor	Description of the existing view	View value
12	Users of the A14 looking north	The view west is dominated by the A14 in the foreground, but there are wide views north over large, flat arable fields, partially screened by a hedgerow along the road. Hedgerows and belts of vegetation largely screen Horningsea from view.	Low
16	Visitors to Anglesey Abbey Registered Park and Garden looking south-west	A narrow view of farmland from the main avenue of the Anglesey Abbey registered park and garden is framed by mature trees growing around the perimeter of the garden. There are no detracting features in the view.	High
17	Users of Low Fen Drove Way and residents at Parsonage Farm looking south	There are wide views over large arable fields divided by low hedgerows. A power line and a group of pylons are prominent in the view. Vehicles on the A14 can be seen in the background. Views at night are over unlit farmland but streetlighting in Fen Ditton is visible beyond and skyglow above Cambridge lightens the night sky.	Medium
18	Users of Horningsea Road (from the A14 bridge) looking east	There are elevated and wide views over the rural landscape, beyond the A14 in the foreground.	Low

19	Residents of Green End and Footpath Fen Ditton 85/3 looking north-east	There are open views from a stretch of the PRoW over an arable field towards Horningsea Road where houses lining the road are visible, partially screened by trees growing along the road verges. Views north-east from Green End and Fen Ditton Recreation Ground are filtered by boundary vegetation and partially screened by the houses along Horningsea Road. the Night-time views are over unlit farmland, but there is streetlighting in Fen Ditton and skyglow above Cambridge lightens the night sky.	Medium
13	Residents in Gate House on Low Fen Drove Way looking west	Views over open farmland are framed by vegetation growing along the dismantled railway line and Low Fen Drove Way. Powerlines and pylons are prominent features of the view above intervening hedgerows. Views at night are over unlit farmland.	Medium
14	Residents of Station Road, Stow cum Quy and Quy Hall looking southwest	There are wide views over large arable fields either side of the private roads to Allicky Farm and to Low Fen Drove Way (along the route of the dismantled railway line). A group of pylons is prominent on the skyline above intervening vegetation. Views at night are over unlit farmland but skyglow above Cambridge lightens the night sky beyond.	Medium
15	Users of Bridleway Stow cum Quy 218/5 looking west	There are open views over arable farmland towards properties on Station Road, which are partially screened by intervening vegetation. Several powerlines are visible in the background.	Medium

Viewpoint	Visual receptor	Description of the existing view	View value number
20	Residents of Fen Road looking north	Well-grazed paddocks, bordered by dense hedgerows, line both sides of Fen Road. Willows and poplar mark the course of the River Cam but the river itself is screened from view. Pylons can be seen in the background. Night-time views are over unlit farmland and Fen Road is not lit, but there is streetlighting nearby on the Grange Park caravan site and Cambridge Business Park nearby. Skyglow above Cambridge lightens the night sky.	Medium
21	Residents at Northern Bridge Farm looking south	There are views of well-grazed paddocks, bordered by dense hedgerows from the garden of the property. Willows and poplar mark the course of the River Cam but the river itself is screened from view. Night-time views are over unlit farmland and Fen Road is not lit, but there is streetlighting on the Grange Park caravan site in the background and skyglow above Cambridge lightens the night sky.	Medium
22	Residents of Poplar Hall and Poplar Hall Farmhouse looking south, residents of Red House Close looking north and users of Footpath Fen Ditton 85/6 adjacent looking north and south	Views from Poplar Hall, Poplar Hall Farmhouse and Red House Close over an area of rough pasture, surrounded by trees are partially filtered by intervening vegetation on garden and field boundaries. Willows and poplar mark the course of the River Cam but the river itself is screened from view. The A14 bridge over the river is a prominent and detracting feature in views north from the PRoW. Night-time views are over unlit farmland, but streetlighting in Fen Ditton is evident in the background and skyglow above Cambridge lightens the night sky.	Medium
23	Users of Footpath Milton 162/1 and users of the River Cam looking east	The River Cam occupies the foreground, with the A14 bridge over the river prominent in views south and Biggin Abbey House and associated cottages visible, partially screened by trees in views east. The river has engineered banks on both sides. PRoW follow both sides of the river, with a grass path on the east bank and a gravelled, tree-lined towpath on the west bank. The A14, apart from where it crosses the river, is screened from view by trees and other vegetation growing on the bridge embankments. The bridge, traffic using the bridge and an overhead power line and pylons detract from the view along the river corridor.	Medium
24	Residents at Biggin Abbey House and associated cottages and users of Footpath Fen Ditton 85/8 looking south and east	Foreground views from Biggin Abbey House and associated cottages over arable fields are filtered through trees and shrubs growing around the properties. The land rises towards the Horningsea Road, east of the viewpoint and traffic using the road can be seen crossing the view. Beyond is open farmland, with a windfarm apparent in distant views. The avenue lining the approach to Horningsea Road is a distinctive feature of the view. To the south, traffic on the A14 and east-bound slip road is visible through gaps in roadside vegetation and a power line and pylons crossing the field detract	Medium

Viewpoint number	Visual receptor	Description of the existing view	View value
		from the view. The A14 bridge over the river is a prominent and detracting feature in views from the PRoW and visible in oblique, filtered views from Biggin Abbey House and associated cottages. Nighttime views are over unlit farmland.	
25	Users of shared foot/cycle path along Horningsea Road looking south-east	There are expansive, open views over arable farmland towards the east and south-east. Traffic on the A14 is visible in the background, between gaps in the roadside vegetation in the south. Two overhead power lines and a series of pylons crossing the landscape detract from the view. Wind turbines on higher ground near Balsham are visible above the wooded background.	Medium
26	Users of Footpath Horningsea 130/1, Footpath Horningsea130/2 and Footpath Fen Ditton 85/7 (Harcamlow Way and Fen Rivers Way) (near Biggin Abbey) looking south-east	There are open views over arable fields rising towards the slightly elevated and tree-lined Horningsea Road and the farmland beyond. The avenue lining the approach to Biggin Abbey House and associated cottages filters views of the A14 east-bound slip road. A power line and pylons crossing the field detract from the view.	Medium
27	Users of Footpath Milton 162/1 (Fen Rivers Way/Haling Way along the River Cam and residential properties around Baits Bite Lock looking south-east	Vegetation growing around Biggin Abbey House and along farmland watercourses frame and filter views east from the towpath over the river and adjacent farmland. Pylons crossing the landscape are visible above the tree-lined approach to Biggin Abbey House. The drainage structures at Baits Bite Lock are a prominent feature of the view south from the towpath. Night-time views are over the River Cam and unlit farmland.	Medium
28	Residents of High St, Horningsea looking south	Views from residential properties in Horningsea towards the open farmland south of the village are screened and filtered by vegetation growing along property boundaries. Most views east from residential properties are screened by trees and woodland in or bordering gardens, but there are open views from a small number of properties over arable fields, separated by low hedgerows and ditches. Night-time views are over unlit farmland but skyglow above Cambridge lightens the night sky.	Medium

Viewpoint number	Visual receptor	Description of the existing view	View value
29	Residents of Clayhithe and visitors to Gayton Farm looking south	Views of the landscape to the east from residential properties on Clayhithe Road are partially screened by vegetation and buildings in gardens, but there are more expansive views from upper floor windows, the Gayton Farm Campsite and the adjacent paddock of arable fields beyond. Campsite Pollarded willows partially screen a raised farm reservoir close to the paddock. Two power lines and and east pylons, partially screened by tree belts, cross the background. Night-time views are over unlit farmland but skyglow above Cambridge lightens the night sky.	Medium Road, Horningsea
30	Users of Footpath Horningsea 130/5 and Footpath Horningsea 130/6 and Bridleway Horningsea 130/8 (Harcamlow Way) looking west and south (PRoW crosses the Waterbeach Pipeline route)	There are expansive views from the PRoW over large arable fields, separated by drainage ditches. Moving traffic on the A14 is visible in the distance in long views south. A raised farm reservoir screens views of Horningsea to the south-west and tree belts screen traffic on Clayhithe Road in the west.	Medium
31	Residents of Allicky Farm users of Bridleway 218/5 looking south-west	The foreground view from the bridleway is of a large arable field, framed by ivy-clad hedgerows. Belts of deciduous trees screen views south-west. A power line crosses the view and the top of a pylon is discernible behind the tree belts. Night-time views are over unlit farmland but skyglow above Cambridge lightens the night sky.	Medium and Stow cum Quy
32	Visitors to Quy Fen and Footpath Stow cum Quy 218/8 looking southwest	The view is over a meadow which forms part of Quy Fen and the Quy Fen SSSI. Two power line cross the view west and the pylons are a prominent and detracting vertical feature in the landscape. They are screened by tree belts in views south-west.	Medium
33	Users of Footpath Horningsea 130/10 (PRoW crosses the Waterbeach Pipeline route) and residents at Eye Hall Farm and Mulberry House Farm looking east	There are expansive views from the PRoW over large arable fields, separated by drainage ditches. The large barns of Clayhithe Farm can be seen in the distance looking north. Views from Eye Hall Farm and Mulberry House Farm looking east over the open farmland are partially screened by intervening	Medium

Viewpoint	Visual receptor	Description of the existing view	View value number
		buildings or filtered by intervening vegetation. The background of the view is wooded, with tree belts layered along field boundaries, drainage ditches and water bodies. Night-time views are over unlit farmland.	
34	Residents of Clayhithe Road, Clayhithe looking east	The view from Clayhithe Road looking east looks over the road in the foreground towards a paddock and tree-lined garden. A narrow lane leads to open farmland, just visible in the background. Nighttime views are over unlit farmland.	Medium
35	Users of the Cambridge Motorboat Club and Cam Sailing Club and users of Footpath Horningsea 130/12 and Footpath Horningsea 130/13 looking east	The view east from Footpath Horningsea 130/13, on the bank of the River Cam and framed by willow, is over open arable farmland. The background is tree-lined and Northfields Farm Cottages are just discernible amongst the trees.	Medium
36	Residents at Northfields Farm and Northfields Farm Cottages looking south-west	Views from the farm track are over open, arable farmland. There are long views to the south between gaps in tree belts, where pylons can be discerned breaking the skyline. Views from Northfields Farm Cottages and Northfields Farm over the landscape are filtered through intervening vegetation. Night-time views are over unlit farmland.	Medium
37	Residents in Burgess Road looking east and users of Bridleway Waterbeach 247/10 looking east	The view is over a series of small paddocks surrounded by tall hedgerows and willow. Arable farmland is visible at the end of the farm track. Night-time views are over unlit farmland.	Medium
38	Residents close to Bottisham Lock and Bannold Road looking west	There are wide, open views of arable farmland, separated by drainage ditches. Pollarded willows line watercourses and roads and powerlines on wooden poles cross the landscape. Houses on the eastern boundary of Waterbeach and the railway line are visible in the background partially screened by garden and farmland vegetation. Night-time views are over unlit farmland but streetlighting in Waterbeach lightens the background.	Medium
39	Residents in Capper Road looking north-east	The Waterbeach WRC is visible in filtered views beyond a large arable field from residential properties on Capper Road. Night-time views are over unlit farmland.	Medium
40	Users of Byway Waterbeach 247/14 looking south	There are open views from Byway Waterbeach 247/14 which follows a wide track between drainage ditches. Large arable fields are bordered by the edge of Waterbeach and the Waterbeach WRC to the south-west and the railway line to the south-east. Both are partially screened by vegetation growing on property and field boundaries.	Medium

Viewpoint number	Visual receptor	Description of the existing view	View value
41	Visitors to Ely Cathedral (the Octagon Tower) looking south	Views from the west tower are of the Bishop's Palace and monastic buildings and gardens of the cathedral in the foreground. A band of modern development separates the historic core from the flat farmland of the fenlands beyond. The tower of the University Library in Cambridge is just discernible on the skyline on clear days.	High

Source: Desk based assessment, ZTV, site survey and Technical Working Groups

3.2 Future baseline

3.2.1 The methodology relating to the project's approach to future baseline is presented in Chapter 5: EIA Methodology (Future Baseline) alongside a list of proposed developments that, at this time, are expected to fall into this category. As such, these developments form part of the baseline for assessment within this ES chapter.

3.2.2 The existing landscape character of the study area is considered stable and will be used as the basis of assessment of potential impacts arising during construction and operation of the Proposed Development. A housing development is currently under construction south of the A14 (Marleigh Development). It will increase the area of developed land in the Eastern Fen Edge LCA, but the site is well screened from the wider landscape and Fen Ditton by woodland belts and is not therefore anticipated to substantially alter the existing landscape or visual baseline. The Waterbeach New Town East development planning application was given outline planning permission in January 2021. It includes a substantial new area of housing and community space north of Waterbeach which includes part of the Waterbeach Pipeline corridor. Waterbeach Station will be moved to this area as part of the development. The Waterbeach New Town East development is not anticipated to substantially alter the existing landscape character baseline.

3.2.3 New visual receptors will potentially arise from the following developments:

- residential receptors on the Marleigh Development (S/2682/13/OL) – a viewpoint has been included at scoping stage and is located on an existing PRoW which passes through the site;
- residential receptors in Waterbeach New Town East (S/2075/18/OL); and
- residential receptors at Parsonage Farm (22/00343/PRIOR). **Impacts of climate change on future baseline**

3.2.4 The impacts of climate change on the future landscape and visual baseline are described in Chapter 9: Climate Resilience (App Doc Ref 5.2.9).

4 Assessment of Effects

4.1.1 The section presents the assessment of effects and sets out a preliminary assessment that takes into account primary and tertiary mitigation in determining effects and then considers secondary mitigation and the assessment of residual effects.

4.2 Construction phase

4.2.1 The potential environmental impacts on landscape and visual amenity from the construction of the Proposed Development relate to the maximum design scenarios defined in Table 2-6. These are the assumptions (maximum parameters) for the purposes of the landscape and visual impact assessment against which each impact has been assessed.

4.2.2 The Proposed Development will take up to 49 months to construct, but some elements of the Proposed Development, such as the Waterbeach pipeline, final effluent pipeline and outfall and transfer tunnel will be constructed over a shorter period of time. Most construction effects will therefore be experienced over the medium term.

4.2.3 The construction assessment first takes into account primary and tertiary mitigation measures only and assesses the significance of the effect of the Proposed Development. The assessment then assess the impacts taking into account secondary mitigation measures which could further reduce or enhance the impacts of construction on landscape character and visual amenity, and whether these then alter the significance of effect on a receptor.

Proposed WWTP, associated transfer tunnel and outfall arrangements

4.2.4 This section sets out the assessment of effects in relation to the construction of the proposed WWTP (including the landscape proposals), treated effluent pipeline, outfall, transfer tunnel and new access road connecting with the B1047 Horningsea Road. The Proposed Development is described in Chapter 2: Project Description (App Doc Ref 5.2.2).

Landscape character

4.2.5 The landscape around the site of the proposed WWTP, treated effluent pipeline and outfall, transfer tunnel, and new junction with Horningsea Road is almost flat, with a gradual fall in gradient towards the River Cam. Consequently, there will be no elevated views of the construction works, except from the bridges over the A14. Landscape effects will be most apparent in the areas close to the construction site. They will be limited to an area within 2km of the construction boundary due to the screening effect of existing vegetation and built form in the study area.

4.2.6 A description of the potential effect on landscape character caused by each identified impact is set out ~~in **Error!**~~in Table 4-1~~ **Reference source not found**~~.

Table 4-1: Landscape character effects during construction – Proposed WWTP, associated tunnel and outfall arrangements

LCA	Sensitivity	Description of impacts from proposed WWTP , associated tunnel and outfall arrangements	Significance of effect
Eastern Fen Edge Chalklands LCA	Medium	The LCA has a medium susceptibility to change. The area has a predominantly rural character and existing development is mainly in the form of small villages and isolated properties but large-scale infrastructure on the outskirts of Cambridge and the A14 are detracting features. Therefore, the landscape can accommodate change of the scale proposed with some adverse changes to the baseline situation. The medium susceptibility and medium landscape value give the area a medium sensitivity. The Eastern Fen Edge LCA will be affected by the construction of the proposed WWTP , waste water transfer tunnel, treated effluent pipeline and new junction on Horningsea Road. Large-scale construction works requiring earthworks, a temporary road, changes to the junction with Horningsea Road, storage of materials, cranes and other moving machinery and fencing will be introduced into the predominantly rural, open landscape, changing the character of the farmland between Fen Ditton and Horningsea. Open arable fields will be replaced by a large construction site and 30m wide construction corridors along the pipeline routes. There will be a reduction in tranquillity due to the activity generated by construction and vehicle movements. Lighting on the construction compounds and task lighting will introduce lit areas into a predominantly dark landscape. PRoW will remain open or diverted for short periods of time during construction and access to Low Fen Drove Way will be maintained. Existing vegetation along Low Fen Drove Way, the A14, the disused railway line, the outskirts of Cambridge, Quy and Horningsea and north-east of proposed WWTP around Quy Fen will screen the majority of the construction works, associated with the proposed WWTP from the wider landscape, but where they are apparent, they will be conspicuous. The magnitude of change will be major.	Large adverse (significant) development and
River Cam Corridor LCA	Medium	The LCA has a medium susceptibility to change. This is because although the area has secluded, riverine character, it is subject to the typical maintenance operations on the banks and channel required for the management of the river and drainage systems. Therefore, the landscape can accommodate change of the scale proposed with some adverse changes to the baseline situation. The medium susceptibility and medium landscape value give the area a medium sensitivity. The River Cam Corridor LCA will be affected by the construction of the treated effluent pipeline across a field south of Biggin Abbey and of a treated effluent discharge outfall on the eastern bank of the River	Slight adverse (not significant)

LCA	Sensitivity	Description of impacts from proposed WWTP , associated tunnel and outfall arrangements	Significance of effect
		Cam. A small amount of vegetation will be cleared from the riverbank to construct the outfall. Construction will take place close to the A14, where tranquillity is already low and will be screened from most of the LCA by riverside and roadside vegetation. There will be temporary PRoW diversions or a four-way gated system where PRoW cross the construction corridor, fencing and lighting in the hours of darkness during the winter months in working areas. The construction works will be noticeable along a short stretch of the LCA between the A14 bridge and a bend in the river approximately 250m from the bridge but will be largely screened from the wider area by existing vegetation and the elevated A14. The magnitude of change will be minor.	
Waterbeach-Lode Fen LCA	Medium	The LCA has a medium susceptibility to change because while it has a largely rural and open character, powerlines and occasional large, modern sheds in agricultural and commercial use detract from the character of the landscape. Therefore, the landscape can accommodate change of the scale proposed with some adverse changes to the baseline situation. The medium susceptibility and medium landscape value give the area a medium sensitivity. There will be no direct impacts on the Waterbeach-Lode Fen LCA and the construction of the Proposed Development will be largely screened from area by existing intervening vegetation. Cranes and the construction of the taller structures of the WWTP will be apparent in the distance from a small area of the LCA. The magnitude of change will be minor.	Slight adverse (not significant)

Western Fen Edge Claylands LCA	Medium	The LCA has a medium susceptibility to change because although it has a predominantly rural character, there are some large villages in the area and large-scale development and infrastructure on the outskirts of Cambridge and the A14 are discordant elements. The landscape has a moderate ability to accommodate change of the scale proposed with some adverse changes to the baseline situation. The medium susceptibility and medium landscape value give the area a medium sensitivity. There will be no direct impacts on the Western Fen Edge Claylands LCA and the construction of the Proposed Development will be screened from the area by vegetation growing along the River Cam, on the outskirts of settlements and field boundaries. Cranes might be apparent in the distance but cranes are a common feature on the skyline in the surrounding area and have an inconspicuous presence in the landscape. The magnitude of change will be negligible.	Neutral

LCA	Sensitivity	Description of impacts from proposed WWTP , associated tunnel and outfall	Significance of effect
North-east Cambridge LCA	Low	The LCA has a low susceptibility to change because there is extensive ongoing development taking place in the area and the landscape can accommodate change of the scale proposed with limited adverse changes to the baseline situation. The low susceptibility and medium landscape value give the area a low sensitivity. The construction of the Proposed Development will be screened from the north-east Cambridge LCA by existing vegetation growing around the site of the Existing Cambridge WWTP, along the A14 and on the outskirts of the city. The works within the Existing Cambridge WWTP and on the waste water transfer tunnel and associated vent shaft will not be apparent in the wider area. Cranes might be apparent in the distance but cranes are a common feature on the skyline in the LCA and have an inconspicuous presence in the landscape. The magnitude of change will be negligible.	Neutral

Cambridge Airport LCA	Low	The LCA has a low susceptibility to change because there is extensive ongoing development taking place in the nearby area and the landscape can accommodate change of the scale proposed with limited adverse changes to the baseline situation. The low susceptibility and low landscape value give the area a low sensitivity. There will be no direct impacts on the Cambridge Airport LCA and the construction of the Proposed Development will be screened from the LCA by existing intervening vegetation and built development. Cranes might be apparent in the distance but cranes on the skyline are a common feature in the area and have an inconspicuous presence in the landscape. The magnitude of change will be negligible.	Neutral
Little Wilbraham Fen LCA	Medium	The LCA has a medium susceptibility to change because it has a largely rural and secluded character, despite the detracting influence of the A14 and A1303 on the character of the landscape. Therefore, the landscape can accommodate change of the scale proposed with some adverse changes to the baseline situation. The medium susceptibility and medium landscape value give the area a medium sensitivity. There will be no direct impacts on the Little Wilbraham Fen LCA and the construction of the Proposed Development will be screened from area by existing intervening vegetation. Cranes might be apparent in the distance but cranes on the skyline are a common feature in the area and have an inconspicuous presence in the landscape. The magnitude of change will be negligible.	Neutral

Visual amenity

4.2.7 There will be clear, filtered and partially screened views of construction of the proposed WWTP, transfer tunnel, treated effluent pipeline and discharge outfall and new access road from Fen Ditton, Biggin Abbey House and associated cottages, the River Cam, PRoW in the surrounding area, the A14, High Ditch Road, Low Fen Drove Way and Horningsea Road. Existing belts of woodland, trees and vegetation in the landscape and bordering the A14, the River Cam corridors and the dismantled railway line (south-east of the proposed WWTP) will screen the majority of the construction works from more distant locations, including Stow cum Quy, Little Wilbraham Fen, Anglesey Abbey, Little Wilbraham Road and Cambridge, Cranes and the construction of the taller structures of the WWTP will, where visible from these areas, break the skyline.

4.2.8 A description of the potential effects on visual amenity caused by each identified impact during the day and on the visual amenity of residential receptors by night is set out in Table 4-2. The distances stated in Table 4-2 are the approximate distances from the elements of the construction work likely to be visible from each viewpoint rather than the construction boundary. This is because works taking place at ground level will be screened from many locations by intervening vegetation and/or variations in the landform and will not therefore contribute to effects on views.

Table 4-2: Visual effects during construction – Proposed WWTP, associated tunnel and outfall arrangements

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts from proposed WWTP, associated tunnel and outfall arrangements	Significance of effect
1	Users of Little Wilbraham Road looking north-west	Medium	People travelling through a rural area, whose attention is partially focussed on the landscape and have medium value views, have a medium sensitivity to a change in their visual amenity. Cranes and the construction of the tallest structures on the proposed WWTP, such as the digesters and boiler stack, will potentially be visible from Little Wilbraham Road, but the majority of the works will be screened from view by intervening vegetation and undulations in the local landform. Due to their distance from the site of the proposed WWTP, (approximately 3.5km), the construction works, if perceptible, will not alter the overall balance of features in the view. The magnitude of change will be negligible.	Slight adverse (not significant)
			Night-time Not assessed (non-residential receptor).	Not assessed
2	Users of Footpath Teversham 229/6 and the PRoW network in and around Little Wilbraham Fen looking north-west	High	People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Cranes and the construction of the tallest structures on the proposed WWTP, such as the digesters and boiler stack, will potentially be visible from Little Wilbraham Fen but the majority of the works will be screened from view by intervening vegetation bordering the A14 and the elevated junction with the A1303. Due to their distance from the site of the proposed WWTP, (approximately 2.2km), the construction works, if perceptible, will not alter the overall balance of features in the view. The magnitude of change will be negligible.	Slight adverse (not significant)
			Night-time Not assessed (non-residential receptor).	Not assessed

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts from proposed WWTP, associated outfall arrangements	Significance of effect
3	Residents of Church Road and Orchard Street, Stow cum Quy looking west	High	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Cranes and the construction of the tallest structures on the proposed WWTP, such as the digesters and boiler stack, will potentially be visible from Stow cum Quy but the majority of the works will be screened from view by intervening woodland and tree belts. Due to their distance from the site of the proposed WWTP, (approximately 1.7km), the construction works, if perceptible, will not alter the overall balance of features in the view. ~~The magnitude of change will be negligible.~~	Slight adverse (not significant)
			Night-time At night, lighting on the proposed WWTP construction compound will be largely screened by intervening buildings and vegetation from Stow cum Quy. Skyglow above the compound will not be noticeable against the lit background created by the urban areas of Cambridge and Milton. The magnitude of change will be negligible.	Slight adverse (not significant)
4	~~Users of Footpath~~ Stow cum Quy 218/2 (Harcamlow Way) and guests at the Quy Mill Hotel	~~High~~	change in their visual amenity. The construction of the upper parts of the proposed WWTP will be apparent in the distance (approximately 1.2km away) from Footpath Stow cum Quy 218/2 and the grounds and upper storeys of Quy Mill hotel. Cranes and emerging structures such as the digesters and boiler stack will be visible above the tree line but the majority of the works will be screened from view by intervening vegetation growing along field boundaries and water courses.	

Representative tunnel and	Visual Significance	Sensitivity	Description of impacts from proposed WWTP, associated	
			People using recreational routes (including PRoW) and hotel guests, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a significant)	Slight adverse (not
	~~looking north-west~~		~~The magnitude of change will be minor.~~	
			Night-time At night, lighting on the proposed WWTP construction compound will be largely screened by intervening buildings and vegetation from Quy Mill hotel. Skyglow above the compound will not be noticeable against the lit background of Cambridge and Milton. The magnitude of change will be negligible.	Slight adverse (not significant)
~~5~~	~~Residents on~~	~~High~~	~~Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity.~~	~~Slight adverse (not significant)~~

Representative tunnel and viewpoint	Visual receptor	Significance of effect	Sensitivity	Description of impacts from proposed WWTP, associated outfall arrangements
	Newmarket Road around Quy Waters looking north-west			Vegetation growing along garden and field boundaries, along the dismantled railway line and bordering the A14 will largely screen views of the construction of the proposed WWTP. Cranes and emerging structures such as the digesters and boiler stack might be visible above the tree line but the majority of the works will be screened by intervening vegetation. The construction works (approximately 1.2km away) will, if perceptible, not alter the overall balance of features in the view. ~~The magnitude of change will be negligible.~~
				Night-time At night, lighting on the proposed WWTP construction compound will be largely screened by intervening buildings and vegetation from residential properties on Newmarket Road. A slight increase in skyglow due to lighting on the compound might be perceptible but will be seen in the context of existing skyglow resulting from streetlighting in Milton and Horningsea. The magnitude of change will be negligible.
				Slight adverse (not significant)
6	Users of Byway Fen Ditton 85/14 and Low Fen Drove Way west and north-west		High	People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction of the proposed WWTP (approximately 500m away) will be a noticeable addition to existing views of farmland and the A14 from the bridge over the road. From here, earthworks, moving machinery, the construction compound and the emerging structures of the WWTP will be clearly visible. From further north along Low Fen Drove Way and the byway, ground level views of the construction works will be screened by intervening vegetation, although cranes and emerging tall structures, such as the digesters and boiler stack, may be apparent above the tree line. The magnitude of change will be moderate.
				Moderate adverse (significant)
				Night-time Not assessed (non-residential receptor).
				Not assessed
7	Residents of Orchard		High	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity.
				Slight adverse (not significant)

Representative tunnel and viewpoint	Visual receptor	Significance of effect	Sensitivity	Description of impacts from proposed WWTP, associated outfall arrangements
	House, Black House and Hardwick House on High Ditch Road, Fen Ditton			Vegetation growing along garden and field boundaries, along the dismantled railway line and bordering the A14 will largely screen views of the construction of the proposed WWTP (approximately 600m away). Cranes and emerging structures such as the digesters and boiler stack will be visible above the tree line. The magnitude of change will be minor. **Night-time** At night, lighting on the proposed WWTP construction compound will be apparent in views filtered through intervening existing vegetation from residential properties on north High Ditch Road. The lit compound will be seen against a dark backdrop of unlit farmland. There will be a slight increase in skyglow above the compound.
		Slight adverse (not significant)		
9	Users of High Ditch Road looking north	Slight adverse (not significant)	Medium	People travelling through a rural area, whose attention is partially focussed on the landscape and have medium value views, have a medium sensitivity to a change in their visual amenity. Vegetation lining High Ditch Road, the A14 and the dismantled railway line will screen

Representative tunnel and	Visual	Significance	Sensitivity	Description of impacts from proposed WWTP, associated	
				many views of the construction of the proposed WWTP from High Ditch Road (approximately 700m away). Cranes and the construction of the taller emerging	
8	Future residents of the Marleigh Development (under construction) looking north		High	The magnitude of change will be minor. Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. An existing mature tree belt, approximately 40m wide, will screen the construction of the proposed WWTP from the new development (approximately 800m away). Cranes may be visible above the tree line but if so, will be inconspicuous, narrow elements in the view. The magnitude of change will be negligible.	Slight adverse (not significant)
				Night-time At night, lighting on the proposed WWTP construction compound will be screened by the intervening mature tree belt from residential properties on the Marleigh development. The magnitude of change will be negligible.	Neutral (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts from proposed WWTP, associated tunnel and outfall arrangements	Significance of effect
			structures such as the digesters and boiler stack will be visible between gaps in the vegetation and above the tree line from the road, but earthworks, vehicle movements and the construction compound will be apparent from the bridge over the dismantled railway line. The magnitude of change will be minor.	
			Night-time Not assessed (non-residential receptor).	Not assessed
10	Residents of Ditton Road, Fen Ditton	High	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Vegetation lining property boundaries and the A14 will screen views of the lower parts of the construction of the proposed WWTP from High Ditch Road (approximately 700m looking away) but cranes and the work on the taller emerging structures such as the digesters north-east and boiler stack will be noticeable additions to existing views over farmland. The magnitude of change will be moderate.	Moderate High Ditch adverse (significant)
			Night-time At night, lighting on the proposed WWTP construction compound will be apparent in views filtered through intervening existing vegetation from residential properties on High Ditch Road. The lit compound will be seen against a dark backdrop of unlit farmland. The magnitude of change will be moderate.	Moderate adverse (significant)
~~11~~	~~Residents on the~~	~~High~~	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity.	Moderate adverse

	B1047 Horningsea Road and Musgrave Way, Fen Ditton		Vegetation lining property boundaries and the A14 will screen the majority of views of the construction of the proposed WWTP from Horningsea Road and Musgrave Way (approximately 450m away) but cranes and the work on the taller emerging structures such as the digesters and boiler stack will be noticeable in oblique views over farmland from a small number of residential properties. The magnitude of change will be moderate.	(significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts from proposed WWTP, associated tunnel and outfall arrangements of effect	Significance
	looking north and north-east		**Night-time** At night, lighting on the proposed WWTP construction compound will be apparent in views partially screened by intervening existing vegetation from residential properties on the northern boundary of Fen Ditton. The lit compound will be seen against a dark backdrop of unlit farmland. The magnitude of change will be moderate.	Moderate adverse (significant)
12	Users of the A14 looking north	Low	People travelling on main roads, whose attention is focussed on their journey and have low value views, have a low sensitivity to a change in their visual amenity. The construction of the proposed WWTP from the A14 (adjacent to the A14) will be a noticeable feature of close, fleeting views from the A14, except where the lower parts of construction are screened by vegetation growing along the road boundary and the dismantled railway line. The magnitude of change will be moderate.	Slight adverse (not significant)
			~~**Night-time**~~ ~~Not assessed (non-residential receptor).~~	~~Not assessed~~
			Night-time Not assessed (non-residential receptor).	Not assessed

13	Residents in Gate House on Low Fen Drove Way looking west	High	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Vegetation lining the dismantled railway line will partially screen the construction of the proposed WWTP from Gate House (approximately 500m away) but earthworks, moving machinery, the site compound and work on the emerging structures will, where visible, be noticeable additions to existing views over farmland. The magnitude of change will be moderate.	Moderate adverse (significant)
			Night-time At night, lighting on the proposed WWTP construction compound will be visible in filtered views from Gate House. The lit compound will be situated in unlit against a backdrop of skyglow from Cambridge and Milton. When the earth bank has been fully constructed, the lighting will be largely screened, but additional skyglow above the compound will be evident. The magnitude of change will be moderate.	Moderate adverse (significant) partially farmland but seen
14	Residents of Station Road, Quy and Quy Hall looking south-west	High	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Vegetation growing along garden and field boundaries will largely screen views of the construction of the proposed WWTP. Cranes and emerging structures such as the digesters and boiler stack will be visible above the tree line. The construction works (approximately 1.4km away) will occupy a small proportion of the view. The magnitude of change will be minor.	Slight adverse (not significant)
			Night-time At night, lighting on the proposed WWTP construction compound will be largely screened by intervening vegetation from residential properties on Station Road and Quy Hall. Skyglow above the compound will not be noticeable in the context of existing skyglow resulting from streetlighting in Cambridge. The magnitude of change will be minor.	Slight adverse (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts from proposed WWTP, associated tunnel and outfall arrangements	Significance of effect

15	Users of Bridleway Stow cum Quy 218/5 looking west	High	People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Tree belts and other vegetation growing along field boundaries will largely screen views of the construction of the proposed WWTP. Cranes and emerging structures such as the digesters and boiler stack might be visible above the tree line but the majority of the works will be screened. The construction works (approximately 1.6km away) will, if visible, occupy a small proportion of the view. The magnitude of change will be negligible.	Slight adverse (not significant)
			Night-time Not assessed (non-residential receptor)	Not assessed
16	Visitors to Anglesey	High	Visitors to places, whose attention is focussed on the landscape and have high value views, have a high sensitivity to a change in their visual amenity.	Neutral (not significant)
Representative viewpoint	**Visual receptor**	**Sensitivity**	**Description of impacts from proposed WWTP, associated tunnel and outfall arrangements**	**Significance of effect**
	Abbey Registered Park and Garden looking south-west		Woodland around the Anglesey Abbey estate boundary will screen views of the construction of the proposed WWTP from the estate. The framed view from the southwestern end of Coronation Avenue (approximately 2.5km away) will not be affected by the Proposed Development in construction because the direction of view is south-east of the proposed WWTP and therefore does not include the construction site. There will be no change to the view.	
			Night-time Not assessed (non-residential receptor).	Not assessed
17	Users of Low Fen Drove Way and Parsonage Farm	High	People using recreational routes (including PRoW) and occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction of the proposed WWTP will result in a substantial change to close views from Low Fen Drove Way. The construction works will take place immediately south of the road and earthworks, moving machinery, site compound and emerging new structures of the Existing Cambridge WWTP	Large adverse (significant)

			will occupy the majority of the view. There looking Drove Way between south will be a temporary construction traffic route along Low Fen Horningsea Road and the construction site until the new entrance has been created off Horningsea Road. The magnitude of change will be major.	
			Night-time At night, lighting on the proposed WWTP construction close to Horningsea Road (approximately 500m away) compound will be clearly apparent from Parsonage Farm. The lit compound will be surrounded by unlit farmland but seen against the background of street lighting in Fen Ditton and skyglow above Cambridge. The magnitude of change will be moderate.	Moderate adverse (significant)
18	Users of Horningsea Road (from the A14 bridge) looking east	Medium landscape and have medium value views, have a medium sensitivity to a change in their visual amenity.	People travelling through a rural area, whose attention is partially focussed on the	Large adverse (significant)
Representative viewpoint	**Visual receptor**	**Sensitivity**	**Description of impacts from proposed WWTP, associated tunnel and outfall arrangements**	**Significance of effect**
			The construction of the proposed WWTP will result in a substantial change to views from Horningsea Road and the bridge over the A14. The construction works will take place immediately east of the road and the earthworks, machinery, site compound and emerging structures of the Existing Cambridge WWTP will be the dominant feature of the view from the road. The magnitude of change will be major.	
			Night-time Not assessed (non-residential receptor).	Not assessed

19	Residents of Green End and users of Footpath Fen Ditton 85/3 looking north-east	High	Occupiers of residential properties and PRoW users, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Vegetation lining property boundaries and the A14 will screen views of the lower parts of the construction of the proposed WWTP from residential properties on Green End (approximately 1km away). Vegetation lining roads and field boundaries will similarly screen views of the lower parts of construction from the PRoW and Fen Ditton Recreation Ground. However, cranes and the construction of the taller emerging structures such as the digesters and boiler stack will be noticeable additions to existing views over farmland. Views of the shaft compounds and the construction of the transfer tunnel by underground horizontal directional drilling and open cut trenching (approximately 190m away) on land north of Field Lane will be largely screened by the intervening vegetation along Field Lane. The magnitude of change will be minor.	Slight adverse (not significant)
			Night-time At night, lighting on the proposed WWTP and transfer tunnel shaft compounds will be largely screened by intervening vegetation from residential properties on Green End. Skyglow above the WWTP compound will be evident. The magnitude of change will be minor.	Slight adverse (not significant)

Representative receptor	Visual Sensitivity	Description of impacts from proposed WWTP, associated tunnel and outfall arrangements	Significance of effect
20	Residents of Fen Road looking north	High	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction works associated with the tunnelling of the transfer tunnel pipeline will be below ground between the Existing Cambridge WWTP and the River Cam. The transfer tunnel shaft compound 4 (approximately 450m away) and the construction works on the proposed WWTP (approximately 1.3km away) will be screened from Fen Road by	Slight adverse (not significant)

			existing intervening vegetation along the River Cam and in Fen Ditton. Cranes might be visible above the vegetation but will be a narrow element in the view. The magnitude of change will be negligible.	
			Night-time At night, lighting on the proposed WWTP and transfer tunnel shaft 4 compounds will be screened by intervening vegetation. The magnitude of change will be negligible.	Slight adverse (not significant)
21	Residents at Northern Bridge Farm south	High	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction works associated with the tunnelling of the transfer tunnel pipeline will looking be below ground between the Existing Cambridge WWTP and the River Cam. The transfer tunnel shaft compound 4 (approximately 300m away) and the construction works on the proposed WWTP (approximately 1.2m away) will be screened by existing intervening vegetation along the River Cam and in Fen Ditton. Cranes might be visible above the vegetation but will be a narrow element in the view. The magnitude of change will be negligible.	Slight adverse (not significant)
			Night-time The magnitude of change will be minor. At night, lighting on the proposed WWTP and transfer tunnel transfer tunnel shaft compound 4 will be largely filtered by intervening vegetation from Northern Bridge Farm.	Slight adverse (not significant)

Representative Visual Sensitivity Description of impacts from proposed WWTP, associated tunnel and Significance viewpoint receptor outfall arrangements of effect

22	Residents of	High	Occupiers of residential properties and people using recreational routes (including	Large adverse

	Poplar Hall	PRoW), whose attention is focussed on the landscape and have medium value views,	(significant) and Poplar	have a high sensitivity to a change in their visual amenity.
	Hall	The construction works associated with the tunnelling of the transfer tunnel pipeline Farmhouse	and the	transfer tunnel shaft compound 4 will be clearly visible in close views from Red looking House Close and from the footpath (adjacent to the works). The compound will be south, surrounded by acoustic barriers which will partially screen the works within the residents of compound. The construction works will be visible in views filtered by intervening Red House vegetation from Poplar Hall and Poplar Hall Farmhouse. The construction works on the Close proposed WWTP (approximately 900m away) and at transfer tunnel pipeline compound looking 5 will be largely will be screened by existing intervening vegetation. Cranes might be north and visible above the vegetation but will be a narrow element in the view. users of
	Footpath	The magnitude of change will be major.		
	Fen Ditton	**Night-time**		Moderate adverse (significant)
	85/6	At night, views of lighting on the transfer tunnel construction compound 4 will be adjacent	partially	screened by acoustic barriers but apparent in close views from Red House Close looking and filtered views from Poplar Hall and Poplar Hall Farmhouse.
	~~south~~ north and	The magnitude of change will be moderate.		
23	Users of	High	People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity.	Moderate adverse (significant)
	Milton			
	162/1 and	The construction of the proposed treated effluent pipeline and treated effluent discharge outfall, including moving machinery, stockpiles of excavated materials and River Cam	users of the River Cam	fencing, will be prominent in close views from a short stretch of the towpath looking east (approximately 300m long) north of the A14 bridge. The river bends before it reaches Baits Bite Lock, screening the works from the towpath further north. The coffer dam will

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts from proposed WWTP, associated tunnel and outfall arrangements	Significance of effect
			extend into the river from the eastern bank, where the works to the outfall will take place. This is on the opposite side of the river from the towpath (approximately 20m away). The works to create new ditch habitat will take place close to the eastern bank of the river and the open cut trenching for the pipeline will pass through the arable field between the outfall and Horningsea Road. The construction of the proposed WWTP will be visible in the background of the view, partially screened by intervening vegetation and the slightly elevated Horningsea Road. The magnitude of change will be moderate.	
			Night-time Not assessed (non-residential receptor).	Not assessed
24	Residents at Biggin Abbey House and associated cottages (approximately 100m away). Fen Ditton 85/8 looking south and ~~east~~	High	Occupiers of residential properties and people using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, to a change in their visual amenity. The open cut trenching, fencing, moving machinery of the treated effluent pipeline associated works will affect a large proportion of the view from Footpath 85/8 and will be visible in partially filtered views from and users of Footpath 85/8 and the footpath will be diverted during construction. The construction of the proposed WWTP and new junction on Horningsea Road will be visible in the background of the view, partially screened by intervening vegetation and the slightly elevated Horningsea Road. The magnitude of change will be major.	Large adverse (significant) Biggin Abbey House and cottages have a high sensitivity
			Night-time At night, lighting on the proposed WWTP and treated effluent pipeline works construction compound will be apparent in filtered views from Biggin Abbey House and associated cottages.	Moderate adverse (significant)

			The magnitude of change will be moderate.	
25	Users of landscape and have medium value views, have a high sensitivity to a change in their	Medium	People using recreational routes (including PRoW), whose attention is focussed on the	Large adverse (significant) shared foot/cycle visual amenity.
	~~Fen Rivers Way) looking east~~		~~Night-time~~ ~~Not assessed (non-residential receptor).~~	~~Not assessed~~
	path along Horningsea Road		The construction works, including large-scale earthworks, construction compounds, open cut trenching, fencing and moving machinery, of the proposed WWTP and treated effluent pipeline will be the dominant feature of existing, expansive views over farmland	
26	Users of Footpath Horningsea 130/1, looking south-east Footpath Horningsea 130/2 and Footpath Fen Ditton 85/7 (Harcamlow Way and	High	People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. There will be open views of the construction of the proposed WWTP, including largescale earthworks, construction compounds, fencing and moving machinery, from the footpath (a minimum of 300m away). Views of the works will be partly filtered through trees growing along Horningsea Road and the approach to Biggin Abbey and partly screened by a slight rise in the land towards the proposed WWTP site. Views of the open cut trenching for the treated effluent pipeline will be filtered by the Biggin Abbey avenue. The magnitude of change will be moderate.	Moderate adverse (significant)
	Fen Rivers Way) looking east		Night-time Not assessed (non-residential receptor).	Not assessed
27	Users of Footpath Milton	High	Rivers Way/Haling Way along the River Occupiers of residential properties and people using recreational routes (including	Slight adverse PRoW), whose attention is

Representative viewpoint | Visual receptor | Sensitivity | Description of impacts from proposed WWTP, associated tunnel and outfall arrangements | Significance of effect

	focussed on the landscape and have medium value views, (not significant) have a high sensitivity to a change in their visual amenity.	above the tree line. Views of the	
Vegetation growing around residential properties near the River Cam and along farmland watercourses will filter and partially screen views of the construction of the proposed WWTP from the footpath and residential properties nearby (approximately 700m away). However, cranes and the emerging structures of the proposed WWTP such as the digesters and boiler stack will be visible			

Representative tunnel and viewpoint	Visual receptor	Significance	Sensitivity	Description of impacts from proposed WWTP, associated outfall arrangements	of effect
	Cam) and properties at Baits Bite Lock			construction of the treated effluent pipeline and outfall (a minimum of 300m away) will be filtered by garden vegetation residential properties, partially ~~The magnitude of change will be minor.~~	
				~~**Night-time**~~ ~~At night, lighting on the proposed WWTP construction compound will be largely screened by intervening vegetation from residential properties at Baits Bite Lock, but lighting on the treated effluent pipeline and outfall construction compounds will be apparent in filtered views. Additional skyglow above the WWTP compound will be evident.~~ ~~The magnitude of change will be minor.~~	~~Slight adverse (not significant)~~
	properties at Baits Bite Lock			The magnitude of change will be minor.	
				Night-time At night, lighting on the proposed WWTP construction compound will be largely screened by intervening vegetation from residential properties at Baits Bite Lock, but lighting on the treated effluent pipeline and outfall construction compounds will be apparent in filtered views. Additional skyglow above the WWTP compound will be evident. The magnitude of change will be minor.	Slight adverse (not significant)
looking east 28	Residents of High St, Horningsea	High	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Views from residential properties in Horningsea of the construction of the proposed WWTP (a minimum of 600m away) will be screened and filtered by vegetation growing south along property and field boundaries. The properties nearest the southern boundary of the village are either single storey or their main windows face away from the proposed looking		Slight adverse (not significant)

Representative tunnel and	Visual receptor	Sensitivity	Description of impacts from proposed WWTP, associated outfall arrangements	Significance of effect
			WWTP site. However, cranes and the emerging structures of the proposed WWTP such as the digesters and boiler stack, might be visible above the tree line or in glimpsed views, especially from gardens. The magnitude of change will be minor.	
			Night-time At night, lighting on the proposed WWTP construction compound will be largely screened by intervening vegetation from residential properties in Horningsea. Skyglow above the compound may be apparent but it will be seen against the backdrop of skyglow above Cambridge. The magnitude of change will be minor.	Slight adverse (not significant)
29	Residents of Clayhithe Road and visitors to the Gayton Farm campsite, Horningsea looking south and east	High	Occupiers of residential properties and visitors to the campsite, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Views of the construction of the proposed WWTP (approximately 1.3km away) will be screened from gardens and ground floor windows of residential properties along Clayhithe Road but cranes and the emerging structures of the proposed WWTP such as the digesters and boiler stack, will be visible in the background of the view, partially screened by intervening vegetation, from upper floor windows and the campsite (a minimum of 1200m away). The magnitude of change will be minor.	Slight adverse (not significant)

Representative tunnel and	Visual Significance	Sensitivity	Description of impacts from proposed WWTP, associated	
			~~**Night-time**~~ ~~At night, lighting on the proposed WWTP construction compound will be largely screened by intervening vegetation from residential properties Clayhithe Road. Skyglow above the compound will not be noticeable in the context of existing skyglow above Cambridge.~~ ~~The magnitude of change will be minor.~~	~~Slight adverse (not significant)~~
~~30~~	~~Users of Footpath~~	~~High~~	~~People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their~~	~~Slight adverse (not significant)~~
			Night-time At night, lighting on the proposed WWTP construction compound will be largely screened by intervening vegetation from residential properties Clayhithe Road. Skyglow above the compound will not be noticeable in the context of existing skyglow above Cambridge. The magnitude of change will be minor.	Slight adverse (not significant)
30	Users of Footpath Horningsea 130/5 and Footpath Horningsea 130/6 and	High	People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Views of cranes and the emerging structures of the proposed WWTP such as the digesters and boiler stack, will be visible in the background of the view, partially screened by intervening vegetation, from the footpaths and bridleway (a minimum of 1200m away).	Slight adverse (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts from proposed WWTP, associated outfall arrangements	Significance of effect
	~~Bridleway Horningsea 130/8~~ (Harcamlow Way) looking west and south		~~The magnitude of change will be minor.~~ **Night-time** Not assessed (non-residential receptor).	Not assessed
31	Residents of Allicky Farm and users of Bridleway Stow cum Quy 218/5 looking south-west	High	Occupiers of residential properties and people using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction of the proposed WWTP (approximately 1500m away) will be largely screened by existing tree and shrub belts lining field boundaries from Allicky Farm, but glimpses of cranes and the taller emerging structures such as the digesters and boiler stack will be possible in the background from the bridleway (part of the Harcamlow Way) between gaps in the tree and shrub belts lining field boundaries. **Night-time** The magnitude of change will be minor. At night, lighting on the proposed WWTP construction compound will be largely screened by intervening vegetation. Skyglow above the compound will not be noticeable in the context of existing skyglow above Cambridge. The magnitude of change will be negligible.	Slight adverse (not significant) Slight adverse (not significant)

Representative tunnel and viewpoint	Visual receptor	Sensitivity	Description of impacts from proposed WWTP, associated outfall arrangements	Significance of effect
32	Visitors to Quy Fen and users of Footpath Stow cum Quy 218/8 looking south-west	High	People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Glimpses of cranes and the taller emerging structures such as the digesters and boiler stack on the proposed WWTP (approximately 2000m away) may be visible from the footpath in the background of the view above the intervening tree belts lining field boundaries. The magnitude of change will be minor.	Slight adverse (not significant)
			Night-time Not assessed (non-residential receptor).	Not assessed
33	Users of Footpath Horningsea 130/10 and residents at Eye Hall	High	Occupiers of residential properties and people using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Glimpses of cranes and the taller emerging structures such as the digesters and boiler stack on the proposed WWTP (approximately 2400m away) may be visible, in the background of the view and above the intervening tree belts lining field boundaries, from the footpaths. At night, lighting on the proposed WWTP construction compound will be largely screened by intervening vegetation. Skyglow above the compound will be hard to discern against the backdrop of skyglow above Cambridge. There will be no change to the view.	Slight adverse (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Significance of effect
~~Farm and Mulberry House Farm looking east~~			~~The magnitude of change will be minor.~~
			Night-time Neutral (not significant)~~)~~
~~34~~	~~Residents of Clayhithe~~ Road, Clayhithe looking east	~~High~~	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction of the proposed WWTP will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view.
			Neutral (not significant)
			Night-time At night, lighting on the proposed WWTP construction compound will be screened by intervening vegetation. There will be no change to the view.
			Neutral (not significant)
35	Users of the Cambridge Motorboat Club and Cam Sailing Club and users of Footpath Horningsea 130/12 and Footpath Horningsea 130/13 looking east	High	People using recreational routes (including PRoW) and boat users on the River Cam, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction of the proposed WWTP will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view.
			Neutral (not significant)
			Night-time Not assessed (non-residential receptor).
			Not assessed
36	Residents at Northfields Farm and Northfields	High	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction of the proposed WWTP will be screened from view by intervening vegetation growing on property and field boundaries.
			Neutral (not significant)

Representative tunnel and	Visual	Sensitivity	Description of impacts from proposed WWTP, associated	Significance
	Farm			
	~~Cottages looking~~		~~There will be no change to the view.~~	
			~~**Night-time**~~ ~~At night, lighting on the proposed WWTP construction compound will be screened by intervening vegetation.~~ ~~There will be no change to the view.~~	~~Neutral (not significant)~~
~~37~~	~~Residents in~~	~~High~~	~~Occupiers of residential properties and people using recreational routes (including~~ There will be no change to the view.	~~Neutral (not~~
	Cottages looking		**Night-time** At night, lighting on the proposed WWTP construction compound will be screened by intervening vegetation. There will be no change to the view.	Neutral (not significant)
37	Residents in	High	Occupiers of residential properties and people using recreational routes (including	Neutral (not
south-west				
	Burgess	PRoW), whose attention is focussed on the landscape and have medium value views,		significant) Road and have a high
	sensitivity to a change in their visual amenity.			
	users of		The construction of the proposed WWTP will be screened from view by intervening	
	Bridleway		vegetation growing on property and field boundaries.	
	~~247/10 looking east~~		~~There will be no change to the view.~~	
			Night-time At night, lighting on the proposed WWTP construction compound will be screened by intervening vegetation. There will be no change to the view.	Neutral (not significant)
~~38~~	~~Residents~~	~~High~~	~~Occupiers of residential properties, whose attention is focussed on the landscape and~~	~~Neutral (not~~
	Waterbeach close to	have medium value views, have a high sensitivity to a change in their visual amenity.		significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts from proposed WWTP, associated outfall arrangements	Significance of effect
	Bottisham Lock and Bannold Road looking west		The construction of the proposed WWTP will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view. **Night-time** At night, lighting on the proposed WWTP construction compound will be screened by intervening vegetation. There will be no change to the view.	Neutral (not significant)
39	Residents in Capper Road looking north-east	High	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction of the proposed WWTP will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view. ~~**Night-time**~~ ~~At night, lighting on the proposed WWTP construction compound will be screened by intervening vegetation. Skyglow above the proposed WWTP construction compound will not be noticeable in the context of existing skyglow resulting from streetlighting in Cambridge.~~ ~~There will be no change to the view.~~ **Night-time** At night, lighting on the proposed WWTP construction compound will be screened by intervening vegetation. Skyglow above the proposed WWTP construction compound will not be noticeable in the context of existing skyglow resulting from streetlighting in Cambridge. There will be no change to the view.	Neutral (not significant) ~~Neutral (not significant)~~ Neutral (not significant)

Representative tunnel and	Visual	Sensitivity	Description of impacts from proposed WWTP, associated	Significance
40	Users of Byway Waterbeach 247/14 looking south	High	People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction of the proposed WWTP will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view.	Neutral(not significant)
			Night-time Not assessed (non-residential receptor).	Not assessed
41	Visitors to Ely Cathedral	High	Visitors to Ely Cathedral, whose attention is focussed on the landscape and have high value views, have a high sensitivity to a change in their visual amenity.	Neutral (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts from proposed WWTP, associated tunnel and outfall arrangements	Significance of effect
	looking south		The construction of the Proposed Development (approximately 14 km away) will not be discernible in the view from Ely Cathedral due to the distance of the construction works from the viewpoint. There will be no change to the view.	
			Night-time Not assessed (non-residential receptor).	Not assessed

Further mitigation or enhancement

4.2.1 Secondary mitigation measures including the CoCP Parts A and B (Appendix 2.1 and 2.2, App Doc Ref 5.4.2.1 and 5.4.2.2) and tree protection plans in the Arboricultural Impact Assessments (Appendix 8.17 and 8.19, App Doc Ref 5.4.8.17 and 5.4.8.19) are outlined in paragraph 2.9. Residual effect

4.2.2 The secondary mitigation measures will not reduce impacts sufficiently to result in a change in the significance of effects assessed taking into account embedded mitigation only. Therefore, residual visual effects will remain the same as the effects assessed taking into account primary and tertiary mitigation measures only.

Waterbeach transfer pipeline

4.2.3 This section sets out the assessment of effects in relation to the Waterbeach Pipeline which consists of a transfer section running from north of Waterbeach to Low Fen Drove Way, across the land required for the construction of the proposed WWTP, across land south of the A14 to the Existing Cambridge WWTP. The Proposed Development is described in Chapter 2: Project Description (App Doc Ref 5.2.2).

Landscape character

4.2.4 The landscape along the route of the Waterbeach Pipeline is almost flat, with a gradual fall towards the River Cam. Consequently, there will be no elevated views of the construction works. Landscape effects will be most apparent close to the construction corridor due to the screening effect of existing vegetation and built form in the study area.

4.2.5 A description of the potential effect on landscape character caused by each identified impact is set out in Table 4-3.

Table 4-3: Landscape effects during construction – Waterbeach pipeline

LCA	Sensitivity	Description of impacts – Waterbeach pipeline	Level of effect
Eastern Fen Edge Chalklands LCA	Medium	The LCA has a medium susceptibility to change. The area has a predominantly rural character and existing development is mainly in the form of small villages and isolated properties but large-scale development and infrastructure on the outskirts of Cambridge and the A14 are detracting features. Therefore, the landscape can accommodate change of the scale proposed with some adverse changes to the baseline situation. The medium susceptibility and medium landscape value give the area a medium sensitivity. A small area of the Eastern Fen Edge Chalklands LCA will be affected by the construction of the Waterbeach Pipeline between the Existing Cambridge WWTP and the proposed WWTP and between the A14 and Horningsea Road. The pipeline will be partly constructed as an open cut excavation, but it will be tunnelled under the A14 and Horningsea Road. The working corridor for the open cut trenching will be approximately 30m wide and there will be large and deep drill pits at each end of the tunnels. The construction works will require fencing and lighting in working areas and tranquillity will be reduced by construction activity and traffic movements. The construction works will be noticeable in a small area of the LCA between Horningsea Road, the A14 and Horningsea. The magnitude of change will be minor.	Slight adverse (not significant)
River Cam Corridor LCA	Medium	The LCA has a medium susceptibility to change. This is because although the area has secluded, riverine character, it is subject to the typical maintenance operations on the banks and channel required for the management of the river and drainage systems. The construction of a new pipeline and outfall to the river can be accommodated with some adverse changes to the baseline situation. The medium susceptibility and medium landscape value give the area a medium sensitivity. A small area of the River Cam Corridor LCA will be affected by the construction of the Waterbeach Pipeline between the Existing Cambridge WWTP and the proposed WWTP. The pipeline will be mainly tunnelled through the LCA, with a drill pit adjacent to Fen Road. A small amount of vegetation will be cleared from within the construction boundary and the construction works will require fencing and lighting and tranquillity will be reduced by construction activity and traffic movements. The construction works will be noticeable through a short stretch of the LCA between the River Cam and the railway, just south of Northern Bridge Farm. The magnitude of change will be minor.	Slight adverse (not significant)

LCA	Sensitivity	Description of impacts – Waterbeach pipeline	Level of effect
Waterbeach	Medium	The LCA has a medium susceptibility to change because while it has a largely rural and open character,	Slight adverse (not

~~LCA~~	~~Sensitivity~~	~~Description of impacts – Waterbeach pipeline~~	~~Level of effect~~
~~Waterbeach~~	~~Medium~~	~~The LCA has a medium susceptibility to change because while it has a largely rural and open character,~~	~~Slight adverse (not~~

Lode Fen powerlines and occasional large, modern sheds in agricultural and commercial use detract from the significant) LCA character of the landscape. Therefore, the landscape can accommodate change of the scale proposed with some adverse changes to the baseline situation.

The medium susceptibility and medium landscape value give the area a medium sensitivity.

The Waterbeach-Lode Fen LCA will be affected by the construction of the Waterbeach Pipeline through farmland between Horningsea and Waterbeach. The pipeline will be mainly constructed as an open cut excavation, but it will be tunnelled under the River Cam and railway line at Waterbeach. The working corridor for the open cut trenching will be approximately 30m wide and there will be deep drill pits at each end of the tunnels. Two stretches of hedgerow will be removed from within the construction boundary. The construction works will require a temporary four-way gated system where PRoW cross the construction corridor, fencing and lighting in working areas for the duration of construction. Tranquillity will be reduced by construction activity and traffic movements. Lighting on construction compounds and during construction in hours of darkness in the winter months will introduce lit areas into a predominantly dark landscape. The construction works will be screened from the wider area by existing vegetation and will affect a relatively narrow corridor of land along the pipeline route.

The magnitude of change will be minor.

Western Fen Edge Claylands LCA	Medium	The LCA has a medium susceptibility to change because although it has a predominantly rural character, there are some large villages in the area and large-scale development and infrastructure on the outskirts of Cambridge and the A14 are discordant elements. Therefore, the landscape can accommodate change of the scale proposed with some adverse changes to the baseline situation. The medium susceptibility and medium landscape value give the area a medium sensitivity. There will be no direct impacts on the Western Fen Edge Claylands LCA from the construction of the Waterbeach pipeline. The construction works will be screened from the area by existing vegetation and built development. The magnitude of change will be negligible.	Neutral (not significant)
North-east Cambridge LCA	Low	The LCA has a low susceptibility to change because there is extensive ongoing development taking place in the area and the landscape can accommodate change of the scale proposed with limited adverse changes to the baseline situation. The low susceptibility and medium landscape value give the area a low sensitivity.	Neutral (not significant)

LCA	Sensitivity	Description of impacts – Waterbeach pipeline	Level of effect
		There will be no direct impacts on the Western Fen Edge Claylands LCA from the construction of the Waterbeach pipeline. The construction works will be screened from the area by existing vegetation and built development. The magnitude of change will be negligible.	

Cambridge Airport LCA	Low	The LCA has a low susceptibility to change because there is extensive ongoing development taking place in the nearby area and the landscape can accommodate change of the scale proposed with limited adverse changes to the baseline situation. The low susceptibility and low landscape value give the area a low sensitivity. There will be no direct impacts on the Western Fen Edge Claylands LCA from the construction of the Waterbeach pipeline. The construction works will be screened from the area by existing vegetation and built development. The magnitude of change will be negligible.	Neutral (not significant)
Little Wilbraham Fen LCA	Medium	The LCA has a medium susceptibility to change because while it has a largely rural and secluded character, the A14 and A1303 have a detracting influence on the character of the landscape. Therefore, the landscape can accommodate change of the scale proposed with some adverse changes to the baseline situation. The medium susceptibility and medium landscape value give the area a medium sensitivity. There will be no direct impacts on the Western Fen Edge Claylands LCA from the construction of the Waterbeach Pipeline. The construction works will be screened from the area by existing vegetation and built development. The magnitude of change will be negligible.	Neutral (not significant)

Visual amenity

4.2.6 There will be clear, filtered and partially screened views of construction of the short section of the Waterbeach Pipeline between the Existing Cambridge WWTP and proposed WWTP from Northern Bridge Farm, Red House Close, Poplar Hall Farm, Poplar Hall Farmhouses and nearby PRoW. There will be similarly clear, filtered and partially screened views of construction of the Waterbeach Pipeline between the proposed WWTP and the Existing Waterbeach WRC from farms, residential properties in the landscape, residential properties on the eastern edge of Waterbeach and from the PRoW network close to the pipeline corridor. There will be few views of construction from more distant locations because the works will take place at ground level and be screened by intervening vegetation and variations in the landform. Taller machinery occasionally might appear as narrow elements breaking the skyline.

4.2.7 A description of the potential effect on visual amenity caused by each identified impact during the day and on the visual amenity of residential receptors by night is set out in Table 4-4.

4.2.8 Where distances are stated in the table below, these are the approximate distances from the elements of the construction work likely to be visible from each viewpoint rather than the construction boundary.

Table 4-4: Visual effects during construction – Waterbeach Pipeline

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts	Level of effect
1	Users of Little Wilbraham Road looking north-west	Medium	People travelling through a rural area, whose attention is partially focussed on the landscape and have medium value views, have a medium sensitivity to a change in their visual amenity. The construction of the Waterbeach Pipeline will not be visible from this location. The pipeline works will take place at ground level and will be screened by intervening vegetation and undulations in the local landform. There will be no change to the view.	Neutral (not significant)
			Night-time Not assessed (non-residential receptor).	Not assessed
2	Users of Footpath Teversham 229/6 and the PRoW network in and around Little Wilbraham Fen looking north-west	High	People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction of the Waterbeach Pipeline will not be visible from this location. The pipeline works will take place at ground level and will be screened by intervening vegetation and undulations in the local landform. There will be no change to the view.	Neutral (not significant)
			Night-time Not assessed (non-residential receptor).	Not assessed

3	Residents of Church Road and Orchard Street, Stow cum Quy looking west	High	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction of the Waterbeach Pipeline will not be visible from this location. The pipeline works will take place at ground level and will be screened by intervening vegetation and undulations in the local landform.	Neutral (not significant)
			~~There will be no change to the view.~~	
			~~**Night-time**~~ ~~There will be no change to the view.~~	~~Neutral (not significant)~~
			There will be no change to the view.	
			Night-time There will be no change to the view.	Neutral (not significant)

Representative	Visual receptor	Sensitivity	Description of impacts	Level of effect viewpoint
4	Users of Footpath Stow cum Quy 218/2 (Harcamlow Way) and guests at the Quy Mill Hotel looking north-west	High	At night, lighting on the Waterbeach Pipeline construction compounds will be screened by intervening vegetation. People using recreational routes (including PRoW) and hotel guests, whose attention is focussed on the landscape and significant) have medium value views, have a high sensitivity to a change in their visual amenity.	Neutral (not

			The construction of the Waterbeach Pipeline will not be visible from this location. The pipeline works will take place at ground level and will be screened by intervening vegetation growing along watercourses and field boundaries. There will be no change to the view.	At night, lighting on the Waterbeach Pipeline construction compounds will be screened by intervening vegetation.
			Night-time There will be no change to the view.	Neutral (not significant)
5	Residents on Newmarket Road around Quy Waters looking north-west	High	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction of the Waterbeach Pipeline will not be visible from this location. The pipeline works will take place at ground level and will be screened by intervening vegetation. There will be no change to the view.	Neutral (not significant)
			Night-time	Neutral (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts	Level of effect
7	Residents of Orchard House, Black		focussed on the landscape and have medium	
			At night, lighting on the Waterbeach Pipeline construction compounds will be screened by intervening vegetation. There will be no change to the view.	
6	Users of Byway Fen Ditton 85/14 and Low Fen Drove Way west and north-west	High	People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction of the Waterbeach Pipeline will not be visible from this location. The pipeline works will take place at ground level and will be screened by intervening vegetation. There will be no change to the view.	Neutral (not significant)
			Night-time Not assessed (non-residential receptor).	Not assessed
	House and Hardwick House on High Ditch Road, Fen Ditton looking north		value views, significant) have a high sensitivity to a change in their visual amenity. The construction of the Waterbeach Pipeline will not be visible from this location. The pipeline works will take ~~vegetation.~~ ~~There will be no change to the view.~~	
			Night-time At night, lighting on the Waterbeach Pipeline construction compounds will be screened by intervening vegetation. There will be no change to the view.	Neutral (not significant)
High	Occupiers of residential properties, whose attention is		place at ground level and will be screened by intervening	Neutral (not

Representative viewpoint | Visual receptor | Sensitivity | Description of impacts | Level of effect

8	Future residents of the Marleigh Neutral (not Development (under significant) construction) looking north	High	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. An existing mature tree belt, approximately 40m wide, will screen the construction of the Waterbeach Pipeline from the ~~new development.~~ ~~There will be no change to the view.~~	
			~~**Night-time**~~ ~~At night, lighting on the Waterbeach Pipeline construction compounds will be screened by intervening vegetation.~~ ~~There will be no change to the view.~~	~~Neutral (not significant)~~
			new development. There will be no change to the view.	
			Night-time At night, lighting on the Waterbeach Pipeline construction compounds will be screened by intervening vegetation. There will be no change to the view.	Neutral (not significant)
9	Users of High Ditch Road looking north	Medium	People travelling through a rural area, whose attention is partially focussed on the landscape and have medium value views, have a medium sensitivity to a change in their visual amenity. Vegetation lining High Ditch Road, the A14 and the dismantled railway line and built development will screen views of the construction of the Waterbeach pipeline. There will be no change to the view.	Neutral (not significant)
			Night-time Not assessed (non-residential receptor).	Not assessed

10	Residents of High Ditch Road, Fen Ditton looking north-east	High	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Vegetation lining property boundaries and built development along Horningsea Road will screen views of the construction of the Waterbeach Pipeline. There will be no change to the view.	Neutral (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts	Level of effect
			Night-time At night, lighting on the Waterbeach Pipeline construction compounds will not be easily discernible in the context of existing streetlighting along Horningsea Road. The magnitude of change will be minor.	Slight adverse (not significant)
11	Residents on the B1047 Horningsea Road and Musgrave Way, Fen Ditton looking north and north-east	High	The construction of the Waterbeach Pipeline will be partly carried out using horizontal directional drilling and partly by open cut trenching through the field north of the residential properties (a minimum of 100m away). The drill pits, 30m wide open cut trench, fencing, moving machinery and construction activity will be visible in filtered and open views from the properties. The change, though a noticeable feature of the view, will be temporary as the land will be restored on completion of the works. The magnitude of change will be moderate.	Moderate adverse (significant)

Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity.

			Night-time The magnitude of change will be moderate.	Moderate adverse (significant)
~~12~~	~~Users of the A14 looking north~~	~~Low~~	~~People travelling on main roads, whose attention is focussed on their journey and have low value views, have a low~~ Lighting around the drill pits on the Waterbeach Pipeline will be visible in clear views. sensitivity to a change in their visual amenity. The construction of the Waterbeach Pipeline will be visible in fleeting views from moving vehicles on the A14. The magnitude of change will be minor.	~~Slight adverse (not significant)~~
				~~Not assessed~~
				Not assessed
Night-time 13 looking west amenity.	Residents in Gate House on Fen Drove Way	Low	High Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual Vegetation lining the dismantled railway line and on field boundaries will screen the construction of the Waterbeach Pipeline from the Gate House. There will be no change to the view.	Neutral (not significant)
			Night-time At night, lighting on the Waterbeach Pipeline construction compounds will be screened by intervening vegetation from the Gate House. There will be no change to the view.	Neutral (not significant)
~~14~~	~~Residents of Station Road, Quy and Quy Hall looking south-west~~	~~High~~		

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts	Level of effect
			Not assessed (non-residential receptor).	
			Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Vegetation growing along garden and field boundaries will screen views of the construction of the Waterbeach pipeline. There will be no change to the view.	Neutral (not significant)
			Night-time At night, lighting on the Waterbeach Pipeline construction compounds will be screened by intervening vegetation from the Gate House. There will be no change to the view.	Neutral (not significant)
~~15~~	~~Users of Bridleway Stow cum Quy 218/5 looking west~~	~~High~~	People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity.	Neutral (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts	Level of effect
			Vegetation growing along field boundaries will screen views of the construction of the Waterbeach Pipeline. There will be no change to the view.	
			Night-time Not assessed (non-residential receptor)	Not assessed

16	Visitors to Anglesey Abbey Registered Park and Garden looking south-west	High	Visitors to places, whose attention is focussed on the landscape and have high value views, have a high sensitivity to a change in their visual amenity. Woodland around the Anglesey Abbey estate boundary will screen views of the construction of the Waterbeach Pipeline from the estate. There will be no change to the view.	Neutral (not significant)
			Night-time Not assessed (non-residential receptor).	Not assessed
17	Users of Low Fen Drove Way and residents at Parsonage Farm looking south	High	People using recreational routes (including PRoW) and occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction of the Waterbeach Pipeline will be partly carried out using horizontal directional drilling under Low Fen Drove Way and partly by open cut trenching through the fields north and south of the track. The drill pits, 30m wide open cut trench, fencing, moving machinery and construction activity will be visible in open views from a short section of Low Fen Drove Way and but will be largely screened from Parsonage Farm (approximately 360m away) by an intervening hedgerow. The magnitude of change will be minor.	Slight adverse (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts	Level of effect
			Night-time Lighting around the drill pits on the Waterbeach Pipeline will largely screened from Parsonage Farm by an intervening hedgerow. The magnitude of change will be minor.	Slight adverse (not significant)
18	Users of Horningsea Road (from the A14 bridge) looking east	Medium	People travelling through a rural area, whose attention is partially focussed on the landscape and have medium value views, have a medium sensitivity to a change in their visual amenity. The construction of the Waterbeach Pipeline will be partly carried out using horizontal directional drilling under the A14 and partly by open cut trenching through the fields either side of the road. The drill pits, open cut trench, fencing, moving machinery and construction activity will be visible in open but fleeting views (approximately 100m away) from the bridge over the A14. The magnitude of change will be minor.	Slight adverse (not significant)
			Night-time Not assessed (non-residential receptor).	Not assessed
19	Residents of Green End and users of Footpath Fen Ditton 85/3 looking north-east	High	Occupiers of residential properties and people using recreational facilities routes (including PRoW and public open space), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Views of the construction of the Waterbeach Pipeline by underground horizontal directional drilling and open cut trenching on land north of Field Lane (approximately 80m away) will be filtered by the intervening vegetation along Field Lane.	Slight adverse (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts	Level of effect
			~~The magnitude of change will be minor.~~	
			~~**Night-time**~~ ~~The magnitude of change will be minor.~~	~~Slight adverse (not significant)~~
			The magnitude of change will be minor.	
			Night-time The magnitude of change will be minor.	Slight adverse (not significant)
20	Residents of Fen Road looking north	High	Lighting around the drill pits on the Waterbeach Pipeline will be visible from Green End in views filtered through the intervening vegetation along Field Lane. Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction of the Waterbeach Pipeline in this area will be, apart from a short section of open cut trenching, by underground horizontal directional drilling. A drill pit will be	Slight adverse (not significant)

Representative	Visual receptor	Sensitivity	Description of impacts	Level of effect
			required in the paddocks off Fen Road, along with temporary access into the fields (approximately 340m away). The drill pit, moving machinery, stockpiles of excavated materials and fencing will be largely screened from view by the hedgerows lining the road. Fen Road will be used as a construction traffic route, increasing the number of vehicles crossing the view. The magnitude of change will be minor.	
			Night-time At night, lighting at the Waterbeach Pipeline drill pit will be largely screened by intervening vegetation. The magnitude of change will be negligible.	Slight adverse (not significant)
~~21~~ viewpoint	Residents at Northern Bridge Farm looking south	High	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction of the Waterbeach Pipeline will be by underground horizontal directional drilling and a short section of open cut trenching. A drill pit will be required in the paddocks off Fen Road (approximately 70m away), close to Northern Bridge Farm along with a temporary access into the field. The drill pit, moving machinery, stockpiles of excavated materials and fencing will be apparent in views filtered or screened by intervening vegetation from the property. Fen Road will be used as a construction traffic route, increasing the number of vehicles crossing the view. The change, though a noticeable feature of the view, will be temporary as the land will be restored on completion of the	Moderate adverse (significant)

Representative	Visual receptor	Sensitivity	Description of impacts	Level of effect
			~~works.~~ ~~The magnitude of change will be moderate.~~	
			Night-time The magnitude of change will be minor.	Slight adverse (not significant)
22 **viewpoint**	Residents of Poplar Hall and Poplar Hall Farmhouse looking south, residents of Red House Close looking north and users of Footpath Fen Ditton 85/6 adjacent looking north and south Occupiers of residential properties and people using routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a	High	At night, lighting at the Waterbeach Pipeline drill pit will be visible in filtered views. high sensitivity to a change in their visual amenity. The construction of the Waterbeach Pipeline will be partly carried out using horizontal directional drilling through the pasture south of Red House Close and partly by open cut trenching through the arable field south-west of the property (a minimum of 65m away) and south of Poplar Hall and Poplar Hall Farmhouse (a minimum of 130m away). The screening vegetation in the area will be largely unaffected by construction. The drill pits, open cut trench (30m wide), moving machinery, stockpiles of excavated materials and fencing will be visible in filtered views from Red House Close Farm, Poplar Hall and Poplar Hall Farmhouse and in open, adjacent views from the footpath. The change, though a noticeable feature of the view, will be temporary as the land	Moderate adverse (significant)

Representative	Visual receptor	Sensitivity	Description of impacts	Level of effect
			~~will be restored on completion of the works.~~ ~~The magnitude of change will be moderate.~~	
			~~**Night-time**~~ ~~At night, views of lighting at the Waterbeach Pipeline drill pits will be filtered by intervening vegetation from nearby residential properties.~~ ~~The magnitude of change will be minor.~~	~~Slight adverse (not significant)~~
			will be restored on completion of the works. The magnitude of change will be moderate.	
			Night-time At night, views of lighting at the Waterbeach Pipeline drill pits will be filtered by intervening vegetation from nearby residential properties. The magnitude of change will be minor.	Slight adverse (not significant)
Footpath Milton 162/1	~~23~~ Users of and users of the River Cam looking east	High	People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Intervening vegetation and variations on the local landform will screen views of the construction of the Waterbeach Pipeline from the River Cam and footpath. There will be no change to the view.	Neutral (not significant)
			Night-time Not assessed (non-residential receptor).	Not assessed

Representative	Visual receptor	Sensitivity	Description of impacts	Level of effect
24 Residents at Biggin Abbey House	and associated cottages and users of Footpath Fen Ditton 85/8 looking south and east	High	Occupiers of residential properties and people using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The open cut trenching, fencing, moving machinery of the Waterbeach Pipeline works will not be noticeable in views from Biggin Abbey House and associated cottages and the ProW as the construction works will be largely screened by the raised embankments of the bridge over the A14 and intervening vegetation. The magnitude of change will be minor.	Slight adverse (not significant)
viewpoint				
			Night-time At night, lighting at the drill pits either side of the A14 will be screened by the raised embankment of the bridge over the A14. Lighting on the drill pits either side of Low Fen Drove Way will be largely screened by intervening vegetation. The magnitude of change will be minor.	Slight adverse (not significant)
25	Users of shared foot/cycle path along Horningsea Road looking south-east	Medium	People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The open cut trenching, fencing, moving machinery of the Waterbeach Pipeline works (approximately 300m away) crossing open arable farmland will be noticeable in views from Horningsea Road. The change, though a noticeable feature of the view, will be temporary as the pipeline route will be restored on completion of each section. The magnitude of change will be moderate.	Moderate adverse (significant)

Representative	Visual receptor	Sensitivity	Description of impacts	Level of effect
			Night-time Not assessed (non-residential receptor).	Not assessed
26	Users of Footpath Horningsea 130/1, Footpath Horningsea 130/2 and Footpath Fen Ditton 85/7 (Harcamlow Way and Fen Rivers Way) looking east	High	People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Views of the open cut trenching, fencing and moving machinery of the Waterbeach Pipeline works (a minimum of 300m away) through open fields north of Low Fen Drove Way will be partially screened by Horningsea Road, which is on higher land than the viewpoint. The change will be temporary as the pipeline route will be restored on completion of each section.	Slight adverse (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts	Level of effect
			The magnitude of change will be minor.	
			Night-time Not assessed (non-residential receptor).	Not assessed
27	Users of Footpath Milton 162/1 Way/Haling Way	High	Occupiers of residential properties and people using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, residential properties at Baits Bite change in their visual amenity.	Neutral (not significant) (Fen Rivers Way) and have a high sensitivity to a
	Lock looking east		Vegetation growing around residential properties near the River Cam and along farmland watercourses and a rise in the landform towards Horningsea Road will screen views of the construction of the Waterbeach Pipeline. There will be no change to the view.	
			Night-time At night, lighting on the drill pits near the A14 will be screened by intervening vegetation, including the avenue of trees leading to Biggin Abbey. There will be no change to the view.	Neutral (not significant)
~~28~~	~~Residents of High St, Horningsea looking south~~	~~High~~	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Ground floor views from residential properties in Horningsea of the construction of the Waterbeach pipeline will be screened and filtered by an intervening woodland belt and vegetation growing along property boundaries. There will be glimpsed views from upper floor windows of the open cut trenching, fencing and moving machinery from a small number of properties along the road (approximately 300m	Slight adverse (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts	Level of effect
			away). The change will be temporary as the pipeline route will be restored on completion of each section. The magnitude of change will be minor.	
			~~**Night-time**~~ ~~At night, lighting on the Waterbeach Pipeline construction works will be largely screened by an intervening woodland belt and garden vegetation from residential properties in Horningsea.~~ ~~The magnitude of change will be minor.~~	~~Slight adverse (not significant)~~
			Night-time At night, lighting on the Waterbeach Pipeline construction works will be largely screened by an intervening woodland belt and garden vegetation from residential properties in Horningsea. The magnitude of change will be minor.	Slight adverse (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts	Level of effect
29	Residents of Clayhithe Road and visitors to the Gayton Farm campsite, Horningsea looking south and east	High	Occupiers of residential properties and visitors to the campsite, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. Views of the construction of the Proposed Waterbeach Pipeline (a minimum of 100m away) will be mostly screened from gardens and ground floor windows of residential properties along Clayhithe Road but there will be more open views of the 30m wide open cut trench, fencing, moving machinery and construction activity from upper floor windows and from the Gayton Farm campsite and the nearby paddock where there is less boundary vegetation. Construction traffic will be mainly screened from the houses and campsite by an intervening hedgerow or other vegetation but it will be visible from Gayton Farm as it will use the existing farm access adjacent to the house. The change will be temporary as the pipeline route will be restored on completion of each section. The magnitude of change will be minor.	Slight adverse (not significant)
			Night-time At night, any temporary task lighting along the pipeline corridor in the winter months will be largely screened by intervening vegetation from residential properties. The magnitude of change will be minor.	Slight adverse (not significant)

Representative	Visual receptor	Sensitivity	Description of impacts	Level of effect
30	Users of Footpath Horningsea 130/5 and Footpath Horningsea 130/6 and Bridleway Horningsea 130/8 (Harcamlow Way) looking west and south (PRoW crosses the pipeline route)	High	People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The open cut trenching of the Waterbeach Pipeline will cross the PRoW and there will be a four-way gated system at each crossing to keep the PRoW open during construction. There will be open views of the 30m wide trench, fencing, moving machinery, the construction compound (adjacent to Bridleway Horningsea 130/8) and construction activity. The change, though a noticeable feature of the view, will be temporary as the pipeline route will be restored on completion of each section. The magnitude of change will be moderate.	Moderate adverse (significant)
			Night-time Not assessed (non-residential receptor).	Not assessed
31	Residents of Allicky Farm and users of Bridleway Stow cum Quy 218/5 looking south-west	High	Occupiers of residential properties and people using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction Waterbeach Pipeline (approximately 1.4km away) will be screened from view from Allicky Farm and the PRoW. There will be no change to the view.	Neutral (not significant)
viewpoint				
			Night-time At night, lighting on the Waterbeach Pipeline construction compounds will be screened by intervening vegetation. There will be no change to the view.	Neutral (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts	Level of effect
32	Visitors to Quy Fen and users of Footpath Stow cum Quy 218/8 looking south-west	High	People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction of the Waterbeach Pipeline (approximately 1.4km away) will be screened from view from Quy Fen and the PRoW by existing intervening vegetation. There will be no change to the view.	Neutral (not significant)
			Night-time Not assessed (non-residential receptor).	Not assessed
33	Users of Footpath Horningsea 130/10 (PRoW crosses the pipeline route) and residents at Eye Hall Farm and Mulberry House Farm looking east	High	Occupiers of residential properties and people using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The open cut trenching of the Waterbeach Pipeline will cross the footpath and run beside it for a stretch. The footpath will be kept open with the use of a four-way gated system during construction. There will be open views of the trench, fencing, moving machinery, the construction compound and construction activity from parts of the PRoW network close to the works. Views from the farms (a minimum of 200m away) will be partially screened by intervening farm buildings or filtered through garden vegetation but a construction traffic route around Mulberry House Farm will introduce additional traffic movements into the view from the farmhouse. The change in the view over arable fields will be temporary as sections of the pipeline route will be restored to their former levels and condition as they are completed.	Moderate adverse (significant)

Representative	Visual receptor	Sensitivity	Description of impacts	Level of effect
			magnitude of change will be moderate.	Slight adverse (not significant)
			Night-time At night, lighting on construction compounds along the pipeline corridor will be largely screened by intervening farm buildings or filtered through vegetation. The magnitude of change will be minor.	Slight adverse (not significant)
~~34~~	~~Residents of Clayhithe Road, Clayhithe looking east~~	~~High~~	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The construction of the Waterbeach Pipeline will be screened from view by intervening vegetation growing on property and field boundaries. Construction traffic will use Clayhithe Road and access the pipeline construction corridor along Hatridge's Lane, introducing additional traffic movements into the view. The magnitude of change will be minor.	
			Night-time At night, lighting on construction compounds along the pipeline corridor will be screened by intervening vegetation. The magnitude of change will be negligible.	Slight adverse (not significant)
~~35~~	~~Users of the Cambridge Motorboat Club and Cam Sailing~~ Club and users of Footpath Horningsea 130/12 and Footpath Horningsea 130/13 looking east	~~High~~	People using recreational routes (including PRoW) and boat landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The Waterbeach Pipeline will be constructed using horizontal directional drilling under the River Cam and open cut trenching through the arable fields. The drill pits, open cut	Moderate adverse users on the River Cam, whose attention is focussed on the (significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts	Level of effect
36	Residents at Northfields Farm and Northfields Farm Cottages looking south-west	High	400m away). The change in the view over arable trench, fencing, moving machinery and construction activity will be clearly visible, between gaps in bank-side vegetation, over a wide proportion of the view over arable farmland from Footpaths Horningsea 130/12 and 130/13 (Harcamlow Way) and the River Cam (a minimum of 50m away). The change in the view over arable fields, though noticeable, will be temporary as sections of the pipeline route will be restored to their former levels as they are completed. The magnitude of change will be moderate. **Night-time** Not assessed (non-residential receptor).	Not assessed
37	Occupiers of residential properties, whose attention is Slight adverse (not focussed on the landscape and have medium value views, significant) have a high sensitivity to a change in their visual amenity.	~~High~~	Intervening tree belts and hedgerows will ~~screen the construction of the Waterbeach~~ Pipeline from Northfields Farm (a minimum of 700m away) and largely screen it from Northfields Farm Cottages (a minimum of fields, if discernible, will be temporary as sections of the pipeline route will be restored to their former levels as they are completed. The magnitude of change will be negligible. Night-time At night, lighting on construction compounds along the pipeline corridor will be screened by intervening vegetation. The magnitude of change will be minor.	Occupiers of residential properties and people using recreational routes (including PRoW), whose attention is Moderate adverse (significant) Slight adverse (not significant)

	Residents in Burgess Road and users of Bridleway Waterbeach 247/10 looking east		focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The drill pits, open cut trench, fencing, moving machinery and construction activity for the Waterbeach Pipeline will be largely screened from residential properties on Burgess Road (a minimum of 30m away) by garden vegetation but clearly visible to users of the road and from short stretches of the bridleway where the pipeline crosses. The change to the view over paddocks, trees and hedgerows will be temporary as sections of the pipeline route will be restored to their former levels and reseeded as they are completed. The magnitude of change will be moderate.	
			Night-time At night, lighting on construction compound along the pipeline corridor will introduce lighting into unlit farmland, but views will be filtered by intervening vegetation. The magnitude of change will be moderate.	Moderate adverse (significant)
~~38~~	~~Residents close to Bottisham Lock and Bannold Road looking west~~	~~High~~	Occupiers of residential properties, whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The open cut trench, fencing, moving machinery and construction activity of the Waterbeach Pipeline construction works will be visible from The Cottage which is directly adjacent to the works and visible in filtered views from residential properties at Bottisham Lock (approximately 220m away). A wide proportion of the view over farmland will be affected, but the change will be temporary as sections of the pipeline route will be restored to their former levels as they are completed. Construction traffic will use Bannold	Large adverse (significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts	Level of effect
			Road and Long Drove introducing additional traffic ~~movements into the view.~~ ~~The magnitude of change will be major.~~	
			~~**Night-time**~~ ~~At night, lighting on construction compounds along the pipeline corridor will be visible in oblique and filtered views from The Cottage and residential properties at Bottisham Lock.~~ ~~The magnitude of change will be minor.~~	~~Slight adverse (significant)~~
			movements into the view. The magnitude of change will be major.	
			Night-time At night, lighting on construction compounds along the pipeline corridor will be visible in oblique and filtered views from The Cottage and residential properties at Bottisham Lock. The magnitude of change will be minor.	Slight adverse (significant)
39	Residents in Capper Road looking focussed on the landscape and have medium value views, amenity.	High	Occupiers of residential properties, whose attention is significant) have a high sensitivity to a change in their visual The Waterbeach Pipeline works will be screened from Capper Road by intervening tree belts and hedgerows. There will be no change to the view.	Neutral (not north-east

			Night-time At night, lighting on construction compounds along the pipeline corridor will be screened by intervening vegetation. There will be no change to the view.	Neutral (not significant)
40	Users of Byway Waterbeach looking south	High	People using recreational routes (including PRoW), whose attention is focussed on the landscape and have medium value views, have a high sensitivity to a change in their visual amenity. The Waterbeach Pipeline will cross the byway and railway line. The associated construction compound, drill pits, open cut trench, fencing and moving machinery of the pipeline will be prominent in views from a stretch of the byway. The magnitude of change will be major.	Large adverse (significant) 247/14
Representative viewpoint	**Visual receptor**	**Sensitivity**	**Description of impacts**	**Level of effect**
			Night-time Not assessed (non-residential receptor).	Not assessed
41	Visitors to Ely Cathedral looking south	High	Visitors to Ely Cathedral, whose attention is focussed on the landscape and have high value views, have a high sensitivity to a change in their visual amenity. The construction of the Waterbeach Pipeline will not be visible from Ely Cathedral. There will be no change to the view.	Neutral (not significant)

	Night-time Not assessed (non-residential receptor).	Not assessed

Further mitigation or enhancement

4.2.9 Secondary mitigation measures including the CoCP Parts A and B (Appendix 2.1 and 2.2, App Doc Refs 5.4.2.1 and 5.4.2.2) and tree protection plans in the Arboricultural Impact Assessments (Appendix 8.17 and 8.19, App Doc Refs 5.4.8.17 and 5.4.8.19) are outlined in paragraph 2.9. *Residual effect*

4.2.10 The secondary mitigation measures will not reduce impacts sufficiently to result in a change in the significance of effects assessed taking into account embedded mitigation only. Therefore, residual visual effects will remain the same as the effects assessed taking into account primary and tertiary mitigation measures only.

Monitoring

4.2.11 During the construction phase, protection of the initial planting and reinstatement planting, completed during the construction period, will be carried out in accordance the CoCP Parts A and B (Appendix 2.1 and 2.2, App Doc Refs 5.4.2.1 and 5.4.2.2) and the monitoring and management regimes as set out in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14).

4.3 Operation phase

Proposed WWTP, associated transfer tunnel and outfall arrangements

4.3.1 This section sets out the assessment of effects in relation to the operation and maintenance of the proposed WWTP including the landscape masterplan, the treated effluent pipeline, outfall, transfer tunnel and new access road connecting the proposed WWTP with the B1047 Horningsea Road. *Primary and tertiary mitigation*

4.3.2 The assessment of effects on landscape character and visual amenity in year 1 of operation does not take into account the mitigating effects of new planting as it will be immature at the time of planting and will have little or no screening effect. It is not known when during the construction period the initial planting will be implemented and consequently, although it could provide some screening by year 1 of operation, for this assessment any screening benefit of the initial planting has been discounted.

4.3.3 The findings of the assessment of effects on landscape character and visual amenity in year 15, taking into account primary and tertiary mitigation measures only, will be the same as those in the assessment of effects in year 1. This is because without the secondary mitigation measures, including monitoring and maintenance of new planting and replacement of failed planting as set out in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14), it is not possible to predict how the planting will grow, how much failed planting would be replaced or how much of a screening effect the planting would have by year 15.

Secondary mitigation

4.3.4 The LERMP (Appendix 8.14, App Doc Ref 5.4.8.14) will be implemented over a 30year period. This will ensure that the planting shown on the landscape masterplan becomes established and thrives and that it achieves the screening and integration function described in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14). The assessment of residual effects in year 15 takes into account primary, secondary and tertiary mitigation measures. ***Landscape character***

4.3.5 A description of the potential effect on landscape character in years 1 and 15 (taking into account primary and tertiary mitigation) and the potential residual effect in year 15 (taking into account primary, secondary and tertiary mitigation and when mitigation planting will have a screening and integrating effect) caused by each identified impact is set out in Table 4-5: Landscape effects during operation – Proposed WWTP, associated transfer tunnel and outfall .

Table 4-5: Landscape effects during operation – Proposed WWTP, associated transfer tunnel and outfall arrangements

LCA	Sensitivity	Description of impacts – proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures

Eastern Fen Edge Chalklands LCA	Medium	Year 1 The Eastern Fen Edge Chalklands LCA will be affected in year 1 of operation by the introduction of new large-scale infrastructure into the predominantly open rural landscape, substantially change the character of the farmland between Fen Ditton and Horningsea. The existing open arable fields will be replaced by the proposed WWTP, grassed earth bank, access road, visitor parking area, lighting, signage and a new junction on Horningsea Road. The lower parts of the structures of the proposed WWTP will be screened or partially screened by the earth bank, but the digester towers and other tall structures such as the biogas holder, boiler building, boiler stack and workshop and innovation centre will be new elements in the landscape, uncharacteristic of their rural setting. The earth bank itself will be a new feature in the flat landscape but the gentle gradient of the outer slopes and the undulations in the meadow will soften the transition between the bank and its surroundings. Removal of trees and vegetation from the eastern embankment of the Horningsea Road bridge over the A14 during construction of the proposed WWTP entrance will open up views of the bridge from the wider landscape. The land affected by the construction of the transfer tunnel and treated effluent pipeline will be restored to pasture or arable land at the end of construction but it will, for a short time, be evident as an area of disturbed land. There will be a slight reduction in tranquillity due to the activity generated by vehicles visiting the site, but the site is close to the A14 which is a source of activity and noise in the area. Street lighting at the new Horningsea Road	Moderate adverse (significant)	Moderate adverse (significant)

LCA	**Sensitivity**	**Description of impacts – proposed WWTP, associated transfer tunnel and outfall arrangements**	**Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures**	**Significance of effect in year 15 taking into account primary, secondary and**

tertiary mitigation measures

		junction and lighting on the proposed WWTP will introduce lighting into an unlit landscape. Overall, the changes will affect a relatively small part of the LCA because existing vegetation along Low Fen Drove Way, the A14, the disused railway line and around Cambridge, Quy, Horningsea and the landscape to the north-east will screen much of the proposed WWTP from the wider landscape. The magnitude of change will be moderate adverse. Year 15 The Eastern Fen Edge Chalklands LCA will remain affected in year 15 of operation by the presence of large-scale infrastructure in the predominantly rural landscape. The trees and vegetation replaced at the end of construction on the eastern embankment of the Horningsea Road bridge will restore the screening of the bridge from the wider landscape and its tree-lined approach. The woodland planting of the landscape masterplan and on the earth bank will screen the proposed WWTP from north and west of the proposed WWTP but the upper parts of the digester towers and other tall structures including the biogas holder, boiler building, boiler stack and workshops will still be apparent in the landscape to the south. The maturing mitigation planting will in time change the character of the area between Fen Ditton and Horningsea, making it more wooded and less open, but similar size woodland belts are present in the LCA and in the adjacent Waterbeach-Lode Fen LCA. Thus, the new woodland will not be uncharacteristic of the local landscape. The farmland to the north of the site will remain open in character. The magnitude of change on the Eastern Fen Edge LCA in operation will reduce but will remain moderate adverse in year 15 of operation.		
LCA	**Sensitivity**	**Description of impacts – proposed WWTP, associated transfer outfall arrangements**	**Significance of effect in years 1 and 15 taking into account tertiary mitigation measures**	**Significance of tunnel and effect in year 15 taking into account primary, primary and secondary and tertiary mitigation measures**
River Cam	Medium	**Year 1**	Slight adverse (not	Slight adverse (not

Corridor LCA	The River Cam Corridor LCA will be affected in year 1 of operation by the introduction of a new treated effluent discharge outfall on the River Cam and the replacement of natural riverbank with sheet-piled banks. The outfall will replace a section of grass riverbank with a concrete structure, but it will be similar in appearance and scale to existing structures along the river associated with river engineering and drainage. The outfall will be level with the surrounding landscape and will be covered in soil and seeded. Approximately four small trees will be removed during construction from the area east of the outfall and replaced at the end of construction. The land affected by the construction of the treated effluent pipeline will be restored to its former condition at the end of construction, but the route will be evident as a corridor of disturbed land. Street lighting at the Horningsea Road junction and in areas of the proposed WWTP will be visible against a dark background from the LCA. The outfall will be noticeable along a short stretch of the LCA between the A14 bridge and a bend in the river approximately 250m from the bridge but will be largely screened from the wider LCA by existing vegetation and the elevated A14. The magnitude of change will be minor. **Year 15** The River Cam Corridor LCA will remain affected in year 15 of operation by the presence of the treated effluent treated discharge outfall on the River Cam, but naturally regenerated riverside vegetation, maturing trees replaced at the end of construction, established grass on the top of the outfall and the weathering of the concrete structure will aid its integration into the landscape.	The River Cam Corridor LCA will be affected in year 1 of operation by the presence of the treated effluent discharge outfall on the River Cam and the replacement of natural riverbank with sheet-piled banks. The outfall will replace a section of grass riverbank with a concrete structure, but it will be similar in appearance and scale to existing structures along the river associated with river engineering and drainage. The outfall will be level with the surrounding landscape and will be covered in soil and seeded. Approximately four small trees will be removed during construction from the area east of the outfall and replaced at the end of construction. The land affected by the construction of the treated effluent pipeline will be restored to its former condition at the end of construction, but the route will be evident as a corridor of disturbed land. Street lighting at the Horningsea Road junction and in areas of the proposed WWTP will be visible against a dark background from the LCA. The outfall will be noticeable along a short stretch of the LCA between the A14 bridge and a bend in the river approximately 250m from the bridge but will be largely screened from the wider LCA by existing vegetation and the elevated A14. The magnitude of change will be minor. **Year 15** The River Cam Corridor LCA will remain affected in year 15 of operation by the presence of the treated effluent treated discharge outfall on the River Cam, but naturally regenerated riverside vegetation, maturing trees replaced at the end of construction, established grass on the top of the outfall and the weathering of the concrete structure will aid its integration into the landscape.	significant)	significant)

LCA	Sensitivity	Description of impacts – proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures

			ance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures	
		~~The magnitude of change on the River Cam Corridor LCA will reduce to negligible in year 15 of operation.~~		
		The magnitude of change on the River Cam Corridor LCA will reduce to negligible in year 15 of operation.		
Waterbeach-Lode Fen LCA	Medium	**Year 1** The Proposed Development will be largely screened from the Waterbeach Lode Fen LCA by intervening existing woodland belts and vegetation growing along field boundaries but the taller structures such as the digesters, the biogas holder structure and boiler stack will be apparent from a small number of locations to the north and east where the landscape is more open or close to the proposed WWTP. The magnitude of change will be minor. **Year 15** The maturing woodland planting around the proposed WWTP and on the earth bank will screen the proposed WWTP from the east but from more distant areas to the north, where the landscape is more open, the tops of the taller structures will remain apparent. The magnitude of change on the ~~River Cam Corridor LCA~~Waterbeach-Lode Fen will remain minor in year 15 of operation.	Slight adverse (not significant)	Slight adverse (not significant)

LCA	Sensitivity	Description of impacts – proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
		Year 15 There will be no change to the character of the Western Fen Edge Claylands LCA in year 15 of operation.		
Western Fen Edge Claylands LCA	Medium	**Year 1** The Proposed Development will be screened from the Western Fen Edge Claylands LCA by vegetation growing along the River Cam, on the outskirts of settlements and field boundaries. There will be no change to the character of the Western Fen Edge Claylands LCA.	Neutral	Neutral
North-east Cambridge LCA	Low	**Year 1** The Proposed Development will be screened from the North-east Cambridge LCA by vegetation growing around the site of the Existing Cambridge WWTP, along the A14 and on the outskirts of the city. There will be no change to the character of the North-east Cambridge LCA. **Year 15** There will be no change to the character of the North-east Cambridge LCA in year 15 of operation.	Neutral	Neutral

LCA	Sensitivity	Description of impacts – proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
		There will be no change to the character of the Little Wilbraham Fen LCA. **Year 15** There will be no change to the character of the Little Wilbraham Fen LCA in year 15 of operation.		
Cambridge Airport LCA	Low	**Year 1** The Proposed Development will be screened from the Cambridge Airport LCA by intervening vegetation growing along the A14 and A1303. There will be no change to the character of the Cambridge Airport LCA. **Year 15** There will be no change to the character of the Cambridge Airport LCA in year 15 of operation.	Neutral	Neutral
Little Wilbraham Fen LCA	Medium	**Year 1** The Proposed Development will be screened from the Little Wilbraham Fen LCA by intervening vegetation growing along Quy Water, the A14 and A1303.	Neutral	Neutral

Visual amenity

4.3.6 A description of the potential effect on visual amenity in years 1 and 15, taking into account primary and tertiary mitigation, and the potential residual effect in year 15 taking into account primary, secondary and tertiary mitigation (when planting will have a screening and integrating effect) is set out in Table 4-6.

4.3.7 Distances stated are the distances from the elements of the Proposed Development likely to be visible from each viewpoint rather than the development boundary. This is because in many cases elements such as fencing or hard surfacing will be screened by intervening vegetation and variations in the landform and will not therefore contribute to effects on views.

Table 4-6: Visual effects during operation – Proposed WWTP, associated transfer tunnel and outfall arrangements

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
1	Users of the Little Wilbraham Road looking north-west	Medium	**Year 1** The tallest structures on the proposed WWTP, such as the digesters and boiler stack, will potentially be visible from the slightly elevated Little Wilbraham Road but the majority of structures on the proposed WWTP will be screened from view by intervening vegetation and undulations in the local landform. Due to the distance between the viewpoint and the proposed WWTP, (approximately 3.5km away), these structures, if perceptible, will not alter the overall balance of features in the view. The magnitude of change will be negligible. **Year 15** Mitigation planting will not be high enough to screen the tallest structures on the site by year 15 and the magnitude of change will therefore remain negligible.	Slight adverse (not significant)	Slight adverse (not significant)
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
2	Users of Footpath Teversham 229/6 and the PRoW network in and around Little	High	**Year 1** The proposed WWTP will be screened from the low-lying Little Wilbraham Fen by intervening vegetation bordering the A14 and the elevated junction with the A1303. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity of effect	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary, secondary and tertiary mitigation measures	Significance of effect year 15 taking into account primary, and tertiary mitigation measures
	Wilbraham Fen looking north-west		**Night-time** Not assessed (non-residential receptor).	Not assessed	Not assessed
3	Residents of Church Road and Orchard Street, Stow cum Quy looking west	High	**Year 1** The proposed WWTP will be screened from view by a series of intervening woodland and tree belts between the residential properties in Stow cum Quy and the site. The tallest structures on the site, such as the digesters and boiler stack, are unlikely to be clearly visible due to their distance from the viewpoint (approximately 1.7km away), but if perceptible, they will affect a small proportion of the existing view. The magnitude of change will be negligible. **Year 15** Mitigation planting will not be high enough to screen the	Slight adverse (not significant)	Slight adverse (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary, secondary and tertiary mitigation measures	Significance of effect year 15 taking into account primary and tertiary mitigation measures
			~~tallest structures on the site by year 15 and the magnitude of change will therefore remain negligible.~~		
			~~**Night-time**~~ ~~**Year 1**~~ ~~At night, lighting on the proposed WWTP will be screened by intervening buildings and vegetation from Stow cum Quy. Skyglow above the site will be difficult to discern against the lit background created by the urban areas of Cambridge and Milton.~~ ~~There will be no change to the view.~~ ~~**Year 15**~~	~~Neutral~~	~~Neutral~~
			tallest structures on the site by year 15 and the magnitude of change will therefore remain negligible.		
			Night-time **Year 1** At night, lighting on the proposed WWTP will be screened by intervening buildings and vegetation from Stow cum Quy. Skyglow above the site will be difficult to discern against the lit background created by the urban areas of Cambridge and Milton. There will be no change to the view. **Year 15**	Neutral	Neutral

Representative Visual	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance of effect	Significance of effect in
		There will be no change to the view.		
4 Users of Footpath Stow cum Quy 218/2 (Harcamlow Way) and guests at the Quy Mill Hotel looking	High	**Year 1** The majority of the structures on the proposed WWTP will be screened from view by woodland belts and vegetation growing along field boundaries and water courses. There will be glimpsed views of the tallest structures on the proposed WWTP, such as the digesters and boiler stack, above the tree line from Footpath Stow cum Quy 218/2 and the grounds and upper storeys of Quy Mill. Due to their distance from the viewpoint (approximately 1.2km away) they will be seen in the north-west background and will affect a small proportion of the view. The magnitude of change will be minor. **Year 15** Mitigation planting will not be high enough to screen the	Slight adverse (not significant)	Slight adverse (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary, secondary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			~~tallest structures on the site by year 15 and the magnitude of change will therefore remain negligible.~~		
			Night-time Year 15 There will be no change to the view.	Neutral	Neutral
			Year 1 At night, lighting on the proposed WWTP will be screened by intervening buildings and vegetation from Quy Mill. Skyglow above the site will be difficult to discern against the lit background of Cambridge and Milton. There will be no change to the view.		
5	Residents on	High	**Year 1**	Neutral	Neutral

Representative Visual	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance of effect	Significance of effect in
Newmarket Road around Quy Waters looking north-west		Vegetation growing along garden and field boundaries, along the dismantled railway line and bordering the A14 will screen views of the proposed WWTP (approximately 1.2km away). There will be no change to the view.		

Representative	Visual	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance of effect	Significance of effect in
			~~Year 15~~ ~~There will be no change to the view.~~		
			~~Night-time~~ ~~Year 1~~ ~~At night, lighting on the proposed WWTP will be screened by intervening buildings and vegetation from Stow cum Quy. Skyglow above the site will be difficult to discern against the lit background of Milton and Horningsea.~~ ~~There will be no change to the view.~~ ~~Year 15~~ ~~There will be no change to the view.~~	~~Neutral~~	~~Neutral~~
~~6~~	~~Users of~~	~~High~~	~~Year 1~~ Year 15 There will be no change to the view.	~~Slight adverse (not~~	~~Slight adverse (not~~
			Night-time Year 1 At night, lighting on the proposed WWTP will be screened by intervening buildings and vegetation from Stow cum Quy. Skyglow above the site will be difficult to discern against the lit background of Milton and Horningsea. There will be no change to the view. Year 15 There will be no change to the view.	Neutral	Neutral
6	Users of	High	Year 1	Slight adverse (not	Slight adverse (not

Representative	Visual	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance of effect	Significance of effect in
Byway Fen and Low Fen Drove Way	The Proposed Development (approximately 700m away) will introduce new infrastructure into existing views over farmland and the A14, from the Low Fen Drove Way bridge over the dual carriageway. From here, the earth bank and the structures of the proposed WWTP will be visible in filtered views through and above the tree-lined dismantled railway line. However, from most of Low Fen Drove Way and the byway, ground level views of the proposed WWTP will be screened by intervening	significant)	significant)	Ditton 85/14 west and north-west	

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			vegetation (including the tree belt along the dismantled railway line) adjacent to the track. The magnitude of change will be minor. **Year 15** Maturing woodland planting around the perimeter of the site and trees on the earth bank will screen the lower parts of the proposed WWTP from the bridge over the A14, but the taller structures will remain visible above the trees. From ground level, the combined screening provided by the 5m earth bank and planting on the bank will screen the majority of the proposed WWTP from view. The magnitude of change will remain minor.		
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
7	Residents of Orchard House, Black House and Hardwick House on High Ditch Road, Fen Ditton looking north	High	**Year 1** Vegetation growing along garden and field boundaries, along the dismantled railway line and bordering the A14 will largely screen views of the proposed WWTP (approximately 800m away) but the upper parts of the digesters, the boiler stack and biogas holder, visible above the trees in the background, will be uncharacteristic additions to existing views over farmland and the A14. The magnitude of change will be minor. **Year 15** The majority of the proposed WWTP will be screened by existing intervening vegetation and by maturing woodland	Slight adverse (not significant)	Slight adverse (not significant)

Representative of effect viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance in years 1 and 15 taking into account primary and tertiary mitigation measures Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			planting around the perimeter of the proposed WWTP. The top of the digesters, the boiler stack and biogas holder will be visible above the tree line but views will be further filtered by the maturing hedgerow and maturing tree planting on the	

Representative	Visual	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance of effect	Significance of effect in
			~~earth bank.~~ ~~The magnitude of change will remain minor.~~		
			~~**Night time**~~ ~~**Year 1**~~ ~~At night, the earth bank will screen the street lighting on the proposed WWTP site but the taller structures on the site will be slightly illuminated by reflected light at ground level when task lighting is in use and seen against a dark backdrop of unlit farmland.~~ ~~The magnitude of change will be minor.~~ ~~**Year 15**~~ ~~At night, the illuminated structures on the proposed WWTP will be visible above the maturing woodland planting and hedgerow and maturing tree planting on the earth bank when task lighting is in use.~~ ~~The magnitude of change will reduce to negligible.~~	~~Slight adverse (not significant)~~	~~Slight adverse (not significant)~~

			earth bank. The magnitude of change will remain minor.			
			Night-time **Year 1** At night, the earth bank will screen the street lighting on the proposed WWTP site but the taller structures on the site will be slightly illuminated by reflected light at ground level when task lighting is in use and seen against a dark backdrop of unlit farmland. The magnitude of change will be minor. **Year 15** At night, the illuminated structures on the proposed WWTP will be visible above the maturing woodland planting and hedgerow and maturing tree planting on the earth bank when task lighting is in use. The magnitude of change will reduce to negligible.	Slight adverse (not significant)	Slight adverse (not significant)
8	Future residents of the Marleigh Development (under construction)	High	**Year 1** A mature tree belt, approximately 40m wide, will screen the proposed WWTP from the new development (approximately 800m away). There will be no change to the view. **Year 15**	Neutral	Neutral
viewpoint	**receptor**		**tunnel and outfall arrangements**	**in years 1 and 15**	**year 15 taking into taking into account**	**account primary,**

Representative	Visual	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance of effect	Significance of effect in
				~~primary and tertiary mitigation measures~~	~~secondary and tertiary mitigation measures~~
	~~construction) looking north~~		~~There will be no change to the view.~~		
			~~**Night time**~~ ~~**Year 1**~~ ~~Lighting on the proposed WWTP will be obscured by the intervening tree belt and skyglow above the site will be difficult to discern beyond the lit foreground of the new development.~~ ~~There will be no change to the view.~~ ~~**Year 15**~~ ~~There will be no change to the view.~~	~~Neutral~~	~~Neutral~~
				primary and tertiary mitigation measures	secondary and tertiary mitigation measures
	construction) looking north		There will be no change to the view.		
			Night-time **Year 1** Lighting on the proposed WWTP will be obscured by the intervening tree belt and skyglow above the site will be difficult to discern beyond the lit foreground of the new development. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
9	Users of High Ditch Road looking north	Medium	**Year 1** Vegetation lining High Ditch Road, the A14 and the dismantled railway line and the 5m high earth bank will screen most views of the proposed WWTP from High Ditch Road (a	Slight adverse (not significant)	Slight adverse (not significant)

	minimum of 750m away). The taller structures such as the digesters, boiler stack and biogas holder will be visible between		gaps in the vegetation and above the tree line from the road, especially in the elevated view from the bridge over the dismantled railway line. Their presence will introduce additional infrastructure into the existing view over farmland and the A14. The magnitude of change will be minor. **Year 15** Maturing woodland planting around the perimeter of the site will further screen the lower parts of the proposed WWTP from High Ditch Road. The taller structures will remain visible above the woodland but views will be screened and filtered through the mature hedge and maturing tree planting on the e		
Representative viewpoint	**Visual receptor**	**Sensitivity**	**Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements**	**Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures**	**Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures**
			The magnitude of change will remain minor.		
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary, secondary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary and tertiary mitigation measures
10	Residents of High Ditch Road, Fen Ditton looking north-east	High	**Year 1** Vegetation lining garden boundaries, High Ditch Road and the A14 and the 5m high earth bank will screen the lower levels of the proposed WWTP from residential properties on High Ditch Road (a minimum of 800m away). The taller structures such as the gateway building, digesters, heating, pasteurisation and hydrolysis plant area, boiler stack and biogas holder will be visible above the vegetation. Views from ground level will be further partly screened by a hedgerow running north-south to the east of the properties. The visible new structures will be mainly grouped towards the southern end of the site (near the existing junction of pylons) and will occupy a relatively small proportion of the panorama, but they will be a noticeable and uncharacteristic addition to existing views over farmland and the A14. The magnitude of change will be moderate. **Year 15** Maturing woodland planting around the perimeter of the site will further screen the lower parts of the proposed WWTP, including the gateway building from High Ditch Road. The taller structures such as the digesters, heating, pasteurisation and hydrolysis plant area, boiler stack and biogas holder will remain visible above the woodland but they will be less prominent in	Moderate adverse (significant)	Slight adverse (not significant)

	the view as views will be partly screened and filtered by the mature hedge and maturing tree planting on the earth bank.
	The magnitude of change will reduce to minor.
	Verified photomontage 1 in Appendix 15.1 (App Doc Ref

Representative	Visual	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance of effect	Significance of effect in
			5.4.15.1) illustrates the view from High Ditch Road in years 1 and 15 (all mitigation measures incorporated).		
			Night time **Year 1** At night, the earth bank will screen the street lighting on the proposed WWTP site but the taller structures on the site will be slightly illuminated by reflected light at ground level when task lighting is in use and seen against a dark backdrop of unlit farmland. Views will be partly screened or filtered through intervening existing vegetation. The magnitude of change will be minor. **Year 15** Maturing mitigation planting will further filter and screen views of street lighting on the proposed WWTP, but the tops of the taller structures will remain apparent when task lighting is in use. The visitors' car park and gateway building will be additional sources of light during working hours in the winter months. The magnitude of change will remain minor.	Slight adverse (not significant)	Slight adverse (not significant)
11	Residents on	High	**Year 1**	Moderate adverse	Slight adverse (not

			5.4.15.1) illustrates the view from High Ditch Road in years 1 and 15 (all mitigation measures incorporated).		
			Night-time **Year 1** At night, the earth bank will screen the street lighting on the proposed WWTP site but the taller structures on the site will be slightly illuminated by reflected light at ground level when task lighting is in use and seen against a dark backdrop of unlit farmland. Views will be partly screened or filtered through intervening existing vegetation. The magnitude of change will be minor. **Year 15** Maturing mitigation planting will further filter and screen views of street lighting on the proposed WWTP, but the tops of the taller structures will remain apparent when task lighting is in use. The visitors' car park and gateway building will be additional sources of light during working hours in the winter months. The magnitude of change will remain minor.	Slight adverse (not significant)	Slight adverse (not significant)
11	Residents on the B1047 Horningsea	High	**Year 1** Vegetation lining property boundaries and the A14 and the earth bank will screen views of the lower parts of the proposed	Moderate adverse (significant)	Slight adverse (not significant)

Representative viewpoint	Visual receptor	Sensitivity of effect	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
	Road and Musgrave Way, Fen Ditton looking north and northeast		WWTP from Horningsea Road (approximately 500m away) but the taller structures such as the digesters, boiler stack and biogas holder will be apparent in mainly oblique views from a small number of residential properties at the northern end of Horningsea Road, near the A14. The infrastructure of the proposed WWTP will be an uncharacteristic addition to existing views over farmland and the A14. The magnitude of change will be moderate. **Year 15** Maturing woodland planting around the perimeter of the proposed WWTP site will further screen the lower parts of the proposed WWTP from Horningsea Road. The taller structures will remain visible above the woodland planting from a small number of residential properties but views will be partly screened or filtered through the mature hedge and maturing tree planting on the earth bank. ~~The magnitude of change will reduce to minor.~~		
			Night-time **Year 1** At night, the earth bank will screen the street lighting on the proposed WWTP site but the taller structures on the site will be slightly illuminated by reflected light at ground level when task lighting is in use and seen against a dark backdrop of unlit months.	Slight adverse (not significant)	Slight adverse (not significant)

Representative viewpoint	Visual receptor	Sensitivity of effect	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements in years 1 and 15 year 15 taking into	Significance	
				taking into account primary and tertiary mitigation measures	account primary, secondary and tertiary mitigation measures
			farmland. The visitors' car park and gateway building will be additional sources of light during working hours in the winter		
			Views will be partly screened or filtered through intervening existing vegetation. The magnitude of change will be minor. **Year 15** Maturing mitigation planting will further filter and screen views of lighting on the proposed WWTP, but the tops of the taller structures will remain apparent. The magnitude of change will remain minor.		
12	Users of the A14 looking north	Low	**Year 1** The proposed WWTP will be a prominent new feature of the A14 between the Horningsea Road and Low Fen Drove Way bridges. The earth bank (approximately 100m away) and vegetation growing along the A14 boundary and the dismantled railway line will screen the lower levels of the proposed WWTP, but the new infrastructure will be an uncharacteristic addition to existing open views over farmland. The magnitude of change will be moderate. **Year 15** Maturing woodland planting around the perimeter of the proposed WWTP site will screen the structures from the A14.	Slight adverse (not significant)	Slight adverse (not significant) passing views from the stretch of

Representative of effect	Visual	Significance of effect in	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance
		T h e e		xisting view will become more wooded and less open from the stretch of the road between the two bridges. The magnitude of change will reduce to minor.	
				Night-time Not assessed (non-residential receptor). **viewpoint receptor tunnel and outfall arrangements**	**in years 1 and 15 year 15 taking into taking into account account primary, primary and tertiary secondary and tertiary mitigation measures mitigation measures**
13	Residents in Gate House		High	**Year 1** Existing vegetation lining the dismantled railway line will screen the proposed WWTP from Gate House Drove Way (approximately 500m away) but where visible the taller structures such as the digesters, boiler stack and biogas holder, partially screened by the 5m high earth bank, will be noticeable additions to existing framed views over farmland. The magnitude of change will be moderate. **Year 15** By year 15, maturing woodland planting around the perimeter of the site will further screen the lower parts of the proposed WWTP from Gate House. The taller structures will remain visible above the woodland but views will be screened and filtered through the mature hedge and maturing tree planting	Moderate adverse (significant)	Slight adverse (not significant) on Low Fen partially looking west

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance in years 1 and 15 taking into account primary,	Significance year 15 taking into account primary, and tertiary
			~~on the earth bank.~~ ~~The magnitude of change will reduce to minor.~~		
			~~**Night-time**~~ ~~**Year 1**~~ ~~At night, the earth bank will screen the street lighting on the proposed WWTP site but the taller structures on the site will be slightly illuminated by reflected light at ground level when task lighting is in use and seen against a dark backdrop of unlit farmland.~~ ~~The magnitude of change will be minor.~~ ~~**Year 15**~~	~~Slight adverse (not significant)~~	~~Slight adverse (not significant)~~
			on the earth bank. The magnitude of change will reduce to minor.		
			Night-time **Year 1** At night, the earth bank will screen the street lighting on the proposed WWTP site but the taller structures on the site will be slightly illuminated by reflected light at ground level when task lighting is in use and seen against a dark backdrop of unlit farmland. The magnitude of change will be minor. **Year 15**	Slight adverse (not significant)	Slight adverse (not significant)

Representative Viewpoint	Visual Receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer mitigation measures	Significance of effect	Significance of effect in secondary and tertiary mitigation measures
			Maturing mitigation planting will further screen views of the proposed WWTP at night. The magnitude of change will remain minor.		
14	Residents of Station Road, Stow cum	High	**Year 1** Existing vegetation growing along garden and field boundaries will screen much of the proposed WWTP from view, but the	Slight adverse (not significant)	Slight adverse (not significant)

Representative of effect	Visual Significance of effect in	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance
	Quy and Quy		tops of the taller structures such as the digesters and boiler Hall looking stack will be clearly visible above the tree line (approximately south-west 1.7km away). They will be a perceptible feature in the background but will occupy a small proportion of the view and will be seen beyond a group of pylons immediately north of the new infrastructure. The magnitude of change will be minor. **Year 15** Mitigation planting will not be high enough to screen the ~~tallest structures on the site by year 15.~~ ~~The magnitude of change will remain minor.~~	
			Night-time **Year 1** Lighting on the proposed WWTP will be largely screened by intervening vegetation and skyglow above the site will be difficult to discern against the existing skyglow above Cambridge. The magnitude of change will be negligible. **Year 15**	Slight adverse (not significant)	Slight adverse (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			Mitigation planting will not be high enough to reduce nighttime views by year 15. The magnitude of change will remain negligible.		
15	Users of Bridleway Stow cum Quy 218/5 looking west	High	Existing tree belts and other vegetation growing along field boundaries will screen most of the proposed WWTP (approximately 2km away). The tops of the taller structures, such as the digesters and boiler stack, will be intermittently visible in the background, above the tree line and beyond a group of pylons immediately north of the new infrastructure. The proposed WWTP will, where visible, occupy a small proportion of the view. The magnitude of change will be negligible. **Year 15** Mitigation planting will not be high enough to screen the tallest structures on the site by year 15 and the magnitude of change will therefore remain negligible.	Slight adverse (not significant)	Slight adverse (not significant)
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed

Representative	Visual	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance	n
16	Visitors to Anglesey Abbey Registered Park and Garden looking south-west	High	**Year 1** Woodland around the Anglesey Abbey estate boundary will screen views of the proposed WWTP from the estate. The framed view from the south-western end of Coronation Avenue (approximately 3km away) will not be affected by the Proposed Development because this south-easterly view does not include the proposed WWTP. There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			Year 15 The proposed WWTP will not be visible from the estate. There will be no change to the view.		
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed

17	Users of Low Fen Drove Way and residents in residential property at Parsonage Farm looking south	High	**Year 1** The proposed WWTP will introduce large-scale infrastructure into existing views over the rural landscape, resulting in a substantial change to the view from the stretch of Low Fen Drove Way between Horningsea Road and Snout Corner. The cluster of taller structures at the southern end of the site, such as the digesters, biogas holder, boiler stack and nutrient recovery tower, will be visible above the 5m high earth bank (approximately 200m away) surrounding the site, but the majority of the proposed WWTP will be screened by the bank. The gateway building will also be apparent on the western side of the site. The bank will also screen moving vehicles on the A14 from much of Low Fen Drove Way. The magnitude of change will be major. **Year 15** By year 15 maturing hedgerow planting along Low Fen Drove Way and woodland planting around the perimeter of the site will screen the proposed WWTP from view. However, the existing view over farmland will become less open and more wooded. Moving vehicles on the A14 will no longer be visible. The magnitude of change will reduce to moderate.	Large adverse (significant)	Moderate adverse (significant)
viewpoint	**receptor**		**tunnel and outfall arrangements**	**in years 1 and 15 year 15 taking into taking into account account primary, primary and tertiary secondary and tertiary mitigation measures mitigation measures**	

Verified photomontage 6 in Appendix 15.1 (App Doc Ref

Representative of effect	Visual Significance of effect in	Sensitivity	Description of impacts– Proposed WWTP, associated transfer			Significance	
			~~5.4.15.1)~~ ~~illustrate the view from Low Fen Drove Way in years 1 and 15 (all mitigation measures incorporated).~~				
			Night-time **Year 1** At night, the earth bank will screen the street lighting on the proposed WWTP site but the taller structures on the site will be slightly illuminated by reflected light at ground level when task lighting is in use. The proposed WWTP will be surrounded by unlit farmland but seen against the background of street lighting in Fen Ditton and skyglow above Cambridge. The magnitude of change will be moderate. **Year 15** Maturing mitigation planting will largely screen views of street lighting on the proposed WWTP, from the future residential property at Parsonage Farm. The magnitude of change will reduce to minor.			Moderate adverse (significant~~(~~	Slight adverse (not significant)
			~~**Year 1**~~ ~~There will be a substantial change to existing views~~ ~~over farmland from the Horningsea Road bridge over the A14. The proposed WWTP~~ ~~will be the dominant feature of the view. The new infrastructure will be partially screened by the~~ ~~earth~~ ~~bank (approximately~~ ~~400m away)~~ ~~400~~this ~~slopes down to ground level~~ ~~north of the gateway building. The visitor car park and gateway building at the site entrance and the~~ ~~cluster of tall structures~~ ~~beyond, including the digesters, sludge import and~~				
18	Users of Road from the A14 bridge looking east	Medium	Large adverse	Moderate adverse	Horningsea	(significant)	(significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			screening plant, heating, pasteurisation and hydrolysis plant area, nutrient harvesting tower and boiler stack, will be clearly visible from the bridge. The structures of the proposed WWTP will occupy the majority of the view. The magnitude of change will be major. **Year 15** The mature hedgerow and maturing tree planting around the earth bank will filter views of the visitor car park and many of the structures on the proposed WWTP but where the earth bank descends to ground level, the gateway building and infrastructure beyond, including the digesters, heating, pasteurisation and hydrolysis plant area, nutrient harvesting tower and boiler stack, will remain clearly visible. The existing view over farmland will become less open and more wooded. The magnitude of change will remain major. Verified photomontage 5 in Appendix 15.1 (App Doc Ref 5.4.15.1) illustrates the view from the Horningsea Road bridge in years 1 and 15 (all mitigation measures incorporated).		
			Night-time Not assessed (non-residential receptor)	Not assessed	Not assessed

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance in years 1 and 15 year 15 taking into account primary, secondary and tertiary mitigation measures	Significance in years 1 and 15 year 15 taking into account primary, primary and tertiary mitigation measures
19	Residents of Green End and Footpath Fen Ditton 85/3 looking north-east	High	**Year 1** Vegetation lining property boundaries and the A14 and houses on Horningsea Road will screen views of the lower parts of the proposed WWTP from the footpath, the nearby sports pitches and the majority of residential properties on Green End (approximately 1km away). The taller structures such as the digesters and boiler stack will be visible in the background of existing views over farmland, but they will occupy a relatively small proportion of the view, close to a group of pylons. The magnitude of change will be minor. **Year 15** The taller structures on the proposed WWTP will remain visible in the background but views will be further screened and filtered by the mature hedge and maturing tree planting on the	Slight adverse (not significant)	Slight adverse (not significant)

	~~earth bank.~~ ~~The magnitude of change will remain minor.~~		
	~~**Night-time**~~ ~~**Year 1**~~ ~~At night, the earth bank will screen the street lighting on the proposed WWTP site but the taller structures on the site will be slightly illuminated by reflected light at ground level when task lighting is in use and will be seen against a dark backdrop of unlit farmland. Views will be partly screened or filtered through intervening existing vegetation.~~ ~~The magnitude of change will be minor.~~ ~~**Year 15**~~ ~~Maturing planting on the earth bank will further filter and screen views of lighting on the proposed WWTP, but the tops of the taller structures will remain apparent when task lighting is in use.~~ ~~The magnitude of change will remain minor.~~	~~Slight adverse (not significant)~~	~~Slight adverse (not significant)~~

Representative	Visual Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance of eff
		Significance of effect in	
		earth bank. The magnitude of change will remain minor.	
Night-time **Year 1** At night, the earth bank will screen the street lighting on the proposed WWTP site but the taller structures on the site will be slightly illuminated by reflected light at ground level when task lighting is in use and will be seen against a dark backdrop of unlit farmland. Views will be partly screened or filtered through intervening existing vegetation. The magnitude of change will be minor. **Year 15** Maturing planting on the earth bank will further filter and screen views of lighting on the proposed WWTP, but the tops of the taller structures will remain apparent when task lighting is in use. The magnitude of change will remain minor.	Slight adverse (not significant)	Slight adverse (not significant)	

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance in years 1 and 15 year 15 taking into account primary, secondary and tertiary mitigation measures	Significance in year 15 taking into account primary, secondary and tertiary mitigation measures
20	Residents of Fen Road looking north Ditton.	High	**Year 1** The proposed WWTP will be screened from Fen Road by intervening vegetation growing along the River Cam and A14 and in Fen There will be no change to the view.	Neutral	Neutral

Representative effect	Visual	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance of effect in	Significance of effect in
			~~**Year 15**~~ ~~There will be no change to the view.~~		
			~~**Night-time**~~ ~~**Year 1**~~ ~~Lighting on the proposed WWTP will be screened by intervening vegetation and skyglow above the site will be difficult to discern in the context of existing skyglow above Cambridge to the west.~~ ~~There will be no change to the view.~~ ~~**Year 15**~~ ~~There will be no change to the view.~~	~~Neutral~~	~~Neutral~~
			Year 15 There will be no change to the view.		
			Night-time **Year 1** Lighting on the proposed WWTP will be screened by intervening vegetation and skyglow above the site will be difficult to discern in the context of existing skyglow above Cambridge to the west. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral

21	Residents at Northern Bridge Farm looking south	High	**Year 1** The proposed WWTP will be screened from Northern Bridge Farm by intervening vegetation growing along the River Cam and A14 and in Fen Ditton. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time	Neutral	Neutral
viewpoint	**receptor**		**tunnel and outfall arrangements**	**in years 1 and 15 year 15 taking into taking into account account primary, primary and tertiary secondary and tertiary mitigation measures mitigation measures**	
			Year 1 Lighting on the proposed WWTP will be screened by intervening vegetation and skyglow above the site will be difficult to discern against the existing skyglow above Cambridge. There will be no change to the view. **Year 15** There will be no change to the view.		
22	Residents of Poplar Hall and Poplar Hall Farmhouse looking south,	High	**Year 1** The proposed WWTP will be screened from Northern Bridge Farm by intervening vegetation growing along the River Cam and A14 and in Fen Ditton. The area of disturbed land on the site of shaft 4 will be apparent for a short period of time in views from Red House Close and the ProW until the reseeded grassland has become re-established. residents of	Slight adverse (not significant)	Neutral

Representative of effect	Visual Significance of effect in	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance
	Red House The magnitude of change will be minor. Close looking north and ~~Footpath Fen Ditton 85/6 adjacent~~	The land affected by the tunnelling works will have been restored to pasture.	**Year 15** The land affected by the tunnelling works will have been users of ~~There will be no change to the view.~~ ~~**Night-time**~~ ~~**Year 1**~~ ~~Lighting on the proposed WWTP will be screened by intervening vegetation and skyglow above the site will be difficult to discern against the existing skyglow above Cambridge.~~	~~Neutral~~	~~Not assessed~~
	Footpath Fen Ditton 85/6 adjacent looking north and south		There will be no change to the view. **Night-time** **Year 1** Lighting on the proposed WWTP will be screened by intervening vegetation and skyglow above the site will be difficult to discern against the existing skyglow above Cambridge.	Neutral	Not assessed

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			There will be no change to the view. **Year 15** There will be no change to the view.		

Representative of effect	Visual Significance of effect in	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance	
23	Users of Footpath Milton 162/1 and users of the River Cam looking east	High	**Year 1** The treated effluent discharge outfall will be a long, low, concrete structure, built into the eastern bank of the river. It will be visible from a short stretch of the towpath (approximately 300m long) between the A14 bridge and a bend in the River Cam, just south of Baits Bite Lock. The outfall will not be a wholly uncharacteristic addition to the view since there are many similar structures associated with river engineering along the river corridor. It will also be seen in the context of the A14 bridge over the river Cam and the power line which crosses the river at this point. The tallest structures of the proposed WWTP will be visible in the background of the view, partially screened by intervening vegetation and the elevated Horningsea Road bridge embankments. The land disturbed during the construction of the treated effluent pipeline will be restored at the end of construction and approximately four small trees removed during construction will be replaced. The magnitude of change will be moderate. **Year 15** By year 15, the concrete of treated effluent discharge outfall will have weathered and the river bank vegetation either side of the outfall will have naturally regenerated, integrating the structure into the view. It will remain visible, however from a short stretch of the towpath. Background views of the	Moderate adverse (significant)	Slight adverse (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			proposed WWTP will be further screened by maturing replacement planting on the eastern Horningsea Road bridge embankment and immediately east of the outfall. The magnitude of change will reduce to minor.		
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
24	Residents at Biggin Abbey House and associated cottages and users of Footpath Fen Ditton 85/8 looking south and east	High	**Year 1** The land disturbed during the construction of the treated effluent pipeline will be restored at the end of construction to its former condition as an arable field. The proposed WWTP will be partially screened from Biggin Abbey House and associated cottages by intervening vegetation growing along property boundaries, Biggin Lane and the Horningsea Road. The 5m high earth bank (approximately 400m away) and the Horningsea Road bridge embankments will screen the majority of structures on the site from the PRoW and upper floor windows, but the taller structures, including the digesters, boiler stack, heating, pasteurisation and hydrolysis plant area and nutrient harvesting tower will be discernible in the background of the existing view over open farmland and Horningsea Road. The magnitude of change will be moderate. **Year 15** The maturing woodland planting around the perimeter of the proposed WWTP will screen the new infrastructure of the proposed WWTP but as a result, the existing view over farmland will become less open, with a wooded background.	Moderate adverse (significant)	Slight adverse (not significant)

Representative of effect viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance in years 1 and 15 taking into account primary and tertiary mitigation measures Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			The magnitude of change will reduce to minor. Verified photomontage 2 in App Doc Ref 5.4.16 illustrates the view from Biggin Abbey House and associated cottages and	

			~~Footpath Fen Ditton 85/8 in years 1 and 15 (all mitigation measures incorporated).~~		
			~~**Night time**~~ ~~**Year 1**~~ ~~At night, the earth bank will screen the street lighting on the proposed WWTP site but the taller structures on the site will be slightly illuminated by reflected light at ground level when task lighting is in use and will be seen against a dark backdrop of unlit farmland. Views will be filtered through intervening vegetation growing along property boundaries, Biggin Lane and Horningsea Road.~~ ~~The magnitude of change will be minor.~~ ~~**Year 15**~~ ~~Maturing woodland planting will largely screen views of lighting on the proposed WWTP. the tops of the taller structures will remain apparent.~~ ~~The magnitude of change will reduce to negligible.~~	~~Slight adverse (not significant)~~	~~Slight adverse (not significant)~~
~~25~~	~~Users of~~	~~Medium~~	~~**Year 1**~~	~~Large adverse~~	~~Moderate adverse~~

			Footpath Fen Ditton 85/8 in years 1 and 15 (all mitigation measures incorporated). **Night-time** **Year 1** At night, the earth bank will screen the street lighting on the proposed WWTP site but the taller structures on the site will be slightly illuminated by reflected light at ground level when task lighting is in use and will be seen against a dark backdrop of unlit farmland. Views will be filtered through intervening vegetation growing along property boundaries, Biggin Lane and Horningsea Road. The magnitude of change will be minor. **Year 15** Maturing woodland planting will largely screen views of lighting on the proposed WWTP, the tops of the taller structures will remain apparent. The magnitude of change will reduce to negligible.	Slight adverse (not significant)	Slight adverse (not significant)
25	Users of shared path along Horningsea Road looking south-east	Medium	**Year 1** The proposed WWTP will introduce large-scale infrastructure into existing views over the rural landscape, resulting in a substantial change to the view from Horningsea Road. The new structures of the WWTP will be partially screened by the 5m high earth bank (approximately 400m away), but the taller structures, including the gateway building, digesters, boiler	Large adverse (significant)	Moderate adverse (significant) foot/cycle

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures

			stack, heating, pasteurisation and hydrolysis plant area, and biogas holder, will be prominent in the view, breaking the skyline. Vegetation removed during the construction of site access road will increase the visibility of the A14 adjacent to the bridge over the A14. A wide proportion of the view will be affected by the Proposed Development. The magnitude of change will be major. **Year 15** Maturing hedgerow planting along Low Fen Drove Way and woodland planting around the perimeter of the site will screen the proposed WWTP from much of Horningsea Road. However, from nearer Horningsea, the boiler stack will be apparent as a narrow element in the view and the tops of the digesters and liquor handling plant will be visible in views filtered through the trees and hedgerow growing on the earth bank. The existing view over farmland will become less open and more wooded and the moving vehicles on the A14 will no longer be visible. The magnitude of change will reduce to moderate. Verified photomontages 3 and 4 in Appendix 15.1 (App Doc Ref 5.4.15.1) illustrate the view from two locations along the cycle path on Horningsea Road in years 1 and 15 (all mitigation measures incorporated).		
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
Representative viewpoint	**Visual receptor**	**Sensitivity**	**Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements**	**Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures**	**Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures**

26	Users of Footpath Horningsea 130/1, Footpath Horningsea 130/2 and Footpath Fen Ditton 85/7 (Harcamlow Way and Fen Rivers Way) looking east	High	**Year 1** Views of the proposed WWTP (approximately 700m away) will be filtered and partially screened by intervening vegetation along the Horningsea Road and the approach to Biggin Abbey, a slight rise in the land towards the proposed WWTP site and the 5m high earth bank on the site. The taller structures, including the digesters, boiler stack and biogas holder will break the skyline and will be uncharacteristic new features in existing views over open farmland. The magnitude of change will be moderate. **Year 15** The maturing woodland planting around the perimeter of the proposed WWTP will screen the new infrastructure of the proposed WWTP but the existing view over farmland will become less open, with a wooded background. The magnitude of change will reduce to minor.	Moderate adverse (significant)	Slight adverse (not significant)
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
27	Users of Footpath Milton 162/1 (Fen Rivers Way/Haling Way along the River Cam) and residential	High	**Year 1** Vegetation growing around residential properties (including Biggin Abbey House), along the River Cam and along farmland watercourses will filter and partially screen views of the proposed WWTP from the footpath and residential properties nearby (approximately 1km away). However, the tops of the taller structures on the site, including the digesters and boiler stack, will be visible in glimpsed views between gaps in the tree line.	Slight adverse (not significant)	Slight adverse (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance in years 1 and 15 year 15 taking into account primary, secondary and tertiary mitigation measures
	properties at Baits Bite Lock looking east		The magnitude of change will be minor. **Year 15** Mitigation planting will not be high enough to screen the tallest structures on the site by year 15 and the magnitude of	

Representative of effect	Visual	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance	Significance of effect in
			~~change will therefore remain minor.~~		
			~~**Night time**~~ ~~**Year 1**~~ ~~At night, the earth bank will screen the street lighting on the proposed WWTP site but the taller structures on the site will be slightly illuminated by reflected light at ground level when task lighting is in use and will be seen against a dark backdrop of unlit farmland.~~ ~~The magnitude of change will be minor.~~ ~~**Year 15**~~ ~~Mitigation planting will not be high enough to reduce impacts on night-time views by year 15.~~ ~~The magnitude of change will remain minor.~~	~~Slight adverse (not significant)~~	~~Slight adverse (not significant)~~
~~28~~	~~Residents of~~	~~High~~	~~**Year 1**~~	~~Slight adverse (not~~	~~Slight adverse (not~~

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance in years 1 and 15 taking into account primary, secondary and tertiary mitigation measures	Significance year 15 taking into account primary, and tertiary mitigation measures
			change will therefore remain minor.		
			Night-time **Year 1** At night, the earth bank will screen the street lighting on the proposed WWTP site but the taller structures on the site will be slightly illuminated by reflected light at ground level when task lighting is in use and will be seen against a dark backdrop of unlit farmland. The magnitude of change will be minor. **Year 15** Mitigation planting will not be high enough to reduce impacts on night-time views by year 15. The magnitude of change will remain minor.	Slight adverse (not significant)	Slight adverse (not ~~(~~significant)
28	Residents of High St, Horningsea	High	**Year 1** Views from residential properties in Horningsea of the proposed WWTP (a minimum of 850m away) will be screened looking south and filtered by vegetation growing along property and field boundaries. The properties nearest the southern boundary of the village are either single storey or their main windows face away from the proposed WWTP site. However, the tallest structures of the proposed WWTP such as the digesters, heating, pasteurisation and hydrolysis plant area and boiler	Slight adverse (not significant)	Slight adverse (not significant)

Representative of effect	Visual Significance of effect in	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance
			stack, may be visible above the tree line or in glimpsed views, especially from back gardens. The magnitude of change will be minor. **Year 15** Maturing additional planting in the existing shelter belt between Horningsea and the proposed WWTP will largely screen views of the new infrastructure from residential	

Representative of effect	Visual	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance	
			~~properties in Horningsea.~~ ~~The magnitude of change will reduce to negligible.~~		
			~~**Night time**~~ ~~**Year 1**~~ ~~At night, the earth bank will screen the street lighting on the proposed WWTP site but the taller structures on the site will be slightly illuminated by reflected light at ground level when task lighting is in use and will be seen against a dark backdrop of unlit farmland.~~ ~~The magnitude of change will be minor.~~ ~~**Year 15**~~ ~~Maturing mitigation planting will largely screen the proposed WWTP at night from residential properties in Horningsea.~~ ~~The magnitude of change will reduce to negligible.~~	~~Slight adverse (not significant)~~	~~Slight adverse (not significant)~~
~~29~~	~~Residents of~~	~~High~~	~~**Year 1**~~	~~Slight adverse (not~~	~~Slight adverse (not~~

Representative viewpoint	Visual receptor	Sensitivity of effect	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			properties in Horningsea. The magnitude of change will reduce to negligible.		
			Night-time **Year 1** At night, the earth bank will screen the street lighting on the proposed WWTP site but the taller structures on the site will be slightly illuminated by reflected light at ground level when task lighting is in use and will be seen against a dark backdrop of unlit farmland. The magnitude of change will be minor. **Year 15** Maturing mitigation planting will largely screen the proposed WWTP at night from residential properties in Horningsea. The magnitude of change will reduce to negligible.	Slight adverse (not significant)	Slight adverse (not ~~(~~significant)
29	Residents of Clayhithe Road and visitors to the Gayton Farm campsite, Horningsea	High	**Year 1** Views of the proposed WWTP will be screened from gardens and ground floor windows of most residential properties on Clayhithe Road, but the taller structures of the proposed WWTP, such as the digesters and boiler stack, will be visible above the earth bank in the background of the view from upper floor windows and the campsite (a minimum of 1.2km away).	Slight adverse (not significant)	Slight adverse (not significant)

Representative of effect	Visual Significance of effect in	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance
	looking south and east		The magnitude of change will be minor.	
			Year 15 Maturing mitigation planting on the earth bank will filter or screen views of the majority of the proposed WWTP, but the tops of the tallest structures will remain visible above the vegetation. The magnitude of change will reduce to negligible.	

Representative of effect	Visual Significance of effect in	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance	
			~~Night-time~~ ~~Year 1~~ ~~The taller structures on the proposed WWTP will be discernible in filtered views at night against a dark backdrop of unlit farmland when task lighting is in use. Skyglow above Cambridge will be evident in the background.~~ ~~The magnitude of change will be minor.~~ ~~Year 15~~ ~~Maturing mitigation planting will largely screen the proposed WWTP at night from residential properties on Clayhithe Road.~~ ~~The magnitude of change will reduce to negligible.~~	~~Slight adverse (not significant)~~	~~Slight adverse (not significant)~~
~~30~~	~~Users of~~	~~High~~	~~Year 1~~ Night-time Year 1 The taller structures on the proposed WWTP will be discernible in filtered views at night against a dark backdrop of unlit farmland when task lighting is in use. Skyglow above Cambridge will be evident in the background. The magnitude of change will be minor. Year 15 Maturing mitigation planting will largely screen the proposed WWTP at night from residential properties on Clayhithe Road. The magnitude of change will reduce to negligible.	~~Slight adverse (not~~ Slight adverse (not significant)	~~Slight adverse (not~~ Slight adverse (not significant)
30	Users of Footpath Horningsea	High	Year 1 The proposed WWTP (a minimum of 1.5km away) will be screened from view by existing intervening vegetation from	Slight adverse (not significant)	Slight adverse (not significant)

Representative of effect	Visual Significance of effect in	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance
	130/5 and Footpath		much of the PRoW. The taller structures of the proposed WWTP are situated at the southern end of the site, away from	

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
	Horningsea 130/6 and Bridleway Horningsea 130/8 (Harcamlow Way) looking west and south		the viewpoint, but they, along with the earth bank, will be visible in the background of the view between gaps in the existing intervening tree belts and where the landscape is more open. The magnitude of change will be minor. **Year 15** Maturing mitigation planting on the earth bank will partially screen and filter views of the proposed WWTP, but the tops of the taller structures on the site will remain visible above the vegetation in the background of the view where there are gaps in the existing intervening tree belts. Where visible, the proposed WWTP will occupy a small proportion of the view. The magnitude of change will reduce to negligible. Verified photomontage 7 in Appendix 15.1 (App Doc Ref 5.4.15.1) illustrates the view from Footpath Horningsea 130/6 in years 1 and 15 (all mitigation measures incorporated).		
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
31	Residents of Allicky Farm and users of Bridleway Stow cum Quy 218/5 looking south-west	High	**Year 1** The proposed WWTP (approximately 1.5km away) will be largely screened by existing tree and shrub belts lining field boundaries from Allicky Farm, but glimpses of taller structures such as the digesters and boiler stack will be possible in the background from the bridleway between gaps in the tree and shrub belts lining field boundaries. The magnitude of change will be negligible.	Slight adverse (not significant)	Slight adverse (not significant)

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15

			taking into account primary and tertiary mitigation measures		
			~~tallest structures on the site by year 15.~~ ~~The magnitude of change will remain negligible.~~		
			~~**Night time**~~ tallest structures on the site by year 15. ~~**Year 1**~~ The magnitude of change will remain negligible. ~~At night the proposed WWTP will be largely screened by~~	~~Slight adverse (not significant)~~	~~Slight adverse (not significant)~~
			Night-time **Year 1** At night the proposed WWTP will be largely screened by existing tree and shrub belts but there may be glimpses of the taller structures on the proposed WWTP above intervening vegetation when task lighting is in use. Skyglow above Cambridge will be evident in the background. The magnitude of change will be negligible. **Year 15** Mitigation planting will not be high enough to screen the tallest structures on the site by year 15. The magnitude of change will remain negligible.	Slight adverse (not significant)	Slight adverse (not significant)
~~32~~	~~Visitors to Quy Fen and~~	~~High~~			
32	Visitors to Quy Fen and	High	**Year 1** The proposed WWTP (approximately 2km away) will be largely screened by existing tree and shrub belts lining field boundaries but the taller structures such as the digesters and boiler stack might be visible in the background between gaps in the tree and shrub belts lining field boundaries. The magnitude of change will be negligible. **Year 15** Mitigation planting will not be high enough to screen the users of Footpath Stow cum Quy 218/8 looking south-west **Year 15**	Slight adverse (not significant)	Slight adverse (not significant)

Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			Mitigation planting will not be high enough to screen the tallest structures on the site by year 15. The magnitude of change will remain negligible.		
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
33	Users of Footpath Horningsea 130/10 and residents at Eye Hall Farm and Mulberry House Farm looking east	High	**Year 1** adverse (not significant) The taller structures on the proposed WWTP, such as the digesters and boiler stack (approximately 2.4km away) may be visible in the background of the view from the footpath, but at this distance from the site they will be barely noticeable. The proposed WWTP will be screened from Eye Hall Farm and Mulberry House Farm by intervening vegetation growing around the properties and in the landscape. The magnitude of change will be negligible. **Year 15** Mitigation planting will not be high enough to screen the tallest structures on the site by year 15.	Slight adverse (not significant)	The magnitude of change will remain negligible.
			Night-time **Year 1** The proposed WWTP at night will be screened will be screened from Eye Hall Farm and Mulberry House Farm by intervening vegetation growing around the properties and in the landscape. There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			Year 15 There will be no change to the view.		
34	Residents of Clayhithe Road, Horningsea looking east	High	**Year 1** The proposed WWTP will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view.	Neutral	Neutral

			~~**Year 15**~~ ~~There will be no change to the view.~~		
			~~**Night time**~~ ~~**Year 1**~~ ~~The proposed WWTP at night will be screened will be screened from residential properties on Clayhithe Road by intervening vegetation growing around the properties and in the landscape.~~ ~~There will be no change to the view.~~ ~~**Year 15**~~ ~~There will be no change to the view.~~	~~Neutral~~	~~Neutral~~
~~35~~	~~Users of the~~	~~High~~	~~**Year 1**~~ **Year 15** There will be no change to the view.	~~Neutral~~	~~Neutral~~
			Night-time **Year 1** The proposed WWTP at night will be screened will be screened from residential properties on Clayhithe Road by intervening vegetation growing around the properties and in the landscape. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
35	Users of the Cambridge Motorboat Club and Cam Sailing	High	**Year 1** The proposed WWTP will be screened from view by intervening vegetation growing along the River Cam and field boundaries.	Neutral	Neutral

	Club and users of	There will be no change to the view. **Year 15**

Representative of effect	Visual	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance	Significance of effect in
36	Residents at Northfields Farm and Northfields Farm	High	**Year 1** The proposed WWTP will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view.	Neutral	Neutral

Representative of effect	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance in years 1 and 15	Significance of effect in year 15 taking into account primary and tertiary mitigation measures	Significance of effect in viewpoint taking into account primary, secondary and tertiary mitigation measures
	Cottages Footpath looking east		There will be no change to the view.			
			Night-time Not assessed (non-residential receptor).		Not assessed	Not assessed
	Horningsea looking south west		**Year 15** There will be no change to the view.			
			Night-time **Year 1** The proposed WWTP at night will be screened will be screened from Northfields Farm and Northfields Farm Cottages by intervening vegetation growing around the properties and in the landscape. There will be no change to the view. **Year 15** There will be no change to the view.		Neutral	Neutral
37		High	**Year 1**		Neutral	Neutral

Representative of effect	Visual	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance
Significance of effect in				
	130/12 and Footpath Horningsea 130/13			

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary, secondary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
	Residents in Burgess Road and users of Bridleway Waterbeach		The proposed WWTP will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view.		

Representative effect	Visual	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance of effect in	Significance of
	~~247/10 looking east~~		~~**Year 15**~~ ~~There will be no change to the view.~~		
			~~**Night-time**~~ ~~**Year 1**~~ ~~The proposed WWTP at night will be screened will be screened by intervening vegetation growing around the properties and in the landscape.~~ ~~There will be no change to the view.~~ ~~**Year 15**~~ ~~There will be no change to the view.~~	~~Neutral~~	~~Neutral~~
	247/10 looking east		**Year 15** There will be no change to the view.		
			Night-time **Year 1** The proposed WWTP at night will be screened will be screened by intervening vegetation growing around the properties and in the landscape. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary, secondary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, and tertiary mitigation measures
38	Residents close to Bottisham Lock and Bannold Road looking west	High	**Year 1** The proposed WWTP will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time **Year 1** The proposed WWTP at night will be screened will be screened by intervening vegetation growing around the properties and in the landscape. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
39	Residents in Capper Road looking north-east	High	**Year 1** The proposed WWTP will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view.	Neutral	Neutral

Representative of effect	Visual Significance of effect in	Sensitivity	Description of impacts– Proposed WWTP, associated transfer	Significance	
			~~Year 15~~ ~~There will be no change to the view.~~		
			~~Night-time~~ ~~Year 1~~ ~~The proposed WWTP at night will be screened will be screened by intervening vegetation growing around the properties and in the landscape.~~ ~~There will be no change to the view.~~ ~~Year 15~~ ~~There will be no change to the view.~~	~~Neutral~~	~~Neutral~~
~~40~~	~~Users of Byway~~	~~High~~	~~Night-time~~ ~~Year 1~~ Year 15 There will be no change to the view.	~~Neutral~~	~~Neutral~~
			Night-time Year 1 The proposed WWTP at night will be screened will be screened by intervening vegetation growing around the properties and in the landscape. There will be no change to the view. Year 15 There will be no change to the view.	Neutral	Neutral
40	Users of Byway	High	Night-time Year 1	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impacts– Proposed WWTP, associated transfer tunnel and outfall arrangements	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
	Waterbeach 247/14 looking south		The proposed WWTP at night will be screened will be screened by intervening vegetation growing around the properties and in the landscape. There will be no change to the view. **Year 15** There will be no change to the view.		
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
41	Visitors to Ely Cathedral looking south	High	**Year 1** The proposed WWTP (approximately 14 km away) will not be discernible in the view from Ely Cathedral due to the distance of the proposed WWTP from the viewpoint. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed

Waterbeach Transfer Pipeline

4.3.8 This section sets out the assessment of effects in relation to the Waterbeach Pipeline which consists of a transfer section running from the north near Waterbeach to Low Fen Drove Way, a section crossing the area of land required for the construction of the proposed WWTP, a section south of the A14 which connects to the area of land where the Existing Cambridge WWTP is located. ***Landscape character***

4.3.9 A description of the potential effect on landscape character in years 1 and 15, taking into account primary and tertiary mitigation, and the potential residual effect in year 15, taking into account primary, secondary and tertiary mitigation (when mitigation planting will have a screening and integrating effect) is set out in Table 4-7.

Table 4-7: Landscape effects during operation – Waterbeach pipeline

LCA	Sensitivity	Description of impacts	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
Eastern Fen Edge Chalklands LCA	Medium	**Year 1** The Eastern Fen Edge Chalklands LCA will be affected in year 1 of operation by the disturbance of the land during the construction of the Waterbeach pipeline. The 30m wide pipeline corridor between Fen Ditton and Horningsea and the areas of land disturbed by the excavation of drill pits will be restored to agricultural use at the end of construction. These areas affected will be evident in the first year of operation, before any replacement planting or seeding has become established but will be screened from the wider landscape by existing vegetation. A relatively small proportion of the LCA and its setting will be affected. The magnitude of change will be minor. **Year 15** The land will be fully restored by year 15. The magnitude of change will be negligible.	Slight adverse (not significant)	Neutral

LCA	Sensitivity Significance	Description of impacts Significance of		
River Cam Corridor LCA	Medium	**Year 1** The River Cam Corridor LCA will be affected in year 1 of operation due to the disturbance of the land during construction along a short section of the Waterbeach Pipeline between the Existing Cambridge WWTP and Fen Road. The land affected will be evident in the first year of operation, before the existing pasture has become reestablished, but will be screened from the wider landscape by existing vegetation. A small proportion of the LCA and its setting will be affected. The magnitude of change will be minor. **Year 15** The land will be fully restored by year 15. The magnitude of change will be negligible.	Slight adverse (not significant) **of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only**	Neutral **effect in year 15 taking into account primary, secondary and tertiary mitigation measures**

LCA	Sensitivity Significance	Description of impacts Significance of		
Waterbeach-Lode Fen LCA	Medium	**Year 1** The Waterbeach-Lode Fen LCA will be affected in year 1 of operation due to the disturbance of the land during construction of the Waterbeach Pipeline and the removal of two sections of hedgerow (during construction). The 30m wide corridor of land disturbed by the construction of the Waterbeach Pipeline through farmland between Horningsea and Waterbeach and the areas of land disturbed by the excavation of drill pits near Waterbeach will be restored to agricultural use at the end of construction. These areas affected will be evident in the first year of operation, before any replacement planting or seeding has become established but will be screened from the wider landscape by existing vegetation. A relatively small proportion of the LCA and its setting will be affected. The magnitude of change will be minor. **Year 15** Maturing trees and hedgerows, planted at the end of construction to replace vegetation removed during the pipeline works, will restore the landscape along the pipeline corridor by year 15. The magnitude of change will reduce to negligible.	Slight adverse (not significant)	Neutral
			of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	**effect in year 15 taking into account primary, secondary and tertiary mitigation measures**

LCA	Sensitivity Significance	Description of impacts Significance of	of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	effect in year 15 taking into account primary, secondary and tertiary mitigation measures
Western Fen Edge Claylands LCA	Medium	**Year 1** The route of the Waterbeach Pipeline will be screened from the Western Fen Edge Claylands LCA by vegetation growing along the River Cam, on the outskirts of settlements and field boundaries. The magnitude of change will be negligible. **Year 15** The magnitude of change on the Western Fen Edge Claylands LCA will remain negligible.	Neutral	Neutral
North-east Cambridge LCA	Low	**Year 1** The route of the Waterbeach Pipeline will be screened from the North-east Cambridge LCA by vegetation growing around the site of the Existing Cambridge WWTP, along the A14 and on the outskirts of the city. The magnitude of change will be negligible. **Year 15** The magnitude of change on the North-east Cambridge LCA will remain negligible.	Neutral	Neutral

LCA	Sensitivity	Description of impacts	Significance of	
Cambridge Airport LCA	Low	**Year 1** The route of the Waterbeach Pipeline will be screened from the Cambridge Airport LCA by intervening vegetation growing along the A14 and A1303. The magnitude of change will be negligible. **Year 15** The magnitude of change on the Cambridge Airport LCA will remain negligible.	Neutral	Neutral
Little Wilbraham Fen	Medium	**Year 1** The route of the Waterbeach Pipeline will be screened from the Little Wilbraham Fen LCA by intervening vegetation growing along Quy Water, the A14 and A1303. The magnitude of change will be negligible. **Year 15** The magnitude of change on the Little Wilbraham Fen LCA will remain negligible.	Neutral	Neutral

Visual amenity

4.3.10 A description of the potential effect on visual amenity in years 1 and 15 (taking into account primary and tertiary mitigation) and the potential residual effect in year 15 (taking into account primary, secondary and tertiary mitigation, when mitigation planting will have a screening and integrating effect) caused by each identified impact is set out in Table 4-8.

Table 4-8: Visual effects during operation – Waterbeach pipeline

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
1	Users of the Little Wilbraham Road looking north-west	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing on property, road and field boundaries. There will be no change to the view. Year 15 There will be no change to the view.	Neutral	Neutral
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
2	Users of Footpath Teversham 229/6 and the PRoW network in and around Little Wilbraham Fen looking north-west	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing along the A14 and field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
3	Residents of Church Road and Orchard Street, Stow cum Quy looking west	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening woodland belts and vegetation growing on property and field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Neutral	Neutral
4	Users of Footpath Stow cum Quy 218/2 (Harcamlow Way) and guests at the Quy Mill Hotel looking north-west	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing along watercourses and field boundaries. There will be no change to the view. Year 15 There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Neutral	Neutral
5	Residents on Newmarket Road around Quy Waters looking north-west	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Neutral	Neutral
6	Users of Byway Fen Ditton 85/14 and Low Fen Drove Way west and north-west	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing along field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
7	Residents of Orchard House, Black House and Hardwick House on High Ditch Road, Fen Ditton looking north	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed
8	Future residents of the Marleigh Development (under construction) looking north	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by an intervening mature tree belt north of the development. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed
9	Users of High Ditch Road looking north	Medium	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
10	Residents of High Ditch Road, Fen Ditton looking northeast	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed
11	Residents on the B1047 Horningsea Road and Musgrave Way, Fen Ditton looking north and north-east	High	**Year 1** The route of the Waterbeach Pipeline will be restored to arable farmland and will no longer be evident. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed
12	Users of the A14 looking north	Low	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing along the road and field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
13	Residents in Gate House on Low Fen Drove Way looking west	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing along the dismantled railway line and field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed
14	Residents of Station Road, Stow cum Quy and Quy Hall looking south-west	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed
15	Users of Bridleway Stow cum Quy 218/5 looking west	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing along field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
16	Visitors to Anglesey Abbey Registered Park and Garden looking south-west	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing around the Anglesey Abbey estate and on field boundaries. There will be no change to the view. **Year 15** There will be no change to the view and.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
17	Users of Low Fen Drove Way and residents in residential property at Parsonage Farm looking south	High	**Year 1** The route of the Waterbeach Pipeline will be restored to arable farmland north of Low Fen Drove Way. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed
18	Users of Horningsea Road (from the A14 bridge) looking east	Medium	**Year 1** The land disturbed by the construction of the Waterbeach Pipeline will be restored to arable farmland north and south of the A14 and will not be evident. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
19	Residents of Green End and Footpath Fen Ditton 85/3 looking north-east	High	**Year 1** The land disturbed by the construction of the Waterbeach Pipeline will be restored at the end of construction and will be screened from this location by intervening vegetation growing along Field Lane. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
20	Residents of Fen Road looking north	High	**Year 1** The land disturbed by the construction of the Waterbeach Pipeline will be restored at the end of construction. In the first year of operation, the area will be evident as an area of newly seeded pasture. The magnitude of change will be negligible. **Year 15** The area of pasture affected by the construction of the Waterbeach Pipeline will be fully restored to its former condition. There will be no change to the view.	Slight adverse (not significant)	Neutral
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
20	Residents of Fen Road looking north	High	**Year 1** The land disturbed by the construction of the Waterbeach Pipeline will be restored at the end of construction. In the first year of operation, the area will be evident as an area of newly seeded pasture. The magnitude of change will be negligible. **Year 15** The area of pasture affected by the construction of the Waterbeach Pipeline will be fully restored to its former condition. There will be no change to the view.	Slight adverse (not significant)	Neutral
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
21	Residents at Northern Bridge Farm looking south	High	**Year 1** The land disturbed by the construction of the Waterbeach Pipeline will be restored at the end of construction. In the first year of operation, the area will be evident as an area of newly seeded pasture. The magnitude of change will be negligible. **Year 15** The area of pasture affected by the construction of the Waterbeach Pipeline will be fully restored to its former condition. There will be no change to the view.	Slight adverse (not significant)	Neutral
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
22	Residents of Poplar Hall and Poplar Hall Farmhouse looking south, residents of Red House Close looking north and users of Footpath Fen Ditton 85/6 adjacent looking north and south	High	**Year 1** The land disturbed by the construction of the Waterbeach Pipeline will be restored at the end of construction. In the first year of operation, the area will be evident as an area of newly seeded pasture. The magnitude of change will be negligible. **Year 15** The area of pasture affected by the construction of the Waterbeach Pipeline will be fully restored to its former condition. There will be no change to the view.	Slight adverse (not significant)	Neutral
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed

23	Users of Footpath Milton 162/1 and users of the River Cam looking east	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing along the river and field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
24	Residents at Biggin Abbey House and associated cottages and users of Footpath Fen Ditton 85/8 looking south and east	High	**Year 1** The land disturbed during the construction of the Waterbeach Pipeline will be restored at the end of construction to its former condition as an arable field. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral

			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed
25	Users of shared foot/cycle path along Horningsea Road looking south-east	Medium	**Year 1** The land disturbed during the construction of the Waterbeach Pipeline will be restored at the end of construction to its former condition as an arable field. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed

26	Users of Footpath Horningsea 130/1, Footpath Horningsea 130/2 and Footpath Fen Ditton 85/7 (Harcamlow Way and Fen Rivers Way) looking east	High	**Year 1** The land disturbed during the construction of the Waterbeach Pipeline will be restored at the end of construction to its former condition as an arable field. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
27	Users of Footpath Milton 162/1 (Fen Rivers Way/Haling Way along the River Cam) and residential properties at Baits Bite Lock looking east	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures

			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed
28	Residents of High St, Horningsea looking south	High	**Year 1** The land disturbed during the construction of the Waterbeach Pipeline will be restored at the end of construction to its former condition as an arable field. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed
29	Residents of Clayhithe Road and visitors to the Gayton Farm campsite, Horningsea looking south and east	High	**Year 1** The land disturbed by the construction of the Waterbeach Pipeline will be restored to its former condition as an arable field. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed
30	Users of Footpath Horningsea 130/5 and Footpath Horningsea 130/6 and Bridleway Horningsea 130/8 (Harcamlow Way) looking west and south (PRoW crosses the zone)	High	**Year 1** The land disturbed by the construction of the Waterbeach Pipeline will be restored to its former condition as an arable field. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
31	Residents of Allicky Farm and users of Bridleway Stow cum Quy 218/5 looking south-west	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed
32	Visitors to Quy Fen and users of Footpath Stow cum Quy 218/8 looking south-west	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing on field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and

tertiary mitigation measures

33	Users of Footpath Horningsea 130/10 (PRoW crosses the zone) and residents at Eye Hall Farm and Mulberry House Farm looking east	High	**Year 1** The land disturbed by the construction of the Waterbeach Pipeline will be restored to its former condition as an arable field. There will be a small number of gaps in hedgerows (where the pipeline corridor crosses the hedgerow) near the footpath. The magnitude of change will be negligible. **Year 15** Any gaps in the hedgerows replanted at the end of construction will have closed, restoring the view to its former appearance. There will be no change to the view.	Slight adverse (not significant)	Neutral
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
34	Residents of Clayhithe Road, Horningsea looking east	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed
35	Users of the Cambridge Motorboat Club and Cam Sailing Club and users of Footpath Horningsea 130/12 and Footpath Horningsea 130/13 looking east	High	**Year 1** The land disturbed by the construction of the Waterbeach Pipeline will be restored to its former condition as farmland. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
36	Residents at Northfields Farm and Northfields Farm Cottages looking south-west	High	**Year 1** The land disturbed by the construction of the Waterbeach Pipeline will be restored to its former condition as farmland. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed

| Representative viewpoint | Visual receptor | Sensitivity | Description of impact | Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only | Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures |

37	Residents in Burgess Road and users of Bridleway Waterbeach 247/10 looking east	High	**Year 1** The land disturbed by the construction of the Waterbeach Pipeline will be restored to its former condition as farmland but there will be small gaps in the hedgerows where field boundary vegetation was removed during construction. There magnitude of change will be minor. **Year 15** Maturing replacement planting will close gaps in the field boundary vegetation, restoring the view to its former appearance. There will be no change to the view.	Slight adverse (not significant)	Neutral
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures

38	Residents close to Bottisham Lock and Bannold Road looking west	High	**Year 1** The land disturbed by the construction of the Waterbeach Pipeline will be restored to its former condition as farmland but there will be small gaps in the hedgerows where boundary vegetation was removed during construction. The magnitude of change will be minor. **Year 15** Maturing replacement planting will close gaps in the field boundary vegetation, restoring the view to its former appearance. There will be no change to the view.	Slight adverse (not significant)	Neutral
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed
39	Residents in Capper Road looking northeast	High	**Year 1** The route of the Waterbeach Pipeline will be screened from view by intervening vegetation growing on property and field boundaries. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impact	Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only	Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
			Night-time There will be no lighting associated with the Waterbeach Pipeline.	Not assessed	Not assessed
40	Users of Byway Waterbeach 247/14 looking south	High	**Year 1** The land disturbed by the construction of the Waterbeach Pipeline will be restored to its former condition as farmland. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral
			Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed
41	Visitors to Ely Cathedral looking south	High	**Year 1** The land disturbed by the construction of the Waterbeach Pipeline will not be discernible in the view from Ely Cathedral due to the distance of the proposed WWTP from the viewpoint. There will be no change to the view. **Year 15** There will be no change to the view.	Neutral	Neutral

Representative viewpoint	Visual receptor	Sensitivity	Description of impact Significance of effect in years 1 and 15 taking into account primary and tertiary mitigation measures only Significance of effect in year 15 taking into account primary, secondary and tertiary mitigation measures
	Night-time Not assessed (non-residential receptor).	Not assessed	Not assessed

Monitoring

4.3.11 During the operation phase, monitoring of the landscaped areas will be monitored in accordance with Section 4: Indicative Creation, Management and Maintenance Plan of the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14). This requires the operator to establish an advisory group prior to the landscape works commencing in order to advise on the detailed management and maintenance plan. The group will merge into an operational management group after completion of the landscape works which will oversee the management and maintenance of the landscape. This process will be enforced through the requirements of the Development Consent Order. Section 4 sets out the objectives of the management and maintenance plan which include:

- ensuring the continued health and condition of existing retained landscape features across the proposed WWTP site; and
- managing all the planting proposed on the landscape masterplan and initial planting plan to enable the establishment and continued long-term growth of the planting so that it fulfils its intended function of screening and landscape integration.

4.3.12 Section 4 of the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14) also sets out the detailed measures for the management and maintenance of the proposed new planting and grassland and the timing of site visits for management and maintenance. Monitoring by a suitably qualified specialist will be carried out biannually in spring and late summer for the first twelve months after planting and seeding. After the first twelve months, monitoring inspections will be carried out annually in late summer. These will be used to measure the success of the management proposals and determine if interventions are required in order to deliver the landscape, ecological and recreational vision for the LERMP.

4.3.13 For areas outside the LERMP, Section 6.2 of the CoCP Part A (Appendix 2.1 App Doc Ref 5.4.2.1) states that the management of new habitats and ecological features created to minimise likely significant effects from construction will refer to the LERMP for the immediate and long-term commitments to manage the planting and protect and enhance biodiversity and recreational areas.

4.4 Decommissioning

4.4.1 This section sets out the assessment of effects in relation to the decommissioning activities completed to surrender the environmental permit at the Existing Cambridge WWTP and decommissioning the redundant section of the Waterbeach pipeline. Demolition activities and intrusive works to decommission the Existing Cambridge WWTP are considered within the cumulative assessment. Decommissioning of the existing Waterbeach WRC is also considered within the cumulative assessment.

Existing Cambridge WWTP

4.4.2 The Existing Cambridge WWTP is surrounded by mature vegetation and built development which screen it from the wider area. The decommissioning works in the Existing Cambridge WWTP will not change the built structure of the facility or affect the existing vegetation surrounding it. Short sections of vegetation will be removed from within the Existing Cambridge WWTP during decommissioning. These are shown on the Hedgerow Regulations and Tree Preservation Plans (App Doc Ref 4.8.0 – 4.8.10), but the loss of vegetation will not be apparent from outside the site. The decommissioning works will be typical of the type of maintenance works that commonly take place on the site and therefore there will be no discernible change to the landscape character of the North-east Cambridge LCA, where the Existing Cambridge WWTP is situated.

4.4.3 The works would be screened from the adjoining River Cam Corridor LCA and Western Fen Edge Claylands LCA by intervening vegetation and there would be no views of the works from the nearest visual receptors in Fen Road, at Northern Bridge Farm, from the River Cam or from Fen Ditton.

Waterbeach Pipeline

4.4.4 There will be no requirement for above groundwork during decommissioning of the Waterbeach Pipeline that would affect landscape character or visual amenity.

Monitoring

4.4.5 For landscape and visual amenity no monitoring is required for decommissioning of the Proposed Development.

4.5 Cumulative effects

4.5.1 Cumulative effects are those arising from impacts of the Proposed Development in combination with impacts of other proposed or consented development projects that are not yet built or operational. An assessment of cumulative effects for landscape and visual amenity has been completed and is reported in Chapter 22: Cumulative Effects Assessment (App Doc Ref 5.2.22).

4.5.2 For landscape and visual amenity there are no identified cumulative effects.

4.6 Inter-related effects

4.6.1 Inter-relationships are the impacts and associated effects of different aspects of the construction, operation of the Proposed Development and the decommissioning of the Existing Cambridge WWTP on the same receptor. The assessment of interrelated effects for has been completed and is reported in Chapter 22: Cumulative Effects Assessment (App Doc Ref 5.2.22).

4.6.2 For landscape and visual amenity there are no identified residual inter-related effects.

5 Conclusion and Summary

5.1.1 This assessment of the effects, and their significance, of the Proposed Development as it applies to landscape and visual amenity has been thoroughly carried out based on the information currently available.

5.1.2 The approach to assessment has applied the guidance in the Guidelines for Landscape and Visual Impact Assessment (Landscape Institute/IEMA) and national and local policy.

5.2 Construction

5.2.1 The effects of the Proposed Development on landscape and visual amenity during construction with primary and tertiary mitigation will vary from neutral to large adverse. However, there will be no change to the assessment with primary, secondary and tertiary mitigation because while the secondary measures will reduce adverse effects, they will not change the significance of effects in construction. Moderate and large adverse effects are considered significant

Landscape character

Proposed WWTP

5.2.2 Taking into account primary and tertiary mitigation measures, the construction of the proposed WWTP, treated effluent pipeline and discharge outfall, transfer tunnel and junction with Horningsea Road will have large adverse significant effects on the Eastern Fen Edge Chalklands LCA due to the presence of the construction works on farmland, a reduction in tranquility and the introduction of lit areas into a predominantly dark landscape. There will be slight adverse effects on the River Cam Corridor due to the construction of the outfall on the river and on the WaterbeachLode Fen LCA due to the proximity of construction works to the LCA. There will be no effects on the other LCA in the study area. ***Waterbeach pipeline***

5.2.3 The construction of the Waterbeach Pipeline will result in slight adverse effects on the Eastern Fen Edge Chalklands LCA, River Cam Corridor LCA and the WaterbeachLode Fen LCA due the presence of the construction works in farmland, a reduction in tranquillity and the introduction of lit areas into a predominantly dark landscape. There will be no effects on the other LCA in the study area.

5.2.4 The effects taking into account primary, secondary and tertiary mitigation measures would remain the same as for those taking into account primary and tertiary mitigation measures only.

Visual amenity

Proposed WWTP

5.2.5 Taking into account primary and tertiary mitigation measures, visual receptors significantly affected by the construction of the proposed WWTP, treated effluent

pipeline and discharge outfall, transfer tunnel and junction with the B1047 Horningsea Road are situated close to the proposed WWTP or outfall in Fen Ditton, at Biggin Abbey, along the River Cam, on Horningsea Road and on the PRoW to the west of the proposed WWTP. Effects will arise from the presence of construction activity on what is currently farmland and the introduction of lighting into a predominantly unlit landscape.

5.2.6 The construction works will result in large adverse significant effects on views of users of Low Fen Drove Way and residents at Parsonage Farm (VP17), users of Horningsea Road (VP18 and VP25), residents of Poplar Hall, Poplar Hall Farmhouse and Red House Close and users of Footpath Fen Ditton 85/6 (VP22) and residents at Biggin Abbey and associated cottages and users of Footpath Ditton 85/8 (VP24).

5.2.7 The construction works will result in moderate adverse significant effects on views of users on Byway Fen Ditton 85/14 and Low Fen Drove Way (VP6), residents of High Ditch Road (VP10), residents of Horningsea Road (VP11), residents at the Gate House on Low Fen Drove Way (VP13), users of Footpath Milton 162/1 and the River Cam (VP23) and users of Footpaths Horningsea 130/1 and 130/2 and Footpath Fen Ditton 85/7 (Harcamlow Way and Fen Rivers Way) (VP26).

5.2.8 Construction lighting will result in moderate adverse significant effects on night-time views from residential properties in High Ditch Road (VP10), Horningsea Road (VP11), Low Fen Drove Way (VP13 and VP 17), residents of Poplar Hall, Poplar Hall Farmhouse and Red House Close (VP22) and Biggin Abbey and associated cottages (VP24).

Waterbeach pipeline

5.2.9 Visual receptors significantly affected by the construction of the Waterbeach Pipeline are situated close to the pipeline corridor on Fen Road, on Horningsea Road and in locations between the proposed WWTP and the Waterbeach WRC. Effects will arise from the presence of construction activity on what is currently farmland and the introduction of lighting into a predominantly unlit landscape.

5.2.10 The construction works will result in large adverse significant effects on views of residents at The Cottage on Burgess Drove (VP38) and users of Byway Waterbeach 247/14 (VP40).

5.2.11 The construction works will result in moderate adverse significant effects on views of residents of Horningsea Road (VP11), residents at Northern Bridge Farm (VP21), residents of Poplar Hall, Poplar Hall Farmhouse and Red House Close and users of Footpath Fen Ditton 85/6 (VP22), users of shared foot/cycle path along Horningsea Road (VP25), users of Footpaths Horningsea 130/5 and 130/6 and Bridleway Horningsea 130/8 (Harcamlow Way) (VP30), users of Footpath Horningsea 130/10 and residents at Mulberry House Farm (VP33), users of the Cambridge Motorboat Club and Cam Sailing Club and Footpaths Horningsea 130/12 and Footpath

Horningsea 130/13 (VP 35) and residents in Burgess Road and users of Bridleway Waterbeach 247/10 looking east (VP37).

5.2.12 Construction lighting will result in moderate adverse significant effects on night-time views from residential properties in High Ditch Road (VP 10), Horningsea Road (VP11) and Burgess Road (VP37).

5.3 Operation

5.3.1 The effects of the Proposed Development with primary and secondary mitigation on landscape and visual amenity during years 1 and 15 of operation will vary from neutral to large adverse. By year 15 of operation with secondary mitigation effects will be reduced but will still vary from neutral to large adverse. Moderate and large adverse effects are considered significant.

Landscape character

Proposed WWTP

5.3.2 In year 1 and 15 of operation of the proposed WWTP, with primary and tertiary mitigation, there will be moderate adverse significant effects on the Eastern Fen Edge Chalklands LCA due to the introduction of large-scale infrastructure into the predominantly rural landscape which will change the character of the landscape between Fen Ditton and Horningsea. There will be slight adverse effects on the River Cam Corridor LCA, due to the loss of natural riverbank and replacement with a concrete outfall and sheet-piled banks, and on the Waterbeach-Lode Fen LCA due to the proximity of the proposed WWTP to the rural LCA. There will be no effects on the other LCA in the study area.

5.3.3 In year 15 of operation of the proposed WWTP, taking into account all mitigation measures, the maturing landscape mitigation of the landscape masterplan will partially integrate the proposed WWTP into the landscape, but the large scale of the structures means that they will still have a presence in the landscape. The woodland planting of the masterplan will result in a more wooded character in the landscape around the proposed WWTP. Therefore, effects on the Eastern Fen Edge Chalklands LCA will remain moderate adverse and significant and effects on the River Cam Corridor LCA and Waterbeach-Lode Fen LCA will remain slight adverse and will not be significant. There will be no effects on the other LCA in the study area.

Waterbeach Pipeline

5.3.4 There will be no effects in years 1 and 15 on landscape character as a result of the presence of the Waterbeach Pipeline. The land disturbed by the construction of the pipeline will be fully restored at the end of construction and the hedgerows removed will be replaced

Visual amenity

Proposed WWTP

5.3.5 Visual receptors significantly affected by the operation of the proposed WWTP and outfall in year 1 are situated in High Ditch Road, Horningsea Road, Low Fen Drove Way, at Biggin Abbey House and associated cottages and on the PRoW network west of the Proposed Development. Effects will arise from the introduction of the largescale infrastructure of the proposed WWTP into views over farmland, the presence of the outfall and sheet-piled banks in views from the River Cam and the introduction of lighting into a predominantly unlit landscape.

5.3.6 In year 1 and 15 of operation of the proposed WWTP, with primary and tertiary mitigation, there will be large adverse significant effects on views of users of Low Fen Drove Way and residents at Parsonage Farm (VP17) and road users of Horningsea Road and users of the shared foot/cycle path along Horningsea Road (VP18 and VP25).

5.3.7 In year 1 and 15 of operation of the proposed WWTP, with primary and tertiary mitigation, there will be moderate adverse significant effects on views of residents of High Ditch Road (VP10), residents of Horningsea Road (VP11), residents at the Gate House on Low Fen Drove Way (VP13), users of Footpath Milton 162/1 and the River Cam (VP23), residents at Biggin Abbey and associated cottages and users of Footpath Ditton 85/8 (VP24) and users of Footpaths Horningsea 130/1 and 130/2 and Footpath Fen Ditton 85/7 (Harcamlow Way and Fen Rivers Way) (VP26).

5.3.8 In year 1 and 15 of operation of the proposed WWTP, with primary and tertiary mitigation, operational lighting on the proposed WWTP will result in moderate adverse significant effects on night-time views from Parsonage Farm on Low Fen Drove Way (VP 17).

5.3.9 In year 15 of operation of the proposed WWTP, taking into account all mitigation measures, the maturing landscape mitigation of the landscape masterplan will partially screen the proposed WWTP from view, but the large scale of the structures means that they will still be clearly visible from a small number of locations. There will be moderate adverse significant effects on views of users of Low Fen Drove Way and residents at Parsonage Farm (VP17), road users of Horningsea Road (VP18), and users of the shared foot/cycle path along Horningsea Road (VP25). ***Waterbeach Pipeline***

5.3.10 There will be no significant effects in years 1 and 15 on visual receptors as a result of the presence of the Waterbeach Pipeline. The land disturbed by the construction of the pipeline will be fully restored at the end of construction and the hedgerows removed will be replaced.

5.3.11 There will be no significant effects on night-time views resulting from the operation of the Waterbeach pipeline.

5.4 Decommissioning

5.4.1 There are potential landscape or visual impacts as a result of decommissioning the existing Cambridge WWTP for the purpose of rescinding the existing Environmental Permit.

Table 5-1: Summary of landscape and visual effects

Description of	Primary and tertiary mitigation effect adopted as part of the project	Additional/secondary mitigation measures	Magnitude of impact	Initial significance of effect	Sensitivity of receptor	Residual effect – classification	Residual effect – significance of effect	Proposed monitoring
Construction								
Direct and indirect impacts on landscape character and visual amenity due to construction of the WWTP	Provision of solid hoardings between Shaft 4 construction compound and Red House Close, near Poplar Hall Farm House and at the outfall compound to partially screen the construction of the proposed WWTP.	No change to large	Low to High	Neutral to large	Management of impacts to land temporarily required managed through measures as described within the CoCP Part A and B (Appendix 2.1 and 2.2, App Doc Ref 5.4.2.1 & 2): • requirement within the CoCP Part A for the reinstatement of ditches temporarily disturbed during construction • minimising severance of hedgerows and reinstatement of hedgerows. Management of lighting through the Lighting Design Strategy (Appendix 2.5, App Doc Ref 5.4.2.5) and the CoCP Part A, Section 5.9 (Lighting) (Appendix 2.1, App Doc Ref 5.4.2.1) which requires that the contractors incorporate a strategy for temporary lighting into the CEMP(s) (secured through requirements in the DCO), which will collectively secure deliver appropriate mitigation of light during construction. This strategy includes requirements for the use of lighting with no upward orientation or light spill.	Neutral to large (not significant and significant in EIA terms)	As set out within the LERMP Table 5.1 (Appendix 8.14 App Doc Ref 5.4.8.14)
Direct and indirect impacts on landscape character and visual receptors due to construction of Waterbeach Pipeline		No change to moderate	Low to High	Neutral to moderate	Management of impacts to land temporarily required managed through measures as described within the CoCP Part A and B (Appendix 2.1 and 2.2, App Doc Ref 5.4.2.1 & 2): • requirement within the CoCP Part A for the reinstatement of ditches temporarily disturbed during construction • Use of solid site hoarding/temporary acoustic barriers at Waterbeach construction compound and around HDD pit locations/HDD plant during continuous working periods. Management of lighting through the Lighting Design Strategy (Appendix 2.5, App Doc Ref 5.4.2.5) and the CoCP Part A, Section 5.9 (Lighting) (Appendix 2.1 App Doc Ref 5.4.2.1) which requires that the contractors incorporate a strategy for temporary lighting into the CEMP(s) (secured through requirements in the DCO), which will collectively secure deliver appropriate mitigation of light during construction. This strategy includes requirements for the use of lighting with no upward orientation or light spill.	Neutral to moderate (not significant and significant in EIA terms)	For areas outside of the landscape masterplan monitoring as set out within approved CEMP including continued management and monitoring in relation to reinstated habitat, vegetations and hedgerow
Operation								

Description of effect	Primary and tertiary mitigation adopted as part of the project	Magnitude of impact	Sensitivity of receptor	Initial classification	Additional/secondary mitigation	Residual effect – significance of effect	Proposed monitoring measures
Direct and indirect impacts on landscape character and visual receptors due to operation of the proposed WWTP	Design of structures to reduce visual impact, design of lighting to minimise lighting impacts on the night-time landscape and views. Design measures to prevent or minimise artificial light are: • exclusion of lighting provision on the access road • the use of directional lighting of <2700K and use of maximum height lighting columns of 5m within the proposed WWTP • habitat creation within the landscape masterplan that serves a screening function once mature • landscape masterplan and initial planting during construction included in the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14).	No change to major	Low to high	Neutral to large	CoCP Parts A and B (Appendix 2.1 and 2.2, App Doc Ref 5.4.2.1 & 2) setting out the requirement to replace planting removed during construction. Measures as described within the CoCP Part A and B (Appendix 2.1 and 2.2, App Doc Ref 5.4.2.1 & 2). These will be set out in the CEMP related to the specific works activity: Design measures to avoid or minimise loss of river habitat within the River Cam are: • designing outfall and chamber to allow reinstatement of ditch parallel to River Cam to same profile • design of outfall (orientation and sizing) to minimise land required overall and to limit the extent of the structure within the river; • minimising extent of river bank protection works; and • design that includes embedded 'Green' engineering features within river bank protection works that seeks to maintain hydrological connection to the river bank and encourage natural reinstatement of marginal vegetation. Design of landscape masterplan within the LERMP to derive a multifunctional masterplan that integrates design measures (earth bank and planting) to integrate the development into the landscape and screen tall structures. Selection of materials and finishes to the structures of the proposed WWTP as described in the Design and Access Statement (App Doc Ref 7.6).	Neutral to moderate (not significant and significant in EIA terms)	As set out within the LERMP Table 5.1 (App Doc Ref 5.4.8.14) For areas outside of the landscape masterplan monitoring as set out within approved CEMP including continued management and monitoring in relation to reinstated habitat, vegetations and hedgerow
Direct and indirect impacts on landscape character and visual receptors due to Operation of the Waterbeach Pipeline	Replanting vegetation removed during construction. Restoring the land to its former levels and condition.	No change to minor	Low to high	Neutral to slight	CoCP Parts A and B (Appendix 2.1 and 2.2, App Doc Ref 5.4.2.1 & 2) setting out the requirement to replace planting removed during construction. Measures as described within the CoCP Part A and B (Appendix 2.1 and 2.2, App Doc Ref 5.4.2.1 & 2). These will be set out in the CEMP related to the specific works activity: • Any planting as part of the Proposed Development which dies or becomes seriously damaged or diseased within five years after completion of construction will be replaced in the first available planting season with stock of the same species and size as that originally planted unless otherwise agreed with the Local Planning Authority. • In locations of retained hedgerow there shall be consideration of additional "thickening" to promote habitat connectivity for bats, in particular making use of existing hedgerow removed	Neutral to slight (not significant in EIA terms)	For areas outside of the landscape masterplan monitoring as set out within approved CEMP including continued management and monitoring in relation to reinstated habitat, vegetations and hedgerow

Description of effect	measures	Magnitude of impact	Sensitivity of receptor	Initial classification	Additional/secondary mitigation	Residual effect – significance of effect	Proposed monitoring
	during construction. Any works to hedgerow would be under the supervision of a suitably experienced ecologist.				ing out the maintenance measures required to ensure the establishment and long-term healthy development of the planting shown on the landscape masterplan and outside the landscape masterplan area.		

LERMP (Appendix 8.14, AppDocRef 5.4.8.14) sett

	measures Magnitude		Sensitivity			Initial	
	Additional/secondary mitigation	Residual effect –	Proposed monitoring				
	of impact		of receptor	classification	significance	of effect	
Primary and tertiary mitigation adopted as part of the project							
				construction will be replaced in the first available planting season with stock of the same species and size as that originally planted unless otherwise agreed with the Local Planning Authority. • For sections interfacing with the landscape masterplan measures within the LERMP (Appendix 8.14, App Doc Ref 5.4.8.14) setting out the maintenance measures required to ensure the establishment and long-term healthy development of the planting shown on the landscape masterplan and outside the landscape masterplan area.			As set out within the LERMP Table 5.1 (Appendix 8.14, App Doc Ref 5.4.8.14)

5.5 Securing mitigation

5.5.1 The delivery of mitigation will be controlled through the Development Consent Order (DCO) which:

- identifies parameters within which certain works activities will be located and constructed (e.g. maximum and minimum building dimensions (including below ground), or locational zones);
- sets requirements for construction, operation and maintenance of the Proposed Development to be undertaken in accordance with 'control plans/documents' (including those that are related to compliance with environmental permits); and
- assets requirements for the control of specific issues or works (e.g. time limits around the completion of the outfall construction).

5.5.2 Table 5-2 summarises all mitigation in relation to landscape and visual amenity, how these measures are secured, the party responsible for the implementation of the measure, when the measure would be delivered and any mechanisms to deliver the measure.

Table 5-2: Landscape and visual mitigation summary

~~Description of effect~~ ~~Residual effect – significance~~ ~~Design/ mitigation measures adopted as part of the project~~ ~~Type~~ ~~Secured within~~ ~~Responsible party~~ ~~Timing on the provision of the measure~~ ~~Trigger for the discharge of any related requirement~~

Description of ~~effect~~ Residual ~~effect – significance~~ Design/ mitigation measures adopted as part of ~~the project~~ Type Secured within Responsible ~~party~~ Timing on the ~~provision of the measure~~ Trigger for the discharge effect effect – the project party provision of the of any related significance measure requirement

Construction							
Direct and indirect impacts on landscape character and visual	Neutral to large (not significant and significant in EIA terms)	Provision of solid hoardings between Shaft 4 construction compound and Red House Close, near Poplar Hall Farm House and at the outfall compound to partially screen the construction of the proposed WWTP.	Primary	Requirement for solid hoarding at shaft 4 and screening at the compound secured through a requirement of the draft DCO (App Doc Ref 2.1).	Contractor	Prior to the start of construction including compound set up	Approved phasing plan Approved CEMP including layout and screening details

Description of effect	measures	Magnitude	Sensitivity	Initial of impact	Additional/secondary mitigation of receptor	classification	significance	of effect	Residual effect –	Proposed monitoring
amenity due to construction, loss of vegetation, of the WWTP and the presence of construction equipment and activity in in the Eastern Fen Edge Chalklands and the River Cam Corridor LCA and views close to proposed WWTP and outfall.	Management of impacts to land temporarily required managed through measures as described within the CoCP Part A and B (Appendix 2.1 and 2.2, App Doc Ref 5.4.2.1 & 2): • requirement within the CoCP Part A for the reinstatement of ditches temporarily disturbed during construction • minimising severance of hedgerows and reinstatement of hedgerows.			Secondary	Approval and implementation of a Construction Environmental Management Plan secured through a requirement of the draft DCO (App Doc Ref 2.1). Section 7.2 Tree/Hedgerow removal, CoCP Part A and Section 3.3 of Part B (Appendix 2.1 and 2.2, App Doc Ref 5.4.2.1 & 2) secured through a requirement of the draft DCO (App Doc Ref 2.1). Construction lighting design to comply with to comply with the Lighting Design Strategy (Appendix 2.5, App Doc Ref 5.4.2.5) secured		Contractor		Prior to the start of construction including compound set up	Approved phasing plan Approved CEMP required prior to the commencement of construction of the Waterbeach pipeline Approved lighting design

Description of effect	Residual effect – significance	Design/ mitigation measures adopted as part of the project	Secured within the project	Responsible party	Timing on the provision of the measure	Trigger for the discharge of any related requirement	Type
		• Replanting and maintenance of replanted trees, hedgerow and vegetation removed during construction. Management of lighting through the Lighting Design Strategy (Appendix 2.5, App Doc Ref 5.4.2.5) and the CoCP Part A, Section 5.9 (Lighting) (Appendix 2.1, App Doc Ref 5.4.2.1) which requires that the contractors incorporate a strategy for temporary lighting into the CEMP(s) (secured through requirements in the DCO), which will collectively secure deliver appropriate mitigation of light during construction. This strategy includes requirements for the use of lighting with no upward orientation or light spill. The implementation of measures set out under section 7.4 of the CoCP Part A in respect of Soil Management and in the Outline Soil Management Plan (App Doc Ref 5.4.6.3) which will ensure the rapid and effective reestablishment of habitats especially hedgerows.			through a requirement in the draft DCO (App Doc Ref 2.1)		
Damage to retained vegetation within the area of land required for the landscape masterplan		Use of protective fencing around the perimeter of the root protection zones as set out in the arboricultural report (App Doc Ref 5.4.8.17), minimise road and junction widening for temporary construction access.			Approval and implementation of a Construction Environmental Management Plan secured through a requirement of the draft DCO (App Doc Ref 2.1).	Contractor	Prior to start of works to areas affecting identified trees	Phasing plan Preparation and implementation of CEMP incorporating measures to protect trees
Direct and indirect impacts on landscape character and visual receptors due to construction of Waterbeach Pipeline	Neutral to moderate (not significant and significant in EIA terms)	Management of impacts to land temporarily required managed through measures as described within the CoCP Part A and B (App Doc Ref 5.4.2.1 & 2): • requirement within the CoCP Part A for the reinstatement of ditches temporarily disturbed during construction • Use of solid site hoarding/temporary acoustic barriers at Waterbeach construction compound and around HDD pit locations/HDD plant during continuous working periods. Management of lighting through the Lighting Design Strategy (Appendix 2.5, App Doc Ref 5.4.2.5) and the CoCP Part A, Section 5.9 (Lighting) (Appendix 2.1, App Doc Ref 5.4.2.1) which requires that the contractors incorporate a strategy for temporary lighting into the CEMP(s) (secured through requirements in the DCO), which will collectively secure deliver appropriate mitigation of light during construction. This strategy includes requirements for the use of lighting with no upward orientation or light spill. The implementation of measures set out under section 7.4 of the CoCP Part A in respect of Soil Management and in the Outline Soil Management Plan (Appendix 6.3 App Doc Ref 5.4.6.3) which will ensure the rapid and effective reestablishment of habitats especially hedgerows.	Secondary		Section 7.2, CoCP Part A (Appendix 2.1 App Doc Ref 5.4.2.1) secured through a requirement of the draft DCO (App Doc Ref 2.1) Approval and implementation of a CEMP secured through a requirement of the draft DCO (App Doc Ref 2.1). Section 7.2 Tree/Hedgerow removal, CoCP Part A and Section 3.3 of Part B (Appendix 2.1 and 2.2, App Doc Ref 5.4.2.1 & 2) secured through a requirement of the draft DCO (App Doc Ref 2.1). Construction lighting design to comply with to comply with the Lighting Design Strategy (Appendix 2.5, App Doc Ref 5.4.2.5) secured through a requirement in the draft DCO (App Doc Ref 2.1)	Contractor	Prior to the start of construction including compound set up	For areas outside of the landscape masterplan monitoring as set out within approved CEMP including continued management and monitoring in relation to reinstated habitat, vegetations and hedgerow

Description of effect	Residual effect – significance	Secured within the project	Design/ mitigation measures adopted as part of the project	Responsible party	Timing on the provision of the measure	Trigger for the discharge of any related requirement	Type
Operation							
Direct and indirect impacts on landscape character and visual receptors due to operation of the proposed WWTP due to presence of new infrastructure in the rural landscape increases urbanising influence on the features in the Eastern Fen Edge Chalklands and the River Cam Corridor LCA and views	Neutral to moderate (not significant and significant in EIA terms)	App Doc Ref 5.4.8.14).	Design of structures to reduce visual impact, design of lighting to minimise lighting impacts on the night-time landscape and views. Design measures to prevent or minimise artificial light are: • exclusion of lighting provision on the access road • the use of directional lighting of <2700K and use of maximum height lighting columns of 5m within the proposed WWTP • habitat creation within the landscape masterplan that serves a screening function once mature • landscape masterplan and initial planting during construction included in the LERMP (Appendix 8.14,	Primary	Landscape, Ecological and Recreational Management Plan (Appendix 8.14, App Doc Ref 5.4.8.14) which is secured through a requirement in the draft DCO (App Doc Ref 2.1). Approval and implementation of a detailed management and monitoring plan secured to comply with LERMP secured through a requirement of the draft DCO (App Doc Ref 2.1).	Contractor	Prior to commencement of operation	Approved detailed management and monitoring plan as set out within the LERMP Table 5.1 (Appendix 8.14 App Doc Ref 5.4.8..14) For areas outside of the landscape masterplan monitoring as set out within approved CEMP including continued management and monitoring in relation to reinstated habitat, vegetations and hedgerow
		Approval of lighting design close to proposed WWTP and outfall.	To be implemented to comply with, as a minimum, the Lighting Design Strategy (Appendix 2.5, App Doc Ref 5.4.2.5) secured through a requirement in the draft DCO (App Doc Ref 2.1)	Contractor	Pre-construction	prior to commencement of construction.	
		Conditions set out within an Environmental Permit that may be required in relation to outfall design and construction.	Design measures to avoid or minimise loss of river habitat as per the environmental permit • designing outfall and chamber to allow reinstatement • design of outfall (orientation and sizing) to minimise (flood risk activities) land required overall and to limit the extent of the structure within the river; • minimising extent of river bank protection works; and • design that includes embedded 'Green' engineering features within river bank protection works that seeks to maintain hydrological connection to the river bank and encourage natural reinstatement of marginal vegetation.	Primary/tertiary	Contractor	Detailed outfall design, as approved by the Environmental Permit prior to construction of final design specified as part of ditch parallel to River Cam to same profile	Design of outfall and scour within the River Cam are: protection measures
Direct and indirect impacts related to operation of the outfall will be minimised through rectifying erosion as determined through operational monitoring				Secondary	Requirement to prepare an OMMP secured through a requirement in the draft DCO (App Doc Ref 2.1)	Applicant	Prior to commencement of operation	Approval and implementation of a OMMP secured through a requirement of the draft DCO (App Doc Ref 2.1).
Design of landscape masterplan within the LERMP to derive a multifunctional masterplan that integrates design measures (earth bank and planting) to integrate the development into the landscape and screen tall structures to minimise prominence of the infrastructure in the landscape and views. Design of structures in the proposed WWTP to minimise prominence of the infrastructure in the landscape and views.				Primary	Landscape, Ecological and Recreational Management Plan (Appendix 8.14, App Doc Ref 5.4.8.14) which is secured through a requirement in the draft DCO (App Doc Ref 2.1). Approval and implementation of a detailed management and monitoring plan secured to comply with LERMP secured through a requirement of the draft DCO (App Doc Ref 2.1)	Contractor	Prior to commencement of landscaping works	Approved phasing plan Approved detailed plan and planting schedule in line with Table 5.1 of the LERMP

Description of effect	Residual effect – significance	Design/ mitigation measures adopted as part of the project	Type	Secured within	Responsible party	Timing on the provision of the measure	Trigger for the discharge of any related requirement
		Selection of materials and finishes to the structures of the proposed WWTP as described in the CoCP Parts A and B (Appendix 2.1 and 2.2, App Doc Ref 5.4.2.1 & 2). These will be set out in the CEMP related to the specific works activity: • Any planting as part of the Proposed Development which dies or becomes seriously damaged or diseased within five years after completion of construction will be replaced in the first available planting season with stock of the same species and size as that originally planted unless otherwise agreed with the	Secondary	Design and Access Statement (App Doc Ref 7.6). Approved design and finishes in accordance with the Design and Access Statement (App Doc Ref 7.6).which is secured through a requirement in the draft DCO (App Doc Ref 2.1). Local Planning Authority. • In locations of retained hedgerow there shall be consideration of additional "thickening" to promote habitat connectivity for bats, in particular making use of existing hedgerow removed during construction. Any works to hedgerow would be under the supervision of a suitably experienced ecologist. LERMP (Appendix 8.14, App Doc Ref 5.4.8.14) setting out the maintenance measures required to ensure the establishment and long-term healthy development of the planting shown on the landscape masterplan and outside the landscape masterplan area	Contractor Secondary Contractor	Prior to commencement of construction Section 7.2, CoCP Part A (Appendix 2.1 App Doc Ref 5.4.2.1) secured through a requirement of the draft DCO (App Doc Ref 2.1) Approval and implementation of a CEMP secured through a requirement of the draft DCO (App Doc Ref 2.1). Landscape, Ecological and Recreational Management Plan (Appendix 8.14, App Doc Ref 5.4.8.14) which is secured through a requirement in the draft DCO (App Doc Ref 2.1). Prior to commencement of construction Approved phasing plan For areas outside of the landscape masterplan monitoring as set out within approved CEMP including continued management and monitoring in relation to reinstated habitat, vegetations and hedgerow	Approved design, materials and finishes are approved by the local planning authority Approved detailed plan and planting schedule in line with Table 5.1 of the LERMP.
Direct and indirect impacts on landscape		Replanting vegetation removed during construction. Restoring the land to its former levels and condition.	Secondary		Contractor	Prior to commencement of construction	For areas outside of the landscape masterplan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~~Visiting our website~~ DCO application documents and updates on the application on The Planning Inspectorate website:

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