Cambridge Waste Water Treatment Plant Relocation Project
Anglian Water Services Limited

Appendix 4.1: Scoping Opinion

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The Planning Inspectorate
Yr Arolygiaeth Gynllunio

SCOPING OPINION:

Proposed Cambridge Waste Water Treatment Plant Relocation

Case Reference: WW010003

Adopted by the Planning Inspectorate (on behalf of the Secretary of State) pursuant to Regulation 10 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

November 2021

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1. INTRODUCTION

1.0.1 On 19 October 2021, the Planning Inspectorate (the Inspectorate) received an application for a Scoping Opinion from Anglian Water Services Limited (the Applicant) under Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) for the proposed Cambridge Wastewater Treatment Plant Relocation (the Proposed Development). The Applicant notified the Secretary of State (SoS) under Regulation 8(1)(b) of those regulations that they propose to provide an Environmental Statement (ES) in respect of the Proposed Development and by virtue of Regulation 6(2)(a), the Proposed Development is 'EIA development'.

1.0.2 The Applicant provided the necessary information to inform a request under EIA Regulation 10(3) in the form of a Scoping Report, available from:

http://infrastructure.planninginspectorate.gov.uk/document/WW010003-000033

1.0.3 This document is the Scoping Opinion (the Opinion) adopted by the Inspectorate on behalf of the SoS. This Opinion is made on the basis of the information provided in the Scoping Report, reflecting the Proposed Development as currently described by the Applicant. This Opinion should be read in conjunction with the Applicant's Scoping Report.

1.0.4 The Inspectorate has set out in the following sections of this Opinion where it has / has not agreed to scope out certain aspects/ matters on the basis of the information provided at as part of the Scoping Report. The Inspectorate is content that the receipt of this Scoping Opinion should not prevent the Applicant from subsequently agreeing with the relevant consultation bodies to scope such aspects / matters out of the ES, where further evidence has been provided to justify the approach. However, in order to demonstrate that the aspects/ matters have been appropriately addressed, the ES should explain the reasoning for scoping them out and justify the approach taken.

1.0.5 Before adopting this Opinion, the Inspectorate has consulted the 'consultation bodies' listed in Appendix 1 in accordance with EIA Regulation 10(6). A list of those consultation bodies who replied within the statutory timeframe (along with copies of their comments) is provided in Appendix 2. These comments have been taken into account in the preparation of this Opinion.

1.0.6 The Inspectorate has published a series of advice notes on the National Infrastructure Planning website, including Advice Note 7: *Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping* (AN7). AN7 and its annexes provide guidance on EIA processes during the pre-application stages and advice to support applicants in the preparation of their ES.

1.0.7 Applicants should have particular regard to the standing advice in AN7, alongside other advice notes on the Planning Act 2008 (PA2008) process, available from:

https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/

1.0.8 This Opinion should not be construed as implying that the Inspectorate agrees with the information or comments provided by the Applicant in their request for an opinion from the Inspectorate. In particular, comments from the Inspectorate in this Opinion are without prejudice to any later decisions taken (eg on formal submission of the application) that any development identified by the Applicant is necessarily to be treated as part of a Nationally Significant Infrastructure Project (NSIP) or Associated Development or development that does not require development consent.

2. OVERARCHING COMMENTS

2.1 Description of the Proposed Development

(Scoping Report Chapter 2)

ID	Ref	Description	Inspectorate's comments
2.1.1	Paragraph 2.4.4	Design Concept and technical capacity	Paragraph 2.4.4 of the Scoping Report explains that the existing Cambridge Waste Water Treatment Plant (WWTP) has around 45 satellite sites which send wet sludge for treatment. The design capacity of the Proposed Development is expressed as "*approximately 548,000 population equivalent*" with the sludge treatment centre "*designed to treat indigenous sludge produced at the proposed WWTP plus imported liquid sludges arriving by road*". The Sludge Treatment Centre (STC) is designed to treat up to 16,000 Tonnes Dry Solids (TDS) per year for both indigenous and imported sludge to accommodate forecast housing growth to around 2050. The ES should be clear in forecasting the growth projections from the existing WWTP to the Proposed Development including any anticipated changes to the spatial extent and the number of satellite sites it will serve if this differs from the existing WWTP (and how this has been reflected in the assessment of operational effects across the aspect chapters).
2.1.2	Paragraphs 2.4.14, 2.9.36, 5.4.25	Transition between the Proposed Development and decommissioning of the existing Cambridge WWTP	Figure 2-2 shows a temporal overlap between decommissioning of the existing Cambridge WWTP and the construction of the new sewage works, and a temporal overlap between the decommissioning of the existing Cambridge WWTP and the construction of the Proposed Development. The ES should clearly set out the periods of transition between the two facilities and the assessment of any interactive effects based on evidenced worst-case assumptions in this regard and whether there

ID	Ref	Description	Inspectorate's comments
			are any new or different environmental effects as a result of the transition. The relevant aspect chapters should therefore consider any temporary changes or effects arising from the gradual transfer of flows from one sewage works to another. The detail of the decommissioning activities are yet to be defined but is expected to include the draining / cleaning of existing tanks (including waste treatment / disposal), ensuring mechanical and electrically safety and security, and prevention of rainwater storage in open top tanks. However the Applicant states that "*Other decommissioning activities, including the demolition of structures and site preparation for the site's redevelopment are outside of the scope of the relocation project DCO and will be carried out by the site developer in accordance with a separate planning permission".* As set out in section 2.4 of the Scoping Opinion, the key objective of the WWTP relocation is to support the delivery of South Cambridgeshire District and Cambridge City Councils' deliver a new low-carbon city district in North East Cambridge. The Inspectorate acknowledges the Applicant's intention to include consideration of demolition of structures and site preparation of the existing Cambridge WWTP as part of the cumulative effects assessment. The ES for the Proposed Development should describe the future decommissioning activities at the existing WWTP that will be required to the extent that they can be reasonably foreseeable to facilitate any future development that will be subject to a separate planning permission. This should describe the decommissioning activities involved, identify the waste arisings, and consider any temporary and permanent effects.
2.1.3	Paragraphs 2.4.16,	Environmental Permitting	There is reference to the need for an Environmental Permit for water discharge and for biogas / steam boiler systems. The ES should clearly set out all other separate consents that will be required and

ID	Ref	Description	Inspectorate's comments
	2.7.42, 2.7.46		the timescales for seeking approval, particularly where any degree of reliance is placed on such subsequent consents as mitigation for potentially significant effects of the Proposed Development set out in the ES. The Inspectorate would encourage cross reference in the ES to any separate Development Consent Order (DCO) application documents relating to other licenses and consents that would be required in the construction and operation of the Proposed Development.
2.1.4	Paragraph 2.6.2	Enabling works	Limited reference is made to enabling works. The ES should include specific details of the proposed 'enabling works', particularly if / where there are substantive works required under separate consents or as part of separate work packages but that are necessary in connection with the Proposed Development.
2.1.5	Paragraph 2.6.3, Table 2-23	Concrete batching plant	There are separate references to both the establishing of a concrete batching plant, and to HGV movements which appear to assume off site concrete batching. The ES should clearly present the location and duration concrete batching plant operations. The Inspectorate is unclear whether during peak construction periods, the on-site plant will not be able to meet the demand and an additional supply would be required, or whether flexibility remains as to the need for such a plant on site. Worst case assumptions should be presented in the relevant aspect chapters in this regard. Aside from Chapter 7 of the Scoping Report (Air Quality) there are minimal references to an assessment of effects of demand for concrete for the construction of the Proposed Development.
2.1.6	Paragraphs 2.7.16 – 2.7.18	Offsite export of Rag and Grit	Paragraph 2.7.37 states that 'Enhanced Treated Biosolids' cake would be transported off-site and used as bio-fertiliser, "*which are taken account of in the operational vehicle movements*", but the same is not said in respect of rag and grit. The ES should quantify worst case

ID	Ref	Description	Inspectorate's comments
			assumptions around HGV movements during operation, and potential end uses or disposal methods for these rag and grit products.
2.1.7	Paragraphs 2.7.39 – 2.7.44	Heat generation, gas utilisation and storage	The Inspectorate considers there could be substantial differences in environmental effects of a biogas upgrading plant as opposed to a combined heat and power (CHP) engine solution. The Applicant should make every effort to promote a single option as part of the DCO application. Where flexibility in this regard is intended to be retained, the ES should clearly set out the differences by aspect chapter between each of the options and justification provided as to the need for this optionality as well as factors that will influence the final solution (and at what point that would be confirmed).
2.1.8	Paragraph 2.7.50	LNG Anglian Water tanker fleet	The tanker fleet is proposed to be converted to LNG fuel "*during the construction of the proposed WWTP*". The ES should explain any assumptions around the timeframe during the construction phase when the conversion will be complete and how that is reflected in any worst case assumption(s). Where construction or operational vehicles are not part of the Anglian Water fleet (eg contractor vehicles or "wet sludge" deliveries from satellite plants), the ES should explain the extent to which LNG has been assumed as part of those fleet compositions where this is relied upon in the assessment of effects across the aspect chapters.
2.1.9	Paragraph 2.7.53	Renewables Infrastructure	Solar power generation (including battery storage) is stated as "likely" being included, but limited information is provided as to the spatial extent of this with reference to figures provided, and how this would integrate / compete with landscaping and ecological mitigation aspirations. Where solar technologies are to be included, the ES should explain the installed capacity that has been assumed for the purposes of the worst case assessment across the aspect chapters. Battery storage

ID	Ref	Description	Inspectorate's comments
			should be considered as part of the assessment of the potential for significant effects from major accidents and disasters.
2.1.10	Paragraphs 2.9.25 - 2.9.32	Outfall(s) to the River Cam	Although the project description chapter sets explains the new outfall structures required, the ES should describe the detail of the existing outfalls to the River Cam and how / if these will be decommissioned as part of the Proposed Development along with an assessment of the effects of such activities across the relevant aspect chapters.

2.2 EIA Methodology and Scope of Assessment

(Scoping Report Chapter 5)

ID	Ref	Description	Inspectorate's comments
2.2.1	Paragraph 5.4.3	The EIA Scoping boundary	The Scoping Report refers to a number of elements connected with the Proposed Development that may be located outside of the redline boundary. For example, paragraph 14.8.16 refers to new pedestrian and cycle routes "on and close to" the Proposed Development as well as "offsite planting". The ES should ensure that the extent of any works which are relied upon as mitigation are accounted for and their impact assessed across the relevant aspect chapters, including any explanation as to if / why they need not be included in the site boundary.
2.2.2	Paragraphs 5.4.24 (and 2.4.10)	Design capacity / Design year and future growth	Paragraphs 2.4.10 and 5.4.24 explain that there is flexibility and capacity within the Proposed Development to allow for future expansion to accommodate forecast housing growth up to 2080 but that such future expansion after 2050 falls outside of the scope of the

ID	Ref	Description	Inspectorate's comments
			EIA. Limited justification is provided as to why expansion beyond the forecast housing growth to 2050 is outside of the scope of the EIA. The ES should justify the design year of 2050 and why any reasonably foreseeable growth to 2080 would not be within the scope of the assessment. To the extent that it can be foreseen, the ES should describe any additional components of the Proposed Development that might be necessary and any additional 'space' that has been allowed for in the design to accommodate future growth.
2.2.3	Paragraph 5.4.27	Future decommissioning of the Proposed Development	Decommissioning is not proposed to be assessed as there is "*no intention to decommission the proposed WWTP at any point in the future*". In light of the decommissioning of the existing WWTP (as set out at paragraph 2.9.36) the Inspectorate considers that there is at least the potential for future decommissioning of the Proposed Development and that as such, this requires a description of likely decommissioning solutions to the extent that they can be foreseen (eg the extent of removal of above ground infrastructure and any landscaping etc).
2.2.4	Paragraph 1.5.3 and Appendix B	Transboundary effects	The Applicant is of the view that due to the nature, scale and location of the Proposed Development, significant effects on the environment in any European Economic Area (EEA) state are unlikely to occur. The closest EEA state to the Proposed Development is France (175km to the southeast). The Inspectorate agrees that there is no potential for significant transboundary effects on the environment of any EEA state based on the information provided in Appendix B of the Scoping Report.

3. ENVIRONMENTAL ASPECT COMMENTS

3.1 Agriculture and Soils

(Scoping Report Chapter 6)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.1.1	Table 6-5 and Section 2.16	Impacts to soil structure and quality during construction	The Applicant states that suitable soil handling measures will be implemented through the Soil Management Plan (SMP) as part of the Construction Environmental Management Plan (CEMP) to ensure that there are no significant effects relating to soil structure and quality. Section 2.16 of the Scoping Report sets out the high-level framework and content for these documents. As there is a reliance on mitigation measures to avoid significant effects, and which are yet to be sufficiently detailed, the Inspectorate is of the opinion that this matter cannot be scoped out at this stage. The ES should include an assessment of the potential significant effects, the proposed mitigation measures and any significant residual effects following mitigation.
3.1.2	Table 6-5 and Paragraph 6.8.7	Effects on agricultural business receptors from odour	The Applicant states that there are no agricultural receptors considered likely to be sensitive to odour. However, the Scoping Report states that "*the absence of sensitive agricultural receptors will be confirmed by the AIA, which will evaluate the type, scale and proximity of agricultural businesses within the EIA Scoping boundary".* The Inspectorate is of the opinion that until the Agricultural Impact Assessment (AIA) has established the presence or absence and extent of receptors, this matter cannot be scoped out.

ID	Ref	Description	Inspectorate's comments
3.1.3	N/a	N/a	N/a

3.2 Air Quality

(Scoping Report Chapter 7)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.2.1	Table 7.8.3 and Paragraph 7.8.4	Construction site plant emissions	The Applicant proposes to scope out an assessment of construction site plant emissions stating that the Institute of Air Quality Management (IAQM) guidance notes that given the nature of the site plant, effects from on-site plant exhausts will likely not be significant. In the absence of specific information regarding the number of plant/vehicles and their operating hours and locations (and relative proximity to sensitive residential and other receptors), the Inspectorate is not in a position to scope out this matter from consideration in the ES. The ES should therefore give consideration to the number of plant/vehicles and their operating hours and locations to assess whether a significant effect is likely to occur.
3.2.2	Table 7.8.3 and Paragraph 7.8.5	Operational traffic emissions from the Transfer Zone and Waterbeach Zone.	The Applicant proposes to scope out an assessment of operational traffic from the Transfer Zone and Waterbeach Zone stating operational traffic will comprise of maintenance visits only and is not anticipated to exceed the EPUK/IAQM criteria for further assessment. Given the limited operational traffic associated with the Transfer Zone and the Waterbeach Transfer Zone (from infrequent, routine maintenance), the Inspectorate agrees that these matters can be scoped out of the assessment. The predicted operational vehicle movements should be explained in the project description and / or traffic and transport aspect chapters of the ES.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.2.3	Table 7.8.3 and Paragraph 7.8.6	Operational energy plant emissions at the Transfer Zone and Waterbeach Transfer Zone	The Applicant proposes to scope out an assessment of operational energy plant emissions in the Transfers Zones as there will be no energy plant operating within the Transfer Zones. The Inspectorate agrees that this matter can be scoped out of the assessment on this basis.
3.2.4	Table 7.8.3 and Paragraph 7.8.7	Emergency emissions (digestor safety valves)	The Scoping Report states that emissions to air from the digestor safety valves will occur during emergencies and will be considered in Chapter 16: Major Accidents and Disasters. The Inspectorate does not agree that this matter can be scoped out of the air quality assessment at this time and the ES should assess any likely significant effects on air quality sensitive designated sites associated with anaerobic digestion (including safety valve emissions).

ID	Ref	Description	Inspectorate's comments
3.2.5	Table 7-1	Study area	Given the uncertainty around the size and location of proposed energy plant and biomethane / CHP technology options, the Inspectorate does not at this time agree that the proposed study area should be limited to 5km around the site. Further, table 5-4 of the Scoping Report states that if a "substantial" CHP is included, air quality emissions for up to 10km from the site will be assessed. The ES should adopt a worst-case approach when scoping in receptors and contains a robust justification to support the selected study area's relevant to impacts from emissions to air on people and designated ecological sites, with reference to the extent of the likely impacts and agreement with relevant consultation bodies. Ecological receptor selection for air quality modelling and assessment should be undertaken in conjunction with the biodiversity assessment.

ID	Ref	Description	Inspectorate's comments
			The Applicant's attention is drawn to comments in ID 3.3.3 in the following section of this opinion and the need to ensure the scope of the air quality assessment covers all of the relevant designated sites in light of the energy plant.
3.2.6	Paragraph 7.7.6	Assessment – stack parameters	A description of the methods and assumptions used for determining the number, placement, height and diameter of stack should be included within the ES, including any sensitivity testing which has been undertaken to assess variations in these parameters. The Applicant should ensure these parameters are reflected in the DCO such that the Proposed Development is representative of the worst case operational scenario assessed in the ES.

3.3 Biodiversity

(Scoping Report Chapter 8)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.3.1	Paragraph 8.6.6	Scope of baseline surveys	The Applicant proposes to scope out the need for white-clawed crayfish *Austropotamobius pallipes*, dormouse *Muscadines avellanarius*, and wintering bird surveys, because there are limited records for these species in the local area. The Applicant's scoping report indicates that this was agreed in an ecological technical working group meeting with consultation bodies including Natural England, and is confirmed in the Cambridgeshire County Council response to this Scoping Report. The Inspectorate agrees that these matters can be scoped out of the assessment on this basis.
3.3.2	Paragraph 8.6.12 and Figure 8-1	Effects of emissions to air on Local Nature Reserves	The Applicant proposes to scope out assessment of effects on Local Nature Reserves and County Wildlife Sites to the south of the A14 and Cambridge where there is no pathway for effect. This is because these sites have been identified as within urban areas and isolated from the Proposed Development. The Inspectorate considers that this is a reasonable approach although this conclusion should be verified in the modelling of emissions from the energy plant at the Proposed Development (subject to the preferred technology type).
3.3.3	Paragraph 8.8.26	Effects of emissions to air on Sites of Special Scientific Interest (SSSI)	The Applicant proposes to scope out the effects of emissions from the energy plant at the Proposed Development on SSSIs, as the energy plant will be below 20MW in size and thus unlikely to lead to significant effects. As highlighted in ID 3.2.5, in the absence of clarity regarding the final energy plant specification, the Inspectorate does not agree that this matter may be scoped out from further assessment.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.3.4	Table 8-11	Sites of Special Scientific Interest (SSSIs), Local Nature Reserves (LNRs) and County Wildlife Sites (CWS) with no hydrological or ecological links	The Applicant also proposes to scope out the following designated wildlife sites from further consideration in the ES. The Scoping Report states that this is due to there being no hydrological or ecological connectivity with the Proposed Development: ▪ Bramblefields LNR; ▪ Newmarket Heath SSSI; ▪ Coldham's Common LNR; ▪ Barnwell II LNR; ▪ Barnwell LNR; ▪ Logan's Meadow LNR; ▪ Lime Kiln Close (and West Pit) LNR; ▪ East Pit LNR; ▪ Sheep's Green and Coe Fen LNR; ▪ The Beechwoods LNR; ▪ Paradise LNR; ▪ Nine Wells LNR; ▪ Byron's Pool LNR; ▪ Worts Meadow LNR; ▪ Anglesey Abbey CWS; ▪ Cambridge Road Willow Pollards CWS; ▪ Swaffham's Poor's Fen CWS; ▪ Bottisham Park CWS;

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			▪ Landbeach Pits Willow Wood CWS; ▪ Beach Ditch and Engine Drain CWS; ▪ Twenty Pence Pit CWS; ▪ Cow Bridge Pollard Willows CWS; ▪ River Great Ouse CWS. However, with reference to the Inspectorate's comments in ID 3.2.5 of this Scoping Opinion and given the apparent discrepancy with the water resources assessment study area (ID 3.16.21), the Inspectorate considers that there is insufficient evidence presented in the Scoping Report to scope these sites out of the assessment at this stage.

ID	Ref	Description	Inspectorate's comments
3.3.5	Table 8-1	Study area and decommissioning	The Scoping Report indicates that aquatic habitat and species surveys are to be focussed on the location for a new treated effluent outfall to the River Cam, plus a buffer of 100m for fish, aquatic invertebrates and aquatic macrophytes. The ES should also consider whether there is potential for effects to arise from the project ceasing discharges from the two current outfall locations on aquatic habitats and species.
3.3.6	Table 8-6	Receptors within the study area	The Inspectorate notes that Table 8-6 of the Scoping Report contains references to Fulbourn Fen SSSI and Great Wilbraham Common SSSI as within the study area but these sites are not then scoped in or out of the assessment in Table 8-8 or 8-9 of the Scoping Report. There is also no evidence to show why other sites in Table 8-6 are scoped in for, for example, effects during construction but not operation. In the absence of evidence in the Scoping Report to explain why pathways

ID	Ref	Description	Inspectorate's comments
			for significant effects are unlikely to occur, the Inspectorate considers that all sites in Table 8-6 should be scoped into the assessment where significant construction or operational effects could occur.

3.4 Carbon

(Scoping Report Chapter 9)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.4.1	N/a	N/a	No matters have been proposed to be scoped out of the assessment

ID	Ref	Description	Inspectorate's comments
3.4.2	N/a	N/a	N/a

3.5 Climate Resilience

(Scoping Report Chapter 10)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.5.1	Paragraph 10.6.1	Potential climate resilience impacts to all zones of the Proposed Development during Construction Phase	The Applicant seeks to scope this matter out on the basis that construction will occur in the short-term (c. 10 years), whereas future climate change impacts are expected in the medium and long term (15-30 years and beyond). The construction phase will have a duration of c. 4 years (paragraph 2.6.1 of the Scoping Report) and the Applicant sets out in paragraphs 10.6.1 – 10.6.3 that the impacts of extreme weather events during construction will be identified, and control measures for their management will be secured through a CoCP and CEMP, drawing from measures determined through other aspect chapters in the EIA process. On this basis, the Inspectorate is satisfied that the climate resilience aspect chapter of the ES would summarise these measures and that it need not include separate consideration of climate resilience impacts during construction as these matters, where relevant, will be considered elsewhere in the ES.
3.5.2	Table 10-7	Climate resilience – decommissioning activities at existing assets	The Inspectorate considers this matter is covered in consideration of construction impacts as covered in ID 3.5.1 above and ID 2.1.2.
3.5.3	Table 10-7	Climate resilience – fluvial flood risk and surface water flood risk	On the basis that these matters will be assessed as part of the Water Resources aspect chapter and standalone FRA, the Inspectorate is satisfied that the Climate Resilience chapter need not seek to duplicate these assessments, although where relevant, cross referencing to relevant sections and assessment conclusions should

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			be provided so as to understand the context in terms of climate resilience.
3.5.4	Table 10-7	Climate resilience – extreme rainfall and storm flows in Waterbeach zone	Given that the Applicant states that Waterbeach assets are not part of the storm flow management solution, the Inspectorate agrees there are no likely significant effects in terms of susceptibility of these assets at Waterbeach to extreme rainfall and storm flow events and agrees that this matter can be scoped out at this zone.
3.5.5	Table 10-7	Resilience – high winds	The Inspectorate agrees that resilience to high winds is a matter to be dealt with as part of the design and that, subject to the Proposed Development's compliance with industry wind loading design standards, that significant effects are unlikely to occur and can be scoped out.
3.5.6	Table 10-7, paragraph 10.7.8 – 10.7.9	Resilience - drought	Although the Applicant states that the Proposed Development will be designed and operated to account for drought conditions following long periods of dry weather (ie resilience is inbuilt through technology selection and operational practices), the Inspectorate does not consider that sufficient justification has been provided that significant effects can be excluded and does not agree that this matter can be scoped out. The assessment should consider the risks of increased drought causing a major "first flush" of pollutants that may affect the treatment process and resulting outfall to the river. The assessment in the ES should also be clear on the basis for any assumptions as to the frequency that drought events could occur in line with relevant guidance on climate change allowances.
3.5.7	Table 10-7, paragraph	In combination climate impacts for agricultural land, carbon, historic environment, noise and vibration, material resources and waste,	The Inspectorate does not understand what particular matter is being sought to be scoped out in this section. Paragraph 10.9.7 also states that "*A qualitative assessment of the in-combination climate impacts will be carried out in line with the IEMA Environmental Impact*

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
	10.7.11 – 10.7.12	soils, geology and land quality, traffic and transport, major accidents and disasters	*Assessment Guide to Climate Change Adaption and Resilience (2020)*". Where relevant, the aspect chapters to which the Applicant refers in this context should contain assessment of interactive effects with the climate aspect chapter where significant effects are likely to occur.

ID	Ref	Description	Inspectorate's comments
3.5.8	Paragraph 10.1.4	Climate change projections (UKCP18)	The assessment is stated to consider resilience of the Proposed Development "*under the 2018 UK Climate Projections (UKCP18) for the 2080s*". Given that Chapter 5 of the ES states that there is no intention to decommission the proposed development, the Applicant should set out why climate change projections out to 2100 (as set out in UKCP18) are not considered for long term operation. Paragraph 10.5.8 of the Scoping Report also states that Representative Concentration Pathway (RCP) 8.5 as the highest scenario available) will be used "*based on the lifespan of the Proposed Development up to 2050*", and the ES should clarify the extent to which this statement is compatible with the intention that the Proposed Development would be an ongoing operation with no decommissioning planned.

3.6 Community

(Scoping Report Chapter 11)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.6.1	Table 11-9 and Para 11.8.3	Requirement for land from residential properties and displacement of local residents.	The Applicant states that the Proposed Development will not require the acquisition of residential properties or land from community facilities. The Inspectorate agrees that significant effects are unlikely to occur and that this matter can be scoped out of the ES (noting that effects on such properties and facilities (eg air quality, odour, noise etc) will be considered as part of the ES in those relevant aspect chapters).
3.6.2	Table 11-9 and Para 11.8.4	Requirement for acquisition of buildings and land used by community facilities.	
3.6.3	Table 11-9 and Paras 11.8.5 and 11.86	Operational employment and training.	The Applicant notes that since the Proposed Development will replace the existing Cambridge WWTP there will not be a significant change in operational employment. The Scoping Report states that "*most additional jobs during the Operational Phase will be filled by people living within commuting distance*" and Table 21-8 states that "*there may be a small number of additional permanent jobs*" but Chapter 2 suggests that there will be no additional jobs during operation. Although it is not clear whether the proposal will / will not result in additional operational employment (and its quantum is yet to be fully defined), the Inspectorate agrees that this matter can be scoped out of the ES as significant effects on terms of operational employment are not likely with the purported small increases. The Applicant should explain the quantum of these staff increases in their description of development in supporting this position.
3.6.4	Table 11-9 and Para 11.8.6	Demand for local accommodation and public services due to a	The Applicant suggests that since there is a large local and regional labour market it is assumed that most additional jobs during the operational phase will be filled by people within commuting distance.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		permanent workforce in Waterbeach Transfers zone.	It is not clear why this is proposed to be scoped out for the Waterbeach Transfers Zone only but scoped in for the Core Zone and transfer and final effluent zone and, based on the text in 11.8.6, assumes that table 11-9 sought to scope out this matter across all areas. On the basis that operational employment effects are scoped out due to the *"small number of additional permanent jobs"*, the Inspectorate also therefore agrees that there is not likely to be significant demands on local accommodation and public services across all zones.
3.6.5	Table 11-9 and Para 11.8.7	Changes to crime levels at the Proposed Development.	The Applicant proposes that site security arrangements for the Proposed Development will be in accordance with relevant guidance, namely the Construction (Design and Management) Regulations 2015, with appropriate levels of security (personnel/CCTV provided). The Inspectorate agrees that effects due to changes in crime levels can be scoped out on this basis.

ID	Ref	Description	Inspectorate's comments
3.6.6	N/a	N/a	N/a

3.7 Health

(Scoping Report Chapter 12)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.7.1	Table 12-2, Para 12.10.2	Potential health impacts from polluting waste (toxicity and disease risks), hazardous waste and substances.	The Applicant states that these risks are unlikely to be significant with appropriate implementation of mitigation and management processes. The Scoping Report states health risks will be considered as part of the following and will "*only be included as part of the health assessment if residual risks to human health are identified during construction and operation.*" ▪ Polluting water (Chapter 21: Water Resources) ▪ Hazardous waste and substances (Chapter 17: Materials, Resources and Waste) ▪ Air quality, dust, noise, traffic (Chapter 7, Chapter 18 and Chapter 20 respectively). The Inspectorate is satisfied that these assessments need not be duplicated in the health aspect chapter, but that this chapter should draw together the outcomes of these separate assessments in the overall assessment of significance of effects on health (whilst it remains uncertain in terms of residual risks).
3.7.2	Table 12-6, Para 12.10.4 and 12.10.5	Potential health impacts from increases in pests during construction and operation	The Applicant states that the risk from pests is unlikely to be significant with appropriate implementation of mitigation and management processes (including an EMS that is "*expected to include control of pests*"). The Inspectorate is of the opinion that this matter cannot be scoped out at this stage (during operation) without further understanding and detail as to the potential for pest that might be associated with developments of this type and these control measures to be included in the EMS, particularly in the core zone. Additional

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			context should be provided with further reference to pest control (and measures within the EMS) associated with the existing wastewater treatment plant. During construction of the Proposed Development, the Inspectorate agrees that the CEMP and implementation of best practice construction methods would mean significant effects are unlikely to occur and that this matter can be scoped out.
3.7.3	Table 12-6 and Para 12.10.6	Changes to access to health, social care and educational services during operation	The Scoping Report states that any changes in road layout or volumes of traffic associated with operation are unlikely to result in changes to travel routes or delays that would significantly affect access to health, social care and educational services. Estimated operational traffic shown in Chapter 2 (tables 2-26 and 2-27) indicates that traffic levels will be similar to those associated with the current WWTP. As such, the Inspectorate agrees that this matter can be scoped out of the health aspect assessment, and is satisfied that this is appropriate regardless of the operational access options (as set out in paragraph 2.8.2 of the Scoping Report). The Inspectorate is also satisfied that matters of highway safety and acceptability of traffic impacts will be appropriately considered in the transport assessment and traffic and transport chapter of the ES as outlined in the Scoping Report.
3.7.4	Table 12-6 and Para 12.10.7	Operational employment	The Scoping Report suggests that there will not be a significant increase in the operational workforce. On the basis of the limited predicted increase in operation workforce, the Inspectorate agrees that this can be scoped out.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.7.5	Table 12-6 and Para 12.10.8	Demand for local accommodation and public health services due to temporary works or a permanent workforce during construction and operation	The Scoping Report suggests that it is unlikely that the Proposed Development will create sizeable demand for accommodation or healthcare facilities during construction. It is also assumed that construction site occupational health services will deal with the vast majority of incidences, therefore placing no additional pressure on local healthcare services. The Inspectorate considers that significant effects on health services during construction and operation can be excluded on this basis.
3.7.6	Table 12-6 and Para 12.10.9	Changes to crime levels at the Proposed Development	As stated in Paragraph 11.87 of the Scoping Report, it is assumed that site security arrangements will be in line with relevant regulations and requirements. The Inspectorate agrees that this matter can be scoped out on this basis.

ID	Ref	Description	Inspectorate's comments
3.7.7	Para 12.9.2 and 12.10.1	Construction phase potential impacts	The Scoping Report lists some potential construction phase impacts, namely 'Economy' and 'Social cohesion'. It is unclear from the description what the implications are on the health aspect of the ES. Where the ES draws on information from other aspect chapters it should be clear how this relates to the specific health aspect chapter. The Inspectorate notes the potential for overlap between the community and health aspect chapters (for example local community concern over the proximity to construction activities which may have consequential health effects).

3.8 Historic Environment

(Scoping Report Chapter 13)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.8.1	Table 13-5	Archaeological remains at the existing Cambridge WWTP and Waterbeach Water Recycling Centre (WRC)	The Applicant proposes to scope out consideration of effects on archaeological remains at the existing Cambridge WWTP and Waterbeach WRC. This is because the Applicant considers that any archaeological remains within the sites would have been removed by previous development at both sites. The Inspectorate notes from Appendix A drawing numbers 0001-100006-CAMEST-ZZZ-PLG-Z-8020 and 0001-100006-CAMEST-ZZZ-PLG-Z-8040, that excavation is proposed at the existing Cambridge WWTP and Waterbeach WRC through the relocation of existing sewers, tunnel shafts and construction compounds and that the extent of those works is still subject to optioneering studies. The Inspectorate also notes that while the existing works contain numerous built structures, the sites also contain areas of apparent undeveloped land and as such, there could be potential for previously unknown archaeology to still be present within both sites. The Scoping Report lacks evidence that this potential has been explored, consequently the Inspectorate does not consider there is sufficient evidence to scope out archaeology at either existing wastewater treatment works. This matter should be scoped into the assessment where significant effects are likely to occur.
3.8.2	Paragraph 13.8.19	Operational odour and noise effects	The Applicant's Scoping Report considers that odour and noise will not have a significant effect on identified heritage assets but it is not clear how this conclusion has been reached. The Inspectorate considers that noise and odour can have an effect on the setting of heritage assets (individually and together) and thus can contribute to the overall significance of an asset. The Inspectorate considers that

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			there is insufficient evidence provided in the Scoping Report to demonstrate that odour and noise effects will not have a significant effect on identified heritage assets and does not therefore agree that this matter can be scoped out of the assessment at this stage.
3.8.3	Paragraph 13.8.20	Operational effects on below ground archaeology	The Applicant's Scoping Report explains that there will be no effects on below ground archaeological remains during operation of the Proposed Development. The Inspectorate agrees that this matter can be scoped out of the assessment and that effects on below ground archaeology will be considered as part of the construction phase assessment where significant effects could occur.

ID	Ref	Description	Inspectorate's comments
3.8.4	N/a	N/a	N/a

3.9 Landscape and Visual Impact Assessment

(Scoping Report Chapter 14)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.9.1	Table 14-4	Standalone lighting assessment for Transfers Zone and Waterbeach Zone.	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.

ID	Ref	Description	Inspectorate's comments
3.9.2	Paragraph 14.11.3	Zone of Theoretical Visibility (ZTV)	The Scoping Report states that "*the ZTV for the transfer and final effluent pipeline and outfall and the Waterbeach transfer 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 transfer pipeline should include the vent stack which is likely to be visible from surrounding viewpoints and may influence the extent and selection of viewpoints.
3.9.3	Paragraph 14.11.8	Glint and Glare	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 there is the potential for significant effects to occur as a result of glint

ID	Ref	Description	Inspectorate's comments
			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.

3.10 Land Quality

(Scoping Report Chapter 15)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.10.1	Table 15-8	Land quality (contamination of soils)	The Applicant proposes to scope out contamination of soils on the basis that the majority of the site is greenfield with only limited sources of contamination at or within close proximity to the site. The Scoping Report states that "*contaminated land will be dealt with through the UK regulatory regime as standard including requirements of LCRM*". The Scoping Report indicates that desk studies and further ground investigation is ongoing. In the absence of details of the ground investigation, the Inspectorate considers that the potential for significant effects due to contamination cannot be ruled out and an assessment should be provided based on relevant standards, including the risk of impacts on groundwater where relevant. This should be agreed with the local environmental health officer and the Environment Agency, where possible.
3.10.2	Table 15-8	Geodiversity	The Applicant proposes to scope out geodiversity (geological Sites of Special Scientific Interest (SSSI), regionally or locally important geological sites or non-designated outcrops/features of interest) as there is no evidence of any sites within 250m of the scoping boundary. The Inspectorate agrees that this can be scoped out on the basis of the separation distances to relevant designated features.
3.10.3	Table 15-8	Minerals and mining	The Applicant proposes to scope out an assessment of effects on minerals and mining resources. It is suggested that there are no mineral resources anticipated at the core site and the Mineral

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			Safeguarding Area (MSA) located in the transfer and treated effluent pipelines and the Waterbeach transfer pipeline is unlikely to result in a significant effect due to the scale of the construction and the fact that the majority of the construction will be below the sand and gravel deposits. Considering the location of a MSA within the site boundary, the potential for some impact during construction and the optionality that remains in the design and flexibility sought in the DCO, the Inspectorate does not agree that this matter can be scoped out of the ES at this stage. Paragraph 15.5.27 also states that it is "*likely that some mineral resources will be removed as part of the construction*". The ES should highlight the potential quantitative effects on minerals, any proposed mitigation, and the significance of any residual effects.
3.10.4	Paragraph 15.11.1	Land quality aspect as a whole	The Applicant seeks to scope out land quality as an aspect chapter in its entirety, summarised in table 15-8 as comprising the three matters set out above. Paragraph 15.5.2 states that the establishment of baseline conditions are to be "*further supported by the completion of a land contamination, Preliminary Risk Assessment (PRA) of the area within the EIA Scoping boundary*". Similarly, paragraph 15.13.2 states that "*A ground investigation is currently on-going, therefore there is the potential for ground conditions to vary from the published geological maps, particularly relating to presence and depth of any made ground*". Given these current limitations and the commentary in ID 3.10.1 - 3.10.3 above, the Inspectorate does not agree that land quality can be scoped out in its entirety at this point.

ID	Ref	Description	Inspectorate's comments
3.10.5	Paragraphs 15.5.20 and 15.5.21	Study area	The Applicant proposes a study area of 250m from the site as it is suggested that the migration of contamination is likely to be minimal beyond this. However, the two historical landfills which are between 250-500m of the site are included within the baseline survey, which implies that there is some potential for pathways and risks of contamination beyond 250m from the site. The ES should clearly justify the chosen study area and consider the potential contamination risks associated with the future decommissioning of the existing waste water treatment plant (as part of the cumulative assessment as set out in paragraph 5.4.25). If any contamination pathways exist beyond 250m from the site, the study area should be extended to accommodate these risks.
3.10.6	Paragraph 15.5.22	Unexploded Ordnance	The Scoping Report indicates that there is the potential for unexploded bombs at the site and that a specialist will be consulted to undertake further assessment to confirm potential risks of encountering UXO. The ES should incorporate the findings of this assessment and the potential for any likely significant effects.

3.11 Major Accidents and Disasters

(Scoping report Chapter 16)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.11.1	Paragraph 16.8.1, Table 22-1	All matters considered in Appendix I but that are not listed in paragraph 16.8.1	Although no matters have been proposed to be scoped out of the assessment in section 16.8, Appendix I of the Scoping Report lists a number of "long listed" major accidents and disaster types from which the "short list" as presented in paragraph 16.8.1 are derived. The Inspectorate agrees that relevant accidents and disasters have been included in paragraph 16.8.1 and has no further comments to make in this regard. The ES should report on the process of derivation of the relevant matters from the 'long list' as presented in Appendix I.

ID	Ref	Description	Inspectorate's comments
3.11.2	Table 16.2	Hazardous substances	The Scoping Report indicates that the volumes of predicted hazardous substances required for the Proposed Development are below threshold levels. However, it does not explain what thresholds it is referencing, the hazardous substances that will be used or where, how and in what quantities substances will be stored. This information should be included within the ES description of development and an assessment of risk from hazardous substances scoped into the assessment where significant effects are likely to occur.
3.11.3	Paragraph 2.7.50	Containerised Liquid Natural Gas	The Inspectorate notes that the Proposed Development will include a containerised LNG fuel facility, although no specific reference appears to be made to this within Chapter 16 of the Scoping Report. An

ID	Ref	Description	Inspectorate's comments
			assessment of risk from this facility should be scoped into the assessment where significant effects are likely to occur.

3.12 Materials, Resources and Waste

(Scoping Report Chapter 17)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.12.1	Paragraph 17.10.4, Table 17-16	Materials and resources for operational phase and depletion of non-renewable resources	The Applicant proposes to scope out the effects of the use of material resources during operation of the Proposed Development. This is because the need for "*relatively negligible quantities of both primary raw materials and manufactured construction products*" and infrequent site maintenance. The Inspectorate agrees that this matter may be scoped out from further assessment on the basis presented, however the ES project description should clearly outline the likely resources to be used in operation.
3.12.2	Paragraph 17.10.5	Materials and resources for decommissioning phase	The Applicant proposes to scope out the effects of the use of material resources during decommissioning of the existing Cambridge WWTP and Waterbeach WRC. This is because the need for additional material resources to enable the decommissioning activities will be negligible. The Inspectorate agrees that this matter can be scoped out of the assessment.
3.12.3	Table 17-17	Waste from demolition at Cambridge and Waterbeach WWTP	The Applicant proposes to scope out the effects of waste generated from demolition activities at both existing sewage works. This is because the decommissioning activities will not involve demolition of any structures within either site. However, paragraph 5.4.25 of the Scoping Report states that "*Demolition of structures and site preparation for the site's redevelopment are outside of the scope of the DCO*". The Inspectorate refers the Applicant to comments made at ID 2.1.2

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			above (ie the need for a description of the likely decommissioning works to the extent that they are foreseeable). On the basis that it is unclear whether significant cumulative effects in terms of waste could occur, the Inspectorate does not agree that this matter can be scoped out of the assessment at this time.
3.12.4	Table 17-19, Paragraph 17.5.7	Access to one or more allocated mineral sites (construction and operation)	The Applicant proposes to scope out access to minerals as a result of the Proposed Development. The Scoping Report provides evidence that there will be sufficient aggregates capacity in Cambridgeshire and Peterborough in the future. The Inspectorate agrees that this matter can be scoped out of the assessment for both construction and operation.

ID	Ref	Description	Inspectorate's comments
3.12.5	N/a	N/a	N/a

3.13 Noise and Vibration

(Scoping Report Chapter 18)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.13.1	Table 18-4	Transfer zone - permanent noise and vibration impacts from plant and machinery (operation)	The Applicant's proposes to scope out this matter as the transfer pipelines will be buried below ground and there are unlikely to be significant noise or vibration effects once they are operational. The Inspectorate agrees that these matters can be scoped out of the assessment on this basis.
3.13.2	Table 18-4	Transfer zone and Waterbeach zone - permanent noise impacts due to increases in road traffic noise (operation)	The Applicant's proposes to scope out this matter as there will be no traffic generated by the operation of the below ground pipelines once installed (with the possible exception of small numbers during routine maintenance or in an emergency event). The Inspectorate agrees that this matter can be scoped out of the assessment for the transfer zone and Waterbeach zone on this basis.
3.13.3	Table 18-5	Operational vibration (transfer, core and Waterbeach zones)	The Applicant proposes to scope out vibration during operation, as the Scoping Report indicates that there are likely to be limited sources of operational vibration. The Inspectorate agrees that this matter can be scoped out of the assessment on this basis and that, in respect of the core zone, the nearest residential receptors are more than 100m away.

ID	Ref	Description	Inspectorate's comments
3.13.4	Paragraph 18.3.6	Decommissioning	The ES should consider the potential for significant noise effects from activities associated with the decommissioning (such as the proposed draining and cleaning of tanks) of the existing Cambridge WWTP and Waterbeach WRC. These activities are stated as being within the

ID	Ref	Description	Inspectorate's comments
			scope of the DCO under paragraph 5.4.25 of the Scoping Report. The Inspectorate has also commented on this matter at ID 2.1.2 above.
3.13.5	N/a	Effects on heritage assets	The ES should consider the potential for noise and vibration on heritage assets and cross–refer to the historic environment aspect assessment where significant effects are likely to occur.
3.13.6	Paragraph 18.8.3	Construction effects	Figure 2-2 of the Scoping Report indicates that there is likely to be a temporal overlap of construction activities between the three identified zones of the Proposed Development. The ES should therefore consider the potential for noise and vibration effects to occur on receptors from the combination of these activities as well as consideration of the effects separately within each zone of development.

3.14 Odour

(Scoping Report Chapter 19)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.14.1	Table 19-5 and Paragraph 19.10.4	Construction odour impacts	On the basis that construction activities are unlikely to involve odorous materials, the Inspectorate agrees that these matters can be scoped out of the assessment.
3.14.2	Table 19-5	Commissioning activities at the Transfers Zone and Waterbeach Zone	Given that commissioning activities will only be taking place at the Core Zone, the Inspectorate agrees that these matters can be scoped out of the assessment.
3.14.3	Table 19-5	Decommissioning activities at the Core Zone	Given the comments made in this Scoping Opinion relating to decommissioning at ID 2.2.3, the Inspectorate does not consider that sufficient information is known as to any future decommissioning (extent and duration) to conclude that significant odour effects would not occur and therefore does not agree that it can be scoped out at this stage.
3.14.4	Table 19-5	Operational odour impacts from the transfers zone vents (Core Zone and Waterbeach Zone)	Given that there are no transfer zone vents within the Core Zone or Waterbeach Zone, the Inspectorate agrees that these matters can be scoped out of the assessment.
3.14.5	Table 19-5 and Paragraph 19.10.5	Operational odour impacts from surface manhole valves	The Scoping Report states that operational odour releases from surface manhole valves will be infrequent and localised. In the absence of any further information the Inspectorate does not agree that this matter can be scoped out at this time. The description of the Proposed Development in the ES should quantify the frequency of these events to support the Scoping Reports assumptions.

ID	Ref	Description	Inspectorate's comments
3.14.6	Paragraphs 19.3.1-19.3.2	Cumulative odour impacts	The Inspectorate notes that the Milton Landfill and Waterbeach Recycling centre fall just outside of the 3km study area currently shown. The ES should consider the potential for cumulative effects with these facilities despite falling just outside the arbitrary 3km boundary.
3.14.7	Paragraphs 19.4.1-19.14.2	Modelling	A number of uncertainties are identified in relation to modelling. All assumptions and limitations to the assessment, model input data and model input parameters should be clearly specified in all relevant sections of the ES. The assumptions used to inform the modelling should demonstrate how a worst-case scenario has been reflected.

3.15 Traffic and Transport

(Scoping Report Chapter 20)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.15.1	Paragraph 20.1.9	Proximity to aviation safeguarding zone for Cambridge Airport.	Matters relating to safety in relation to tall structures (such as cranes and permanent infrastructure) are proposed to be covered as part of the scope of ES Chapter 16: Major Accidents and Disasters. The Inspectorate agrees that these matters need not be considered as part of the Traffic and Transport assessment.
3.15.2	Paragraph 20.1.10	Pipeline crossings under the Fen Line railway	On the basis of routine mitigation and Network Rail controls to avoid impacts on the railway, the Inspectorate agrees that this matter can be scoped out in terms of traffic and transport effects. Table 20-7 refers to the requirement to submit a Basic Asset Protection Agreement (BAPA), although it is unclear at what point this would be in the project programme.
3.15.3	Paragraph 20.10.5	In-combination impacts to amenity on pedestrian, equestrian and cyclists and impacts on ability to access community resources and social infrastructure	On the basis that these matters are to be assessed in detail as part of the Community chapter, the Inspectorate agrees that the assessment need not be duplicated as part of the traffic and transport aspect chapter. Cross reference should be made so as to understand where the potential for significant cumulative effects could occur between these and traffic and transport matters.

ID	Ref	Description	Inspectorate's comments
3.15.4	Paragraphs 20.5.7, 20.14.5, Section 20.6	Baseline / future baseline conditions / Covid-19	Reference is made to the surrounding strategic road network being *"known to experience congestion and delay"* prior to Covid-19 lockdown periods.

ID	Ref	Description	Inspectorate's comments
			The ES and transport assessments should clearly set out how the pandemic has influenced the gathering of baseline data, highways and access options selected for the Proposed Development and any assumptions made on long-term traffic and behavioural changes that have been made in the assessments.

3.16 Water Resources

(Scoping Report Chapter 21)

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.16.1	Table 21-9	Effects on the Lower Greensand aquifer in the Waterbeach zone	The Applicant proposes to scope out effects on the Lower Greensand aquifer as works in these zones will not be within or close to the aquifer. However, Table 21-5 of the Scoping Report indicates that design work is continuing for the deep foundations and shafts required as part of the Proposed Development. The Inspectorate considers that there is insufficient evidence therefore at this stage to confirm that there will be no effects on the Lower Greensand aquifer and does not therefore agree that this matter can be scoped out of the assessment in the Waterbeach zone.
3.16.2	Table 21-9	Temporary reductions in groundwater flows and levels in superficial deposits due to dewatering of trenches during pipeline installations (core zone)	The Applicant proposes to scope out dewatering effects to these receptors due to it being unlikely there is a pathway to these receptors. The Inspectorate considers that there is insufficient evidence on the design and depths of the excavations and shafts at this stage to confirm that there will be no effects on these receptors and does not therefore agree that this matter can be scoped out of the assessment.
3.16.3	Table 21-9	Short term releases of sediment during construction and commissioning of the proposed outfall (Core and Waterbeach zones)	The Applicant proposes to scope this matter out of the assessment for the Core and Waterbeach zones but does not give reasons to support these conclusions. The Inspectorate notes that the final effluent outfall is located within the Transfers zone, however, and so agrees that this matter can be scoped out of the assessment for the Core and Waterbeach zones.
3.16.4	Table 21-9	Discharge of final effluent used for pipeline testing into watercourses	The Applicant proposes to scope this matter out of the assessment for the Core zone but does not give reasons to support this conclusion.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		within or close to the Waterbeach transfer pipeline corridor	The Inspectorate notes that the CEMP will include measures to protect watercourses during construction, such as maintaining exclusion zones around watercourses and ensuring appropriate approvals are obtained before discharges are made. The Inspectorate therefore agrees that this matter can be scoped out of the assessment for the Core zone with such measures in place provided they can be adequately secured in by the DCO.
3.16.5	Table 21-9	Quy Fen SSSI – discharge of silt laden water (transfer and Waterbeach)	The Applicant proposes to scope this matter out of the assessment but does not give reasons to support this conclusion. The Inspectorate notes that release of pollutants on Stow– Cum–Quy Fen SSSI are scoped into the biodiversity assessment (Chapter 8 of the Scoping Report) for these zones. Given the sensitivity of the receptors and the potential for effects, the Inspectorate does not agree that this matter can be scoped out of the assessment.
3.16.6	Table 21-10	Pipeline trenches diverting land drainage. Backfill materials installed in trenches acting as groundwater drains (Core zone only)	The Applicant proposes to scope this matter out of the assessment for the Core zone but does not give reasons to support this conclusion. The Inspectorate notes on Figure 06 that there will be pipelines within the Core zone. As the design of drainage and the backfill materials that will be used for the pipeline trenches has yet to be confirmed, the Inspectorate does not therefore agree that this matter can be scoped out of the assessment for the Core zone at this stage.
3.16.7	Table 21-10	Leakage from wastewater transfer or effluent pipelines contaminating groundwater (Core zone)	The Applicant proposes to scope this matter out of the assessment but does not give reasons to support this conclusion. The Inspectorate notes on Figure 06 that there will be pipelines within the Core zone. As the design of the pipelines has yet to be confirmed, the Inspectorate does not therefore agree that this matter can be scoped out of the assessment for the Core zone at this stage. The ES should explain how such leakage will be avoided.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.16.8	Table 21-10	Minor inflow of groundwater to shafts, or outflow of waste water from shafts, affecting the Chalk aquifer.(Core and Waterbeach zones)	The Applicant proposes to scope this matter out of the assessment but does not give reasons to support this conclusion. The Scoping Report indicates that this effect will be avoided by shaft design and construction, but that further work is required. For this reason, the Inspectorate does not agree that this matter can be scoped out of the assessment for the Core or Waterbeach zones at this time.
3.16.9	Table 21-10	Accidental spills from the new WWTP contaminating the chalk aquifer (Transfer and Waterbeach zones)	The Applicant proposes to scope this matter out of the assessment for the Transfer and Waterbeach zones but does not give reasons to support these conclusions. However, the effect will only potentially occur in the Core zone and as such, the Inspectorate agrees that this matter can be scoped out for the Transfer and Waterbeach zones.
3.16.10	Table 21-10	Effects on river flows due to tunnel and pipeline watercourse crossings (Core zone)	The Applicant proposes to scope this matter out of the assessment for the Core zone but does not give reasons to support this conclusion. Given there are no tunnel and pipeline watercourse crossings in the Core zone, the Inspectorate agrees that this matter can be scoped out of the assessment.
3.16.11	Table 21-10	Effects on water quality, and WFD status from increased effluent and storm water discharges (Core and Waterbeach)	The Applicant proposes to scope this matter out of the assessment for the Core and Waterbeach zones, but does not give reasons to support these conclusions. The Inspectorate notes that the effluent outfall is located in the Transfers zone, however, and so agrees that this matter can be scoped out of the assessment for the Core and Waterbeach zones. The Inspectorate also notes the separate duties under The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 and that this opinion does not affect the requirement for, or scope of, any assessment under those regulations.

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
3.16.12	Table 21-10	Riverbed scour of river from operational discharges (Core and Waterbeach)	The Applicant proposes to scope this matter out of the assessment for the Core and Waterbeach zones, but does not give reasons to support these conclusions. The Inspectorate notes that the effluent outfall is located in the Transfers zone, however, and so agrees that this matter can be scoped out of the assessment for the Core and Waterbeach zones on the basis that there is no outfalls to rivers in these zones.
3.16.13	Table 21-10	Surface Water abstractions (Core and Waterbeach zones) and Groundwater abstractions (Core zone only)	In respect of groundwater abstraction, Table 21-7 indicates "*Groundwater abstractions* [are to] *to be investigated in a water features survey and the results of the survey to be included in the EIA"*. Similarly for surface water abstraction, table 21-7 states "*Requires assessment. Determine whether there are any surface water abstractions which might be affected. If so, assessment methodology to be agreed with the Environment Agency."* As such the Inspectorate does not agree that these matters can be scoped out of the ES for these zones at this stage.
3.16.14	Table 21-10	Surface water abstractions from ditch on eastern side of Bannold Drove (Core and Transfer)	The Applicant proposes to scope this matter out of the assessment for the Core and Waterbeach zones, but does not give reasons to support these conclusions. The Inspectorate notes that this ditch is located in the Waterbeach zone, however, and so agrees that this matter can be scoped out of the assessment for the Core and Transfers zones.
3.16.15	Table 21-10	Foundations intercepting groundwater flows in the Chalk (Transfer and Waterbeach)	The Applicant proposes to scope this matter out of the assessment but does not give reasons to support these conclusions. The Inspectorate notes that the Scoping Report indicates further work is required to determine foundation design and variations in the chalk groundwater, however, and so does not agree that this matter can be

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
			scoped out of the assessment for the Transfer and Waterbeach zones at this stage.
3.16.16	Table 21-10	Flood risk to land, infrastructure, properties, people and access (Core and Waterbeach)	The Applicant proposes to scope this matter out of the assessment but does not give reasons to support these conclusions for the Core and Waterbeach zones. The Inspectorate does not agree that this matter can be scoped out of the assessment for the Core and Waterbeach zones. The Inspectorate notes that a standalone Flood Risk Assessment (FRA) will be appended to the ES and cross reference to this should be made in consideration of these matters.
3.16.17	Table 21-11	Temporary reduction in groundwater flows, due to dewatering during construction of shaft	The Applicant proposes to scope this matter out of the assessment as the extent of impact on groundwater is considered to be confined to areas close to the proposed WWTP. The Inspectorate does not agree that this matter can be scoped out of the assessment at this stage as the design and construction of the shaft and various other related parameters are yet to be confirmed (and the description in section 2.7 and Figure 2-5 implies that the shaft will be a substantial structure extending up to 40m below ground level).
3.16.18	Table 21-11	Temporary reduction in groundwater at Quy Fen SSSI and Allicky Farm Pond CWS due to dewatering	The Applicant proposes to scope this matter out based on the results of initial calculations in a Hydrogeological Assessment which indicates effects would not extend as far as these sites. This assessment was not provided in as part of the Scoping Report and given the ongoing design activity for the construction shafts, the Inspectorate does not agree that this matter can be scoped out of the assessment at this stage.
3.16.19	Table 21-11	Reduction in flow in a reach of the River Cam between the outfall from the existing WWTP and the treated effluent discharge outfall to the	The Applicant proposes to scope this matter out on the basis that no impacts are anticipated. The Scoping Report is not clear what reduction in flow is anticipated and the spatial extent of the potential

ID	Ref	Applicant's proposed matters to scope out	Inspectorate's comments
		River Cam from the proposed WWTP.	effect. As such, the Inspectorate does not agree that this matter can be scoped out of the assessment at this stage.

ID	Ref	Description	Inspectorate's comments
3.16.20	Table 21-1	Scope of the assessment	The Scoping Report indicates that a separate water quality assessment of the effect of effluent discharges on the River Cam will be carried out. This should be referred to in the ES and appropriate cross references to other relevant chapters, such as biodiversity, be made. The ES should also consider the effects on water quality, hydrology and hydromorphology associated with ceasing the existing discharges from the current outfalls and any changes occurring as a result of the change in location for the new outfall. This should include any temporary changes required during the transition between the commissioning of the new WWTP and the decommissioning of the old, where significant effects are likely to occur.
3.16.21	Table 21-5	Study areas and receptors	The Inspectorate notes that different study areas are adopted in the biodiversity and water resource aspect assessments for the assessment of effects on designated sites. This has led to different receptors and effects being scoped into the assessments in both aspect chapters. Of note is that the biodiversity aspect chapter indicates potential for downstream effects from construction pollutants. The biodiversity assessment also identifies potential hydrological effects on the following additional sites not considered in the water resources assessment: • Wicken Fen SSSI, National Nature Reserve and Ramsar; • Fenland Special Area of Conservation (SAC);

ID	Ref	Description	Inspectorate's comments
			• Wilbraham Fens SSSI; • Cam Washes SSSI; • Upware North Pit SSSI; • River Cam County Wildlife Site (CWS); • Clayhithe Pollard Willows CWS. The Inspectorate considers that as all of these designated sites are downstream of the proposed new effluent outfall, and as there is insufficient evidence at this stage from the Applicant's separate water quality assessment to determine the changes in discharges resulting from the new WWTP, that all sites should be scoped into the assessment across all three zones of the Proposed Development, where significant effects are likely to occur.

APPENDIX 1: CONSULTATION BODIES FORMALLY CONSULTED

TABLE A1: PRESCRIBED CONSULTATION BODIES[1]

SCHEDULE 1 DESCRIPTION	ORGANISATION
The Health and Safety Executive	Health and Safety Executive
The National Health Service Commissioning Board	NHS England
The relevant Clinical Commissioning Group	NHS Cambridgeshire and Peterborough Clinical Commissioning Group
Natural England	Natural England
The Historic Buildings and Monuments Commission for England	Historic England
The relevant fire and rescue authority	Cambridgeshire Fire and Rescue Service
The relevant police and crime commissioner	The Police & Crime Commissioner for Cambridgeshire
The relevant parish council(s) or, where the application relates to land [in] Wales or Scotland, the relevant community council	Waterbeach Parish Council
	Milton Parish Council
	Fen Ditton Parish Council
	Stow Cum Quy Parish Council
	Horningsea Parish Council
The Environment Agency	Environment Agency
The Civil Aviation Authority	Civil Aviation Authority
The Relevant Highways Authority	Cambridgeshire County Council
The relevant strategic highways company	National Highways
The relevant internal drainage board	Waterbeach Level Internal Drainage Board

[1] Schedule 1 of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (the 'APFP Regulations')

SCHEDULE 1 DESCRIPTION	ORGANISATION
	Middle Fen and Mere Internal Drainage Board
	Littleport and Downham Internal Drainage Board
	Old West Internal Drainage Board
	Swaffham Internal Drainage Board
	Swavesey Internal Drainage Board
	Haddenham Level Drainage Commissioners
The Canal and River Trust	The Canal and River Trust
Public Health England, an executive agency of the Department of Health[2]	Public Health England[2]
The Crown Estate Commissioners	The Crown Estate
The Forestry Commission	Forestry Commission East and East Midlands
The Secretary of State for Defence	Ministry of Defence

TABLE A2: RELEVANT STATUTORY UNDERTAKERS[3]

STATUTORY UNDERTAKER	ORGANISATION
The relevant Clinical Commissioning Group	NHS Cambridgeshire and Peterborough Clinical Commissioning Group
The National Health Service Commissioning Board	NHS England

[2] From 1 October 2021, Public Health England (PHE) transferred its functions to UK Health Security Agency (UKHSA) and the Office for Health Improvement and Disparities (OHID) https://www.gov.uk/government/publications/location-of-public-health-england-phe-functions-from-1-october-2021
The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 were amended by the Infrastructure Planning (Prescribed Consultees and Interested Parties etc.) (Amendment) Regulations 2021 to replace PHE with UKHSA

[3] 'Statutory Undertaker' is defined in the APFP Regulations as having the same meaning as in Section 127 of the Planning Act 2008 (PA2008)

STATUTORY UNDERTAKER	ORGANISATION
The relevant NHS Trust	East of England Ambulance Service NHS Trust
Railways	Network Rail Infrastructure Ltd
	Highways England Historical Railways Estate
Canal Or Inland Navigation Authorities	The Canal and River Trust
Civil Aviation Authority	Civil Aviation Authority
Licence Holder (Chapter 1 Of Part 1 Of Transport Act 2000)	NATS En-Route Safeguarding
Universal Service Provider	Royal Mail Group
Homes and Communities Agency	Homes England
The relevant Environment Agency	Environment Agency
The relevant water and sewage undertaker	Anglian Water
	Cambridge Water
The relevant public gas transporter	Cadent Gas Limited
	Last Mile Gas Ltd
	Energy Assets Pipelines Limited
	ES Pipelines Ltd
	ESP Connections Ltd
	Fulcrum Pipelines Limited
	Harlaxton Gas Networks Limited
	GTC Pipelines Limited
	Independent Pipelines Limited
	Indigo Pipelines Limited
	Leep Gas Networks Limited
	Murphy Gas Networks limited

STATUTORY UNDERTAKER	ORGANISATION
	Quadrant Pipelines Limited
	National Grid Gas Plc
	Scotland Gas Networks Plc
	Southern Gas Networks Plc
The relevant electricity distributor with CPO Powers	Eclipse Power Network Limited
	Last Mile Electricity Ltd
	Energy Assets Networks Limited
	ESP Electricity Limited
	Forbury Assets Limited
	Fulcrum Electricity Assets Limited
	Harlaxton Energy Networks Limited
	Independent Power Networks Limited
	Indigo Power Limited
	Leep Electricity Networks Limited
	Murphy Power Distribution Limited
	The Electricity Network Company Limited
	UK Power Distribution Limited
	Utility Assets Limited
	Vattenfall Networks Limited
	Eastern Power Networks Plc
	UK Power Networks Limited

TABLE A3: SECTION 43 LOCAL AUTHORITIES (FOR THE PURPOSES OF SECTION 42(1)(B))[4]

[4] Sections 43 and 42(B) of the PA2008

LOCAL AUTHORITY[5]
South Cambridgeshire District Council
East Cambridgeshire District Council
Huntingdonshire District Council
Cambridge City Council
Uttlesford District Council
North Hertfordshire District Council
Braintree District Council
West Suffolk Council
Central Bedfordshire Council
North Northamptonshire Council
Bedford Borough Council
Central Bedfordshire Council
Peterborough City Council
Cambridgeshire County Council
Norfolk County Council
Suffolk County Council
Essex County Council

TABLE A4: NON-PRESCRIBED CONSULTATION BODIES

ORGANISATION
Cambridgeshire and Peterborough Combined Authority

[5] As defined in Section 43(3) of the PA2008

APPENDIX 2: RESPONDENTS TO CONSULTATION AND COPIES OF REPLIES

CONSULTATION BODIES WHO REPLIED BY THE STATUTORY DEADLINE:
Anglian Water
Cambridge City and South Cambridgeshire District Councils
Cambridgeshire County Council
Central Bedfordshire Council
East Cambridgeshire District Council
East of England Ambulance Service NHS Trust
Environment Agency[6]
Essex County Council
Fen Ditton Parish Council
Haddenham Level Drainage Commissioners and Swavesey Internal Drainage Board
Historic England
Health and Safety Executive
Milton Parish Council
Ministry of Defence
National Highways
NATS En-Route Safeguarding
Network Rail Infrastructure Ltd
North Hertfordshire District Council
Royal Mail Group
UK Health Security Agency (UKHSA) and the Office for Health Improvement and Disparities (OHID) (formerly Public Health England)[2]

[6] Due to an administrative error the Environment Agency were notified 5 days later than other consultation bodies and so were given 28 days from the date they were notified.

From: [redacted]
Sent: 21 October 2021 14:39
To: [redacted]
Cc: [redacted]

Subject: RE: WW010003 - Cambridge Wastewater Treatment Plant Relocation Project - EIA Scoping Notification

Good afternoon [redacted]

I was lovely to meet you, Pauleen and the PINS team last week to discuss the NSIP regime and the water sector as part of the current 2008 Planning Act review consultation.

I write to confirm that as the Cambridge plant relocation is an Anglian Water project, the single point of contact for the project will be my colleague [redacted] (CC'd above).

[redacted] is leading the Anglian Water DCO consent team and is working with Anglian Water colleagues and myself.

I do not therefore propose to submit an Anglian Water response (as a statutory undertaker, landowner and EIA consultee) to the company's own Scoping Report and the PINS consultation.

Further correspondence can be sent to [redacted] and the Anglian Water project team.

Kind regards

[redacted]
Spatial Planning Manager

Mobile: [redacted]

Web: www.anglianwater.co.uk

Pronounced: [redacted]

Anglian Water Services Limited
Lancaster House, Lancaster Way, Ermine Business Park, Huntingdon, Cambridgeshire, PE29 6XU

South Cambridgeshire Hall
Cambourne Business Park
Cambourne
Cambridge,
CB23 6EA
www.scambs.gov.uk

GREATER CAMBRIDGE
SHARED PLANNING

The Planning Inspectorate
By email to: CambridgeWWTPR@planninginspectorate.gov.uk

Your reference: WW010003
Our Reference: 21.04640.SCOP
Date: 17th November 2021

CASE-OFFICER: [redacted]
EMAIL: [redacted]

Dear Sir or Madam,

Application by Anglian Water Services Limited (the Applicant) for an Order granting Development Consent for the Cambridge Wastewater Treatment Plant Relocation (CWWTPR) – EIA Scoping Report Response

On the 20th of October 2021, PINS issued an EIA Scoping consultation request to the Greater Cambridge Shared Planning Service (GCSPS) as a statutory consultation body acting on behalf of South Cambridgeshire District Council and Cambridge City Council.

It is stated that the Proposed Development has been determined to be a Nationally Significant Infrastructure Project as directed by the Secretary of State for Environment, Food and Rural Affairs ('the Secretary of State') under Section 35 of the Planning Act 2008 (as amended).

The Applicant, Anglian Water, has also confirmed under Regulation 8(1)(b) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations') that an Environmental Statement (ES) will be provided in respect of the application for consent for this Development, as it is subject to mandatory EIA as it is listed in paragraph 13 of Schedule 1 of the Regulations, **in the category of waste water treatment plants with a capacity exceeding 150,000 population equivalent as defined in Article 2(6) of Council Directive 91/271/EEC concerning urban waste-water treatment.**

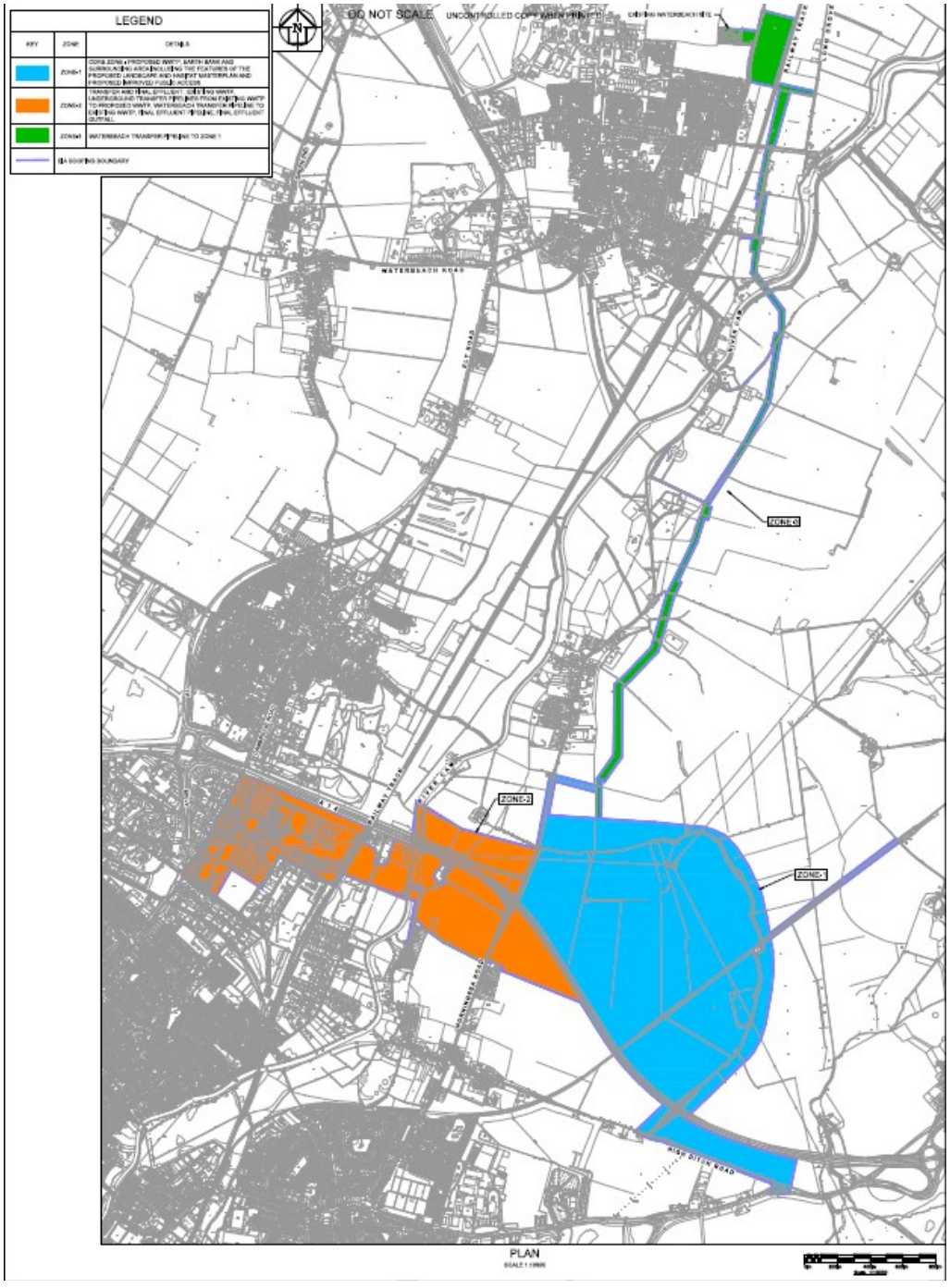
In respect of the '*Cambridge Waste Water Treatment Plant Relocation Project - EIA Scoping Report October 2021*', as submitted by Anglian Water to PINS, the Council's have the following observations and comments to make.

GENERAL COMMENTS:

We welcome this comprehensive EIA scoping report for the Proposed Development. The report is well-structured, with a strong methodology and the technical chapters are considered to provide clear information on the areas of scope covered.

EIA scoping boundary

A site location plan, showing the EIA Scoping boundary, representing the area within which the project may be delivered is shown in *Figure 00: EIA Scoping Boundary and Zones* (shown below). For the purposes of the scoping report the project it is split into three distinct zones:



- **Core Zone** (in SCDC north of the A14 between Fen Ditton and Horningsea)**:** Proposed Waste Water Treatment Plant (WWTP) and connections within the zone, vehicular operational access options, earth bank and surrounding area including the features of the proposed landscape and habitat masterplan and proposed and/or improved public access;
- **Transfers Zone** (including existing WWTP of Cowley Road, Cambridge): Waste Water transfers and final effluent pipelines including the existing Cambridge WWTP, underground transfer pipelines from the existing WWTP to the proposed WWTP, Waterbeach transfer pipeline to Core Zone, final effluent transfer, final effluent outfall;
- **Waterbeach Zone**: Waterbeach transfer pipeline to Core Zone including existing Waterbeach WRC and temporary construction access routes.

We would recommend that the EIA boundary is expanded to include the following:

- **Outfall/ downstream zone:** Of the three zones outlined above, the transfers zone includes the final effluent transfer and outfall to the River Cam. There is no mention of downward impacts from the outflow of treated effluent, either as a result of increased mineralisation, turbulence/turbidity, or other. We would recommend that this zone is 'scoped in' as an additional zone within the EIA for consideration across the relevant aspects, including biodiversity, climate resilience, odour, landscape, and water resources.
- **Off-site mitigation:** The EIA scoping red-line boundary does not include off-site mitigation that may be provided as part of the DCO. This will have a positive impact on the EIA and we would encourage the applicant to include this in the EIA scoping boundary.

In general, we agree with the aspects and matters proposed for consideration within the EIA scoping report. **We <u>do not agree</u> with the proposal to scope out Land Quality. Due to variations in expected land quality in the 3 zones, development proposals in the 3 zones and the scope and nature of the overall development, we recommend that Land Quality is 'scoped in' in the EIA and further into the ES.**

The scoping report does not include a Light Impact Assessment for light spill into sensitive-species habitats and built areas. **We would recommend that a Light Impact Assessment is 'scoped in' across the relevant aspects, including Biodiversity, Landscape, Historic Environment and Health.**

There is no mention of the **Fen Rd gypsy traveller community** and the potential impact the Proposed Development will have on this protected community. **We will expect this matter to be 'scoped in' in the EIA. We would also expect processes to be put in place to engage and capture the views of this community.**

We are aware of ongoing discussions regarding the lack of mains sewage connections to the Fen Road traveller community and if a solution to this is brought forward that is reliant on the proposed transfer tunnel then the scope of the EIA should be drawn accordingly.

We would also like to make the following general observations on the report:

<u>Proposed design capacity</u>

Paragraph 2.4.10 states that the proposed design capacity of the Proposed Development would be 548,000 population, of which the waste water treatment capacity is 270,000-300,000

population and the STC would treat a total amount of up to 16,000 Tonnes dry solids for both indigenous and imported sludge. This "*would be expected to accommodate current forecasted housing growth to around to 2050*". **The EIA should consider what happens when the plant reaches capacity in 2050, can it accommodate expansion until 2080 and beyond within the parameters being assessed – noting the physical enclosure of the treatment area specifically? How do the impacts compare to having a design capacity to 2080 from the outset?**

The EIA should also provide clarity on the **case for relocation** – i.e., how does the proposed treatment capacity compare to that at the existing capacities at Cambridge WWTP and Waterbeach WRC, and what is the additional population that the Proposed Development would serve? This would enable a fuller evaluation of environmental (including social and economic) costs and benefits.

Our recommendation would be for a technical design capacity to at least 2080 to be 'scoped in' in this assessment. We would particularly like to see evidence that expansion of the plant after 2080 is feasible within the bund structure included in the EIA.

Decommissioning

We note that the decommissioning of the existing Cambridge WWTP and Waterbeach WRC is split into 2 parts which are defined in Sections 2.9.36 and 2.9.37 of the Scoping Opinion:

1) Section 2.9.36 (decommissioning responsibilities set out by the DOC) "*The scope of the decommissioning will be aligned with the requirements set out by the Environment Agency in respect of the anticipated rescinding of the current operational permits, specifically the final effluent and storm discharge consents, and sludge treatment operation permit*."

2) Section 2.9.37 (decommissioning responsibilities of future developers) – *"Other decommissioning activities, including the demolition of structures and site preparation for the site's redevelopment are outside of the scope of the relocation project DCO and will be carried out by the site developer in accordance with a separate planning permission. The connection shaft for the new waste water transfer tunnel will be retained as a permanent surface feature to allow access for future maintenance activities."*

Given the above, it is assumed that the DCO will only cover above ground decommissioning activities (such as pumping out of tanks and making the structures safe), all of which are to be retained safe and secure. It does not include demolition of the existing structures and remediation of the existing sites for redevelopment. While it is anticipated that the sites would be viable and could be developed soon after the new facility is operational, this would be a separate planning permission(s) and does not form part of the DCO. **We would therefore recommend that the EIA needs to consider the potential impacts of the existing sites being decommissioned (as above) but not redeveloped. We suggest that these are 'scoped in' in the EIA and cross-referenced across the relevant chapters, including a revised 'future baseline'.**

The proposed Transfers Zone phase has parts located within the existing Cambridge WWTP which have the potential to have a significant adverse impact on receptors in Cambridge City and SCDC accordingly. **We would like to ensure that decommissioning impacts to existing are included and assessed appropriately**.

It will be for the EA to supervise the demolition of the existing sewage works, but this will also need to be in accordance with a phasing plan (for the wider development in the area as well as NEC AAP) to be agreed with the Local Planning Authority.

Traffic & Access

A series of interrelated studies have been undertaken within the North East Cambridge area and Cambridge – Waterbeach – Ely corridor since 2017, analysing baseline conditions, major components of growth, and the overall A10 corridor. Construction and operational traffic along this route is likely to have significant cumulative impacts on transport and other aspects and **we recommend that this is included in the EIA for consideration so that the Proposed Development can be delivered with limited impact to the existing traffic conditions.**

We welcome the commitment made to avoid HGV traffic through Horningsea and Fen Ditton. **HGV traffic coming down the A10 also must not be directed via Waterbeach Village in accessing the site.** We would therefore suggest amending the text at 2.11.4 to read "… vehicles would turn south of Horningsea into the construction areas..." and amending Figure 5 accordingly. **We would expect the assumptions behind the conclusions on routing to be fully expressed in the ES so that the Councils can take a view on robustness.**

Biodiversity and landscape

As part of the Green Belt and bordering the Fens, the selected site provides a unique opportunity to enhance nature, conservation and biodiversity, the local landscape and heritage. **We welcome the measures proposed to mitigate the impacts of the development and would expect to see the site making a strong contribution to Biodiversity Net Gain (BNG) and the local landscape (including access to the countryside).**

Water table

The EIA scoping report appears to make no reference to the existing "water table" on the proposed site. **We consider it important that this is included within the relevant ground conditions and hydrological studies to minimise construction risks relating to site drainage.**

Climate resilience

The EIA scope considers vulnerability of the Proposed Development to flooding, but appears not to consider the ability of the new facility to deal with additional storm water flows arising from wetter winters and more extreme floods without negative discharge impacts on the River Cam. **We recommend that the impacts of extreme weather events on pumping and processing capacity and discharge quality, including impact on downriver ground conditions and hydrologies, is 'scoped in' in the EIA. In terms of spatial scope, the area of the River Cam downstream of the outfall should be 'scoped in' to a suitable distance.** We note that transfer pipes from City and Waterbeach are already included in the scope and adequate capacity to deal with an extreme storm event should be provided.

The report also mentions resilience to 1:100 year flood events. Accounting for wetter winters and climate extremes, floods are increasingly frequent and severe. **We would encourage the EIA to consider what the new 1:100 year flood baseline relevant to the proposed development should be.**

Using state-of-the-art technologies

We strongly support the aspiration to "*create a state-of-the-art, low carbon water recycling centre of the future*" that can meet the needs of the region for decades to come (project-level design principles in Section 3.7 of Scoping Report).

While existing standard technologies and processes are detailed in Section 2.7 as a means of setting parameters for the development, **we would like the applicant to demonstrate how they will use more efficient technologies and construction materials in the following design development stages in order to align with the design principles referenced in the report. We would expect the methodology and assumptions behind the selection of technologies to be fully expressed in the ES so that the Councils can take a view on robustness.**

A state-of-the-art energy-efficient facility with a world-class image, coupled with pro-active community consultation and engagement, has the potential to introduce a sense of place and well-being and further contribute to the success of the Proposed Development.

Urban Design

The EIA scoping does not cover urban design aspects or matters. However, in line with the NPPF, **we would recommend that Anglian Water consider further engagement with the Cambridgeshire Quality Panel to ensure that the scheme is in accordance with relevant national and local policies as identified in Section 1.4 of the report.** Subsequent reviews with the same panel members, with recommendations shared with officers in the project, would ensure continuity of advice on the scheme.

No matters are proposed to be scoped out of the EIA further to those suggested in the Scoping Report. Detailed rationale for aspects/matters proposed to be 'scoped in' is provided in the chapter-specific comments.

CHAPTER-SPECIFIC COMMENTS

Chapter 2 - The proposed Development

This chapter describes the Proposed Development including its location and technical capacity. In addition to our "General Comments" above, we would like to note the following:

Relationship of Proposed Development and the North East Cambridge AAP

Paragraph 2.4.1 states "*The Proposed Development comprises the relocation of the Cambridge Waste Water Treatment Plant (WWTP) from its existing site on land adjoining the north eastern side of the city of Cambridge, to a new location. The relocation is required to support the delivery of South Cambridgeshire District and Cambridge City Councils' Area Action Plan for a new low-carbon city district in North East Cambridge, which could create 8,000 homes and 20,000 jobs over the next 20 years*." **We would like to clarify that the relocation of the Cambridge WWTP is not a "requirement" of the North-East Cambridge Area Action Plan and must not be referred to as such. This is because we are not requiring the relocation, but the NEC AAP**

and the emerging joint Local Plan have identified the opportunity that the relocation creates for homes and jobs in the North-East Cambridge area.

Wet sludge

Paragraph 2.4.3 notes that, as an Integrated Waste Treatment Plant, "wet sludge" from other WWTP would be brought to this site. **The EIA should clarify the catchment / provide location of the satellite sites and detail what, if any, impact this may have on (1) operational traffic movements, (2) carbon and (3) treatment capacity and lifetime of design for the new CWWTPR.**

Final effluent route

Paragraph 2.9.24 proposes that final effluent transfer from the new WWTP may reuse an existing drainage ditch (a feature of the local area) that runs parallel to the A14. **We would like to have further discussions with the applicant on implications of this proposal for land contamination, water quality and local amenity.**

Temporary Access

In relation to Table 2-22 (Indicative timescales for temporary and permanent access for each access option 1a/b, 2 & 3), we would like clarity on why establishing a temporary access from Horningsea Road requires more time for options 2 and 3, compared to that required for Options 1a/b.

Construction

Paragraph 2.9.10 states that spoil removed from tunnelling will be dewatered and transported to the proposed WWTP and used within the landscaping activities if suitable for re-use. **This is a risk for land contamination and use of spoil must be included in a Materials and Waste Management Plan. The potential impacts on construction and carbon if the spoil is found unsuitable for use should also be considered. In addition, potential implications for the ground water/ overland discharge flows from such works must be adequately included in the assessment.**

We would also like to see further detail on how the volume of tunnelling spoil (after dewatering and compaction) is likely to compare to the volume that is required to create the landscape structures, as well as how any shortage or surplus of soil would be dealt with. The transport and carbon impacts of this should be adequately included within the EIA.

As the Local Planning Authority, we would expect to be consulted on the various construction phase management plans identified in Section 2.16 (CoCP, CEMP, Soil Management Plan, etc). Details of information to be provided in each plan can be obtained from the Local Authority at the relevant time.

Chapter 3 - Alternatives Considered

We note that applicant has rigorously selected sites, shortlisting and assessing three final sites on a range of criteria, of which the current site has been chosen as it presents "*the greatest opportunity to deliver a development that includes wider benefits, rather than seeking to solely*

mitigate negative impacts, contributes to Anglian Water Services Limited's corporate objectives and addresses the concerns posed by the local community and stakeholders."

As part of this process, we anticipate that the applicant has also considered where the potential impacts lie (for each shortlisted site), the various ways in which these impacts could be mitigated, and the detailed logic for site selection. **In the following stages, we would encourage the applicant to consider how the design development can help effectively mitigate the impacts from the Proposed Development and deliver enhanced benefits for the chosen site and its surroundings.**

In particular, Section 3.6 outlines how the selected site currently makes the highest contribution to "*nature conservation and biodiversity*" and "*green belt purposes*", and presents a higher "*risk of impact on heritage assets and the local landscape*". **We welcome the measures proposed to mitigate these impacts and provide further relevant comments within the relevant sections of this note. We would like to see evidence that the choices made around design and landscaping have considered the most appropriate solution for Biodiversity Net Gain (BNG) and the local landscape (including access to the countryside) and recommend that this is included in the scoping report.**

Paragraph 3.7.4 provides a list of project level design principles developed in accordance with the National Infrastructure Commission's Design Principles for National Infrastructure. **We strongly support the aspiration to "*create a state-of-the-art, low carbon water recycling centre of the future*" that can meet the needs of the region for decades to come (which we see as an overarching vision for the Proposed Development), and the relevant supporting design principles. We would like to see further detail on bullet point 2 (to reduce the footprint of the modern plant to 22 hectares) and 3 (to create a strong identity for the site), to understand how they meet the overarching vision.**

On the selection of alternatives, the report omits detail on the various designs considered and the basis for selection of the rotunda option as the preferred outline design for the EIA report. **The scoping report should detail the methodology and rationale for other design solutions being rejected and the basis of the design solution put forward for consideration.**

In relation to 3.7.7, the early engagement on the design and quality aspects of the Proposed Development is crucial to a successful scheme and we welcome the steps taken by the applicant in this regard. **In line with the NPPF, we would recommend that the applicant consider further engagement with the Cambridgeshire Quality Panel to ensure that the scheme is in accordance with relevant national and local policies as identified in Section 1.4 of the report.** Subsequent reviews with the same panel members, with recommendations shared with officers in the project, would ensure continuity of advice on the scheme.

Chapter 4 – Consultation

Chapter 4 gives an overview of consultation and engagement work to date but this is relatively brief. We would like to see more detail on this.

It would be helpful to have a 'route map' clearly shown that identifies the consultation requirements for each stage of the project (DCO, EIA etc), engagement and consultation undertaken to date and how consultation related to the EIA is programmed and related to other consultation on the project as a whole. **It would help to refer to the Gunning principles and to clarify how those principles will be met with regard to the consultation approach. The scoping report should set out how consultation to date has shaped the development of the project**. Extensive reporting has been done on the phase 1 and phase 2 consultation and it would be good for these reports to be specifically referenced in the chapter, and their relevant findings summarised.

Paragraphs 4.4.4 onwards appear to cover the scope and methodology for consulting on some of the 15 specific topics within the EIA but not all of them. **A matrix setting out how each topic will be consulted upon may assist in ensuring that there are no gaps and that an appropriate consultation methodology is in place.**

We would encourage the applicant to consider that the methodology for consultation is inclusive and meets local needs. As an example, on 4.4.6, it would be good to see the basis of the selection of ten affected community businesses: how will this selection be made, how representative will it be across the range of community facilities and geographically? Speaking with all community facilities/service providers may avoid the potentially skewing effects of using a sub-set.

Please see further relevant comments on this aspect within our comments on Chapter 11 (Community).

Chapter 5 - EIA Methodology

This is a comprehensive chapter detailing the EIA methodology, baseline conditions, and the assumptions made (in addition to those detailed in Chapter 2).

The '*Spatial scope of assessment*' defines the EIA boundary and the spatial parameters (referred to as '*zones within which*', or maximum extent of areas, depths and heights where an activity might take place). In addition, a '*Temporal scope of assessment*' establishes the timeframes in which those significant effects are most likely to happen.

- The assumed assessment years for construction are from 2024 until 2028. For most aspects, the relevant 'peak year' is chosen for assessment (eg, peak year of land take, construction activity or traffic).
- The design capacity of the Proposed Development is expected to accommodate forecast housing growth to around 2050. For most aspects, the assessment of operational effects is proposed to be the first full 12 months of operation (excluding any commissioning period for the proposed WWTP as this is part of the Construction Phase).

The proposed approach is to define the project design parameters and base assessments on a "realistic worst-case scenario" – this is identified for each aspect, and both temporal and spatial extents of assessment identified. Table 5-2 provides a "summary of construction phase realistic worst-case scenarios" (providing the temporal and spatial extents of assessment, for each aspect, during construction), and Table 5-3 does the same for the Operational Phase. The

impression obtained from these tables is that the spatial extent of assessment is the EIA boundary (without any buffer) and it is only in Table 5-4 that the spatial parameters appear to better align with what is presented in the technical chapters. These might be reviewed for clarity and consistency.

We would also encourage the applicant to consider the temporal 'realistic worst case-scenarios'. For example, for biodiversity, the wording in Table 5-2 might read '*Peak year in which maximum impacts to protected species and habitats occur*' and '*Extent of protected habitat on which maximum impacts occur*'. Similarly, in Table 5-3 some aspects may be better evaluated beyond the first year of operation, for example, communities and landscape may be reviewed in the first and fifth years and this may contribute positively to the assessment.

When assessing the realistic worst-case scenarios, these tables (and the report) refers to the "maximum extent of land" and "maximum extent of land required permanently". **We would appreciate clarification of these terms, explaining the exact geographical area covered.**

Paragraph 5.4.14 also states that "*Lateral and vertical limits of deviation (LoD) will be introduced for the Proposed Development to define the maximum extent within which the WWTP and ancillary works can be built*". **We would like clarification whether these are likely to exceed the maximum extents referred to elsewhere.**

The EIA should include the impact of the construction phase being delayed or lasting longer (beyond 2028). Would impacts change on sensitive receptors? Would additional interim measures be proposed? This should be considered across all relevant aspects and used to inform the future baseline as relevant.

For the baseline, existing baseline data are considered to form a 'current baseline' for the EIA. In addition, a 'future baseline' incorporates "*changes that are likely to happen in the intervening period between the preparation of the EIA and construction/operation of the Proposed Development, for reasons unrelated to the Proposed Development*". Developments proposed to be within the future baseline are set out in Table 5-5 and Figure 5-2 of the report. **We are in agreement with this approach and suggest that the detailed scenarios on proposed developments be shared as we may be able to inform the associated "reasonable worst-case approach" in further detail.**

The EIA should also consider how the cumulative impacts resulting from the building-out of these developments will be considered for each aspect.

Since demolition and clearing out of the existing WWTP and WRC is not part of this DCO, the future baseline <u>should not</u> include the developments that may potentially come on the site of the existing WWTP and WRC.

We note that the Health Impact Assessment will be part of the EIA as per SCDC policy.

Paragraph 5.3.5 states that equality effects will be considered in a separate EqIA which will be submitted as part of the DCO application if significant impacts are identified at the screening stage. **We would encourage the applicant to include within the EIA an assessment of community impact encompassing all communities within the study area which are likely to**

be impacted, including the Fen Road traveller community which is a known vulnerable community in this area. Please see also related points in our comments relating to the Consultation and Communities chapters on engagement methodology and approach.

In section 5.5, we note that due to combined impacts, an in-combination assessment drawing together all the residual effects on local communities will be presented. The cumulative impacts will be qualitative, and therefore likely to be descriptive and will not have attributed levels of significance.

Chapter 6 - Agriculture and Soils

Not reviewed.

Chapter 7 - Air Quality

Chapter 7 of the EIA Scoping report identifies potential pollutants and receptors, referred to by the Planning Inspectorate as 'matters', relevant to the aspect of air quality. This relates to the methodology for the air quality assessment at both the construction and operational phases of the proposed scheme. **We confirm that the proposed methodology and the guidance referenced within the above document are acceptable.**

It is noted that the odour impacts of the Proposed Development on local receptors are addressed separately in Chapter 19 Odour.

Paragraph 7.1.4 states that '**No matters within this aspect are proposed to be scoped out of further assessment**, however the scope of assessment has been refined to focus on emissions from: construction dust, construction traffic, operational traffic and operational site plant (combustion processes).' **We are in agreement with this approach and the receptors and pollutants proposed to be assessed.**

Decommissioning works of existing facility:
In relation to the decommissioning activities of the existing Cambridge WWTP, we acknowledge that following decommissioning works, Cambridge City will likely benefit from this project due to a reduction in the movement of heavy-duty vehicles to and from Cowley Road. There are 2 potential beneficial impacts: (1) reduced vehicle emissions in the locality; (2) potential reduction in fugitive road dust (dust kicked up off road surfaces by vehicles and by turbulence) which has also previously been a cause of complaint and annoyance in the locality.

Notwithstanding the above, we acknowledge that decommissioning works for the existing WWTP, whilst temporary in nature, may have a detrimental impact on local air quality and as such, we would expect that air quality is considered in accordance with our standard requirements as stipulated in the Greater Cambridge Sustainable Design and Construction SPD, (Adopted January 2020) and in particular section 3.6 – "Pollution" and subsequently accounted for in an appropriate DCEMP for approval prior to commencement of works.

Transfers and effluent zone:
It is noted that local air quality (as regulated by the Local Air Quality Management (LAQM- based against national objectives for seven air pollutants**)** regime is to be scoped out of the EIA for this project in relation to the Transfer and final effluent zone operational stages. **We agree that air quality (as regulated by LAQM) does not need to be scoped into the EIA for the Transfer and final effluent zone operational stages within the City for the reasons given in the scoping report.**

Chapter 8 – Biodiversity

Chapter 8 of the EIA Scoping report identifies the resources and receptors, referred to by the Planning Inspectorates as 'matters' relevant to the aspect of biodiversity. Several matters (resources and receptors) within this aspect are proposed to be scoped out of further assessment with justification provided.

Baseline
The desktop assessment has been prepared in consultation with the Cambridgeshire and Peterborough Environmental Records Centre (CPERC) and the British Trust for Ornithology (BTO) and these records inform the survey requirements. Priority and Protected Species have been considered adequately and comprehensive species and habitat surveys have been completed or partially completed. Any records from new surveys undertaken should be shared with CPERC.

Potential Impacts
The proposed project will impact on designated sites, both SSSI and County/City Wildlife Sites.

The majority of the project lies in arable land with smaller areas of priority habitats including deciduous woodland, species-rich hedgerows, the River Cam, ponds and floodplain grazing marsh. The project has been planned to avoid impacts on these priority habitats by retaining specific habitats; avoiding locating access routes through County and City Wildlife Sites; and locating vent shafts in areas of low ecological value. Reasonable mitigation measures have been identified for the construction process which will need to be secured by a condition of consent. In paragraph 8.8.9, the fifth bullet point should be slightly modified to read, "the management of acoustic, vibration and **light** disturbance."

The submitted EIA Scoping Report has considered the potential impacts on all the relevant protected and priority species and effectively avoided, or mitigated for, all impacts. This is necessary for the Local Planning Authority to demonstrate they have met their s40 biodiversity duty. Survey and assessment should meet the requirements of Natural England Standing Advice.

The proposed project site lies within 10 km of Wicken Fen Ramsar Site, Fenland SAC and Devil's Dyke SAC. The site also lies within the Impact Risk Zones of eight SSSIs. There is potential for significant ecological impacts on these designated sites and therefore any application will require consultation with Natural England.

Methodology

We are satisfied that nationally agreed guidelines have been followed for the ecology surveys and all survey work has been undertaken in the appropriate season by appropriately qualified ecological consultants. In accordance with Regulation 14 of the EIA Regulations, the ES should provide a statement about the relevant expertise or qualifications of the competent experts involved in its preparation.

Any report on badgers should be submitted as a separate confidential appendix clearly marked as containing sensitive information.

We recommend that in Section 8.5.6, the Local planning policy relevant to the Proposed Development should also consider the Greater Cambridge Shared Planning draft Biodiversity Supplementary Planning Document (July 2021).

Opportunities

To comply with the NPPF, there is an opportunity to enhance the proposed project site in order to deliver net gain for biodiversity. Paragraph 8.8.29 proposes a BNG of 10%, and potential off-site mitigation is also indicated. **We recommend that the EIA should thoroughly explore all reasonable options to enhance the development for Protected and Priority species in order to aspire to a higher BNG.** Including the off-site mitigation elements into the EIA boundary could also positively impact the assessment. In addition, a full Biodiversity Net Gain report should be submitted.

Table 8-8 states that "Sensitive species may actively avoid sources of light disturbance and search for alternative foraging habitats/commuting routes leading to a reduction in the distribution of these species within suitable habitats resulting in a reduction of energy intake and/or an increase in energy expenditure potentially leading to a reduction in survival and productivity rates" but does not specify the zones that this would apply to. **We would recommend that a Lighting Impact Assessment is 'scoped in' to cover sensitive species as part of the EIA. This should cover light spill from both construction and operation across the three zones.** In addition, the type and design of lighting should be considered to minimise the impact on sensitive species.

Paragraph 8.8.26 identifies potential impacts in the form of **hydrological impacts to the River Cam, contamination of Black Ditch** (with potential contamination of the ground water in the chalk aquifer at the proposed WWTP) **and for potential surface water and groundwater impacts at Allicky Farm CWS. While the proposed mitigation measures are appropriate from a Biodiversity perspective, we recommend that these impacts are fully considered as part of the "Water Resources" aspect.**

Summary

Overall, this type of development has the potential to result in significant ecological impacts and **we agree that Biodiversity is scoped in for further assessment in the EIA. We also agree with Section 22.1.6 Table 22-1 which describes the species and sites which are proposed to be scoped out. We recommend that the impact of lighting for sensitive species is 'scoped in' across all zones, and for a consideration of BNG both on-site and off-site.**

In addition to the EIA report, it will be necessary to also provide sufficient information on non-significant impacts on Protected and Priority species and habitats at submission either in a non-EIA chapter or separate documentation. This is necessary in order for the LPA to have certainty of all likely impacts, not just significant ones, from the development and can issue a lawful decision with any mitigation and compensation measures needed to make the development acceptable, secured by condition.

Chapter 9 – Carbon

Chapter 9 of the EIA Scoping report identifies the resources and receptors, referred to by the Planning Inspectorate as 'matters' relevant to the aspect of greenhouse gas emissions (GHGs). **Paragraph 9.8.2 states that "No matters are scoped out across all zones" on the aspect of Carbon. We are in agreement with this approach.**

In relation to policy commitments, the document demonstrates extensive local and national policy knowledge with scope to:

- Reduce Greenhouse Gas (GHG) emissions in line with UK commitments to net zero, and work to carbon budgets stemming from the climate change act 2008
- Implement Anglian Waters corporate policy to be net zero carbon by 2030, inclusive of emissions from operational power use, transportation and process emissions.

Baseline

GHG assessment will include emissions from both construction and operational phases, with estimates compared against UK carbon budgets, based upon the following guidance:

- Infrastructure carbon review
- PAS 2080: Carbon Management in Infrastructure
- IEMA Environmental Impact Guide to assessing GHG emissions

Proposed baseline emissions using best practice estimates will include:

- Annual UK emissions (including national wastewater and construction sector emissions)
- AWS operational emissions
- Estimate of 2.9% construction emissions (from 2019) to help formulate construction footprint

Possible Impacts and proposed mitigating measures

Construction Phase	
Impact	Mitigating Measures
Emissions from manufacture & processing of raw materials (embodied carbon)	• Use of low carbon concrete and pre-casting of structures to reduce waste. • Use of construction materials and processes with lower embodied carbon
Emissions from transportation	• Local sourcing of materials • Use of Design for Manufacture and Assembly (DFMA) for offsite manufacture where possible
Emissions from construction plant	• Use of advanced treatment process technology to reduce overall size of plant required

A construction carbon management plan will also be produced as per Local Plan Policy which should include:

- Measures to reduce construction energy use and emissions
- Approach to procuring energy from renewables and low carbon sources
- Monitoring methods for sites activities and reporting process

Operational Phase (2028-2050)	
Impact	Mitigating Measures
Emissions from power use for pumping & treatment	• Onsite renewable energy generation (solar PV) • Use of gravity systems to alleviate need for pumping • Plant which minimises transfer distances
Emissions from water recycling and sludge treatment	• Biogas from sludge treatment transferred to gas network or used for combined heat and power • Biosolids used as fertiliser

The applicant has provided a detailed assessment of the possible implications of the project on GHG emissions, and generally we are supportive of the comprehensive overview.

The EIA Scoping opinion scopes in an assessment of the likely significant effects the Proposed Development has on climate, looking at both GHG (including carbon) and the vulnerability of the project to climate change. **We recommend that these themes follow through into the EIA and ES.**

The chapter sets out the various methodologies and standards, relating to carbon management in infrastructure, to be used to ensure accuracy in reporting as far as possible. Anglian Waters policy to deliver carbon zero by 2030 is welcomed along with recognition that the project will need to be assessed against the UK's 6th carbon budget. The document also references sources of data and assumptions made when assessing impacts on climate and quantifying GHG's.

The document states that there is no clearly defined study area in relation to greenhouse gas emissions as the receptor is the climate, but it does recognise the need to include 'whole life' carbon emissions from construction through to full operational design life, ensuring embodied carbon is recognised and counted in the construction phase.

There appear to be gaps in the assessment of whole life carbon as the document fails to mention the decommissioning of the current WWTP and WRC and the intention (with carbon implications) for the proposed site at the end of the plants design life (post 2050). **We would strongly recommend to the applicant that these are recognised, and mitigation measures proposed.**

We would strongly encourage the applicant to consider materials and technologies for reducing embodied carbon and offsetting carbon in both the construction and operational stages.

Chapter 10 - Climate Resilience

Chapter 10 of the EIA Scoping identifies likely impacts of climate change on the project receptors, referred to by the Planning Inspectorate as 'matters', and the resilience of these matters to the effects of climate change. The proposed matters for Climate Resilience consist of all the operational assets forming part of the Proposed Development including: the proposed WWTP; transfer tunnels and pipelines; the final effluent channel and outfall; surface water drainage including access drainage; landscaping; and the workforce.

The report states that the Government's Climate Change Risk Assessment 3 (June 2021) will be the basis for assessing the likely future environment which EIA's should consider, including a range of 61 risks and opportunities, under the MET office predictions (UK climate predictions 2018) for the 2080's under high emissions scenario.

The proposed focus of the EIA for Climate Resilience is "***operational resilience***" of the Proposed Development, i.e., it "*assesses the impact of an external event (climate change) on the Proposed Development itself, where the matters (i.e. receptors) are the elements of the Proposed Development*." The impact of the Proposed Development on the study area's pluvial, fluvial and ground water flooding during construction and operation is proposed to be addressed within the Flood Risk Assessment (FRA). Table 10-5 identifies potential impacts related to extreme climatic conditions. In relation to the River Cam, "*an allowance for climate change and capacity in line with EA advice to date"* is identified as a potential mitigation. **There is no mention of how extreme climate events may impact the ability of the new facility to deal with significantly increased storm water flows arising from a varied climate without negative discharge impacts on the River Cam. We recommend that the impacts of extreme weather events on pumping and processing capacity and discharge quality, including impact on downriver ground conditions and hydrologies, is 'scoped in' in the EIA. In terms of spatial scope, the area of the River Cam downstream of the outfall should be 'scoped in' to a suitable distance.**

The report recognises the In Combination Climate Impacts (ICCI) and suggests the IEMA Environmental Impact Assessment Guide to Climate Change Adaptation and Resilience (2020), will be used to deal with the EIA impact assessment stage. Paragraph 10.7.4 states that "*The impacts of the Proposed Development in combination with climate change will be assessed for the biodiversity, odour, health, air quality, landscape and visual aspects, as climate change may directly interact with these aspects*." **We recommend that water resources/ water quality is included in these impacts.**

The operational phase is scoped in and mitigating measures for increased temperatures include the use of the cooling hierarchy to ensure the most appropriate natural or mechanical ventilation systems.

The construction phase of the project has been scoped out of this assessment due to the short-term nature of the phase. The report states that the construction management plan will deal with any climate resilience issues during this phase and although we have no objections to this, **we would like assurance that the construction of any buildings during this period undertake a**

full overheating risk assessment at the earliest opportunity to ensure mitigating measures are in place in line with the cooling hierarchy.

Control measures that may be adopted in relation to extreme rainfall events occurring in construction are proposed to be assessed under the aspect "Water Resources".

This chapter refers to both "*the whole lifespan of the development*" and "*the projected lifespan of the Proposed Development up to 2050*". Paragraph 10.5.8 also states 50 years as the design life of the Proposed Development. **We would like clarity on this and recommend that a longer lifespan (to at least 2080) is considered for the assessment and leading into the ES.**

Paragraph 10.5.6 states that the future baseline includes developments detailed in Chapter 5 (Table 5-5). We would like clarity if any cumulative climate impacts resulting from the building-out of these developments (for example, increased levels of storm water run-off and Urban Heat Island (UHI) effects) will be considered within the climate impacts for the Proposed Development.

Chapter 11 – Community

Chapter 11 of the EIA Scoping Report identifies the resources and receptors, referred to by the Planning Inspectorate as 'matters' relevant to the aspect of community. **There is no doubt that the Proposed Development is going have a significant short, medium and potentially long-term impact on the surrounding communities and we would be interested to see what mitigation measures will be put in place for those measures deemed to be "scoped in".**

Paragraph 11.4.4 (point 5) states that an Equality Impact Assessment (EqIA) will be included in the documents submitted for the Development Consent Order. We would recommend that the assessment of community impact should encompass all communities within the study area which are likely to be impacted. It should not be left to the EqIA to pick up those groups that were not covered in the EIA, rather the EqIA should look into any differential impacts that are identified within the EIA. **Therefore, it is imperative that all communities are engaged and impacts they will experience are fully assessed as part of the EIA in the first instance.**

Paragraph 11.8.1 states that "*potential impacts to community facilities will be identified and analysed via a desk study…and informed by a site visit*", **we would encourage the applicant to engage with as many of the bodies/organisations/facilities listed in 11.5.11 and 11.5.12 to obtain this data rather than base any assessment exclusively on a desk study. This should be considered across all zones.**

There is no mention of the Fen Rd gypsy traveller community and the potential impact the Proposed Development will have on this protected community. **We will expect this matter to be 'scoped in' in the EIA. We would also expect processes to be put in place to engage and capture the views of this community.**

The following two scenarios must be 'scoped in' for the community aspect of the EIA:

- The potential impacts of the existing site being decommissioned (as currently proposed) but not redeveloped.
- The potential impacts of construction lasting longer than anticipated.

We welcome the appointment of a Community Liaison Officer, and would request that, once in post, this person contact the case-officer to be put in touch with the relevant Communities teams at SCDC and City.

Chapter 12 – Health

Chapter 12 of the EIA Scoping Report identifies the resources and receptors, referred to by the Planning Inspectorate as 'matters' relevant to the aspect of health.

Paragraph 12.1.4 states that "No matters within this aspect (resources and receptors) are proposed to be scoped out of further assessment". However, "the scope of assessment has been refined to focus on potential health and wellbeing effects from changes to the environment, changes to physical activity and active lifestyles as a result of impacts on access to areas of open space and recreation, changes in local economic conditions and the effect on livelihoods and effects on social cohesion as a result of construction activity and the Proposed Development being a new feature within the community."

Overall, we are satisfied with the geographical scope, references to local and national planning policy and baseline population health. In relation to paragraph 12.9.2, the first bullet point should also conclude that this may have an effect on the health and wellbeing, including mental and **respiratory** health.

We would recommend that the Gypsy, Roma, Traveller population are 'scoped in' as a minority group and consulted since they represent the largest ethnic minority within the District, with two traveller sites situated within the EIA Scoping boundary.

The potential impacts due to construction (and decommissioning) should state the anticipated duration of the identified temporary impacts.

In relation to Table 12-4 and point 12.9.2 (point 2) on Construction Phase Mitigation, local populations impacted by traffic management systems should be notified well in advance of any temporary planned diversions or changes to traffic management.

In relation to paragraph 12.9.3, Mitigations to minimise noise and vibration, air quality, water quality and visual effects on community and human health receptors should be cross-referenced and mentioned within the Health and Community chapters.

Paragraph 12.9.6 (point 4) recognises that the Proposed Development will be a new feature in the community and may affect people's "*sense of place and wellbeing, including mental health*" in either a positive or negative way. **We would encourage the applicant to consider a positive approach to community consultation and engagement, together with creating a state-of-the-art energy-efficient facility with a world-class image, to help effectively mitigate these impacts.**

Noted that decommissioning (demolition) of the existing site will begin only once the new site is fully operational and this will form part of a separate application. It has therefore been scoped out

of this assessment and paragraph 12.10.3 and Table 12-6 summarise matters proposed to be scoped out. We note that the decommissioning of the existing plant does not include demolition of the existing structures and remediation of the site. **While it is anticipated that the site would be viable and would be developed soon after the new facility is operational, this does not form part of the DCO. We therefore recommend that the health and socio-economic impacts of leaving the existing unused structures in place are 'scoped in' for this EIA.**

The cumulative health assessment should include the works being undertaken at Waterbeach to build a new town c~11000 dwellings together with the relocation of the railway station.

Chapter 13 - Historic Environment

Chapter 13 of the EIA Scoping report identifies the resources and receptors, referred to by the Planning Inspectorate as 'matters' relevant to the aspect of Historic Environment. We agree that the resources and receptors and the study area for the assessment of the likely significant effects on heritage assets is acceptable. **We would recommend two further matters that must be "scoped in" in the EIA.**

In relation to section 13.8 Built Heritage, the assets highlighted in this section are appropriate and both potential and temporary impacts of the development will be assessed. What does not appear to be included is an assessment of the impact of vehicular access to the site. There are three options in consideration for permanent access to the new site, but all options will involve modifications to existing junctions and widening of existing roads. **We recommend that the impact of vehicular access to the site is 'scoped in' in the EIA, including the impact of widening Low Fen Drove Way where it joins the access to Biggin Abbey in terms of setting of the heritage asset will need to be factored into the potential environment impacts and mitigation.**

In relation to paragraph 13.8.22 Operation Phase Mitigation, the report states that where possible the lighting design will minimise light spill to reduce change in the setting of heritage assets. **There will need modelling to show the effects of both light spill and height of lights and we recommend that these matters should be 'scoped in' in the EIA.**

It appears from Figure 22 Parameter plan that the Proposed Development may require piling of up to 40m depth. Would this be driven or augered piling? **Should driven piles be recommended, we will require further information on this to ensure that any nearby heritage assets will not be adversely affected.**

Chapter 14 - Landscape and Visual

Chapter 14 of the EIA Scoping report identifies the resources and receptors, referred to by the Planning Inspectorate as 'matters' relevant to the aspect of landscape and visual amenity. **We agree with the proposal that landscape should be scoped in for the EIA, with "no matters to be scoped out across all zones".**

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.

The proposed site is located within a large open agricultural field within the rural countryside. Development would be an encroachment into the countryside and the effect to the landscape character, views and visual amenity would be significantly adverse. This requires a Landscape Visual Impact Assessment to be included in accordance with the Landscape Institute and Institute of Environmental Management and Assessment "Guidelines for Landscape and Visual Assessment – Third Edition (2013) (GLVIA3). The **EIA scoping report makes reference to published landscape assessments and includes a full methodology for the landscape and visual impact assessment (LVIA) and we are in agreement with the methodology proposed for this assessment.**

Given the sensitivity of the site, the Landscape and Visual aspect of the EIA should also include the following information:

- **Green Belt Assessment** 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'.**
- **Lighting Impact Assessment** – 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 Impact Assessment should be 'scoped in'.**

Chapter 15 - Land Quality

Chapter 15 of the EIA scoping report identifies resources and receptors to allow assessment of the likely impacts of the Proposed Development on land quality. An EIA is required to cover all relevant aspects of Land, Soil, Water, Air and Climate. It is noted that Section 5.2 (Structure of the Environmental Statement) Table 5.1 has 'scoped out' land quality. **We do not agree with this proposal and recommend that land quality is 'scoped in', as suggested elsewhere in the EIA scoping report.**

This is implied also within the Land Quality section of the report, where Table 15.2 states consideration of contaminated land risk **is** included within the scope of the assessment in line with National Policy Statement Requirements.

Section 15.5 states, "The baseline conditions for land quality are described for the three zones within the EIA Scoping boundary as [sic] set out in Appendix H". However, Appendix H displays Mineral Safeguarding Areas and no other land quality information**. We would expect a plan depicting land quality considerations (including land use and vulnerability) when discussing land quality.**

Section 15.5 also states that the baseline will be further supported by the completion of a land contamination, Preliminary Risk Assessment (PRA) of the area within the EIA Scoping boundary.

We would like clarification that this covers all three zones of the Proposed Development fully.

In reference to tables 15-4 and 15-5 (summarising 'potential contamination sources' and 'identified receptors' respectively), **we expect that these tables would be reviewed based upon the results of the PRA**. This is because the PRA report will reveal actual data on the site, and therefore a conceptual model and associated proposals will need review and update.

Section 15.6 states that a ground investigation for the purposes of geotechnical, contaminated land and hydrogeological baseline data collection is currently underway at the site. However, it does not specify where at the site and for which zones. Standard procedure is to submit a full desk study, PRA and ensuing remedial proposals where required. We expect to see all this information as soon as it is available.

Paragraph 15.8.2 lists potential Impacts per zone for both construction and operational phases. We anticipate that this may need review following the PRA and decommissioning details of the existing sites.

We note that the use of spoil from excavation and tunnelling activities to create the rotunda may also present land contamination issues and this should be included in the assessment.

Overall, we conclude that due to variations in expected land quality in the 3 zones, development proposals in the 3 zones and the scope and nature of the overall development, Land Quality is 'scoped in' in the EIA and further into the ES.

Chapter 16 - Major Accidents and Disasters

Chapter 16 of the EIA Scoping report considers potential significant adverse effects of the Proposed Development on the environment, deriving from the vulnerability of the Proposed Development to risks of relevant major accidents and/or disasters. **We agree with the proposal that this aspect can be scoped out, with the exception of the relevant matters that are proposed to be scoped in.**

Paragraph 16.2.2 states that the assessment will focus on low likelihood, but potentially high consequence events. In relation to flood risk and extreme rainfall (proposed to be scoped in), **the potential risk of landslide due to an extreme climate event (potentially compounded both by more extreme dry spells followed by rainfall peaks, and by the fragility of the maturing landscape in the first decade of operation) should be included in this assessment.**

We also note the increased (albeit low) risk of an aircraft collision risk with cranes or tall equipment used during construction of Proposed Development. Is there a risk of aviation strike during operation (if the airfield is not moved)?

Chapter 17 - Materials, Resource, Waste

Not reviewed.

Chapter 18 - Noise and Vibration

Chapter 18 of the 'Environmental Impact Assessment (EIA) Scoping Report' dated October 2021 details the methodology for noise and vibration. Overall, the council agrees with the proposed methodology and the guidance referenced within. However, we would like to make the following comments:

We agree with the proposal that operational phase vibration can be scoped out of the EIA, and that the assessment should focus on construction noise and vibration (see comments under 'Construction' below), as well as operational noise.

In relation to the above, Table 18-1 refers to noise and vibration study areas. The human receptors subject to construction vibration appear to be restricted to only 50m from the scoping boundary. However, there is no rationale provided for this distance, particularly as the report states that this distance would be extended if significant adverse effects are predicted at greater distances. Clarification on what constitutes "adverse effects" should be defined. **We recommend that the rationale for the proposed distance for construction vibration impacts is clearly defined and reviewed in line with data as the design development progresses.**

Paragraph 18.4.8 omits the Greater Cambridgeshire Sustainable Design and Construction SPD from the list of local policy. This should be included and referenced within the EIA as a local planning policy of relevance.

Paragraph 18.8.6 refers generally to noise monitoring protocol during construction. We would welcome a discussion on a protocol with the applicant further on this matter, including in relation to their complaints process (for any complaints received).

Construction

In relation to the points made in Chapter 2, the following may be noted in relation to noise and vibration:

It appears from Figure 22 Parameter plan that the Proposed Development may require piling of up to 40m depth. Would this be driven or augered piling? Should driven piles be recommended, we will require further information on this to ensure that any nearby sensitive properties will not be adversely affected.

Table 2-24 states that there is 400m^3 of concrete that will be required. We would like to see detail on how this will be managed as it is likely that the majority of concrete needs to be poured at once. The document states that 133 vehicle movements are expected a day for this work. Further information and management of the contractor concerning this work in particular will be required.

Whilst the construction working hours are still to be defined, the document states (paragraph 2.14) that construction working are hours are still to be defined although expected that industry standard working hours are anticipated (typically Monday to Friday, 07:00 to 18:00 and Saturday, 08:00 to 13:00). South Cambridgeshire District Council does have preferred working hours of 08:00 to 18:00 Monday to Friday and 08:00 to 13:00 Saturday (no working on Sundays, Bank

Holidays or Other Public Holidays). Clarity should be provided by the applicant concerning these hours and whether it is intended to include start-up and wind down. In anticipation that there may be a request for out of hours working at specific phases of the project (concrete pour for example) an assessment of potential impacts from on-site activities out-of-hours should be considered as a practical means to manage future site activity in the event that contract delivery is delayed for a range of issues. This might relate to key time linked phases of construction where stopping and starting activity cannot happen easily.

When the existing site is decommissioned, a CEMP will also be required, to include details of impact of potential odour that may be released as a result of either demolition or excavation of the existing site as well as noise and vibration issues that may arise.

Chapter 19 – Odour

Chapter 19 of the of the EIA Scoping report identifies receptors, referred to by the Planning Inspectorate as 'matters', relevant to the aspect of odour. Overall, we are in agreement with the proposed methodology and the guidance referenced within. However, we would like the following comments to be taken into account:

Paragraph 19.9.2 discusses both the commissioning of the proposed WWTP and the decommissioning of the existing Cambridge WWTP which may lead to the creation of temporary odour emissions due to the changes to the existing processes. **We would like to see further detail on this in relation to over what duration this temporary odour could be expected (hours, days or months?) and how it will be managed until it is considered "typical" of the operations of the site.**

Paragraph 19.9.16 states that "in the case of potential odour from the vents associated with the transfer tunnel from the existing Cambridge WWTP to the proposed WWTP, the design, location and height of vents will be modified as appropriate to mitigate against odour impacts where possible, and a suitable maintenance regime will be put in place to minimise the potential for odour." **This statement should be clarified with the system designed sufficiently to ensure that the vents associated with the transfer tunnel does not cause odour impacts. This should be supported by detail on what a suitable maintenance regime which may be put in place might entail, for example, dosing, etc.**

Table 19-9 makes reference to receptor sensitivity. In this aspect, we assume that the public footpath which is to feature to the North East of the site would not be granted the same level of protection as other sensitive locations (such as a residential dwelling). However, when considered in in conjunction with the overall landscape of the site and tie in with the applicant's vision of "creating new and improved access to the Cambridgeshire countryside" and "delivering new and improved habitats for wildlife", **we would like the applicant to demonstrate that odour has been a consideration when designing the public access areas to and around the site.**

Chapter 20 - Traffic and Transport

Not reviewed, but please note comments relating to traffic in the general comments section of this note.

Chapter 21 - Water Resources

Chapter 21 of the EIA Scoping report considers potential impacts to groundwater due to the Proposed Development, including changes in groundwater resources and groundwater levels, and accidental spills or construction activities leading to groundwater contamination.

We have not reviewed this chapter in any level of detail as this aspect is relevant to County and Environment Agency. **However, we welcome the consideration given to surface water, ground water and designated nature conservation sites (considered in Chapter 8 of the scoping report), including potential contamination impacts and mitigations.**

The Flood Risk Assessment (FRA) is proposed to be carried out separately to identify the impact of the Proposed Development on flood risk in nearby watercourses as a result of: (1) new infrastructure; and (2) changes to effluent and storm water discharges to the River Cam.

We would also like to note that water security is crucial to ensuring the resilience of developments included in the future baseline and an important part for meeting the objectives set out in the emerging Local Plan for Greater Cambridge. **As such, we would like the assessment to consider opportunities to assist water resource availability, through water reuse for example, given the known pressures on the chalk aquifer in supplying the region. We would also encourage the applicant to look at means of creating awareness on water issues and its wider impacts in the region, for example, through appropriate use of the discovery centre on the site.**

This is the end of our aspect-specific comments.

In conclusion, the Councils welcome the opportunity to comment on the EIA Scoping Report for this development and look forward to working with PINS and the applicant to assess and develop this DCO application.

Yours sincerely,

Name: [redacted]
Job Title: [redacted]

My ref:
Your ref: WW010003
Date: 17th November 2021
Contact: [redacted]
Telephone: [redacted]
E Mail: PlanningDC@cambridgeshire.gov.uk

Cambridgeshire County Council

[redacted]
Executive Director
Place and Economy
Planning, Growth& Environment

New Shire Hall
Emery Crescent, Enterprise Campus,
Alconbury Weald, Huntingdon,
PE284YE

Sent by email only to
CambridgeWWTPR@planninginspectorate.gov.uk

Dear Sir/Madam

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017(the EIA Regulations) – Regulations 10 and 11
Application by Anglian Water Services Limited (the Applicant) for an Order granting Development Consent for the Cambridge Wastewater Treatment Plant Relocation (the Proposed Development)
Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested

Thank you for your correspondence regarding the above. Please find enclosed Cambridgeshire County Council's response to the EIA Scoping Report by Anglian Water.

Yours sincerely

[redacted]

CAMBRIDGE WASTE WATER TREATMENT PLANT RELOCATION PROJECT – EIA Scoping report – October 2021
WW010003-000033-WW010003 - Scoping Report.pdf (planninginspectorate.gov.uk)

Cambridgeshire County Council has the following comments with regard to the EIA Scoping Report above.

Biodiversity (Chapter 8)

The County Council welcomes the scoping in of Biodiversity (chapter 8) within the EIA for the proposed Development and supports the proposed scoping in of ecological receptors identified at Table 8-10. This reflects pre-submission EIA scoping consultations undertaken with the County Council (set out in paragraph 8.10.1).

Additional notes

8.5.6 Local planning policy relevant to the Proposed Development should also consider the Greater Cambridgeshire draft Biodiversity Supplementary Planning Document.

8.5.12 The reference to habitats and species covered by Local Biodiversity Action Plans is welcomed. Reference should also be made to Cambridgeshire and Peterborough Additional Species of Interest, which can be found at www.cpbiodiversity.org.uk (library section) or further information from www.cperc.org.uk.

8.5.23 The commitment for the Proposed Development to provide a biodiversity net gain (BNG) of 10% is welcomed. However, a value of 20% is likely to be needed in order to meet the Natural Cambridgeshire target of doubling the amount of land managed for nature (paragraph 5.5.26, Greater Cambridgeshire draft Biodiversity Supplement Planning Document – consultation 2021) and therefore, challenge the Applicant to meet this target.

8.8.15 The Proposed Development has the potential to adversely effect the ecological functionality of the Milton Road Hedgerow City Wildlife Site, if works are undertaken within its Root Protection Area. Early discussions should be undertaken with the Local Authority ecologists for Cambridge City Council / Cambridgeshire County Council and the Wildlife Trust to agree any proposed mitigation scheme.

Community (Chapter 11).

Paragraph 11.5.2. and Table 11-3 – this lists the key communities within the Community LIA. This list of settlements in para 11.5.2 should also include Waterbeach and the population data in Table 11-3 and the subsequent paragraphs should be adjusted accordingly.

Figure 11-4 – needs to show Fen Ditton Primary school which is within the LIA.

Section 11.8 – The resources and receptors listed in paragraph 11.8.1 as being scoped in are agreed. Likewise the resources and receptors in Table 11-9 (scoped out) are also agreed.

Paragraph 11.10.7 and Table 11-11 – The magnitude of the effect will be determined in part by its Extent, i.e. how many community resources and receptors are likely to experience impacts. Whilst noting paragraph 11.01.9, care needs to be taken to ensure that the effects at particular receptors are not missed as a consequence of this cumulative approach.

Historic Environment (Chapter 13)

The proposed development area is located in a landscape of high archaeological potential with extensive evidence for prehistoric, Roman and medieval settlement and related activities recorded within the area and in the wider landscape. There is also potential for further, currently unidentified archaeology to survive within the site. It is likely that construction will have a severe impact on remains within this important archaeological landscape.

We recommend that the historic environment is included within the Environmental Statement for this site. This should include the results of an archaeological evaluation, which should identify the extent and character of archaeology likely to be impacted by the development. Prior to evaluation, the significance of known and potential archaeological assets cannot be determined.

The evaluation, to include geophysical survey and field evaluation through trial trenching, will enable consideration of appropriate measures to mitigate the impact of the development. This may include archaeological excavations in advance of construction and make the results accessible through publication and archiving. Should archaeology of demonstrably equivalent status to Scheduled Monument, preservation in situ would be the appropriate response, in accordance with the NPPF Footnote 63. The intended mitigation measures should be included in the Environmental Statement.

We recommend that comments from colleagues in Historic Building Conservation and Historic England regarding direct and indirect impacts on designated assets are also taken into account in the Environmental Statement.

Materials, Resource and Waste (Chapter 17).

The Minerals and Waste Planning Authority welcomes and agrees with the scoping in of the topic of mineral resource use and consideration of the designated Mineral Safeguarding Areas as set out in paragraph 17.12.1.

The MWPA requests clarification of the topic of generation of waste under paragraph 17.12.2. The paragraph heading would indicate that the applicant's intention is to scope in generation of waste from the construction phase and undertake assessment of the potential impact of nearby landfill. However, this is unclear in the text. The MWPA are of the view that both should be scoped in.

It is noted that there are no estimated waste arisings included within the document. It is also noted that Table 5-5 Cumulative Effect Matrix includes a range of recent planning applications and identified allocations but does not refer to national infrastructure schemes taking place within the County, notably the A428 development. It is requested that the EIA identifies waste-generating large scale infrastructure projects, and when assessing the significance of the effect of the proposal in respect of waste generation, that the cumulative effect of these proposals is considered.

We recommend that the applicant reviews the extent of the Mineral Safeguarding Areas in H. Land Quality Figure. This seems to have only taken into account the sand and gravel Mineral Safeguarding Area, which is more extensive than shown in Figure H, and omits the chalk Mineral Safeguarding Area which in part overlaps with the sand and gravel area. The MWPA are of the view that all of the EIA scoping boundary falls in one or both of the Mineral Safeguarding Areas.

The MWPA agrees with the principle that the effect of mineral extraction at existing minerals facilities can be scoped out as set out in paragraph 17.12.3. However, if mineral is extracted during the undertaking of excavations within Mineral Safeguarding Areas in accordance with criterion (i) of Policy 5 of the Cambridgeshire and Peterborough Minerals and Waste Local Plan (July 2021), this would not previously have been subject to assessment, so should be considered as part of the EIA.

The MWPA also, in broad terms, agrees that waste generation during site operation can be scoped out, but requests clarification in respect of Table 17-20: Matters proposed to be scoped out for generation and management of waste. This table appears to indicate that 'Temporary occupation of waste management facility space' and 'The permanent reduction of landfill capacity' are both scoped in in relation to the 'Transfer Zone'.

Finally, the following typographical errors are queried:

Table 17-6 - Should "East West Limited" read "East Waste Limited (Milton Landfill)"?

Paragraph 17.5.16 – Should "There are no permitted non-hazardous landfill …" read "There are no permitted hazardous landfill …"?

The MWP suggest that the following be reviewed from the point of accuracy:

Landfill sites in Table 17-8: Barrington Cement Works is in South Cambridgeshire (note that the site is only allowed to accept inert waste transported by rail). We believe that Kennett 2A (of the Mick George Ltd landfill operation is complete and in restoration. Pasture House Farm is in Peterborough.

Transport (Chapter 20)

From a transport perspective, a full Transport Assessment (TA) will be required to accompany any forthcoming planning application so that the transport implications of the development can be understood. County Council officers have had early scoping discussions on this with the applicant and it is expected that there will be a need for

further discussions on transport matters as the proposals proceed through the planning process.

Water Resources (Chapter 21)

The Environmental Impact Assessment Scoping Report submitted includes information of the water environment proposals. The principles of surface water drainage outlined within the scoping report are acceptable, however as LLFA we expect a full flood risk assessment and/or surface water drainage strategy to be submitted to support any planning application which must include:

i. Existing impermeable area
ii. Proposed impermeable area / developable area
iii. A description of site topography
iv. A description of ground conditions (using site investigation where possible)
v. Identification of any surface water flood risk
vi. Existing site drainage arrangements
vii. Proposed method of surface water disposal
viii. Existing and proposed runoff rates (if discharging off-site)
ix. Existing and proposed runoff volumes (if discharging off-site)
x. Required volume of attenuation (m3 per m2 of impermeable area)
xi. Preliminary SuDS proposals
xii. Infiltration test results in accordance with BRE365 (or second viable option for surface water disposal if testing hasn't yet been undertaken)
xiii. Drainage layout drawing and supporting hydraulic calculations
xiv. Details of proposed phasing
xv. Intrusive ground investigations
xvi. Groundwater dewatering strategy
xvii. Details of the management of surface water during construction

The applicant should, as part of the surface water strategy, demonstrate that the requirements of any local surface water drainage planning policies have been met and the recommendations of the relevant Strategic Flood Risk Assessment and Surface Water Management Plan have been considered.

Informatives

Infiltration
Infiltration rates should be worked out in accordance with BRE 365. If it is not feasible to access the site to carry out soakage tests before planning approval is granted, a desktop study may be undertaken looking at the underlying geology of the area and assuming a worst-case infiltration rate for that site. If infiltration methods are likely to be ineffective then discharge into a watercourse/surface water sewer may be appropriate; however soakage testing will be required at a later stage to clarify this.

OW Consent
Constructions or alterations within an ordinary watercourse (temporary or permanent) require consent from the Lead Local Flood Authority under the Land Drainage Act 1991. Ordinary watercourses include every river, drain, stream, ditch, dyke, sewer (other than public sewer) and passage through which water flows that do not form

part of Main Rivers (Main Rivers are regulated by the Environment Agency). The applicant should refer to Cambridgeshire County Council's Culvert Policy for further guidance:

https://www.cambridgeshire.gov.uk/business/planning-and-development/water-minerals-and-waste/watercourse-management/

Please note the council does not regulate ordinary watercourses in Internal Drainage Board areas.

IDB Consent
This site falls within or impacts the Waterbeach Level and Swaffham Internal Drainage Board (IDB) district. Under the Land Drainage Act 1991, any person carrying out works on an ordinary watercourse in an IDB area requires Land Drainage Consent from the IDB prior to any works taking place. This is applicable to both permanent and temporary works. Note: In some IDB districts, Byelaw consent may also be required.

Pollution Control
Surface water and groundwater bodies are highly vulnerable to pollution and the impact of construction activities. It is essential that the risk of pollution (particularly during the construction phase) is considered and mitigated appropriately. It is important to remember that flow within the watercourse is likely to vary by season and it could be dry at certain times throughout the year. Dry watercourses should not be overlooked as these watercourses may flow or even flood following heavy rainfall.

END

From: [redacted]
Sent: 15 November 2021 14:34
To: CambridgeWWTPR@planninginspectorate.cov.uk
Subject: WW010003 - Cambridge Wastewater Treatment Plant Relocation

Good afternoon,

Many thanks for your email regarding this matter. I can confirm that, with respect to the current consultation, Central Bedfordshire Council do not wish to comment.

Regards,
[redacted]

[redacted]
Principal Planning Officer
Planning Delivery - Strategic Delivery Team
Place and Communities Directorate

Central Bedfordshire Council Priory House, Monks Walk, Chicksands, Shefford, Bedfordshire, SG175TQ
Direct dial: [redacted] | Internal: [redacted] | Email: [redacted]

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Want to be inspired? Like a challenge? Then join the team?
[redacted]

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UNCLASSIFIED – Loss would cause little or no damage to the Authority

attachments to your satisfaction. Central Bedfordshire Council reserve the right to monitor e-mails in accordance with the Telecommunications (Lawful Business Practice) (Interception of Communications) Regulations 2000. Please consider the environment before printing this e-mail. Thank you

EAST CAMBRIDGESHIRE DISTRICT COUNCIL
THE GRANGE, NUTHOLT LANE,
ELY, CAMBRIDGESHIRE CB7 4EE
Telephone: Ely (01353) 665555
DX41001 ELY Fax: (01353) 665240
www.eastcambs.gov.uk

Cambridge Waste Water Treatment Plant Relocation Project

This matter is being dealt with by:

[redacted]

Telephone: [redacted]
E-mail: [redacted]
My Ref: CWWTPR
Your ref WW010003 Cambridge Waste Water Plant Relocation Project

16th November 2021

Dear [redacted]
Re: Cambridge Waste Water Treatment Plant Relocation Project

Thank you for the opportunity to comment upon this project, the Local Planning Authority. East Cambridgeshire District Council has read the Scoping Report submitted to the Planning Inspectorate would like to make the following comments. I attach comments sent to the Cambridge Waste Water Treatment Plant Relocation Project with regard to the Phase 2 Consultation for your information.

East Cambridgeshire District Council shares a boundary with South Cambridgeshire District Council who are the Local Planning Authority with which this proposal is set within. In close proximity to the site and its assessment area which include but not limited to: the village of Bottisham; Anglesey Abbey and Wicken Fen. The impact of the construction and the long term operational affects need to be considered as part of the assessment for the proposal. Further points are noted below:

1. It is noted that within the Scoping Report that further biodiversity surveys are to be undertaken and the Local Planning Authority would welcome this information being shared when appropriate.
2. It is noted that a Transport Management Plan is to be submitted and this is welcomed but should include receptors outside of the immediate assessment area.
3. The nature of the land is low lying and flat, this could lead to odour and noise travelling further than in an area of varying contours, this needs to be factored into the surveys.

The Local Planning Authority would wish to be consulted further as the project progresses.

Yours sincerely

[redacted]

[redacted]
Senior Planning Officer

East of England Ambulance Service NHS Trust

By Email Only

Planning Inspector
CambridgeWWTPR@planninginspectorate.gov.uk

East of England Ambulance Service NHS Trust
Hammond Road
Bedford
MK41 0RG

Our Ref: WW010003/ZM

Your Ref: WW010003

Date 17h November 2021

Dear Sir/Madam

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017(the EIA Regulations) – Regulations 10 and 11

Application by Anglian Water Services Limited (the Applicant) for an Order granting Development Consent for the Cambridge Wastewater Treatment Plant Relocation (the Proposed Development)

Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested

1.1 Thank you for consulting East of England Ambulance Service NHS Trust (EEAST) on the above scoping consultation for Cambridge Wastewater Treatment Plant Relocation Project.

1.2 Further to a review of the EIA the following comments are made in regard to the provision of ambulance services. EEAST are in a unique position that intersects health, transport and community safety.

1.3 EEAST support the proposal to move the treatment works and would like to highlight that the development is likely to have an impact on EEAST providing nationally set response times for accident and emergency services around the geographical area associated with the proposed application site.

2.0 **Health Impact Assessment (HIA)**

2.1 The proposal to integrate the health impact assessment within the EIA is supported by EEAST.

2.2 Having reviewed the current HIA, many issues have been considered and arrangements are in place to identify baselines and monitoring measures. However, EEAST would request further consideration is made to assess the impact of emergency and non-emergency ambulance services during construction of the connecting road link, during construction and post construction phases at the new site, as well as the decommissioning of the current site.

2.3 Any nationally significant infrastructure development requires EEAST to assess the suitability of existing ambulance station(s) within the locality of the development, with potential to redevelop or extend existing sites and in certain instances relocate to a more suitable location.

EEAST are required to meet nationally set response times for accident and emergency services around the geographical area associated with the proposed new treatment works during the construction phases and mitigation measures may be required.

2.4 Non-emergency patient transport services are commissioned by Cambridgeshire and Peterborough Clinical Commissioning Group to take patients who meet set eligibility criteria from their usual place of residence to hospital for appointments (which may be provided in a hospital, diagnostic hub or primary care setting) in sufficient time for their appointment and then returned to their usual place of residence. As with emergency services, location and siting of PTS sites is important to meet the needs of the population.

2.5 In addition, the HIA should address mitigation needs for primary, community and acute care including any mental health needs of construction workers and well as any potential health impact on local residents.

2.6 Therefore, we would request full engagement with EEAST and Cambridgeshire and Peterborough Integrated Care System is paramount to ensure healthcare needs are considered and any mitigation measures addressed.

3.0 Traffic and Transport

3.1 EEAST would request the design of the internal road network should also take account the potential requirement for emergency services to access and move around the site, during and post construction (Internal Road Network paragraph 2.7.58).

3.2 As indicated in the paragraphs above, EEAST needs to meet nationally mandated response times which will be impacted as a result of increased traffic, abnormal and hazardous loads during construction of the access road, the new treatment works and decommissioning of the current site.

3.3 EEAST believes that Option 1B Access off Junction 34 of the A14 (Fen Ditton) has the greatest potential to minimises the impact of the link road construction whilst supporting road infrastructure improvements (Highway Network Alterations paragraphs 2.8).

3.4 EEAST together with other blue light emergency services would wish to be involved in the risk analysis of hazardous loads during construction and decommissioning in the event of an accident and the likely effect of such an event (paragraph 20.1.12).

3.5 EEAST together with other blue light emergency services would be willing to conduct further work on the Transport Assessment methodology and assessment of the impact in consultation with Cambridgeshire County Council and National Highways (paragraph 3.7.11).

4.0 Future Working

4.1 EEAST looks forward to working with the Planning Inspector, Anglian Water Services Limited, National Highways and Cambridgeshire County Council on this project. If you require any further information, I can be contacted via telephone [redacted] or by email planningnotifications@eastamb.nhs.uk.

Yours faithfully

[redacted]

[redacted]

creating a better place

Environment Agency

[redacted](EIA Advisor)
The Planning Inspectorate
Environmental Services
Central Operations
Temple Quay House
2 The Square
Bristol
BS1 6PN

Our ref: AC/2021/130665/01
Your ref: WW010003

Date: 22 November 2021

Dear [redacted]

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11. Application by Anglian Water Services Limited (the Applicant) for an Order granting Development Consent for the Cambridge Wastewater Treatment Plant Relocation (the Proposed Development).Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested.

Thank you for notifying us of the consultation on the Environmental Impact Assessment scoping which we received 25 October 2021. Due to the slight delay of us receiving the consultation, we thank the Planning Inspectorate for allowing us a few more days to comment up to the 22 November 2021.

The Environment Agency has a responsibility for protecting and improving the environment as well as contributing to sustainable development. We have three main roles as an environmental regulator, an environmental operator and an environmental advisor. As an environmental regulator we issue a range of permits and consents to improve environmental standards taking a risk-based approach whilst minimizing unnecessary burdens on operators. As an environmental advisor we provide technical information and advice to a range of stakeholders based on the best available evidence and are a statutory consultee for EIA scoping consultations.

Overall the matters and aspects that have been scoped into (and out) the report and the methodology proposed to assess those impacts are generally acceptable. However, we have made some detailed comments on particular aspects within our remit which should be taken into account as the EIA for this scheme progresses.

We have the following comments and advice on the EIA scoping report:

2 – The Proposed Development

With reference to section 2.4.25 'Climate Change Scenarios' we agree that a Flood Risk Assessment should be undertaken which will cover the assessment of fluvial and surface water flooding including the impacts of climate change.

The locations where the various pipes will cross the floodplain will be buried and installed using a trenchless system. The new outfall will be required to be designed so that it doesn't impact the flow of the River Cam or adversely affect the River Cam flood defences.

We recommend consideration is given to catchment scale measures to enhance the capacity of the site to deal with storm flows, including the retrofitting of SuDS source control and attenuation systems within the catchment to intercept flows.

In order to ensure climate resilience, Section 2.4.25 should also refer to Cambridgeshire County Council as Lead Local Flood Authority and their Flood Risk Management Strategy. There is also valuable guidance within the Cambridgeshire Flood and Water Supplementary Planning Document.

With regards to section 2.4.21, there are opportunities to use the sewer modelling being undertaken to inform a Surface Water Management Plan for Cambridge. If the major source areas for surface water ingress into the foul system can be identified, SuDS measures could be mandated within planning permissions in these areas and SuDS retrofitting projects developed to divert surface water from the combined sewers.

Section 2.7 details the anaerobic digestion of sludge. As the applicant is aware an Environmental Permit will be required. The use of best available techniques (BAT) for the management of the site would be required.

On section 2.9.8, we consider the proposed trenchless construction method is the preferred method for installing pipes under main rivers.

With regard to paragraph 2.9.25 the outfall design is, in principle, in line with best practice but further detail will be needed at the detailed design stage. An Environmental Permitting Regulations permit will be required for the construction of the outfall.

7 – Air Quality

We agree that emissions from the CHP or boilers during operational phase for localised air quality impacts is scoped in. It's likely that many of these aspects will be considered and controlled as part of the Environmental Permit.

8 – Biodiversity

We note and support reference within Table 8-8 *Potential construction impacts by zone* the potential impacts on the River Cam CWS are impacts to water quality and potential for habitat loss due to the construction of the treated effluent discharge outfall structure. This would need to consider and assess the loss of riparian and in-channel habitats on the River Cam from the proposed new outfall.

Similarly we note the reference within Table 8-9 *Potential operation impacts by zone* to the River Cam CWS for potential impacts by discharge if discharge quality is not properly controlled.

A Water Framework Directive assessment will be required, as noted earlier in section 5.3.1 and in Chapter 21. We note this will include impacts on the River Cam and other relevant WFD classified bodies including Bottisham Lode, Quy Water and the Cam and Ely Ouse Chalk groundwater body and determine mitigation measures. The latest river basin management plan data for these waterbodies are available from our Catchment Data Explorer at https://environment.data.gov.uk/catchment-planning/ManagementCatchment/3009. Although most river basin management plan data is externally available via this link, data on WFD action measures can be requested via our Customer and Engagement team at enquiries_eastanglia@environment-agency.gov.uk.

We regard to section 8.8.6 on timings of works, this should also include resident/non-migratory fish species i.e. coarse fish spawn during the spring and the angling close season for coarse fish is 15 h March – 15th June, inclusive.

The construction phase mitigation outlined in section 8.8.7 should consider compensation for riparian and in-channel habitat on river Cam that will be lost at the new outfall structure location.

It is noted the invasive non-native species (INNS) have been recorded during site surveys. A site biosecurity plan is likely to be required, with reference to section 8.8.9.

With regard to section 8.8.10 we recommend the need for a water vole displacement licence is identified at an early stage and timed and planned for appropriately.

Within section 8.8.31 it is noted that the Landscape and Ecology Management Plans will include the management and monitoring of created habitats. Will this also include management and monitoring of translocated habitats to monitor condition and success of translocation?

15 – Land Quality

We are generally satisfied with the resources and receptors intended to be scoped in and out.

17 – Materials, Resources and Waste

We support references to the waste hierarchy, relevant waste regulations and the intention for a Site Waste Management Plan. We also note references to use of appropriately licenced waste treatment and disposal facilities.

18 - Noise and Vibration

We agree that noise can be an issue with anaerobic digestion plants and the assessment of operational noise has been scoped into the EIA. The potential mitigation measures for operational phase noise cover broadly what we would expect. The environmental permit for the sludge treatment centre would have a noise condition and requirement for an environment management system.

21 – Water Resources

The matters/aspects to be scoped in and the proposed assessment methodology for long-term river quality and groundwater aspects are acceptable. As outlined in 21.10.6, there is a mention of separate studies on potential impacts of final effluent, storm discharges on flow, flood risk, water quality and hydro-morphology of the River Cam. The WFD assessment methodology is to be agreed with us via consultation so ongoing dialogue will continue. We support this and similarly to Natural England assume that the relevant studies will also inform assessment of impacts to designated sites (as listed in chapter 8).

We note in Table 21-7 that the Internal Drainage Boards will be consulted regarding the impact assessment for reduced flows in the Bannolds Drain (as a result of effluent from the existing Waterbeach WRC being diverted to the proposed development). We would also expect to be consulted on any change to the current proposal that has the potential for sewage effluent disposal via the Bannolds Drain.

Please contact me if you have any questions or require any further information. We look forward to continuing to work with the applicant to ensure the best environmental outcome for this project.

Yours sincerely

[redacted]
Planning Specialist
Sustainable Places Team, East Anglia (West)
Direct dial [redacted]
E-mail: planning.brampton@environment-agency.gov.uk

Essex County Council
County Planning
County Hall
Chelmsford
Essex CM1 1QH

Essex County Council

Environmental Services
Central Operations
Temple Quay House
2 The Square
Bristol, BS1 6PN

Our ref: ECC/NSIP/CWWTPR
Your Ref: WW010003
Date: 12th November 2021

Dear [redacted]

RE: Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11
Application by Anglian Water Services Limited (the Applicant) for an Order granting Development Consent for the Cambridge Wastewater Treatment Plant Relocation (the Proposed Development)
Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested

Thank you for your letter dated 20th October providing details of the applicant's contact details and consultation by the Planning Inspectorate on the scoping opinion submission relating to the application for the Cambridge Wastewater Treatment Plant Relocation.

ECC is a neighbouring authority within the definition of the Duty to Co-operate S110 of the Localism Act 2012 and Section 30 of the Planning and Compulsory Purchase Act 2008.

ECC is a strategic local authority, with the following roles:

- a key partner and service provider within Essex promoting economic development, regeneration, infrastructure delivery and new development;
- the strategic highway and transport authority, including responsibility for the delivery of the Essex Local Transport Plan and as the local highway authority; and
- the local education authority; Minerals and Waste Planning Authority; Lead Local Flood Authority; lead advisors on Public Health and major provider of a wide range of local government services throughout the county of Essex.

In respect of this application, we welcome the opportunity for ongoing engagement but have no specific comments to make on the EIA Scoping Opinion Submission.

If you require further information or clarrification on any points raised in this response please contact on the details below.

Yours sincerely

[redacted]
Growth and Development Manager

Contact: [redacted] (New Settlements)
Email: [redacted]

FEN DITTON PARISH COUNCIL

Planning Inspectorate
Environmental Services
Central Operations
Temple Quay House
2 The Square Bristol, BS1 6PN

17 November 2021

Dear Sirs,

FDPC Response on SCOPING REPORT for Cambridge Waste Water Treatment Plant Relocation

Thank you for your invitation of 20 October 2021 ref WW010003 to comment on the above Scoping Report. Please find below our response in the form of some general comments and a schedule of detailed comments. We also attach previous correspondence between ourselves and Anglian Water since points we have raised previously are relevant to the current response.

General Comments

a) FDPC objects to the proposed relocation. This response and our previous responses[1, 2, 3, 4] (attached) and continuing correspondence and dialogue with Anglian Water (AW) are given without prejudice.
b) FDPC are not commenting herein on the Outline Design Information - Chapter 2 the Alternatives Considered (Site Selection) – Chapter 3 or the section on Consultations to date – Chapter 3. We have objected previously to aspects of these and assume that AW are now restating their case by way of background to the Scoping Study since they have not addressed our objections and so these objections stand. Should the Inspectorate wish to see our objections as a detailed response to the Scoping Report, we would be happy to supply them.
c) Para 2.4.16, 7.3.5 and 8.8.32 are some of the references to the role of Environmental Permitting. Without detracting from the generality of paragraph 3.7.3 of the National Policy Statement on Waste Water, FDPC wishes to point out that the role of a WWTW is to provide treatment to achieve the required standards and therefore the design and operation of the works is consequent on these required standards. FDPC suggests that it follows that the standards to be achieved should be stated in the EIA and therefore need to be included in the EIA Scoping.
d) Table 5.2 quotes "Peak year of construction traffic and activities" to cover temporal scope against many matters. FDPC suggests this needs clarification since some activities will have peak impacts locally in other years. Examples could include construction of pipelines, tunnels or access roads.

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[1] FDPC letter "FDPC -Response to CWWTPR Consultation -11 Sept 2020.pdf"
[2] FDPC letter "2021-08-17_FDPC_-_Response_to_CWWTPR_Response_to_Consultation_2.pdf"
[3] FDPC letter "FDPC - HIA Report for CWWTPR Consultation - 09 Aug 2021.pdf"
[4] FDPC letter "2020-12-07_FDPC_-_Response_to_CWWTPR_Phase_1_summary_report.pdf"

e) Table 5.3 quotes "Year 1 of Operation" to cover temporal scope. FDPC suggests this needs clarification since some activities will build up over the full period as the population equivalent being served grows (in the wastewater case from the current 200,000 approx or less to the planned 250,000-300,000). As a simple example the quantity of rag and grit being skipped away will increase throughout the operational period.
f) FDPC considers the EIA scope must be expanded in several aspects to fully consider the impact of abandoning the existing, fully functioning works at Milton.
g) FDPC considers the EIA scope should be expanded in several aspects to consider decommissioning of the proposed works. AW states their proposed works will be adequate until 2050 and have the potential for expansion to cope until 2080. The implication is that it is foreseeable that, thereafter, AW may need to relocate the works yet again.
h) We have not undertaken a detailed cross referencing of our comments where the same point applies in different clauses nor have we carried these through to comments on Chapter 22 Summary.

We have included a few errata in our detailed comments since these have assisted us in using searches to navigate the document.

We hope you will support our points and direct Anglian Water accordingly and would be happy to answer any questions you may have. We look forward to hearing from you

Yours faithfully,

[redacted]

Vice Chairman

c/c [redacted]
[redacted]
Fen Ditton Parish Council
email: [redacted]

C/C Councillor [redacted]
Councillor
Councillor
Councillor
Horningsea Parish Council
Stow cum Quy Parish Council
Teversham Parish Council
Anglian Water – [redacted]

FEN DITTON PARISH COUNCIL

Schedule of Detailed Comments

5 Cumulative Effects

5.1 We request the Planning Inspectorate to confirm with AW if cumulative impacts take into consideration the enhancements/additions/acceleration of numbers at Waterbeach, East Cambridge etc. proposed under the emerging Local Plan.

6 Agriculture and Soils

6.1 Many fields contain buried pipe drains and these are an important element of farm management. The impact of drains not functioning will extend to all land upstream of any severance or blockage due to the proposed Works. The scope of the EIA should include dealing with both severance and any medium-term sedimentation if drains are reinstated over backfilled trenches or are running over tunnels where settlement will occur. The scope of Clause 6.10.5 for example should be clarified to include this point and the timing extended (Table 5.2 inter alia).

7 Air Quality

7.1 Clause 7.2.2 should read "PM10 and PM2.5 respectively";
Clause 7.5.2 "Appendix A" should read "Appendix C";

7.2 Clause 7.4.13 states NPS "Paragraph 4.11.4 the decision maker should generally give air quality considerations substantial weight where a project would lead to a deterioration in air quality in an area". Therefore, the scope of the EIA should give substantial weight to the air quality impacts of construction traffic on pedestrians and cyclists and the duration of the period before the temporary access on Low Fen Drove is closed and the permanent access route used instead.

7.3 FDPC considers the proposed Impington and Milton baseline data is likely to be worse than that on Horningsea Road at the junction with Low Fen Drove since this is a Class C road in a rural setting. AW should be directed to widen their search and obtain relevant, additional data from East Cambs or Suffolk and also establish an air quality monitoring point to validate the baseline data. Any information or data from a rural site, such as say, National Trust at Wicken Fen or Anglesey Abbey would be more relevant to the baseline at Low Fen Drove than that suggested in the AW Scoping Report.

7.4 FDPC suggests the Planning Inspectorate directs AW as to whether recreational users of the proposed new footpaths/tracks to be created immediately around the new works site should be treated as receptors of equal importance and sensitivity as recreational users on Low Fen Drove and other existing PROW who should be considered as most sensitive.

7.5 FDPC considers Fen Ditton School and residences at Musgrave Way should be considered as receptors due to their sensitivity and not scoped out by application of the spatial data in Table 7.1. Rather, the EIA should report the circumstances under which impacts could occur and then what mitigation by design or other means need to be applied to reduce the frequency to a level that is acceptable to the receptors. As a simple example, an ash fall or particulates arriving at the school might be tolerated if the likelihood is if the order of 1 in 10 or 20 years whereas an analysis under 95%ile conditions would still result in the investigated threshold being exceeded 18 days a year and give no insight as to how intolerable conditions might be at the receptor.

7.6 FDPC considers the weather data from Mildenhall should be compared with that from Cambridge Airport. A special focus should be given to the prevalence of wind direction over time since this informs the mechanism for effects at Musgrave Way and Fen Ditton School (see 7.5 above).

7.7 FDPC considers the activity of burning of scrub and construction waste could be scoped out from the EIA providing it is explicitly covered in the CEMP.

7.8 FDPC notes the Greater Cambridge Local Plan, to which this development is intrinsically linked, looks to significantly reduce carbon, and enhance air quality (plus COP26 etc) and this future baseline suggests the impact of the development will be greater than suggested by the 2019 baseline figures. It is a leap of faith to say the 2020 figures would not be representative. We may not return to the levels of traffic, and air quality of pre-Covid and therefore we make the point that the assessment should be using up-to-date baseline figures

8 Biodiversity

8.1 Clause 8.3.1 acknowledges the importance of hydrological pathways between sources of project impacts and resources/receptors that could be impacted. Clause 8.3.2 appears to limit the pathways on a purely geometric basis. FDPC considers the hydrological pathway approach is more important and our comments on Chapter 21 note that the extra areas to be included should include the River Cam SSSI, Black Ditch, Quy Water/Bottisham Lode and Waterbeach Level catchments.

8.2 Clause 8.6.34 asserts that "potential for protected or notable species …is based upon best available evidence". FDPC is pleased to see that AW have referenced in the Scoping Report, the personal, Hymenoptera records of the County Recorder. We request the Planning Inspectorate to support our stressing that "grey" data sources like these must be given at least equal weight as data from field surveys and data from the desk study. FDPC suggests the Applicant interviews farmers and lands owners for any information they have about faunae such as badgers setts, otters and deer to inform the field surveys.

8.3 An additional source of "grey" data, ie possibly not yet available in the normal databases, is in environmental studies for the Marleigh Development. In particular, a very recent survey of bats showed a wide variety of bats in a transect extending along the abandoned railway line south of the A14 and round to Fen Ditton Church.

8.4 FDPC considers the EIA and subsequent design, construction and operation and supporting CEMP should provide for protection of Rare and Vulnerable species, including invertebrates such as Hymenoptera (see 8.2 above), at locations where they are known to occur. Clauses 8.8.2 and 8.8.26 and subsequent text could be interpreted to suggest that AW consider merely creating and preserving habitats where they are likely to occur is an adequate alternative. The Planning Inspectorate are requested to confirm to AW that overall biodiversity net gain based on habitat creation should not be at the expense of the existing Rare and Vulnerable species and the locations at which they have been found.

8.5 Clause 8.8.13 refers to the Black Ditch, this should be extended to cover the drainage catchment/system and assessed accordingly.

8.6 Clause 8.9.5 Table 8-11 describes the ecological receptors to be scoped out. FDPC requests the Planning Inspectorate to direct that Anglesey Abbey is scoped in due to the potential hydrological or ecological pathway provided by Quy Water.

8.7 The Scoping does not reference Biodiversity Net Gain (BNG) whereas the Environment Bill has now received Royal Assent and therefore there should be a 10% BNG from development.

9 Carbon

9.1 Clause 9.7.5 includes the concept of "Build Nothing". This is an issue over which FDPC and many residents have expressed extreme concerns since it is important to assess the real carbon cost of moving a functioning plant. We request the Planning Inspectorate to direct AW to include an assessment of the embodied and operational carbon footprint if the current works were retained since this forms the baseline against which Net Carbon should be assessed. This will be complicated by AW's design proposals to expand the effluent treatment capacity and change the sludge treatment and gas disposal system although these would apply equally at either site. It is sophistry for AW to claim the write off of the carbon footprint of the existing works, other than limited decommissioning relating to rescinding of the current operational permits, will be ignored in the EIA and should be accounted for by others. Our most recent formal response on this point was given to Q13 in the Consultation of 17 August 2021. The same approach could be applied to the existing Waterbeach WWTW unless the Planning Inspectorate consider its small size and the extra demands proposed by the New Town are valid grounds for closing it.

9.2 Further to point g) in our letter above, Clause 5.4.27 refers to scoping out decommissioning of the proposed WWTP because there is currently "no intention to decommission the proposed WWTP at any point in the future". However, Anglian Water express certainty about capacity until 2050 and describe space provision to accommodate growth to 2080. It is therefore plausible there will be a future move of the plant further outside the city due to pressure for housing or the proposed WWTW becoming unsuitable. Although there is currently no intention to move, decommissioning should not be removed from the calculation of carbon impact since it is important to estimate carbon cost of restoring the Green Belt. FDPC requests the Planning Inspectorate to direct AW to scope in the carbon impact of decommissioning the proposed WWTP.

9.3 Clause 9.11.1 reinforces these points since the IEMA guidance on Assessing Greenhouse Gas Emissions and Evaluating their Significance on assessing significance states "when evaluating significance, all new GHG emissions contribute to a significant negative environmental effect. The significance of a project's emissions should therefore be based on its net impact."

9.4 We draw the Planning Inspectorate's attention to our detailed response to Q12 in the Consultation of 17 August 2021 in which we describe the need for a clear description of the energy generation proposals.

10 Climate Resilience

10.1 FDPC has described elsewhere in this response the need to address sewer flooding, performance outside the design envelope, the need to consider future flows and quality in the River Cam in relation to the need for additional treatment plant. Chapter 10 and Table 10.7 need to be revised accordingly.

11 Community

11.1 FDPC submits that information collated by residents must be included as follows:

Table 11.3 Community allotments at the end of Priory Road, Horningsea should be included.

Clause 11.5.11- Community Facilities should include Horningsea Adult and Toddler Group (Waterbeach toddler group is included under Health Chapter 12).

Table 11.3 Laney Meadow, west side of Horningsea Road in Horningsea village, public open space should be included. This is also missing from text listing at 11.5.12 Open Space & Recreational Areas.

Cemeteries are missing from listing – Horningsea Parish Council Cemetery on Horningsea Road, Fen Ditton Parish Council Cemetery on PloughHill/Church Street and City Cemetery on Newmarket Road.

Table 11.3 should include various community amenities in Fen Ditton. The church is not marked, playground, village halls are not included.

11.2 Clause 11.5.3 and Table 11-3 and projections therefrom should be updated with the 2021 Census data in future Project documents.

12 Health

` 12.1 Clause 12.12.6 must be revised to include the Water Resources Chapter as described in Clause 12.1.2 and our responses elsewhere in this document.

12.2 Our comments on chapter 7 about air quality and baselines indicate that odour etc. should also be considered in terms of health. There are issues with the existing WWTW - the 'Milton whiff' is somewhat notorious and therefore odour should be properly considered in Chapter 12 on Health (and also Chapter 19 where elements are scoped out).

13 Historic Environment

13.1 Clause 13.3 Study Area: The southern boundary of Anglesey Abbey, Registered Historic House & Gardens - lies on the 1km study area (Fig13-1). However, it is stated as being 2.5km from the area l(13.6.7) and therefore captured as a Designated Historical Asset within a 10km ZTV. The sensitivity of this Historical Asset and extensive Permitted Footpaths and PROWs surrounding it including Quy Water are associated with the House and Gardens & SSSI (Quy Fen) and form part of its setting (Historical Landscapes) As such, Anglesey Abbey should be included as a designated Heritage receptor within the 1km zone along with the permitted rights of way and PROWs that are identified as being within the 1km boundary to reflect the sensitivity of this historical asset and the relationship to the surrounding landscapes, PROWs SSSI site etc. to its setting and character. Note: Anglesey Abbey, Cambridgeshire (371,593 visits in 2017) ranked 9th most popular National Trust Property.

13.2 Clause 13.6.7 Historic Landscape: The relationship of the SSSI Quy Fen, Common Land to the three parishes of Fen Ditton, Horningsea and Stow Cum Quy is noted here. The Parish Boundaries have an unusual interlocking border established in 1412 culminating at Quy Fen with Lode Parish having boundaries nearby. The Common is managed today by Quy Fen Trust, the membership of which is of two representatives from each of the 3 Parishes. The open Fen Landscape forming extensive views from each of the Parishes towards Quy Fen, and extensive PRoWs forming multiple access routes from each Parish are of significant cultural and landscape heritage for the 3 Medieval Villages. A map dating 1648 shows the potential origins of Low Fen Drove encircling a fen island 'Quir Hal' (Quy Hall today) again of significant historical value.

Historical information including personal accounts of travelling to the Fen from the 3 villages and the Fen's relationship to the 3 Parishes etc. can be obtained from Quy Fen Trust.

13.3 Clause 13.6.15 should include the Conservation Area, and assets contained at Baits Bite Lock (within the EIA Scoping boundary) and Wildfowl Cottage Grade II specifically, alongside Biggin Abbey Grade II* which is listed already.

13.4 Clause 13.6.26 should include 24 Green End, Historic Cottage (not graded) roadside, features in FD Conservation Area Policy Doc. setting alongside Lode Cottage (listed here) setting opposite current transfer zone and pumping station. Buildings are vulnerable at construction of transfer tunnels etc. (no foundations). Also, Osier Cottage (land runs length of transfer tunnels, Osier Holt). (All 3 cottages identified in Fen Ditton Conservation Policy document).

13.5 Clause 13.8.5 should include identification of the significant and permanent impacts on the setting and character of Fen Ditton Conservation Area and historical assets within it at both Construction and Operational phases of the proposed development. High Ditch Road forms a rural approach to the village of Fen Ditton and setting of the Fen Ditton Conservation area and historical assets within. The Conservation Area is within 500m of the EIA scoping boundary where it encircles a proposed access route (Option2). Option 2 will require extensive development of High Ditch Road to accommodate HGV's and the existing bridge over the A14 which accommodates a minor road-part bridleway only. Furthermore High Ditch Rd contains remnants of Fleam Dyke and permanent changes to High Ditch Road to create an access route will have a significant impact on the setting of this Historical Asset of significant cultural heritage of the village of Fen Ditton (believed to be named after Fleam Dyke). Please also refer to our letter of AW of 11 Sept 2020.

13.6 Clause 13.8.7 should include a reference to Wildfowl Cottage, a Grade II listed building.

13.7 Clause 13.8.9 should include the extensive views of the scheme from within the Baits Bite Lock Conservation Area and associated PROWs. The proposed project will have a permanent and significant impact on character and setting of landscape and setting of these historical assets.

13.8 The scope in Clause 13.8.14 and Table 13-3 should be changed as per. 13.8.5 above and the Table should include under 'Change to Character of Fen Ditton Conservation Area and setting of Associated assets' - 'Core Zone'.

13.9 Clause 13.8.18 should include Wildfowl Cottage alongside Biggin Abbey.

13.10 Clause 13.8.19 should not be relied on to scope out odour or noise impacts on Historic receptors. We note elsewhere that current Odour Models for the existing site are not accurate - Odour is not infrequently experienced more than 1km outside of current odour zones modelled in 2016/17 and so the modelled zones are not reliable. Further noise particularly from the alarms (reversing etc.) from HGV vehicles carries easily, particularly during night operations, leaving this open landscape vulnerable to noise pollution from construction and site operations day and night. Traffic noise impacts will be dependent on the choice of permanent access and the duration of use of construction accesses.

13.11 Clause 13.8.21 and Table 13-4 should include Wildfowl Cottage Grade II, Baits Bite Lock

13.12 Clause 13.8.22 refers to Vehicle Movements/New Access routes Options 1a;1b; and 2 will have significant permanent impacts on the character and setting of Conservation Areas and heritage assets which planting will not be able to mitigate.

13.13 Clause 13.11.5 should include the National Trust in this list as a significant Stakeholder: Anglesey Abbey, Cambridgeshire (371,593 visits in 2017) ranked 9th most popular National Trust Property.

13.14 Clause 13.11.8 should include Quy Fen and its relationship to 3 Parishes and significance of shared historical landscape (see 13.6.7 above).

13.15 There is incorrect reference to Bait Bites lock when it should read Baits Bite.

14 Landscape and Visual

14.1 Blank

14.2 FDPC considers many of the points made in Section 5 of our letter of 11 Sep 2020 to AW still apply and request the Planning Inspectorate to consider them.

14.3 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.

Table 14.1 Amendments to Scoping of Landscape and Visual

14.3.1 Recommended additional Representative Viewpoints to those shown on Appendix G.1 - reason- sensitivity to change - Green Belt; River Cam; value of landscape- views of Landscapes of Historical Value/heritage , openness etc. impact of spatial and visual aspects; intrinsic character and beauty of countryside; impact on conservation area setting and character etc.

- High Ditch Road, either side of the location of the new proposed access junction. Viewpoints should be chosen so that view of the works is not hidden behind the existing Lower Fen Drove Way bridge over the A14.
- Recreation Ground Fen Ditton- looking North-East; Footpath Fen Ditton 85/3 looking North-East
- Footpath Milton 162/1 to the South of Biggin Abbey; Footpath 85/6 to the South of Biggin (both River Cam Corridor) with uninterrupted views of development site looking East
- Footpath 130/6 from position looking due South at a point south of junction with Footpath No. 130/7; 218/5 Bridleway Stow Cum Quy looking South-West.
- Footpath Stow cum Quy - various viewpoints looking South-West.

14.5.1 Green Belt latest Plan page 14-9 doc ref 188 – This states latest study as being: LDA Design (2015). Cambridge Inner Green Belt Study Figures. Available at https://files.cambridge.gov.uk/public/ldf/coredocs/rd-mc-030-part2.pdf
However, the latest is Greater Cambridge Green Belt Assessment Final Report South Cambridgeshire District Council and Cambridge City Council Final Report Prepared by LUC August 2021
Greater Cambridge Green Belt Assessment (greatercambridgeplanning.org)

This classifies Green Belt releases as having 'Very High Harm' to the Green Belt at this location.

14.5.10: Core Zone visible also from PROW network North & South of the Site

14.5.12 Should include:

- Residents at Wildfowl Cottage (Grade II listed) sensitive heritage/landscape asset to Baits Bite Lock Conservation Area
- Users of 85/14 Low Fen Drove Way looking South and West (included)
- Users of Footpath Stow Cum Quy 218/4 looking South-West
- Users of Footpath Fen Ditton 85/3 plus Fen Ditton Recreation Ground looking North-East

14.5.19: Recommend list includes:

- Wildfowl Cottage Grade II - as above sensitivity to change - value of setting in Conservation area.
- Users of Fen Ditton Recreation Ground + Footpath Fen Ditton 85/3 looking North-East
- Users of Byway Fen Ditton 85/14 looking West (South included)
- 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.

14.8.14: Should include:

- Views from Fen Ditton in list as affected by proposed development.
- Ancillary structures eg the vent stack (15m high), close to the River Cam at Fen Ditton, the discharge outfall on the riverbank will be permanent new structures in views and should be assessed.
- Table should include Permanent Impacts on views: views of rural landscape form Footpath Stow Cum Quy /Harcamlow Way 218/4

14.3 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.

14.4 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.

15 Land Quality

15.1 Clause 15.5.30 and Table 15-5 identify "drainage channels on and off-site" as having Low Sensitivity. This is incorrect since these channels provide pathways to Quy Fen SSSI, are close to PROWs and may be used for irrigation or sub-irrigation.

15.2 Table 15.7 should cross reference the risk of sewage overflows at the proposed works in addition to pipeline leakages and bursts as described in our comments on Chapter 21.

16 Major Accidents and Disasters

16.1 We refer in relation to Chapter 21 and elsewhere, the possibility of system failure at the works and the need for overflows to be avoided at the Works or escaping to the nearby drainage network. System failure encompasses climate events such as rainfall exceeding the design capacity in addition to physical failures of pipelines and power supplies. FDPC considers AW should design out the consequences.

17 Waste

17.1 Clause 17.4.17 and 17.10.5 refers to Water Recycling. FDPC believes that treated effluent from the works will contribute to flows downstream of the outfall and therefore be available for direct use by others such as agriculture or to reduce the residual flow below offtakes such as that for the EOETS. We refer in our comments to Chapter 21 to the need to investigate these flows in order to verify the quality standards the proposed works should achieve and the resulting space provisions for treatment works.

17.2 Clause 17.10.5 repeats the assertion that waste from the Milton Works is scoped out. FDPC requests the Planning Inspectorate to disagree as we have pointed out elsewhere in our response.

18 Noise and Vibration

18.1Blank

19 Odour

19.1 FDPC considers the Planning Inspectorate should direct AW to amend the Scoping in line with our selection of recommendations made by residents as listed in Table 19.1 and note that "Fen Ditton" includes the new and planned buildings in use in the Marleigh area of the parish.

Table 19.1 Amendments to Scoping of Odour

19.3.1 The local communities have little confidence in the Odour Modelling and subsequent Odour Map referenced here and produced during the site selection process. The data used was out of date; it did not represent extreme weather conditions experienced in the last few years and was based on a single site survey during a 1-month period. It did not account for complaints or make use of monitoring of odour including frequency that occurs outside the odour contours of the current model for the existing plant after heavy rainfall, cleaning of tanks, import of sludge etc. Further, Odour levels of 1.5 may be defined as 'negligible' however, we understand that an odour level of 1.5 is still experienced by 50% of people and therefore are still significant for local communities and users of

adjacent land. Given the proximity to receptors of high sensitivity: local villages, residences; areas of high public amenity value, PROWs, national trails; conservation areas; registered Historic House and Gardens, SSSIs etc.

Odour is key aspect of the environmental impact and the immediately affected communities are seeking the highest level of scrutiny over design, technology and odour modelling to protect them from the blight of odour from the new plant and transfer tunnels.

19.10.1: Odour nuisance is experienced in the existing Fen Ditton transfer area. Ventilation shafts (Field Lane) and manhole outside pumping station create problematic odour for residences, gardens and inside homes (there may also be an overflow 'flood' sump here underground). Changes are to be made in this area at Fen Ditton, methods to mitigate and monitor odour on an on-going basis with changes are requested and newest technology used to protect residents where some homes, front doors, windows etc. are within 2m of the manholes and 3m of the pumping station.

19.12.10: The current odour contours established for the existing plant are often exceeded, with unpleasant odours, even if only for a limited number of days each year, being experienced by people living well outside the lowest modelled contour. This evidence of weakness in the odour modelling needs to be seen to be accounted for if the community are to have confidence in the odour mitigation measures.

19.14.2: It is essential the years selected here represent weather patterns in the last 5 years. The model produced in 2018 for the new plant used data 2011-16 and did not reflect current extreme weather patterns. Modelling that captures the amount of rainfall impacting on use of overflow tanks should be included, alongside wind strength, direction, and temperature. A single on-site monitoring for 1 month only is not representative.
There is frequent use of "mitigate" or "reduce" throughout the Report. Scoping should include full assessment to ensure No operational odour impact to receptors.

19.2 Clause 19.10.3: Table 19-5 Manhole and valve chambers. FDPC considers that where these are on raw and treated effluent pipelines within 20m, ie close proximity, to residences they must be scoped 'In' in Transfer Zones

19.3 FDPC considers the Planning Inspectorate should direct AW to present an objective, measurable set of targets for odour impacts. For the perimeter defined by Low Fen Drove, Horningsea Road and the southern side of the A14, we consider a value of 1.5 C_{98},ou_E/m^3 or less would be appropriate since people are normally passing along the boundary for amenity or other purposes. This still means that odour might be detectable 2% of the time, an average of 7 days a year. For schools and residences along High Ditch

Road, Horningsea Road, Musgrave Way, Biggin Abbey, in Horningsea village and Quy Mill a higher standard must prevail such that odour is undetectable under all non-emergency operating conditions and all wind conditions. Studies should investigate the magnitude of source terms theoretically required to result in detection at these receptors and the nature and likelihood of the emergency conditions that would give rise to these source terms. If septicity is predictable, it should not be regarded as an emergency condition.

19.3 FDPC would expect AW to propose an odour standard for the pedestrian accesses it wishes to creates between the bund and the perimeter described in 19.3 above.

19.4 FDPC considers the baseline weather conditions described in Clause 19.14.2 should be modified as a future baseline to account for climate change. The record should also be extended if there is insufficient confidence in the wind direction and magnitude statistics.

20 Traffic

20.1 FDPC consider that Option 1A is unsatisfactory as a construction access and so its use should be curtailed as soon as a permanent access is constructed and this should be as soon as possible.

20.2 For the record, Horningsea Road north of the A14 is not classed as the B1047 but as a C road.

20.3 FDPC would support construction of Option 3 (A14 access) outside normal construction hours if this accelerated its availability for use as a construction access.

20.4 FDPC stresses the impacts on air quality and non-motorised road and PROW users.

21 Water Resources

21.1 FDPC considers that the recreational use of the river, including sailing, rowing, canoeing, boating, swimming and fishing, must be identified as a receptor. This use is particularly important in relation to stormwater overflows.

21.2 Clause 21.1.9 states that some receptors are scoped out "… after consultation with the relevant statutory consultee…". This clearly moves some of the scoping outside the current report unless this text merely introduces the exclusions listed in Clause 21.8.2. FDPC will request the documents listed in Clause 21.8.3 under FOI but requests the Planning Inspectorate to obtain confirmation that the scoped out items in Clause 21.8.2 is a definitive list.

21.3 Clause 21.1.9 also states that some receptors are scoped out due to "… the level of confidence in impact avoidance methods". FDPC's considers that the current proposals and related scoping are inadequate. In our response of 9 Aug 2021 to the Draft (?) HIA of March 2021, we noted:

> "It appears the proposed relocation could, in principle, transfer the consequences of system failure from a location at the Milton works to land and water resources in the area of Site 3, including the Black Ditch and Quy Fen SSSI. AW has described in previous webinars how they intend to design to a fairly rare rainfall

> event with an allowance for climate change and how back up systems for pumps, power supplies and discharge pipelines will provide some resilience of the system. However, there will nevertheless be a residual risk of system failure and so we consider that AW should provide details of how they would manage an event beyond their design standard "

The importance of our conclusion has been verified in the Scoping Study which notes in Clause 21.5.35 that "there have been no recorded incidents of historical flooding from fluvial, groundwater, surface water or sewer sources within the proposed WWTP in the years preceding 2010". In an earlier paragraph we suggested this transfer of risk to a location with currently zero risk could be designed out by "…Containment of all surface water drainage inside the bund...". Clause 21.7.8 suggests runoff will be restricted to greenfield rates which suggests AW have ignored our design recommendation and are still planning to discharge runoff to the Black Ditch catchment. We consider the EIA Scoping must take account of the possibility that the Black Ditch has the potential under some circumstances to connect at its southern end into Quy Water / Bottisham Lode. The Scoping Report Clause 21.5.4 only refers to the northern end. We therefore consider the Planning Inspectorate should direct AW to either take up our design recommendation and consider scoping out water quality impacts to the Black Ditch, Quy Fen SSSI and Quy Water/Bottisham Lode at Anglesey Abbey or recognize that these high value, sensitive receptors are at risk and all be examined in the EIA.

21.4 The Scoping Study introduces a new mechanism of effect to transfer pollution risk to the proposed site since the Waterbeach transfer was not covered in the HIA. The current proposals suggest the proposed Waterbeach PS may not have a CSO, in which case the PS will be expected to pump to the proposed new works irrespective of any system failure at the receiving end and thus increase the likelihood of polluting the Black Ditch and downstream receptors. FDPC suggest some form of emergency escape or CSO will be required at the Waterbeach PS in which case the Scope of EIA should be extended to cover the receiving watercourse system managed by the Waterbeach Level IDB unless AW come up with an alternative design.

21.5 Clause 21.7.8 and Table 21.7 include consideration of Protected Rights. FDPC's comments on the HIA noted that AW have already identified six such Rights east of the River Cam. The Scoping Study refers to the need for a water features survey; FDPC suggest early consultation with those six owners, Horningsea PC and the Save Honey Hill community group to increase the possibility of locating any additional Rights.

21.6 Clause 21.7.8 and Table 21.7 include consideration of "Leakage from waste water transfer or effluent pipelines" as a groundwater issue. FDPC agrees this is important in relation groundwater receptors including Protected Rights. However, the scope should be expanded to include impacts on the Black Ditch and its downstream receptors. The mechanism for effect is increased due to the likely presence of some piped land drains crossing the pressurized, effluent pipelines.

21.7 The water transfer and effluent pipelines are also at risk of passing through Made Ground where historic Marl pits or Coprolite workings have been backfilled and returned to agriculture. The EIA Scoping should address this possibility; such ground may have different settlement characteristics and response to leakage and so increase the environmental risks from leaks and bursts from pressurized pipelines.

21.8 Clause 21.7.8 and Table 21.7 include consideration of water quality in the River Cam. FDPC considers the spatial scope should be expanded to include the River Cam Washlands SSSI and not merely limited to the river and River Cam CWS which is further upstream. The proposed works and other CSOs within the Cambridge sewerage system will discharge effluent that has only been partially treated and so the predicted frequency and impact of these events should be described in the EIA.

21.9 Further to 21.7 above, baseline, baseflow, flow volumes and water quality under low flow conditions can be expected to alter as a result of climate change and changes to upstream sewage works. Since dilution of dry weather flows from the works will be different under these future conditions, the requirement for phosphorus stripping may also change. The EIA should examine this point and confirm if the design and space planning proposed by AW is adequate.

21.10 Tables 21.9 and 21-10 should be revised to include the additional receptors and mechanisms for effect described above.

21.11 Clause 21.5.13 refers to a borehole drilled for AW in 2020. FDPC have been shown the log of BH01 drilled for AW in 2020 which appears to terminate at 30.2mbgl in Gault Clay and therefore does not appear to have penetrated the Woburn Sands Formation. FDPC requests the Planning Inspectorate to direct AW to include in the EIA on-site evidence of the depth and piezometry of the Woburn Sands Formation.

21.12 Clause 21.5.20 describes the superficial geology. FDPC requests the Planning Inspectorate to direct AW to include in the EIA details of the areas and depth of borrow pits used for the construction of the A14.

APPENDICES

If the Scoping Report were to be revised and republished, please could the Appendices Flysheet contain a listing of the Appendices as an aid to navigation.

FEN DITTON PARISH COUNCIL

Cambridge Waste Water Treatment Plant Relocation
[redacted]

07 December 2020

Dear Sirs,

CWWTPR Phase 1 Consultation Summary Report

With reference to your Summary Report published in November we have some questions that should be straightforward to answer before your full Site Selection Report is published.

1) On page 3, you present figures for some of the feedback you received. How many people responded by email and how many in writing other than the 559 feedback forms received?
2) Some of our residents, who are members of the Save Honey Hill Action Group, have expressed to us their concern that an email on 3/12/20 from your [redacted] to [redacted] refers to there being only 172 other direct submissions. Were there any written responses that have not been taken into account in your Summary Report? Will any such responses be ignored in your final report on the site selection?
3) Are the pie diagrams and bar charts on page 9 based on unique respondents?
4) How many 'likes' on the interactive map were counted in the figures on page 9 where the respondent did not make any comments?
5) Are you following up your result, also quoted in the Cambridge Evening News of 28 November, that 53% of opinions want the works to stay where it is as oppose to the 23% who want the works to move with 20% having no opinion?

We appreciate that you may not have intended that your Summary Report provides the level of detail we suggested in our letter of 11 September, Appendix 2. para 7)a)ii but we think it is important to clarify the points above since your report may raise some people's expectations.

We look forward to hearing from you.

Yours faithfully,

[redacted]

FEN DITTON PARISH COUNCIL

c/c [redacted]
Fen Ditton Parish Council
email: [redacted]

C/C Councillor [redacted]
Councillor
Councillor
Councillor

FEN DITTON PARISH COUNCIL

Cambridge Waste Water Treatment Plant Relocation
info@cwwtpr.com

09 Aug 2021

Dear Sirs,

Cambridge Waste Water Treatment Plant Relocation project - FDPC queries on HIA Report

We are grateful to Anglian Water for providing us with a copy of the Hydrogeological Impact Assessment of March 2021 and the Ground Investigation Report (Factual) report dated 30 November 2020 as downloaded from their link on 21March 2021. Since these incorporated comments by the Environment Agency, the issues of the protected rights of some residents who have contacted the undersigned through the Save Honey Hill (SHH) group and the issue raised by the Trustees of the Quy Fen Trust, this letter has been copied to them also.

a) Protected Rights

In our response of 11 September 2020 to the Stage 1 Consultation, we drew attention to the existence of Protected Rights (private abstractions) near to the proposed Site 3 in Horningsea Parish. The HIA report refers to possible impacts on other abstractors from dewatering at Sites 1 and 2 where works in the Lower Greensand were anticipated. In this context, the text on page 31 refers to six such Rights east of the River Cam. The text also refers to the Waterbeach pipeline on Page 44. However, the report does not consider the implications of the pressure differences between groundwater and the new assets that are proposed. Since it is inevitable that the pressurized, pipeline from Waterbeach to a new works will leak and may even burst, the HIA should be revised to include assessment of the pollution risk, especially to Protected Rights east of the River Cam. Even if the risks are predicted to be small, we, by copy, request that the Environment Agency carefully examines Anglian Water's proposals for dealing with the consequences.

b) Quy Fen SSSI

The HIA report now accepts, see Sections 2.6.3 and 3.2.25, the point that the risks to Quy Fen SSSI include pollution from the Black Ditch as a pathway. We consider AW should design out this risk rather than their proposed mitigation, see Section 6.2.3, of reliance on low probability, dilution and good management etc. Instead, the proposed construction of the landscaping bund makes possible the introduction of two necessary and possible design /construction features:

1) Sealing up or removal of any agricultural land drains under the bund where these connect to the surface drainage network connected to the Black Ditch; and;
2) Containment of all surface water drainage inside the bund with discharge directed through the works/discharge pipeline to the River Cam and not to the Black Ditch network.

c) Storm water overflows

It appears the proposed relocation could, in principle, transfer the consequences of system failure from a location at the Milton works to land and water resources in the area of Site 3, including the Black Ditch and Quy Fen SSSI. AW has described in previous webinars how they intend to design to a fairly rare rainfall event with an allowance for climate change and how back up systems for pumps, power supplies and discharge pipelines will provide some resilience of the system. However, there will nevertheless be a residual risk of system failure and so we consider that AW should provide details of how they would manage an event beyond their design standard. To give a simple example, if the top elevation of the transfer tunnel outlet at the proposed site is higher than either the CAMBRIDGE RIVERSIDE 187 CSO, permit AN/AWCNF11361/002, or some other outlet upstream of the proposed works, the risk of overflows at the proposed site would be less than if the proposed top elevation is the low point of the system. The mechanism for coping with system failure in the existing conditions may need to be modified but the design of the proposed system should be such that, even in emergency conditions, it neither transfers nor creates new risks of effluent overflows to ground and ditches around the site.

We trust that the Environment Agency and you will agree that further work is needed and that our points should be addressed. We look forward to hearing from you.

Yours faithfully,

[redacted]

c/c [redacted]
Fen Ditton Parish Council
email: [redacted]

C/C Environment Agency (via Planning at Brampton)
Trustees – Quy Fen Trust
Save Honey Hill group
Horningsea Parish Council

FEN DITTON PARISH COUNCIL

Cambridge Waste Water Treatment Plant Relocation
info@cwwtpr.com

17 August 2021

Dear Sirs,

CWWTPR Stage 2 Consultation - FDPC Response

Please find attached our response to the above consultation. In summary Fen Ditton Parish Council (FDPC) OBJECTS to the proposed development at Site 3 at Honey Hill and the outline design of the works and the mitigation proposals described in this consultation.

This response should not be construed as the Council's acceptance of either the proposed move or the methodology of and final site selection by Anglian Water (AW) described in previous consultations and the outline design of the works and the mitigation proposals described in this consultation.

Our response details are given in the attached Appendix 1 since there is not room on the original consultation paper for all the material. This Appendix follows the numbered questions in AW's consultation paper. A summary of the original questions is given to aid readership and FDPC responses are given in italics

Our response of 9 Oct to the first consultation 2020 is attached as Appendix 2 since many of the points made still apply and should be taken into account in the current consultation.

We would like to express our thanks to you for taking up the offer of using the Community Hall for face to face meetings even though these were limited by health precautions. It is also regrettable that this event had to be postponed to Monday 16th with little time for our residents to take full advantage.

We look forward to hearing from you.

Yours faithfully,

[redacted]

Vice Chairman

c/c [redacted]

[redacted]

Fen Ditton Parish Council
email: [redacted]

FEN DITTON PARISH COUNCIL

[redacted]

Horningsea Parish Council
Lode Parish Council
Stow cum Quy Parish Council
Teversham Parish Council
Trustees Quy Fen Trust

FEN DITTON PARISH COUNCIL

APPENDIX 1 – Detailed Response to CWWTPR Phase 2 consultation 23 June – 18 August 2021

General

This response should not be construed as the Council's acceptance of the proposed move or the methodology of and final site selection by Anglian Water (AW). Many of the points made in our response of 9 Oct 2020 (see Appendix 2) to the first consultation still apply and should be taken into account in the current consultation.

FDPC responded on 11 October 2020 to the non-Statutory Stage 1 consultation and objected to:

a. The principal of relocating the sewage works into the Green Belt
b. The inclusion of Honey Hill (Site 3) in the short list of sites for selection
c. The evidence base for including Honey Hill
d. The methodology of consultation

The current consultation does not invite any comments on a) or b) above but focusses on the outline design of the works and the mitigation proposals.

This Appendix follows the numbered questions in AW's consultation paper. A summary of the original questions is given to aid readership. FDPC responses are given below in italics since there is not room on the original consultation paper.

Q3 - What environmental issues relating to the relocation project are most important to you?

Local ecology and biodiversity; Landscape and views; Archaeology and local heritage; Climate change; Flood risk and water quality; Air quality, noise and vibration; Odour, Traffic and access; Local amenity; and Other Issues

Comment

All of the above are important and should be considered in the Design, EIA and PEIR.

Q4 - Why do you think these things are most important?

Other – Loss of agricultural land for food production
Other – Light pollution at night
Other - Loss of Natural Capital, gross and per capita basis - refer Das Gupta et al 2020
Other – Loss of Green Belt in general and in particular its function "... to preserve the setting of Cambridge".

The Green Belt designation encompasses all the environmental issues raised in Q3 and Q4 and these are important to us as concerned citizens and as elected representatives.

FEN DITTON PARISH COUNCIL

Q5 - What other opportunities for improved recreation for the local community to access the site area and surrounding countryside would you like us to consider?

Yes-Access to the top of the earthwork bank, allowing views of the new facility and surrounding countryside.
Yes- Access to the site area through new woodland footpaths
Yes - Access to the site through new grassland footpaths
No -A new bridleway along the old railway line, creating a new 9.5km circular network

Other (please specify) – *Some suitable car parking for a few cars, with litter and dog bins maintained by AW, would be needed to support the items marked "Yes" if they are provided by AW. We draw attention to the use of the layby north of Horningsea as an example of how off road parking space can be useful for recreational visitors;*

Explanation
Accesses marked "yes" are through land that AW would need to obtain to construct and mitigate the proposed works and possibly avoid leaving orphaned areas of farmland. They could add to the area available locally for recreation and would be readily identified as linked to the proposed works. However, the accesses we support could be of limited provision since the area outside or on the bund would be blighted by the presence of the Works with its associated odours and other impacts.
The Access along the old railway line has not been marked "Yes". Although it is a desirable link to the footpath and bridleway network, it would be a token, gratuitous addition to the land to be owned or developed by AW. This link should only be developed in some form with the consent of the landowners and should not be included under the DCO as land required for mitigation.

Q6 - What opportunities would you like to see on offer at the proposed new Discovery Centre? Please tick the relevant boxes

NO - Opportunities to view and interact with the new facility.
NO -Facilities for school trips and educational activities.
NO -Interactive opportunities to learn about the water recycling centre and circular economy
Other (please specify)

Explanation
We consider the Discovery Centre should be omitted. In contrast to the excellent facilities at some surface water reservoirs such as Rutland Water, we note the absence of such facilities at the existing sewage works or reference to such a centre at any other sewage works and so it appears this would result in AW diverting HIF funds for its own self-advertisment and image enhancement and presenting this as mitigation.

FEN DITTON PARISH COUNCIL

Q7 –

A) Architectural Finishes

More subtle sky-like finishes to reduce the visibility of taller elements from a distance
More natural finishes to blend in with the surrounding landscape
More engineered, contrasting finishes to establish the facility as a new local landmark
YES: Other (please specify

Your choices 1&2 are very poorly phrased unless there is an intention to confuse. We consider inevitably visible elements such as the entrance to the site should use natural finishes and blend in. However, taller elements should be reduced in height so they are not visible locally or from distance. Design and finishes should avoid the proposed works being visually intrusive.
We are totally opposed to option 3. Our Green Belt is not the place to construct a new landmark.

B) Bund and Screening

A more organic, planted screen (please see page 8 of our Consultation Leaflet)
NO A more engineered, constructed screen (please see page 17 of our Consultation Leaflet)

YES Other (please specify
Although we are totally opposed to option 2, the phrasing and the "computer generated image" for option 1, a planted screen appear, intended to confuse. A planted screen may be useful but only if the top width of the bund is wide enough to support the survival of a dense vegetation screen that will reduce visibility even in winter or at night. In this and our previous consultation response, we have highlighted the problem of the proposed works being intrusive and we are pleased that you have acknowledged this with the introduction of the bund as a potentially useful step to address this. However, the combined height of bund and accompanying vegetation must screen the tallest elements of the works. If the bund is around 7m high the trees would have to be 20 m high to rise above a 26 m structure. Your image on P9 is therefore deceitful due to the choice of a viewpoint close to the toe of the bund unless the design detail given elsewhere is incorrect. We consider you should design all the structures to be lower than the combined height of bund and vegetation.

Q8 Do you have any further comments for us to consider when developing our proposals to mitigate the potential visual impacts of the new plant?

Change your vision. Focus on making the plant invisible day and night. Get the top of elevation of structures out of sight by design or partial burial. Show aircraft hazard lights and any communications equipment you will need on the visuals. Consider also more distant viewpoints and consult us beforehand on the choice of viewpoints to be considered in the EIA/PEIR.

Q9 Landscape and Biodiversity

We have some support for all the options listed as broad objectives. However, the devil will be in the detail since the options have potential adverse impacts that AW should address. These include:

- *Excessive loss of farmland;*
- *displacement or loss of incumbent species including rare and vulnerable species from the site or nearby areas;*
- *Inappropriate mitigation. This could result from use of the DEFRA methodology to measure net biodiversity gain. The point being it is generic, based on land use and is not site specific and thus accounting for local niches and incumbent species;*
- *Conflicts between nutrient status of former agricultural soils and intended grassland or meadow plants;*
- *Inadequate management and maintenance interventions under cover of 'rewilding'. For example, how would grasslands survive if there are no herbivores present or hay crops taken?*
- *Inadequate management and maintenance of hedges and tree including watering. Who will own planted areas and who will be responsible for maintaining them?*
- *In our previous consultation response, we have highlighted the existence of rare and endangered species in the area and we are pleased that you have acknowledged this with the inclusion of hymenoptera in the scope of your surveys. We stress that their habitats as already recorded should not be disturbed during surveys or later phases of the project if approved. Furthermore, we have recently been made aware of a variety of bats making extensive use of linear features such as the nearby disused railway line south of the A14. We consider that the scope of your landscape design proposals as described in the factsheet should be extended therefore to include bats as well as birds as target species.*

Q10 -Site Access

YES to Option 3: A new junction on the north side of the A14

Explanation

We consider Option 3 is the only acceptable access solution. Reasons include those given in our letter of 8th March 2021 to our MP, Lucy Frazer and c/c to AW and are still valid in this consultation. Furthermore, the revised predictions for construction traffic given in the current Factsheet are so high, we consider Option 3 should be fast tracked and used as the construction access.

In the first consultation FDPC objected that Options 1A and 2 were unacceptable and nothing has been changed to suggest that conclusion should be revisited (refer to Appendix 2). Option 1B is an improvement on 1A but does not remove the risks of rat running through Fen Ditton or Horningsea or increased congestion at the A14

interchange and the consequent adverse impacts listed for 1A. Option 1B is therefore also unacceptable.

We consider your presentation of the plus and minus points as you see them is uneven and could easily mislead.

Q11 – Value – Opportunities

Comment

We consider this is a disgraceful example of greenwash containing numerous half-truths and platitudes. Over and above our detailed responses in other sections of this response, you invite the inference that 20,000 new jobs are dependent on the move whereas most of the potential job creation in NECAAP is independent of the proposed move.
You describe a new modern works but ignore that your statements given previously that there is no operational reason to move.
You attempt a virtue signal with your aspirations for carbon accounting, recycling water and renewable energy as those these were attributable to the proposed move but ignore the reality of your current practices or the potential for their improvement.
The comment about the A10/A14 junction simply evades the reality that those HGV movements would simply be shifted to other junctions.

Q12 – Are there any other measures that you would like us to explore for the project to support climate change resilience?

Yes **-**

Explanation

- *We consider you should explain how your overall sewerage system including the proposed works would function in exceptional rainfall beyond the 1:100 design storm or in the event of equipment or asset failure in the works proposed for this scheme. You should demonstrate whether effluent escapes at the works are possible or not.*
  You should undertake to design out the possibility of flows escaping the bund area and reaching the Black Ditch. The desire to create wetlands, wet pasture or balancing ponds should not be allowed to compromise the possibility of escapes. Our letter of 09 August 2021 in relation to the Hydrogeological Impact Assessment explores this topic further and is relevant to this question. In its simplest terms, there is a need for you to identity and describe how the entire system would operate under failure conditions without effluent escapes at the works.

- *The supporting factsheet mentions sustainability under this topic. We note that all treated effluent now adds to the flow in the River Cam and this addition will occur irrespective of whether the proposed CWWTPR takes place or not.*

- *In our previous consultation response, we have highlighted the problem of odour and we are pleased that you are continuing with modelling and to evolve the design. However, the model work references past conditions at the 95% recurrence. We consider the resilience should be investigated and operation under both future weather extremes and beyond the 95% future and historic cases should be reported and then mitigated if necessary. A particularly obvious concern is that the predicted odour contours show a lobe extending to the north east, presumably due in part to the prevailing south west winds. If more extreme current or future weather patterns occur, especially with winds coming from the north east, a similar lobe would be expected to develop that could extend to Musgrave Way and Fen Ditton Primary School. You might even consider reverse modelling to predict what odour source terms or weather patterns would be needed to result in detectable odour at these receptors.*

- *In our previous consultation response, we criticised your method of carbon accounting; in particular the lack of consideration of the write off of the residual carbon in the existing works. This omission has not been corrected. In the current consultation, you emphasise the use of solar power for pumping and process demands. We consider that the introduction of the bund may present an opportunity to stack solar panels on sections of the inside face as a space efficient design. Irrespective of whether such concepts form part of your design, we consider that in addition to carbon accounting as tCO2e, you should provide a transparent description of your proposals for solar power generation to include such data as design power outputs as peak and annual average output; total panel area required and net and gross areas of panels free standing on the ground.*

Q13) Are there any other measures you think we should consider when preparing for the construction phase of the project?

Comment

We consider you should undertake to prevent construction traffic using Horningsea Road and Low Fen Drove other than in sections and at times provided for in any DCO. Better still you should avoid construction traffic using these routes at any stage. The Traffic Management Plan should describe how you will monitor and enforce this.
*Furthermore, the permanent access should be fast tracked and in use before HGV movements on any temporary access route exceed a threshold to be a*greed. *For Option 3, preparation might include ensuring notices to close the existing layby and relevant section of hard shoulder were in hand prior to your application being determined.*
You should also provide for the early establishment of vegetation screens and not rely on whips or saplings.
The Management Plan for the investigations and construction phases should allow for appointment of an Environment Clerk of Works.

FEN DITTON PARISH COUNCIL

Q14 Based on the information provided in our consultation material, overall how supportive are you of our emerging proposals for a new facility at our selected site north of the A14?

Strongly Oppose-

Explanation

We object to the proposed move and the methodology of and final site selection by AW.

Q18) Please provide any comments or suggestions on the consultation, what we could have done differently and how you would like us to consult you in the future

Comment

We consider your consultations should include an extra question as to whether the WWTW should preferably either move or remain at Milton.

FEN DITTON PARISH COUNCIL

APPENDIX 2 – Detailed Response to CWWTPR Phase 1

FEN DITTON PARISH COUNCIL

Cambridge Waste Water Treatment Plant Relocation
[redacted]

11 September 2020

Dear Sirs,

CWWTPR - FDPC Consultation Response

Please find attached our response to the above non-statutory consultation. In summary Fen Ditton Parish Council (FDPC) OBJECTS to the possible selection of Site 3 at Honey Hill. Our objection is based around issues pertaining to the unique qualities and features of Honey Hill including:

- It is an area of pristine, rural Green Belt which has been singled out for special protection;
- It is a location that has been given an important role by policy-makers for providing "countryside recreation" to an expanding Cambridge East;
- It is inside the area of the Wicken Fen Vision which contains sites of special scientific interest (SSSI).
- Being at the southern end of the Vision area, Honey Hill is at the gateway of the green corridor connecting the Vision area to Cambridge;
- It contains a number of protected species including some that are Rare or Vulnerable or Endangered;
- It is a site containing distinctive and vulnerable groundwater/geological features with pathways to protected environmental receptors, including an SSSI, that will be affected by the inevitable groundwater pollution if a works is sited there;
- The access for HGVs and other vehicles is poor where on narrow country roads or byways both of which would have to be shared with non-car users. The proposed use of Newmarket Road and turning to High Ditch Road will increase delays for other users.
- The area and access are a source of significant archaeological heritage which will be destroyed unless preserved at potentially high cost; and;
- Although we represent the residents of Fen Ditton which includes Marleigh, the area in development for several thousand people but not yet in occupation, we are part of a wider group of communities opposing this proposal which includes the villages of Horningsea, Stow cum Quy, Teversham and residents of Cambridge City through Abbey Ward and beyond.

The above points are discussed in full in Appendix 1 which also presents some information to which you may not have had access hitherto as well as some extra information that you have provided during the consultation period.

In Appendix 2 we present our comments and objections to the site selection process itself.

FEN DITTON PARISH COUNCIL

Finally, we wish to record that we consider this process to be inherently flawed since you state that the reason for a move is the responsibility of others and therefore this consultation simply pits one site against the other two in your shortlist.

We look forward to hearing from you.

Yours faithfully,

[redacted]

Chairman

c/c [redacted]

Fen Ditton Parish Council
email: [redacted]

C/C [redacted]

Horningsea Parish Council
Stow cum Quy Parish Council
Teversham Parish Council

FEN DITTON PARISH COUNCIL

APPENDIX 1 - OBJECTIONS TO SELECTION OF SITE 3

1) PLANNING POLICY.

The unique qualities and features of Honey Hill and its inclusion within the Green Belt are underpinned by the many references to Fen Ditton, Teversham, and High Ditch Rd in the 2002 Green Belt Study supporting the 2018 Local Development Framework (see detailed references in Sections 5 and 10 below). The Vision Statement in section 7.5 of that Study mirrors the point that many people enjoy easy access (with scope for improvement – see Section 14 below) to the area of Honey Hill, Quy Fen and the Wicken Fen Vision area in general so they can appreciate the setting of special character of East Cambridge.

In an emailed response of 21st August, AW suggested that the particular characteristics of each site and how they perform against the purposes of the Cambridge Green Belt will be taken into account in making a decision on the site finally selected. For Stage 4 more detailed assessment of the sites and the potential impact of development on them in both Green Belt and Landscape & Visual Amenity terms is being undertaken before the final site selection is made.

At the Stow-cum-Quy PC meeting of Wed 29th July, AW explained the approval process as being one whereby they would have to demonstrate to the Planning Inspector that the incursion into the Green Belt was justified and that they would also have to demonstrate that the mitigation they planned for the site they had selected was sufficient taking into account the site characteristics including planning policies.

Justification for a move into the Green Belt

We object to the justification for a move being stated to be not for operational reasons but to unblock the development of brownfield land by others within the NECAAP development.

- The current proposals to move the sewage works are based on the assumption that the works must move to allow several thousand new homes to be built in conjunction with a large area of commercial premises. However, we object to this, on grounds often expressed to parish councillors by many of our residents, that the move will effectively expand the built environment of Cambridge into the Green Belt.
- It is sophistry to suggest that the new housing will be built on available 'brownfield' land since AW have said there is no reason for them to move other than a result of the aspiration to build more housing and commercial premises. The proposed move will thus merely take up Green Belt land to create 'brownfield'.

- It is highly objectionable that any investigation of the justification does not appear to sit within this consultation but rather within the NEECAAP itself thus allowing AW to absolve itself from responsibility for the move.
- Review of the Phase one CWWTPR Site Selection Technical Summary Para 1.2.5 states that "… Cambridge WWTP, which is one of the last remaining large brownfield sites suitable for regeneration in Cambridge". This statement pre-judges that it is suitable in spite of being in use and viable for the foreseeable future. We assert it is only suitable if the existing sewage works can be moved without unacceptable impact given that funding is also constrained by the Government award. This statement does not address the question of whether or not a site with acceptable impacts could be found albeit at greater cost.
- Para 2.1.2 of the same report states that "The National Policy Statement for Waste Water" is relevant. However, that document also states in para 1.1.4 that "In consequence, the sustainability effects of the NPS have been considered in the context of new waste water NSIPs within a mature urban environment". This raises the question: could the existing site be reconfigured in an urban setting rather than being the object of a land grab for the purposes of the NECAAP?
- AW's Site Selection Technical Summary - Table 6.1 Fine Screening includes statement as to Affordability "Assessment of whether development of a new WWTP would be achievable within the limits of the HIF funding". This point is amplified in para 3.2.2 of AW's Stage 3 - Fine Screening Report. What input to HIF funding did AW have? The impression is that there may have been a self-fulfilling forecast. Para 6.4.2 later states that this is the most important criterion. This points to the critical importance of a possible underestimate being built into the process irrespective of whether this was done with input by AW or was done separately by others. The consequence of an underestimate is that a number of potential sites may have been rejected.

Efficacy of 'Mitigation'

In subsequent sections, we review some of the criteria assessed in site selection and query whether 'mitigation' could be used in practice to overcome the problems of relocating to Site 3. We do not consider that any necessary mitigation should be rejected if it is not deemed by AW to be 'affordable' since cost is stated to be the most important criterion for rejecting some other sites from being included for possible selection and there is no discussion of how much mitigation is built into the design (other than a point about secondary lining in tunnels).

We note that AW have stated that the land take for mitigation such as landscaping is not included in the 22ha required for a relocated works.

The Wicken Fen Vision

We object to the proposal to use Site 3 because we support the National Trust's Wicken Fen Vision and this important aspiration appears to be ignored by AW in

evaluating sites for a relocated sewage works. Many of the individual characteristics of the Honey Hill area support this vision. Honey Hill forms the south-western gateway to an unbroken fenland landscape with far reaching views towards Wicken Fen, itself a new member of the European Rewilding Network and a World Heritage Site with a greater diversity of wildlife than elsewhere in Great Britain. The national significance of Wicken Fen and the Vision was emphasized on the BBC with a dedicated episode of Book of the Week on 27 Aug 2020 with readings by Helen MacDonald on nature reserves and our precious relationship with the natural world.

The Wicken Fen Vision encompasses the whole broad tract of land from the A14 through Honey Hill to Wicken Fen. The aspiration of the Vision is to restore and protect this nationally important fenland environment so that it can be enjoyed by all. A 22ha sewage works, lit at night, with several tanks up to 26 m high would dominate the south-western gateway to the Vision and thereby completely destroy it.

2) EASE OF ACCESS.

When asked, AW declined to rule out at this stage either the proposed Quy Roundabout – High Ditch Road access route or a possible (implied by the blue area on Figure 6 in the Consultation leaflet) route using the A14-Horningsea Road junction as being unsuitable for access to Site 3. AW confirmed that traffic management would be resolved later and pointed out that some possible sites have been screened out because the road access passed through communities. On the secondary point raised that the Horningsea Cycleway was used by children going to school and therefore air quality was important, AW reported that its policy is to switch the vehicle fleet from diesel by 2030.

AW reports that there would be 146 HGV movements to or from the site as well as smaller vehicles each day with normal working hours being between 7 am and 6 pm. We calculate that if, say, 80% of these movements take place over an 11-hour period, there would be an HGV passing any given point on the route every 5.6 minutes along with the other vehicles. Our objection is that there are clear grounds for rejecting the proposed route for the following reasons:

a. Quy Roundabout to High Ditch Road junction is already congested and more HGV movements would add to the delays. More detailed study by AW might show how many of their HGVs already use Quy roundabout on round trips on the A14 to the existing site at Milton. We acknowledge that it is possible that the quantum of extra AW HGVs using the roundabout and Newmarket Road is a small proportion relative to the number of HGVs from all sources between Quy Roundabout and Airport Way roundabout.
b. The turn off from Newmarket Road westbound onto High Ditch Road is a right turn across on-coming traffic from a small holding section in mid

carriageway. This is a tricky manoeuvre even with a private car and would be more dangerous with an HGV due to its lower acceleration. Pulling out and turning left from High Ditch Road onto Newmarket Road eastbound is slightly easier but nevertheless tricky in fast moving traffic. The introduction of traffic lights or a roundabout to make an at-grade junction safer for use by AW's HGVs would inevitably lead to further delays for traffic on Newmarket Road. Since traffic on this stretch of road can back up to the roundabouts at either end, further delays and safety issues will occur elsewhere than the High Ditch Road junction.

c. This end of High Ditch Road cuts across NCP 51 and junction improvements have been discussed between FDPC/Stow cum Quy PC and SUSTRANS in a study for the DtP linked to the Swaffham / Bottisham Greenways. The introduction of HGVs would pose further safety risk and delays for cyclists and pedestrians on this path.
d. High Ditch Road is a narrow, rural road with a weight restriction of 18 tonnes. The introduction of HGVs at a frequency of less than every 6 minutes would pose further safety risk and delays for cyclists and pedestrians on this road. It also happens to be on Fleam Dyke, an ancient feature of great historic importance the widening of which would be an act of heritage vandalism.
e. Low Fen Drove is a narrow farm track used by horse riders and others to access the area of the Wicken Fen Vision. Clearly, HGV lorries are completely incompatible with existing users and so costly upgrading, particularly of the bridge over the A14, would be required to provide separation.
f. Some HGVs and other vehicles would inevitably try to access High Ditch Road via Fen Ditton village. Whereas many AW drivers might be trained and monitored to avoid this, there would be visitors, people relying on Satnavs and periods of heavy congestion that would lead to this route being attempted. If connecting to the A14, such traffic would pass the primary school. Any traffic using High Ditch Road at its western end would add to congestion and disturbance within the community.
g. It is notable that there are virtually no HGVs using High Ditch Road or Lower Fen Drove at present.
h. Throughout the planning process for the Marleigh development it was clear from the start that assess to the estate from High Ditch Road was not practical and therefore outline planning specifically excludes access, both during construction and later for residents

We also object to the possible alternative route for the following reasons:

i. The B1047 Horningsea Road - A14 junction is heavily used by traffic passing through Fen Ditton into Cambridge. HGVs going to a works and turning left at the traffic lights at the top of the off ramp would delay other road users.
j. HGVs leaving the works and right turning through the traffic lights onto the on ramp would also delay other vehicles.

k. Traffic for the works connecting to areas east of the junction would have to use the A14 - A10 junction at Milton to turn back to the B1047 – A14 junction. Remodelling the junction with extra slip roads would be highly objectionable if it led to more traffic using the B1047 Horningsea Road and Ditton Lane to avoid the Newmarket Road.
l. Both sets of traffic lights cut across the shared cycle and footpath forming on the Horningsea Greenway as used by some children at Fen Ditton Primary School.
m. It is notable that there are virtually no HGVs using B1047 Horningsea Road - A14 junction at present – not least because there are weight limits in place.

It might be that AW could propose to develop a purpose-built interchange off the A14 to avoid the objections we raise.

3) AFFORDABILTY

See 1) above

4) CARBON EMISSIONS

We object to the evaluation of Carbon emissions because AW's Site Selection Technical Summary paras 6.4.13 and 14 quote RELATIVE percentage differences not TOTAL percentage differences and therefore exaggerate the differences. The overstatement could be considerable and occurs because the proposed treatment works itself has been ignored from the calculations.

Doc 7 - Carbon Assessment - Waste Water Transfer Infrastructure

1) Paras 2.1.4 and 5 describe how the feed to a relocated works would be by gravity tunnel from the Milton site and by pumping main from Waterbeach whereas the discharge to the river would be by gravity tunnel and lift pump (Option A) or twin pumping pipelines – one for effluent and one for stormwater (Option B).
2) Para 2.1.6 makes it totally clear that the study excludes the embodied carbon in the works itself but is only examining the "..additional carbon emissions for transferring flows to and from the new WWTP". The percentage differences quoted in para S7 and S8 and Table S1 are therefore RELATIVE percentage differences not TOTAL percentage differences and therefore exaggerate the differences. The overstatement could be considerable. The omission also skews the balance between embodied carbon in construction and operational carbon.
3) Para 2.1.9 explains the rationale for a 20-year period for power consumption calculations as "…operational carbon emissions are expected to decline due to the significant rate of decarbonisation of the UK power supply forecasted over the next two decades". This method assumes that AW can take advantage of the decarbonisation of marginal power production despite being an additional load on the power generation. It

could be argued that increased power demand for the pumping at a new works should be assigned the carbon consumption value of the most carbon intensive source of power available at any time which will be higher than the system average. That in turn suggests that a longer period than 20 years could also be appropriate since there may be some high carbon production in the power generation for many years to come. In both cases, the report will underestimate the importance of operational carbon relative to embodied carbon in the calculation of total carbon in comparison of options.

4) Para 2.3.1 is opaque as to if the 15-2000 expected population of Waterbeach New Town and their associated stormwater flows are included.

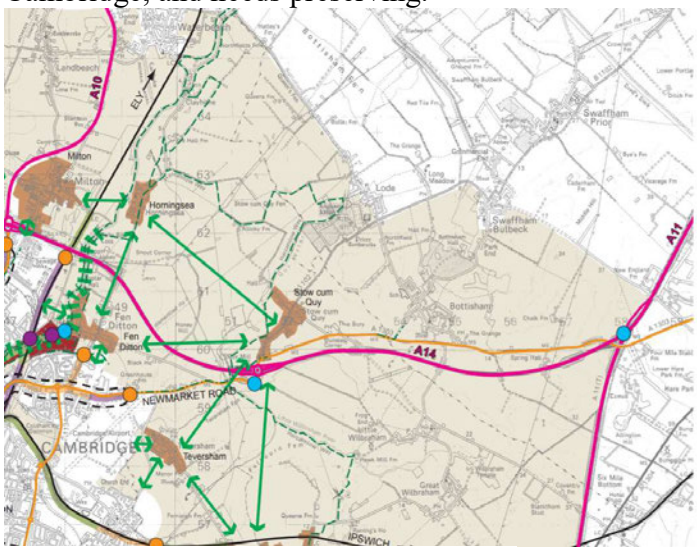
5) LANDSCAPE AND VISUAL AMENITY

We object to AW's suggestion that a 22-hectare sewage works, lit at night, with several tanks up to 26 m high could be constructed above ground without it dominating the south-western gateway to the Vision and thereby completely destroying it. The tallest structures would rise above the trees and be visible for a considerable distance.

CPRE suggest that this area experiences an up lighting at night of only 1 to 2 nanowatts/cm^2. One of our residents was able to photograph a wonderful tranquil

sunset. In contrast the area west of the A10 - A14 interchange was too strongly backlit to photograph. A CPRE study suggests light intensities of 16-32 nanowatts/cm^2 on the south side of the A14 and 8-16 nanowatts/cm^2 on the north side. Although lighting is not mentioned in the consultation documents, AW has subsequently confirmed a relocated works would require lighting.

The Cambridge Green Belt Study (2002) section 7.4.8 - Topography Providing a Framework to Cambridge describes how "The topography on the east side of Cambridge is described in section 7.3.2. Topography is particularly important to the setting and special character of the east side of the city as this is where the two areas of greatest contrast lie closest to the urban area. It is important that these contrasts in landform are not masked by development. Development should not, in particular, be allowed on the chalk hills or on the fens where it is uncharacteristic and would adversely affect the historical relationship between built development and landform." The point is amplified in the Extract from the Cambridge Green Belt Study (2002) - Townscape and Landscape Analysis below. This map shows – via green arrows - the distinctive and large triangle of open countryside between Fen Ditton, Horningsea and Stow-cum-Quy; this is the largest area north of Cambridge, and needs preserving.



Gateways

First view of Cambridge

Open countryside separating inner necklace villages and these villages and Cambridge

We consider that there is an inherent flaw in the analysis of landscape character is because Fen Ditton and Baits Bite designated Conservation Areas are both within the study area, close to site 3, but were not included in the list in the Fine Screening

Report section 2.2.1 of Appendix C - Landscape and Visual Amenity. Both have have statutory conservation area appraisals.

Section 7.3.4 of the Study is entitled 'Landscape Character' and states that "the landscape east of Cambridge is comprised of four local landscape character areas with a strong rural character (including Fen Ditton Eastern Fen Edge): 'The situation of the small villages in this rural setting is an important part of the setting and special character of East Cambridge.".

The above discussion of the landscape and critical views clearly points to the unsuitability of Site 3 at Honey Hill for a major development of 22 ha with 26 m high structures, lighting and new access roads.

6) NATURE CONSERVATION AND BIODIVERSITY

AW's desk-based studies are presented in the Stage 3 - Fine Screening Nature Conservation and Biodiversity Appraisal which includes a review of their data on species present in the area. The report notes that species classed as "Rare" have been observed in the area of Site 3 (Site L). We draw attention below to other, recent observations that should also be taken into account since they include a "Vulnerable" and an "Endangered" species of *Hymenoptera*. Informal observations of larger animals by regular walkers in the area include rodents, hare and deer and predators such at barn owl, badger and fox. In combination, these observations suggest a rich and diverse ecosystem benefitting from the variety of vegetation present.

The County Recorder for Hymenoptera (bees and wasps) visits Low Fen Drove at Honey Hill regularly because of its extraordinary biodiversity compared with many local nature reserves, eg. Coton NR, Milton CP and Wandlebury. In this year (2020) alone, over 146 species of wasps and bees have been recorded despite a particular focus on solitary wasps. This year the Recorder has found *Nomada conjugens*, listed as Rare (RDB3) in Shirt (1987) and provisionally upgraded to RDB2 (Vulnerable) by Falk (1991) although not all this year's records have been added yet to the bwars map. Other species of bees have been found in previous years. The old tree-lined drove and its ditches provide a very special habitat for some nationally rare species of *hymenoptera* (indeed, some species have only been found at Low Fen Drove and nowhere else in East Anglia). The extract below does not include any drawn from the wealth of Ichneumons and parasitic wasps which are also present there.

Unusual Bees, Wasps and Sawflies found at Honey Hill

Species	**UK Status**
Andrena proxima sensu lato	Rare (RDB3)
Argogorytes fargeii	Scarce (Na)
Ectemnius rubicola	Generally scarce and infrequent
Heriades truncorum	Rare (RDB3)

Lasioglossum pauxillum	Nationally Scarce (Na)
Lasioglossum xanthopus	Nationally Scarce (Na)
Lestiphorus bicinctus	Scarce (Nb)
Macropis europaea	Rare (RDB3)
Mimumesa dahlbomi	Locally rare
Nomada conjungens	RDB2 (Vulnerable)
Nomada ferruginata	Endangered (RDB1)
Nomada fulvicornis	Rare (RDB3)
Nysson trimaculatus	Nationally Scarce (Nb)
Osmia bicornis	Nationally Notable (Nb)
Tenthredo baetica	Rare (RDB3)

The *hymenoptera* are evidence of the rich and varied ecosystem between Honey Hill and Wicken Fen, itself a World Heritage Site with over 9300 species. The prevalence of protected species around Honey Hill is consonant with the Wicken Fen Vision since there is a progression between the ecosystems at the southern and northern ends passing through the Stow cum Quy Fen SSSI. It would be an environmental crime of national significance were the ecology of Low Fen Drove at Honey Hill and this progression to be interfered with in any way. This would be inevitable if Anglian Water chooses to relocate the Cambridge sewage works to Site 3 since parts of Low Fen Drove would be used for access, both during construction of the works and its operation.

It is notable that the linear County Wildlife Site shown on Drawing 409071-MMD-00-XX-GIS-Y-0056A appears within the possible Area of Site 3 as shown on Figure 6 in the Consultation Leaflet. A major field survey would have to be undertaken to prove that this designation was immaterial as suggested by Drawing 409071-MMD-00-XX-GIS-Y-0145 which requires updating in view of the bwars and new data described above.

7) HISTORIC ENVIRONMENT

AW's desk-based studies are reported in the Stage 3 - Fine Screening Historic Environment Appraisal. This document presents a review of the published data on historic finds and archaeological potential in the area of Site 3 subject to a series of clearly articulated limitations on the methodology. In Table 8, the report rates the area of Site 3 as AMBER due to the "... high potential for significant archaeological remains of low, moderate and high value". In the box below we set out some further information that may not have been discoverable to the desk study. We suggest that this new information increases the historic importance of the Fleam Dyke and High Ditch Road which was not covered by the Appraisal; presumably because it was assumed that no physical highway work fell within the scope (see 2 above). The further information also increases the likely archeological potential of Site 3 itself.

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The following reports have been reviewed with key insights included in bold:

Excavations at The Marshalls Site, Newmarket Road, Cambridge 2015-16. Volume 1: Post Excavation Assessment (July 2019).
The focus was on the Marleigh/Wing site, north of the Newmarket Rd and south of High Ditch Rd.

- "The current excavation exposed settlement remains dating from the #Early Iron Age through to the Later Iron Age as well as evidence of later, Early Roman and Medieval land use."
- **"The Iron Age remains at the site represent settlement of some scale and an archaeological site of considerable importance. Potentially an unbroken sequence of occupation, associated with substantial artefactual assemblages, it has considerable potential in furthering our understanding of Iron Age settlement and its economy and in particular the Early to Middle Iron Age transition."**

Archaeological Investigations at Marleigh (Wing) Development Volume I: Greenhouse Farm Site (Area A), Cambridgeshire: Post Excavation Assessment and Updated Project Design (February 2020)

- "The archaeological remains comprised two pit clusters associated with Early Neolithic Mildenhall ware, representing the earliest activity on site. The main focus of the excavation was on a small settlement dating to the Late Iron Age/Early Roman period, which comprised enclosures, a trackway and a well-complex. The Medieval and PostMedieval periods were represented by furrows across the site, indicative of past agricultural regime.
- **"The Neolithic archaeology uncovered at Greenhouse Farm is particularly important as it is evidence for significant activity within this landscape and has the potential to provide an insight into some aspects of the character of Early Neolithic activity within this landscape."**
- "The Late Iron Age- Early Roman Conquest archaeology uncovered confirms the suspected layout of the enclosures and allows for a more comprehensive comparison with contemporary enclosed sites in the Cambridge region."

Archaeological Investigations at the Marleigh (Wing) Development Volume 2: High Ditch Road Site, Cambridgeshire: Post Excavation Assessment and Updated Project Design (February 2020)

- "The excavations revealed evidence for occupation spanning the Neolithic through to the Anglo-Saxon periods as well as evidence for later Medieval and Post-Medieval land use."
- "The Neolithic activity comprised a large pit cluster from which Early Neolithic pottery was recovered."

- **In the Early Bronze Age, a pond barrow was constructed on the edge of a gentle slope** as was a possible 'posthole monument', this was succeeded by a large enclosed Middle Bronze Age settlement comprising several roundhouses. … **The Early Bronze Age Pond Barrow is the first Bronze Age funerary monument to have been excavated in this landscape and is of itself a rare feature, it has the potential to inform studies on the situating, formation and use of this form of monument. The human remains can also contribute to studies on health and burial treatment**." It is understood that pond barrows are a particularly uncommon form of Bronze Age monument: instead of the usual mound a pond like hollow is excavated and the material removed is usually piled up around the perimeter to form an external circular bank. They are normally associated with large Wessex type barrow groups and their distribution is practically restricted to that area. Very little is known about them as so few have been scientifically examined.
- "A hiatus of occupation occurred until the Late Iron Age- Early Roman period, when a small farmstead was established comprising several enclosures and a large linear boundary ditch, which remained the focus of several phases of subsequent activity during the Roman period. The Anglo-Saxon period represented the final phase of occupation within this area and comprised two sunken featured buildings and a small group of pits."

We conclude that Honey Hill is surrounded by a treasure trove of archaeological heritage from the Neolithic through to Anglo-Saxon eras including the rare Early Bronze Age Pond Barrow of which only about 5 are known in the wider Cambridge region, one at Over, one at Pampisford. There was also a possible contemporary monument extending off the edge of the excavation at High Ditch Road. It is likely that any development of the site or High Ditch Road would encounter further evidence, causing cost and delay for the project and potentially damaging this heritage.

8) CONTAMINATED LAND
No comment

9) GROUNDWATER and SURFACE WATER IMPACTS
Our objection to the quoted moderate risk of groundwater impacts is set out below. This also affects the assessment of Surface Water Impacts.

Groundwater and Surface Water Interaction and Contamination
The area of Site 3 at Honey Hill is underlain by the lowermost strata of the Chalk aquifer. The Chalk is classified as a Principal Aquifer and is therefore protected by law from contamination, whether the groundwater is used or not. Groundwater passing beneath a sewage works at Honey Hill will undoubtedly suffer contamination originating at the works during its long-anticipated lifetime. This

could occur due to a rare unplanned event or as a result of deterioration of any engineered protection over time. The contaminated groundwater will migrate down hydraulic gradient in a generally northerly direction, entering the local surface water system via existing ditches or through seepage at or just above the base of the aquifer. Part of this local surface water system drains into Stow cum Quy Fen Site of Special Scientific Interest. This SSSI comprises more than 15 long, thin ponds that support a range of aquatic plants including some uncommon species and areas of floristically rich calcareous loam pasture. The citation states that both the grassland and open water habitats are rare in the British Isles.

It is notable that Anglian Water recognises the likelihood that some surface water originating at the works will drain towards Quy Water, a protected surface waterbody, and could contaminate it. AW's reference to readily available technical solutions is presumed to refer to surface drainage interceptor systems of some sort. However, Anglian Water has ignored the fact that contaminated groundwater in the Chalk aquifer beneath the site would eventually migrate off site and pollute the (legally protected) aquifer elsewhere and three other receptors: Protected Rights (well users), parts of the surface drainage network, and Stow cum Quy Fen SSSI.

In the RAG assessment for groundwater (Table 2.16 in Document 17), one criterion for RED is "High Potential for adverse impact to a WFD groundwater or surface waterbody", hydraulic connection to surface water bodies is almost inevitable in Principal Aquifers at their outcrop so, in contrast to the criterion given for Secondary Aquifers, there is no explicit mention of "likelihood of hydraulic connection to WFD surface waterbody". The criteria given for AMBER includes "Principal Aquifer is at outcrop below the WWTP site". This is irrelevant if there is potential for contamination which should result in a RAG score of RED.

10) GREEN BELT

The AW report notes that Site 3 is in the Green Belt but does not attach any extra value to the important qualities unique of the Fen Ditton Eastern Fen Edge area which covers Site 3. These qualities are expanded on Section 1 above and other section of this Appendix.

The 2002 Green Belt Study discusses Fen Ditton Eastern Fen Edge area further in Section 7.4.14 - The Distribution, Physical Separation, Setting, Scale and Character of Necklace Villages. The report notes "It is particularly important to safeguard key areas of rural land between the villages closest to Cambridge. The historic situation of the small villages lying on slightly raised ground, close to water and where the land was easily cultivated, within the three Eastern Fen Edge landscape character areas is an important part of the setting and special character of East Cambridge and should be preserved. The strong rural character of Fen Ditton, Teversham, Great Wilbraham and Little Wilbraham is a particular quality of the setting and

special character of East Cambridge which should be preserved. Their small scale, their permeability to the rural landscape, and their clear separation from Cambridge should be protected by resisting significant development within or adjoining these settlements."

Section 7.4.15 - A City Set in a Landscape which Retains a Strongly Rural Character - states "The four local landscape character areas with a strong rural character (Fen Ditton Eastern Fen Edge, Teversham Eastern Fen Edge, Fulbourn Eastern Fen Edge and Little Wilbraham Fen) play the greatest role in contributing to the special quality of Cambridge as a city set in a rural landscape. It is important that this character is conserved and, where appropriate, enhanced through management and landscape initiatives."

We conclude that these studies recognized the special qualities of the Green Belt around Site 3 taking into account the emphasis on "permeability" and the recognition that the area's importance is increased by its close proximity and accessibility from the areas of settlement as existed then and would be added to through Marleigh and the intended Airport Development. It follows that building a 22 ha industrial scale works in such an area is antithetical to the very qualities the Green Belt is intended to safeguard. The possible selection of Site 3 would affect a much bigger area of Green Belt than the 22ha and area of surrounding mitigation work since it is not close to the margins of the Green Belt.

11) RISK TO AVIATION
No Comment

12) NON-TRAFFIC IMPACT OF CONSTRUCTION ON LOCAL COMMUNITIES

We note that, bizarrely, AW do not consider non traffic impacts of operation such as odour or noise or lighting to be worth inclusion. See 14) below with reference to the non-traffic impact of operation on leisure, health and wellbeing.

13) TRAFFIC IMPACT OF CONSTRUCTION AND OPERATION ON LOCAL COMMUNITIES
See 2) above

14) IMPACT ON PUBLIC RIGHTS OF WAY (PRoW)
Figure 6 of the AW Consultation leaflet shows the potential site area includes Low Fen Drove Way. However, Table B.18 states that for Site 3 / Site L "No PRoWs cross, or are adjacent to, the site".

In clarification AW has stated their policy is to select a site perimeter that avoids the need to divert PRoWs. AW expects that, if Site 3 were selected, the WWTP fence line would be separated from the PRoW along Low Fen Drove by the additional area of land take needed for mitigation works.

We consider that the public use of the Low Fen Drove Way as a ProW encompasses a wide range of activities beyond mere access from one end to the other. These include walking, running/jogging, cycling and riding. People undertake these activities as recreation and to promote their health and wellbeing. This type of public use has been especially noticeable during the good weather and COVID 19 lock down period in the spring and summer of 2020 – a point made in the BBC's Radio Cambridge interviews on 23rd July 2020. In events at Low Fen Drove, Fen Ditton War Memorial and on Ditton Lane, the Save Honey Hill campaigners have met people who visit and value the area of Site 3 from a much wider catchment than just the parishes that surround it despite the relatively low levels of publicity in the City and in more distant communities. This again emphasises the need for green space as envisaged in the Wicken Fen Vision and in planning documents referred to herein.

These very considerations appear in a second major Policy Document linked back to the Vision Statement in the 2002 Green Belt Study. The Cambridge East Area Action Plan (2008) makes explicit reference to the Wicken Fen Vision. Policy CE/21 - Countryside Recreation stipulates that "...a strategy will be developed with reference to the Rights of Way Improvement Plan to link all parts of the urban quarter to the wider countryside through an enhanced network of footpaths, bridleways and cycleways. Links should be provided to existing or potential new rights of way adjoining the site to the north, which lead to the River Cam and to the extension to Wicken Fen proposed in the long-term by the National Trust".

It is notable that one such link is envisaged in the footpath and cycle path layout under development at Marleigh. This will connect the c1300 new homes and facilities such as schools in Marleigh itself to High Ditch Road opposite Low Fen Drove in the north east and also through Marleigh to NCP 51 and other communities, including a future Cambridge Airport Development, to the south, west and south east. Another footpath along the line of the abandoned railway links High Ditch Road to the east of Low Fen Drove and NCP 51 in the south east where it crosses at Ditton Lane. This has the potential to be further developed as was envisaged in the Bridge of Reeds scheme which also sought to improve the connection between the existing network of paths and Cambridge City.

Having made the point about actual and potential use of the PRoW by a wide-ranging population, we object to AW's limited assessment of the impact on PRoWs. The recreational use of Low Fen Drove is strongly linked to it being in a tranquil rural setting and not shared with traffic. The selection of Site 3 for a relocated sewage works as described in the consultation documents would destroy these very qualities and runs counter to the idea of this area providing countryside recreation for existing residents of the City and surrounding villages and the expected, future population of Marleigh and the Cambridge Airport site.

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APPENDIX 2 - OBJECTIONS TO THE SITE SELECTION PROCESS

1) INTRODUCTION

This Appendix contains some of FDPC's comments and objections to the site selection process as described by AW in supporting documents provided in their Document Library. This is set out in the sequence contained in the CWWTPR-Site-Selection-Technical-Summary (SSTS) rather than a critique of individual steps and earlier documents. Where material has been covered in our covering letter or Appendix 1, this is not repeated.

2) The Statement of Requirement

a) The SSTS Para 2.1.4 and Figure 2.1 suggest that "The Statement of Requirement" is a separate document summarized in Section 1 of the SSTS but not included in the Document Library and has not been reviewed.

3) The Initial Options Appraisal

b) The SSTS Para 3.2.1 presents three bullet points trying to justify moving all the facilities. The first two are somewhat circular since it only presents AW's point of view. The third reiterates the 400m from property "...normally occupied by people". Offices west of the existing plant are closer than this and AW has confirmed subsequently that they do not object to offices within 150m of a works. It is notable that there are offices on Cowley Road much closer than this to the site boundary and there are office and other commercial premises less than 150m from treatment plant within the site.

The Initial-Options-Appraisal-Report Para 2.1.6 states that: "…In addition, the local waste planning strategy stipulates that a new WWTP within 400m of properties normally occupied by people would require an odour assessment demonstrating that the proposal is acceptable, together with appropriate mitigation measures". The inference is that housing is possible closer to a works but would requires more effort and expense by AW.

AW's 400m policy is thus critical to the rationale given for relocation and to the site selection process. There is however no justification for this policy nor investigation of odour assessment and appropriate mitigation. With regard to the need for relocation, this point about buffer zones appears to sit within the NECAAP rather than the CWWTPR consultation.

c) The SSTS Para 3.2.5 includes an opinion that 'closer' means 'less pumping'. In the case of Cambridge, the land slopes downstream and the discharge elevation under normal conditions falls in significant steps due to the structures at Baits Bite and Bottisham Locks. It appears the screening may have been biased by this opinion rather than objectively accounted for in the analysis of rejected sites.

d) Para 3.2.5 and 3.2.6 combine to suggest a single WWTW north of Cambridge is preferred. We question if there could be potential benefit in discharging some highly treated water into the River Cam south of Cambridge which would alleviate the low flows through Cambridge which partly result from groundwater abstraction upstream. As a consequence of low flows, the Jesus and Baits Bite Locks are often stagnant upstream of the locks and algae formation occurs in the River Cam at Ditton Meadows, past Fen Ditton and in The Cut. These potential environmental benefits should have been considered before concluding on operational and financial grounds that a single WWTW is the best option.

e) The SSTS and Options Appraisal does not provide any information as to whether there are areas of the drainage catchment where existing highway drainage or storm flows are kept separate from foul drainage nor if there is a case for separating any existing or future systems. Table 2.1 of the Carbon Assessment Report shows that storm flows are around 6 times higher than the average daily flow. Since there are more than 20,000 new homes under consideration, the impact on future storm flows could be 10% or more with knock-on effects to the site selection.

4) The Initial Site Selection

a) The SSTS Table 4.1 presents the Baseline Constraints.

   i) A 100m buffer zone is taken provided around pipelines and transmission routes. However, the sensitivity tests reported in Appendix G of the Fine Screening do not test if pipelines really pose the same as overhead power lines or if any sites become viable if a height restriction on cranes of 20 or 30 m were to be imposed. This change would only be of value if the resulting reduction in corridor width avoid rejection of a possible site.

   ii) Environment Agency Flood Zones 2 and 3 have been applied without buffers. The floods zones were employed as constraints to satisfy the Sequential Test defined in the NPS, which specifies that preference should be given to locating projects in Flood Zone 1 and only if there is no reasonably available site in Flood Zone 1, can projects be located in Flood Zone 2. As a further complication, Drawing 409071-MMD-00-XX-GIS-Y-0006 in Appendix A of the Initial Site Selection Report shows that the excluded area includes a much greater area of Floodplain 3 than 2. The case for building essential infrastructure on Floodplain 3 might need to examine what depth of flooding is to be designed for, if areas fall in the 3a or 3b sub-category and whether the floodplain is defended or not as well as considering mitigation requirements. Excluding Floodplains 2 and 3 at this stage presupposes there is a reasonably available site in Flood Zone 1 but the objection is that any potentially preferable site on Floodplain 2 or 3 has been automatically ruled out and not considered on its merits against the reasonableness of sites on Floodplain 1. In contrast many of the objections to the current CWWTPR point to the fact that 3 sites under consultation are not reasonable.

5) Coarse Screening Assessment

a) The SSTS Table 5.1 presents the Stage 2 assessment criteria. The majority of these are picked up again in the Stage 3 Fine Screening Assessment. However, there are examples where the sense changes between the stages. Under nature conservation and biodiversity the table draws attention to the question: "Is the site area located on a pathway used by wildlife to travel to/from a statutory or non-statutory designated site". Under Community the questions include: "Would there be a loss of local amenity (i.e. recreational sites and Public Rights of Way (PRoW))".

b) The SSTS discusses the carbon assessment in Section 5.3 and Figure 5.1. A detailed critique of the method of presenting the significance of these has been given in Section 4 of Appendix 1 above.

6) Fine Screening Assessment

a) The SSTS Section 6.2 discusses site infrastructure requirements. Section 6.2.3 discusses the use of a tunnel or pipelines for the return flow of treated effluent to the River Cam. A concern arising from the input data given in Appendix A of the Carbon Assessment Report is that the geometry (depth and diameter) of the return pipeline are the same as for the raw sewage. This then leads to the lengths requiring secondary lining also being the same. It is surprising that the depth of the return flow could not be adjusted to minimize or avoid passing through an aquifer in some cases since this could lead to reductions in the required diameter, embedded carbon and cost if there is no requirement to provide a secondary lining. This also raises the further question of if the raw sewage tunnel gradients could be altered to avoid passing through the Lower Greensand or Chalk aquifers to achieve similar reductions.

b) A further possibility that is not discussed is whether a long tunnel with intermediate shafts could be constructed in two sections of a different diameter in order to reduce the length of tunnel that is oversized because it does not require secondary lining.

c) The two paragraphs above suggest that some possible configurations or sites may have been discarded unnecessarily.

d) The assessment does not consider spoil disposal in detail but instead assumes that all spoil would be hauled offsite. The question arises if the excavated Gault Clay would be suitable for landscaping or some other use such as capping in a landfill.

e) The SSTS Table 6.1 presents the Stage 3 assessment criteria. The majority of these are discussed in detail in Appendix 1 above (eg. Groundwater, Surface Water, Carbon and Green Belt) but:

   i) Under landscape the table includes: "…Assess whether there would be any impact on landscape context and visual amenity from development at each of the site areas". This appears to avoid the consideration of lighting.

   ii) Under nature conservation and biodiversity the table draws attention to the assessment of "…the potential impact on designated sites, habitats and protected species". It is less clear from the detail provided in the Stage 3 Report if this includes the consideration used in Coarse Screening as described in Section 5a) above.

iii) In Appendix 1 above, provides some information on protected species which raises the possibility that the desk study did not have access to at least one specialist database. The inference is that there may be other data. There is also a possibility that the impacts of lighting, noise or airborne material over a bigger area than the site have not been considered.

iv) Under non-traffic impact of construction on local communities the table includes "…Assessment of potential impacts on residents in terms of noise, dust and disruption". The consideration used in Coarse Screening as described in Section 5a) above included "Would there be a loss of local amenity (i.e. recreational sites..". This aspect appears to have been omitted in the Stage 3 Fine Screening.

f) The SSTS Section 6.4 discusses the removal of site areas from further assessment. Para 6.4.18 excludes Site H from further consideration since it "... presents a greater impact on the local community, higher carbon emissions and greater risk of impact on a Principal Aquifer in comparison to I, J and L." This statement is worth unpicking because it is a particular illustration of the flawed nature of the site selection. Discussion of the flaws is not intended to promote Site H but simply to expose one specific example where underlying assumptions lead to a particular conclusion.

i) The CWWTPR-Stage-3-Fine-Screening-Report gives a RAG score of GREEN in Table B.16-Non-traffic impact of construction on local residents and communities but RED in Table B.17-Traffic Impact etc. These scorings stem directly from the choice of an access road directly off the B1049 north of Histon as shown in Drawing 409071-MMD-00-XX-GIS-Y-0101 Revision C. The possibility of the site access leading off Butt Lane/Milton Road from a point further from the A10 than Site 1 or 2 has either not been considered or has been rejected for some unstated reason. It is improbable that such an alternative would be considered to be RED with regard to traffic impact on Community.

ii) The discussion of higher carbon emissions is flawed for the reasons given above in the review of Carbon in Appendix 1. Although Site H would have a longer tunnel for untreated sewage from the existing works than I, J or L, the significance of the extra embodied carbon cannot be judged in percentage terms from the work undertaken to date.

iii) The statement that there is greater risk to a Principal Aquifer stems from the criteria set out in Table 2.16: Groundwater impacts - RAG definitions. The most obvious exceedance is the stated need for 2000m (which exceeds the threshold value taken as 500m) of tunnel to be constructed in a Principal Aquifer. Presuming that the (unstated) tunnel gradient has been optimised for operational reasons, it is not disputed that a longer tunnel running north-west of the existing works could penetrate more of the aquifer below the Gault Clay than a shorter tunnel. However, it is also stated that the section of tunnel in the aquifer would be given a secondary lining. Thus, in spite of the fact that the tunnel would normally operate with water pressures outside it being much higher than the atmospheric pressure inside it tunnel (promoting inflow of groundwater not outflow of effluent), it has been judged that the risk of outflow to the aquifer can be further reduced by the secondary lining. Alternatively, if the risk is

associated with the act of tunnel construction and extra contact length, how much of a risk is it with modern methods of assessing fluid or face loss and reacting with additional grouting or other means? Is this risk the same in largely granular aquifers as opposed to, say, potentially fissured Chalk? The other criteria given for judging whether a site is considered RED or AMBER do not appear to have led to the categorisation of Site H as RED.

iv) Site H is rated Amber on Affordability at 89% (Table B.2) This is slightly higher than Site J at 84% because of the greater length of tunnel and pipeline. Cost is not given as a reason for rejecting the site but the comparison highlights the misleading nature of the relative 'carbon' percentages given as 140 and 130 respectively – an exaggeration factor of twice as much.

v) Site H is rated RED for Nature Conservation and Biodiversity. However, as stated in para 3.2.2 this is not considered a reason for its rejection compared to sites I, J or L since these are also rated RED. Furthermore the category RED for Site H is inherited from Stage 2 - Coarse Screening, all the Stage 3 Fine Screening being rated AMBER.

7) Next Steps

a) The SSTS Section 7.1 states that: "…The Stage 4 assessment will use the information collated during the first five stages of the site selection process combined with the results of further technical feasibility assessments, initial environmental walkover surveys and phase one consultation to assess each of the site area options against one another". FDPC suggests that:

i) The technical feasibility encompasses some of the design considerations given in this response and that the horizontal alignment design is revisited to examine the possibility of a route crossing west of the existing works under Milton Road before turning north under the A14 west of the A10 bridges. The route area in question is shown on Drawing 409071-MMD-00-XX-GIS-Y-0053A as "Possible constraints or developed land" and has not been included in the current consultation. No reason is stated for excluding such land given AW's subsoil rights. With modern methods of tunnelling, compensation grouting and settlement monitoring/control there may not be a valid reason.

ii) AW publishes the results of the phase 1 public consultation to include a breakdown of the number of responses received in the categories of AW response forms returned, letters and emails received and comments and 'likes' on the Interactive Map. Since the comments and points being made will need to be grouped, this should be shown within each response category before any attempt is made to group in combined categories. There is a real, concern that the consultation has led to residents "voting" against each other. AW therefore needs to address the significant risk of statistical bias being introduced into the consultation. This may depend on the category of response received, possible multiple responses from a consultee and whether the consultee was from one of the populations originally directly

notified by AW and size of that population or has decided to respond having heard indirectly about the consultation.

b) The next steps should include further collection of historic ecological data since there are gaps in the data provided by AW as discovered during this consultation.
c) The next steps should revisit the carbon assessment to include the embedded carbon in the works itself and identified mitigation works. In addition, the operational carbon saving from non-use of the existing works should be reported to help set the future works in context.
d) The next steps should revisit the Site Selection process including the sensitivity tests since this review has exposed features of the work to date that have led to possible areas being excluded from consideration.

FEN DITTON PARISH COUNCIL

Cambridge Waste Water Treatment Plant Relocation
[redacted]

11 September 2020

Dear Sirs,

CWWTPR - FDPC Consultation Response

Please find attached our response to the above non-statutory consultation. In summary Fen Ditton Parish Council (FDPC) OBJECTS to the possible selection of Site 3 at Honey Hill. Our objection is based around issues pertaining to the unique qualities and features of Honey Hill including:

- It is an area of pristine, rural Green Belt which has been singled out for special protection;
- It is a location that has been given an important role by policy-makers for providing "countryside recreation" to an expanding Cambridge East;
- It is inside the area of the Wicken Fen Vision which contains sites of special scientific interest (SSSI).
- Being at the southern end of the Vision area, Honey Hill is at the gateway of the green corridor connecting the Vision area to Cambridge;
- It contains a number of protected species including some that are Rare or Vulnerable or Endangered;
- It is a site containing distinctive and vulnerable groundwater/geological features with pathways to protected environmental receptors, including an SSSI, that will be affected by the inevitable groundwater pollution if a works is sited there;
- The access for HGVs and other vehicles is poor where on narrow country roads or byways both of which would have to be shared with non-car users. The proposed use of Newmarket Road and turning to High Ditch Road will increase delays for other users.
- The area and access are a source of significant archaeological heritage which will be destroyed unless preserved at potentially high cost; and;
- Although we represent the residents of Fen Ditton which includes Marleigh, the area in development for several thousand people but not yet in occupation, we are part of a wider group of communities opposing this proposal which includes the villages of Horningsea, Stow cum Quy, Teversham and residents of Cambridge City through Abbey Ward and beyond.

The above points are discussed in full in Appendix 1 which also presents some information to which you may not have had access hitherto as well as some extra information that you have provided during the consultation period.

In Appendix 2 we present our comments and objections to the site selection process itself.

FEN DITTON PARISH COUNCIL

Finally, we wish to record that we consider this process to be inherently flawed since you state that the reason for a move is the responsibility of others and therefore this consultation simply pits one site against the other two in your shortlist.

We look forward to hearing from you.

Yours faithfully,

[redacted]

Chairman

c/c [redacted]

Fen Ditton Parish Council
email: [redacted]

C/C [redacted]

Horningsea Parish Council
Stow cum Quy Parish Council
Teversham Parish Council

FEN DITTON PARISH COUNCIL

APPENDIX 1 - OBJECTIONS TO SELECTION OF SITE 3

1) PLANNING POLICY.

The unique qualities and features of Honey Hill and its inclusion within the Green Belt are underpinned by the many references to Fen Ditton, Teversham, and High Ditch Rd in the 2002 Green Belt Study supporting the 2018 Local Development Framework (see detailed references in Sections 5 and 10 below). The Vision Statement in section 7.5 of that Study mirrors the point that many people enjoy easy access (with scope for improvement – see Section 14 below) to the area of Honey Hill, Quy Fen and the Wicken Fen Vision area in general so they can appreciate the setting of special character of East Cambridge.

In an emailed response of 21st August, AW suggested that the particular characteristics of each site and how they perform against the purposes of the Cambridge Green Belt will be taken into account in making a decision on the site finally selected. For Stage 4 more detailed assessment of the sites and the potential impact of development on them in both Green Belt and Landscape & Visual Amenity terms is being undertaken before the final site selection is made.

At the Stow-cum-Quy PC meeting of Wed 29th July, AW explained the approval process as being one whereby they would have to demonstrate to the Planning Inspector that the incursion into the Green Belt was justified and that they would also have to demonstrate that the mitigation they planned for the site they had selected was sufficient taking into account the site characteristics including planning policies.

Justification for a move into the Green Belt

We object to the justification for a move being stated to be not for operational reasons but to unblock the development of brownfield land by others within the NECAAP development.

- The current proposals to move the sewage works are based on the assumption that the works must move to allow several thousand new homes to be built in conjunction with a large area of commercial premises. However, we object to this, on grounds often expressed to parish councillors by many of our residents, that the move will effectively expand the built environment of Cambridge into the Green Belt.
- It is sophistry to suggest that the new housing will be built on available 'brownfield' land since AW have said there is no reason for them to move other than a result of the aspiration to build more housing and commercial premises. The proposed move will thus merely take up Green Belt land to create 'brownfield'.

- It is highly objectionable that any investigation of the justification does not appear to sit within this consultation but rather within the NEECAAP itself thus allowing AW to absolve itself from responsibility for the move.
- Review of the Phase one CWWTPR Site Selection Technical Summary Para 1.2.5 states that "… Cambridge WWTP, which is one of the last remaining large brownfield sites suitable for regeneration in Cambridge". This statement pre-judges that it is suitable in spite of being in use and viable for the foreseeable future. We assert it is only suitable if the existing sewage works can be moved without unacceptable impact given that funding is also constrained by the Government award. This statement does not address the question of whether or not a site with acceptable impacts could be found albeit at greater cost.
- Para 2.1.2 of the same report states that "The National Policy Statement for Waste Water" is relevant. However, that document also states in para 1.1.4 that "In consequence, the sustainability effects of the NPS have been considered in the context of new waste water NSIPs within a mature urban environment". This raises the question: could the existing site be reconfigured in an urban setting rather than being the object of a land grab for the purposes of the NECAAP?
- AW's Site Selection Technical Summary - Table 6.1 Fine Screening includes statement as to Affordability "Assessment of whether development of a new WWTP would be achievable within the limits of the HIF funding". This point is amplified in para 3.2.2 of AW's Stage 3 - Fine Screening Report. What input to HIF funding did AW have? The impression is that there may have been a self-fulfilling forecast. Para 6.4.2 later states that this is the most important criterion. This points to the critical importance of a possible underestimate being built into the process irrespective of whether this was done with input by AW or was done separately by others. The consequence of an underestimate is that a number of potential sites may have been rejected.

Efficacy of 'Mitigation'

In subsequent sections, we review some of the criteria assessed in site selection and query whether 'mitigation' could be used in practice to overcome the problems of relocating to Site 3. We do not consider that any necessary mitigation should be rejected if it is not deemed by AW to be 'affordable' since cost is stated to be the most important criterion for rejecting some other sites from being included for possible selection and there is no discussion of how much mitigation is built into the design (other than a point about secondary lining in tunnels).

We note that AW have stated that the land take for mitigation such as landscaping is not included in the 22ha required for a relocated works.

The Wicken Fen Vision

We object to the proposal to use Site 3 because we support the National Trust's Wicken Fen Vision and this important aspiration appears to be ignored by AW in

evaluating sites for a relocated sewage works. Many of the individual characteristics of the Honey Hill area support this vision. Honey Hill forms the south-western gateway to an unbroken fenland landscape with far reaching views towards Wicken Fen, itself a new member of the European Rewilding Network and a World Heritage Site with a greater diversity of wildlife than elsewhere in Great Britain. The national significance of Wicken Fen and the Vision was emphasized on the BBC with a dedicated episode of Book of the Week on 27 Aug 2020 with readings by Helen MacDonald on nature reserves and our precious relationship with the natural world.

The Wicken Fen Vision encompasses the whole broad tract of land from the A14 through Honey Hill to Wicken Fen. The aspiration of the Vision is to restore and protect this nationally important fenland environment so that it can be enjoyed by all. A 22ha sewage works, lit at night, with several tanks up to 26 m high would dominate the south-western gateway to the Vision and thereby completely destroy it.

2) EASE OF ACCESS.

When asked, AW declined to rule out at this stage either the proposed Quy Roundabout – High Ditch Road access route or a possible (implied by the blue area on Figure 6 in the Consultation leaflet) route using the A14-Horningsea Road junction as being unsuitable for access to Site 3. AW confirmed that traffic management would be resolved later and pointed out that some possible sites have been screened out because the road access passed through communities. On the secondary point raised that the Horningsea Cycleway was used by children going to school and therefore air quality was important, AW reported that its policy is to switch the vehicle fleet from diesel by 2030.

AW reports that there would be 146 HGV movements to or from the site as well as smaller vehicles each day with normal working hours being between 7 am and 6 pm. We calculate that if, say, 80% of these movements take place over an 11-hour period, there would be an HGV passing any given point on the route every 5.6 minutes along with the other vehicles. Our objection is that there are clear grounds for rejecting the proposed route for the following reasons:

a. Quy Roundabout to High Ditch Road junction is already congested and more HGV movements would add to the delays. More detailed study by AW might show how many of their HGVs already use Quy roundabout on round trips on the A14 to the existing site at Milton. We acknowledge that it is possible that the quantum of extra AW HGVs using the roundabout and Newmarket Road is a small proportion relative to the number of HGVs from all sources between Quy Roundabout and Airport Way roundabout.
b. The turn off from Newmarket Road westbound onto High Ditch Road is a right turn across on-coming traffic from a small holding section in mid

carriageway. This is a tricky manoeuvre even with a private car and would be more dangerous with an HGV due to its lower acceleration. Pulling out and turning left from High Ditch Road onto Newmarket Road eastbound is slightly easier but nevertheless tricky in fast moving traffic. The introduction of traffic lights or a roundabout to make an at-grade junction safer for use by AW's HGVs would inevitably lead to further delays for traffic on Newmarket Road. Since traffic on this stretch of road can back up to the roundabouts at either end, further delays and safety issues will occur elsewhere than the High Ditch Road junction.

c. This end of High Ditch Road cuts across NCP 51 and junction improvements have been discussed between FDPC/Stow cum Quy PC and SUSTRANS in a study for the DtP linked to the Swaffham / Bottisham Greenways. The introduction of HGVs would pose further safety risk and delays for cyclists and pedestrians on this path.
d. High Ditch Road is a narrow, rural road with a weight restriction of 18 tonnes. The introduction of HGVs at a frequency of less than every 6 minutes would pose further safety risk and delays for cyclists and pedestrians on this road. It also happens to be on Fleam Dyke, an ancient feature of great historic importance the widening of which would be an act of heritage vandalism.
e. Low Fen Drove is a narrow farm track used by horse riders and others to access the area of the Wicken Fen Vision. Clearly, HGV lorries are completely incompatible with existing users and so costly upgrading, particularly of the bridge over the A14, would be required to provide separation.
f. Some HGVs and other vehicles would inevitably try to access High Ditch Road via Fen Ditton village. Whereas many AW drivers might be trained and monitored to avoid this, there would be visitors, people relying on Satnavs and periods of heavy congestion that would lead to this route being attempted. If connecting to the A14, such traffic would pass the primary school. Any traffic using High Ditch Road at its western end would add to congestion and disturbance within the community.
g. It is notable that there are virtually no HGVs using High Ditch Road or Lower Fen Drove at present.
h. Throughout the planning process for the Marleigh development it was clear from the start that assess to the estate from High Ditch Road was not practical and therefore outline planning specifically excludes access, both during construction and later for residents

We also object to the possible alternative route for the following reasons:

i. The B1047 Horningsea Road - A14 junction is heavily used by traffic passing through Fen Ditton into Cambridge. HGVs going to a works and turning left at the traffic lights at the top of the off ramp would delay other road users.
j. HGVs leaving the works and right turning through the traffic lights onto the on ramp would also delay other vehicles.

k. Traffic for the works connecting to areas east of the junction would have to use the A14 - A10 junction at Milton to turn back to the B1047 – A14 junction. Remodelling the junction with extra slip roads would be highly objectionable if it led to more traffic using the B1047 Horningsea Road and Ditton Lane to avoid the Newmarket Road.
l. Both sets of traffic lights cut across the shared cycle and footpath forming on the Horningsea Greenway as used by some children at Fen Ditton Primary School.
m. It is notable that there are virtually no HGVs using B1047 Horningsea Road - A14 junction at present – not least because there are weight limits in place.

It might be that AW could propose to develop a purpose-built interchange off the A14 to avoid the objections we raise.

3) AFFORDABILTY

See 1) above

4) CARBON EMISSIONS

We object to the evaluation of Carbon emissions because AW's Site Selection Technical Summary paras 6.4.13 and 14 quote RELATIVE percentage differences not TOTAL percentage differences and therefore exaggerate the differences. The overstatement could be considerable and occurs because the proposed treatment works itself has been ignored from the calculations.

Doc 7 - Carbon Assessment - Waste Water Transfer Infrastructure

1) Paras 2.1.4 and 5 describe how the feed to a relocated works would be by gravity tunnel from the Milton site and by pumping main from Waterbeach whereas the discharge to the river would be by gravity tunnel and lift pump (Option A) or twin pumping pipelines – one for effluent and one for stormwater (Option B).
2) Para 2.1.6 makes it totally clear that the study excludes the embodied carbon in the works itself but is only examining the "..additional carbon emissions for transferring flows to and from the new WWTP". The percentage differences quoted in para S7 and S8 and Table S1 are therefore RELATIVE percentage differences not TOTAL percentage differences and therefore exaggerate the differences. The overstatement could be considerable. The omission also skews the balance between embodied carbon in construction and operational carbon.
3) Para 2.1.9 explains the rationale for a 20-year period for power consumption calculations as "…operational carbon emissions are expected to decline due to the significant rate of decarbonisation of the UK power supply forecasted over the next two decades". This method assumes that AW can take advantage of the decarbonisation of marginal power production despite being an additional load on the power generation. It

could be argued that increased power demand for the pumping at a new works should be assigned the carbon consumption value of the most carbon intensive source of power available at any time which will be higher than the system average. That in turn suggests that a longer period than 20 years could also be appropriate since there may be some high carbon production in the power generation for many years to come. In both cases, the report will underestimate the importance of operational carbon relative to embodied carbon in the calculation of total carbon in comparison of options.

4) Para 2.3.1 is opaque as to if the 15-2000 expected population of Waterbeach New Town and their associated stormwater flows are included.

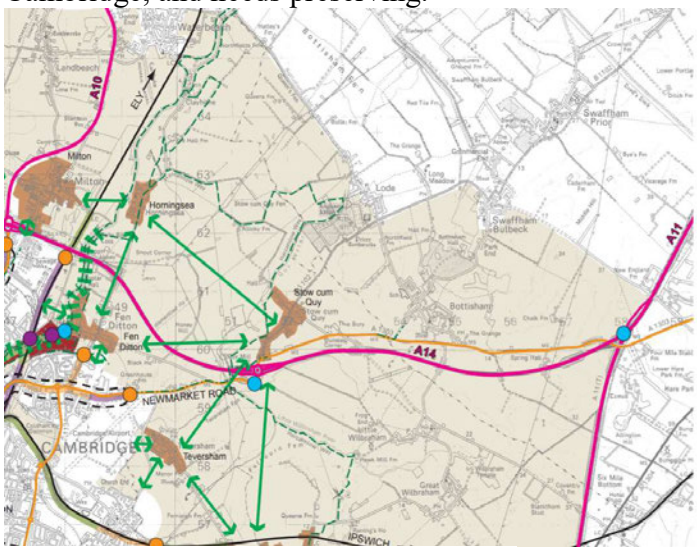
5) LANDSCAPE AND VISUAL AMENITY

We object to AW's suggestion that a 22-hectare sewage works, lit at night, with several tanks up to 26 m high could be constructed above ground without it dominating the south-western gateway to the Vision and thereby completely destroying it. The tallest structures would rise above the trees and be visible for a considerable distance.

CPRE suggest that this area experiences an up lighting at night of only 1 to 2 nanowatts/cm^2. One of our residents was able to photograph a wonderful tranquil

sunset. In contrast the area west of the A10 - A14 interchange was too strongly backlit to photograph. A CPRE study suggests light intensities of 16-32 nanowatts/cm^2 on the south side of the A14 and 8-16 nanowatts/cm^2 on the north side. Although lighting is not mentioned in the consultation documents, AW has subsequently confirmed a relocated works would require lighting.

The Cambridge Green Belt Study (2002) section 7.4.8 - Topography Providing a Framework to Cambridge describes how "The topography on the east side of Cambridge is described in section 7.3.2. Topography is particularly important to the setting and special character of the east side of the city as this is where the two areas of greatest contrast lie closest to the urban area. It is important that these contrasts in landform are not masked by development. Development should not, in particular, be allowed on the chalk hills or on the fens where it is uncharacteristic and would adversely affect the historical relationship between built development and landform." The point is amplified in the Extract from the Cambridge Green Belt Study (2002) - Townscape and Landscape Analysis below. This map shows – via green arrows - the distinctive and large triangle of open countryside between Fen Ditton, Horningsea and Stow-cum-Quy; this is the largest area north of Cambridge, and needs preserving.



Gateways

First view of Cambridge

Open countryside separating inner necklace villages and these villages and Cambridge

We consider that there is an inherent flaw in the analysis of landscape character is because Fen Ditton and Baits Bite designated Conservation Areas are both within the study area, close to site 3, but were not included in the list in the Fine Screening

Report section 2.2.1 of Appendix C - Landscape and Visual Amenity. Both have have statutory conservation area appraisals.

Section 7.3.4 of the Study is entitled 'Landscape Character' and states that "the landscape east of Cambridge is comprised of four local landscape character areas with a strong rural character (including Fen Ditton Eastern Fen Edge): 'The situation of the small villages in this rural setting is an important part of the setting and special character of East Cambridge.".

The above discussion of the landscape and critical views clearly points to the unsuitability of Site 3 at Honey Hill for a major development of 22 ha with 26 m high structures, lighting and new access roads.

6) NATURE CONSERVATION AND BIODIVERSITY

AW's desk-based studies are presented in the Stage 3 - Fine Screening Nature Conservation and Biodiversity Appraisal which includes a review of their data on species present in the area. The report notes that species classed as "Rare" have been observed in the area of Site 3 (Site L). We draw attention below to other, recent observations that should also be taken into account since they include a "Vulnerable" and an "Endangered" species of *Hymenoptera*. Informal observations of larger animals by regular walkers in the area include rodents, hare and deer and predators such at barn owl, badger and fox. In combination, these observations suggest a rich and diverse ecosystem benefitting from the variety of vegetation present.

The County Recorder for Hymenoptera (bees and wasps) visits Low Fen Drove at Honey Hill regularly because of its extraordinary biodiversity compared with many local nature reserves, eg. Coton NR, Milton CP and Wandlebury. In this year (2020) alone, over 146 species of wasps and bees have been recorded despite a particular focus on solitary wasps. This year the Recorder has found *Nomada conjugens*, listed as Rare (RDB3) in Shirt (1987) and provisionally upgraded to RDB2 (Vulnerable) by Falk (1991) although not all this year's records have been added yet to the bwars map. Other species of bees have been found in previous years. The old tree-lined drove and its ditches provide a very special habitat for some nationally rare species of *hymenoptera* (indeed, some species have only been found at Low Fen Drove and nowhere else in East Anglia). The extract below does not include any drawn from the wealth of Ichneumons and parasitic wasps which are also present there.

Unusual Bees, Wasps and Sawflies found at Honey Hill

Species	**UK Status**
Andrena proxima sensu lato	Rare (RDB3)
Argogorytes fargeii	Scarce (Na)
Ectemnius rubicola	Generally scarce and infrequent
Heriades truncorum	Rare (RDB3)

Lasioglossum pauxillum	Nationally Scarce (Na)
Lasioglossum xanthopus	Nationally Scarce (Na)
Lestiphorus bicinctus	Scarce (Nb)
Macropis europaea	Rare (RDB3)
Mimumesa dahlbomi	Locally rare
Nomada conjungens	RDB2 (Vulnerable)
Nomada ferruginata	Endangered (RDB1)
Nomada fulvicornis	Rare (RDB3)
Nysson trimaculatus	Nationally Scarce (Nb)
Osmia bicornis	Nationally Notable (Nb)
Tenthredo baetica	Rare (RDB3)

The *hymenoptera* are evidence of the rich and varied ecosystem between Honey Hill and Wicken Fen, itself a World Heritage Site with over 9300 species. The prevalence of protected species around Honey Hill is consonant with the Wicken Fen Vision since there is a progression between the ecosystems at the southern and northern ends passing through the Stow cum Quy Fen SSSI. It would be an environmental crime of national significance were the ecology of Low Fen Drove at Honey Hill and this progression to be interfered with in any way. This would be inevitable if Anglian Water chooses to relocate the Cambridge sewage works to Site 3 since parts of Low Fen Drove would be used for access, both during construction of the works and its operation.

It is notable that the linear County Wildlife Site shown on Drawing 409071-MMD-00-XX-GIS-Y-0056A appears within the possible Area of Site 3 as shown on Figure 6 in the Consultation Leaflet. A major field survey would have to be undertaken to prove that this designation was immaterial as suggested by Drawing 409071-MMD-00-XX-GIS-Y-0145 which requires updating in view of the bwars and new data described above.

7) HISTORIC ENVIRONMENT

AW's desk-based studies are reported in the Stage 3 - Fine Screening Historic Environment Appraisal. This document presents a review of the published data on historic finds and archaeological potential in the area of Site 3 subject to a series of clearly articulated limitations on the methodology. In Table 8, the report rates the area of Site 3 as AMBER due to the "... high potential for significant archaeological remains of low, moderate and high value". In the box below we set out some further information that may not have been discoverable to the desk study. We suggest that this new information increases the historic importance of the Fleam Dyke and High Ditch Road which was not covered by the Appraisal; presumably because it was assumed that no physical highway work fell within the scope (see 2 above). The further information also increases the likely archeological potential of Site 3 itself.

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The following reports have been reviewed with key insights included in bold:

Excavations at The Marshalls Site, Newmarket Road, Cambridge 2015-16. Volume 1: Post Excavation Assessment (July 2019).
The focus was on the Marleigh/Wing site, north of the Newmarket Rd and south of High Ditch Rd.

- "The current excavation exposed settlement remains dating from the #Early Iron Age through to the Later Iron Age as well as evidence of later, Early Roman and Medieval land use."
- **"The Iron Age remains at the site represent settlement of some scale and an archaeological site of considerable importance. Potentially an unbroken sequence of occupation, associated with substantial artefactual assemblages, it has considerable potential in furthering our understanding of Iron Age settlement and its economy and in particular the Early to Middle Iron Age transition."**

Archaeological Investigations at Marleigh (Wing) Development Volume I: Greenhouse Farm Site (Area A), Cambridgeshire: Post Excavation Assessment and Updated Project Design (February 2020)

- "The archaeological remains comprised two pit clusters associated with Early Neolithic Mildenhall ware, representing the earliest activity on site. The main focus of the excavation was on a small settlement dating to the Late Iron Age/Early Roman period, which comprised enclosures, a trackway and a well-complex. The Medieval and PostMedieval periods were represented by furrows across the site, indicative of past agricultural regime.
- **"The Neolithic archaeology uncovered at Greenhouse Farm is particularly important as it is evidence for significant activity within this landscape and has the potential to provide an insight into some aspects of the character of Early Neolithic activity within this landscape."**
- "The Late Iron Age- Early Roman Conquest archaeology uncovered confirms the suspected layout of the enclosures and allows for a more comprehensive comparison with contemporary enclosed sites in the Cambridge region."

Archaeological Investigations at the Marleigh (Wing) Development Volume 2: High Ditch Road Site, Cambridgeshire: Post Excavation Assessment and Updated Project Design (February 2020)

- "The excavations revealed evidence for occupation spanning the Neolithic through to the Anglo-Saxon periods as well as evidence for later Medieval and Post-Medieval land use."
- "The Neolithic activity comprised a large pit cluster from which Early Neolithic pottery was recovered."

- **In the Early Bronze Age, a pond barrow was constructed on the edge of a gentle slope** as was a possible 'posthole monument', this was succeeded by a large enclosed Middle Bronze Age settlement comprising several roundhouses. … **The Early Bronze Age Pond Barrow is the first Bronze Age funerary monument to have been excavated in this landscape and is of itself a rare feature, it has the potential to inform studies on the situating, formation and use of this form of monument. The human remains can also contribute to studies on health and burial treatment**." It is understood that pond barrows are a particularly uncommon form of Bronze Age monument: instead of the usual mound a pond like hollow is excavated and the material removed is usually piled up around the perimeter to form an external circular bank. They are normally associated with large Wessex type barrow groups and their distribution is practically restricted to that area. Very little is known about them as so few have been scientifically examined.
- "A hiatus of occupation occurred until the Late Iron Age- Early Roman period, when a small farmstead was established comprising several enclosures and a large linear boundary ditch, which remained the focus of several phases of subsequent activity during the Roman period. The Anglo-Saxon period represented the final phase of occupation within this area and comprised two sunken featured buildings and a small group of pits."

We conclude that Honey Hill is surrounded by a treasure trove of archaeological heritage from the Neolithic through to Anglo-Saxon eras including the rare Early Bronze Age Pond Barrow of which only about 5 are known in the wider Cambridge region, one at Over, one at Pampisford. There was also a possible contemporary monument extending off the edge of the excavation at High Ditch Road. It is likely that any development of the site or High Ditch Road would encounter further evidence, causing cost and delay for the project and potentially damaging this heritage.

8) CONTAMINATED LAND
No comment

9) GROUNDWATER and SURFACE WATER IMPACTS
Our objection to the quoted moderate risk of groundwater impacts is set out below. This also affects the assessment of Surface Water Impacts.

Groundwater and Surface Water Interaction and Contamination
The area of Site 3 at Honey Hill is underlain by the lowermost strata of the Chalk aquifer. The Chalk is classified as a Principal Aquifer and is therefore protected by law from contamination, whether the groundwater is used or not. Groundwater passing beneath a sewage works at Honey Hill will undoubtedly suffer contamination originating at the works during its long-anticipated lifetime. This

could occur due to a rare unplanned event or as a result of deterioration of any engineered protection over time. The contaminated groundwater will migrate down hydraulic gradient in a generally northerly direction, entering the local surface water system via existing ditches or through seepage at or just above the base of the aquifer. Part of this local surface water system drains into Stow cum Quy Fen Site of Special Scientific Interest. This SSSI comprises more than 15 long, thin ponds that support a range of aquatic plants including some uncommon species and areas of floristically rich calcareous loam pasture. The citation states that both the grassland and open water habitats are rare in the British Isles.

It is notable that Anglian Water recognises the likelihood that some surface water originating at the works will drain towards Quy Water, a protected surface waterbody, and could contaminate it. AW's reference to readily available technical solutions is presumed to refer to surface drainage interceptor systems of some sort. However, Anglian Water has ignored the fact that contaminated groundwater in the Chalk aquifer beneath the site would eventually migrate off site and pollute the (legally protected) aquifer elsewhere and three other receptors: Protected Rights (well users), parts of the surface drainage network, and Stow cum Quy Fen SSSI.

In the RAG assessment for groundwater (Table 2.16 in Document 17), one criterion for RED is "High Potential for adverse impact to a WFD groundwater or surface waterbody", hydraulic connection to surface water bodies is almost inevitable in Principal Aquifers at their outcrop so, in contrast to the criterion given for Secondary Aquifers, there is no explicit mention of "likelihood of hydraulic connection to WFD surface waterbody". The criteria given for AMBER includes "Principal Aquifer is at outcrop below the WWTP site". This is irrelevant if there is potential for contamination which should result in a RAG score of RED.

10) GREEN BELT

The AW report notes that Site 3 is in the Green Belt but does not attach any extra value to the important qualities unique of the Fen Ditton Eastern Fen Edge area which covers Site 3. These qualities are expanded on Section 1 above and other section of this Appendix.

The 2002 Green Belt Study discusses Fen Ditton Eastern Fen Edge area further in Section 7.4.14 - The Distribution, Physical Separation, Setting, Scale and Character of Necklace Villages. The report notes "It is particularly important to safeguard key areas of rural land between the villages closest to Cambridge. The historic situation of the small villages lying on slightly raised ground, close to water and where the land was easily cultivated, within the three Eastern Fen Edge landscape character areas is an important part of the setting and special character of East Cambridge and should be preserved. The strong rural character of Fen Ditton, Teversham, Great Wilbraham and Little Wilbraham is a particular quality of the setting and

special character of East Cambridge which should be preserved. Their small scale, their permeability to the rural landscape, and their clear separation from Cambridge should be protected by resisting significant development within or adjoining these settlements."

Section 7.4.15 - A City Set in a Landscape which Retains a Strongly Rural Character - states "The four local landscape character areas with a strong rural character (Fen Ditton Eastern Fen Edge, Teversham Eastern Fen Edge, Fulbourn Eastern Fen Edge and Little Wilbraham Fen) play the greatest role in contributing to the special quality of Cambridge as a city set in a rural landscape. It is important that this character is conserved and, where appropriate, enhanced through management and landscape initiatives."

We conclude that these studies recognized the special qualities of the Green Belt around Site 3 taking into account the emphasis on "permeability" and the recognition that the area's importance is increased by its close proximity and accessibility from the areas of settlement as existed then and would be added to through Marleigh and the intended Airport Development. It follows that building a 22 ha industrial scale works in such an area is antithetical to the very qualities the Green Belt is intended to safeguard. The possible selection of Site 3 would affect a much bigger area of Green Belt than the 22ha and area of surrounding mitigation work since it is not close to the margins of the Green Belt.

11) RISK TO AVIATION
No Comment

12) NON-TRAFFIC IMPACT OF CONSTRUCTION ON LOCAL COMMUNITIES

We note that, bizarrely, AW do not consider non traffic impacts of operation such as odour or noise or lighting to be worth inclusion. See 14) below with reference to the non-traffic impact of operation on leisure, health and wellbeing.

13) TRAFFIC IMPACT OF CONSTRUCTION AND OPERATION ON LOCAL COMMUNITIES
See 2) above

14) IMPACT ON PUBLIC RIGHTS OF WAY (PRoW)
Figure 6 of the AW Consultation leaflet shows the potential site area includes Low Fen Drove Way. However, Table B.18 states that for Site 3 / Site L "No PRoWs cross, or are adjacent to, the site".

In clarification AW has stated their policy is to select a site perimeter that avoids the need to divert PRoWs. AW expects that, if Site 3 were selected, the WWTP fence line would be separated from the PRoW along Low Fen Drove by the additional area of land take needed for mitigation works.

We consider that the public use of the Low Fen Drove Way as a ProW encompasses a wide range of activities beyond mere access from one end to the other. These include walking, running/jogging, cycling and riding. People undertake these activities as recreation and to promote their health and wellbeing. This type of public use has been especially noticeable during the good weather and COVID 19 lock down period in the spring and summer of 2020 – a point made in the BBC's Radio Cambridge interviews on 23rd July 2020. In events at Low Fen Drove, Fen Ditton War Memorial and on Ditton Lane, the Save Honey Hill campaigners have met people who visit and value the area of Site 3 from a much wider catchment than just the parishes that surround it despite the relatively low levels of publicity in the City and in more distant communities. This again emphasises the need for green space as envisaged in the Wicken Fen Vision and in planning documents referred to herein.

These very considerations appear in a second major Policy Document linked back to the Vision Statement in the 2002 Green Belt Study. The Cambridge East Area Action Plan (2008) makes explicit reference to the Wicken Fen Vision. Policy CE/21 - Countryside Recreation stipulates that "...a strategy will be developed with reference to the Rights of Way Improvement Plan to link all parts of the urban quarter to the wider countryside through an enhanced network of footpaths, bridleways and cycleways. Links should be provided to existing or potential new rights of way adjoining the site to the north, which lead to the River Cam and to the extension to Wicken Fen proposed in the long-term by the National Trust".

It is notable that one such link is envisaged in the footpath and cycle path layout under development at Marleigh. This will connect the c1300 new homes and facilities such as schools in Marleigh itself to High Ditch Road opposite Low Fen Drove in the north east and also through Marleigh to NCP 51 and other communities, including a future Cambridge Airport Development, to the south, west and south east. Another footpath along the line of the abandoned railway links High Ditch Road to the east of Low Fen Drove and NCP 51 in the south east where it crosses at Ditton Lane. This has the potential to be further developed as was envisaged in the Bridge of Reeds scheme which also sought to improve the connection between the existing network of paths and Cambridge City.

Having made the point about actual and potential use of the PRoW by a wide-ranging population, we object to AW's limited assessment of the impact on PRoWs. The recreational use of Low Fen Drove is strongly linked to it being in a tranquil rural setting and not shared with traffic. The selection of Site 3 for a relocated sewage works as described in the consultation documents would destroy these very qualities and runs counter to the idea of this area providing countryside recreation for existing residents of the City and surrounding villages and the expected, future population of Marleigh and the Cambridge Airport site.

FEN DITTON PARISH COUNCIL

APPENDIX 2 - OBJECTIONS TO THE SITE SELECTION PROCESS

1) INTRODUCTION

This Appendix contains some of FDPC's comments and objections to the site selection process as described by AW in supporting documents provided in their Document Library. This is set out in the sequence contained in the CWWTPR-Site-Selection-Technical-Summary (SSTS) rather than a critique of individual steps and earlier documents. Where material has been covered in our covering letter or Appendix 1, this is not repeated.

2) The Statement of Requirement

a) The SSTS Para 2.1.4 and Figure 2.1 suggest that "The Statement of Requirement" is a separate document summarized in Section 1 of the SSTS but not included in the Document Library and has not been reviewed.

3) The Initial Options Appraisal

b) The SSTS Para 3.2.1 presents three bullet points trying to justify moving all the facilities. The first two are somewhat circular since it only presents AW's point of view. The third reiterates the 400m from property "...normally occupied by people". Offices west of the existing plant are closer than this and AW has confirmed subsequently that they do not object to offices within 150m of a works. It is notable that there are offices on Cowley Road much closer than this to the site boundary and there are office and other commercial premises less than 150m from treatment plant within the site.

The Initial-Options-Appraisal-Report Para 2.1.6 states that: "…In addition, the local waste planning strategy stipulates that a new WWTP within 400m of properties normally occupied by people would require an odour assessment demonstrating that the proposal is acceptable, together with appropriate mitigation measures". The inference is that housing is possible closer to a works but would requires more effort and expense by AW.

AW's 400m policy is thus critical to the rationale given for relocation and to the site selection process. There is however no justification for this policy nor investigation of odour assessment and appropriate mitigation. With regard to the need for relocation, this point about buffer zones appears to sit within the NECAAP rather than the CWWTPR consultation.

c) The SSTS Para 3.2.5 includes an opinion that 'closer' means 'less pumping'. In the case of Cambridge, the land slopes downstream and the discharge elevation under normal conditions falls in significant steps due to the structures at Baits Bite and Bottisham Locks. It appears the screening may have been biased by this opinion rather than objectively accounted for in the analysis of rejected sites.

d) Para 3.2.5 and 3.2.6 combine to suggest a single WWTW north of Cambridge is preferred. We question if there could be potential benefit in discharging some highly treated water into the River Cam south of Cambridge which would alleviate the low flows through Cambridge which partly result from groundwater abstraction upstream. As a consequence of low flows, the Jesus and Baits Bite Locks are often stagnant upstream of the locks and algae formation occurs in the River Cam at Ditton Meadows, past Fen Ditton and in The Cut. These potential environmental benefits should have been considered before concluding on operational and financial grounds that a single WWTW is the best option.

e) The SSTS and Options Appraisal does not provide any information as to whether there are areas of the drainage catchment where existing highway drainage or storm flows are kept separate from foul drainage nor if there is a case for separating any existing or future systems. Table 2.1 of the Carbon Assessment Report shows that storm flows are around 6 times higher than the average daily flow. Since there are more than 20,000 new homes under consideration, the impact on future storm flows could be 10% or more with knock-on effects to the site selection.

4) The Initial Site Selection

a) The SSTS Table 4.1 presents the Baseline Constraints.

   i) A 100m buffer zone is taken provided around pipelines and transmission routes. However, the sensitivity tests reported in Appendix G of the Fine Screening do not test if pipelines really pose the same as overhead power lines or if any sites become viable if a height restriction on cranes of 20 or 30 m were to be imposed. This change would only be of value if the resulting reduction in corridor width avoid rejection of a possible site.

   ii) Environment Agency Flood Zones 2 and 3 have been applied without buffers. The floods zones were employed as constraints to satisfy the Sequential Test defined in the NPS, which specifies that preference should be given to locating projects in Flood Zone 1 and only if there is no reasonably available site in Flood Zone 1, can projects be located in Flood Zone 2. As a further complication, Drawing 409071-MMD-00-XX-GIS-Y-0006 in Appendix A of the Initial Site Selection Report shows that the excluded area includes a much greater area of Floodplain 3 than 2. The case for building essential infrastructure on Floodplain 3 might need to examine what depth of flooding is to be designed for, if areas fall in the 3a or 3b sub-category and whether the floodplain is defended or not as well as considering mitigation requirements. Excluding Floodplains 2 and 3 at this stage presupposes there is a reasonably available site in Flood Zone 1 but the objection is that any potentially preferable site on Floodplain 2 or 3 has been automatically ruled out and not considered on its merits against the reasonableness of sites on Floodplain 1. In contrast many of the objections to the current CWWTPR point to the fact that 3 sites under consultation are not reasonable.

5) Coarse Screening Assessment

a) The SSTS Table 5.1 presents the Stage 2 assessment criteria. The majority of these are picked up again in the Stage 3 Fine Screening Assessment. However, there are examples where the sense changes between the stages. Under nature conservation and biodiversity the table draws attention to the question: "Is the site area located on a pathway used by wildlife to travel to/from a statutory or non-statutory designated site". Under Community the questions include: "Would there be a loss of local amenity (i.e. recreational sites and Public Rights of Way (PRoW))".

b) The SSTS discusses the carbon assessment in Section 5.3 and Figure 5.1. A detailed critique of the method of presenting the significance of these has been given in Section 4 of Appendix 1 above.

6) Fine Screening Assessment

a) The SSTS Section 6.2 discusses site infrastructure requirements. Section 6.2.3 discusses the use of a tunnel or pipelines for the return flow of treated effluent to the River Cam. A concern arising from the input data given in Appendix A of the Carbon Assessment Report is that the geometry (depth and diameter) of the return pipeline are the same as for the raw sewage. This then leads to the lengths requiring secondary lining also being the same. It is surprising that the depth of the return flow could not be adjusted to minimize or avoid passing through an aquifer in some cases since this could lead to reductions in the required diameter, embedded carbon and cost if there is no requirement to provide a secondary lining. This also raises the further question of if the raw sewage tunnel gradients could be altered to avoid passing through the Lower Greensand or Chalk aquifers to achieve similar reductions.

b) A further possibility that is not discussed is whether a long tunnel with intermediate shafts could be constructed in two sections of a different diameter in order to reduce the length of tunnel that is oversized because it does not require secondary lining.

c) The two paragraphs above suggest that some possible configurations or sites may have been discarded unnecessarily.

d) The assessment does not consider spoil disposal in detail but instead assumes that all spoil would be hauled offsite. The question arises if the excavated Gault Clay would be suitable for landscaping or some other use such as capping in a landfill.

e) The SSTS Table 6.1 presents the Stage 3 assessment criteria. The majority of these are discussed in detail in Appendix 1 above (eg. Groundwater, Surface Water, Carbon and Green Belt) but:

   i) Under landscape the table includes: "…Assess whether there would be any impact on landscape context and visual amenity from development at each of the site areas". This appears to avoid the consideration of lighting.

   ii) Under nature conservation and biodiversity the table draws attention to the assessment of "…the potential impact on designated sites, habitats and protected species". It is less clear from the detail provided in the Stage 3 Report if this includes the consideration used in Coarse Screening as described in Section 5a) above.

iii) In Appendix 1 above, provides some information on protected species which raises the possibility that the desk study did not have access to at least one specialist database. The inference is that there may be other data. There is also a possibility that the impacts of lighting, noise or airborne material over a bigger area than the site have not been considered.

iv) Under non-traffic impact of construction on local communities the table includes "…Assessment of potential impacts on residents in terms of noise, dust and disruption". The consideration used in Coarse Screening as described in Section 5a) above included "Would there be a loss of local amenity (i.e. recreational sites..". This aspect appears to have been omitted in the Stage 3 Fine Screening.

f) The SSTS Section 6.4 discusses the removal of site areas from further assessment. Para 6.4.18 excludes Site H from further consideration since it "... presents a greater impact on the local community, higher carbon emissions and greater risk of impact on a Principal Aquifer in comparison to I, J and L." This statement is worth unpicking because it is a particular illustration of the flawed nature of the site selection. Discussion of the flaws is not intended to promote Site H but simply to expose one specific example where underlying assumptions lead to a particular conclusion.

i) The CWWTPR-Stage-3-Fine-Screening-Report gives a RAG score of GREEN in Table B.16-Non-traffic impact of construction on local residents and communities but RED in Table B.17-Traffic Impact etc. These scorings stem directly from the choice of an access road directly off the B1049 north of Histon as shown in Drawing 409071-MMD-00-XX-GIS-Y-0101 Revision C. The possibility of the site access leading off Butt Lane/Milton Road from a point further from the A10 than Site 1 or 2 has either not been considered or has been rejected for some unstated reason. It is improbable that such an alternative would be considered to be RED with regard to traffic impact on Community.

ii) The discussion of higher carbon emissions is flawed for the reasons given above in the review of Carbon in Appendix 1. Although Site H would have a longer tunnel for untreated sewage from the existing works than I, J or L, the significance of the extra embodied carbon cannot be judged in percentage terms from the work undertaken to date.

iii) The statement that there is greater risk to a Principal Aquifer stems from the criteria set out in Table 2.16: Groundwater impacts - RAG definitions. The most obvious exceedance is the stated need for 2000m (which exceeds the threshold value taken as 500m) of tunnel to be constructed in a Principal Aquifer. Presuming that the (unstated) tunnel gradient has been optimised for operational reasons, it is not disputed that a longer tunnel running north-west of the existing works could penetrate more of the aquifer below the Gault Clay than a shorter tunnel. However, it is also stated that the section of tunnel in the aquifer would be given a secondary lining. Thus, in spite of the fact that the tunnel would normally operate with water pressures outside it being much higher than the atmospheric pressure inside it tunnel (promoting inflow of groundwater not outflow of effluent), it has been judged that the risk of outflow to the aquifer can be further reduced by the secondary lining. Alternatively, if the risk is

associated with the act of tunnel construction and extra contact length, how much of a risk is it with modern methods of assessing fluid or face loss and reacting with additional grouting or other means? Is this risk the same in largely granular aquifers as opposed to, say, potentially fissured Chalk? The other criteria given for judging whether a site is considered RED or AMBER do not appear to have led to the categorisation of Site H as RED.

iv) Site H is rated Amber on Affordability at 89% (Table B.2) This is slightly higher than Site J at 84% because of the greater length of tunnel and pipeline. Cost is not given as a reason for rejecting the site but the comparison highlights the misleading nature of the relative 'carbon' percentages given as 140 and 130 respectively – an exaggeration factor of twice as much.

v) Site H is rated RED for Nature Conservation and Biodiversity. However, as stated in para 3.2.2 this is not considered a reason for its rejection compared to sites I, J or L since these are also rated RED. Furthermore the category RED for Site H is inherited from Stage 2 - Coarse Screening, all the Stage 3 Fine Screening being rated AMBER.

7) Next Steps

a) The SSTS Section 7.1 states that: "…The Stage 4 assessment will use the information collated during the first five stages of the site selection process combined with the results of further technical feasibility assessments, initial environmental walkover surveys and phase one consultation to assess each of the site area options against one another". FDPC suggests that:

i) The technical feasibility encompasses some of the design considerations given in this response and that the horizontal alignment design is revisited to examine the possibility of a route crossing west of the existing works under Milton Road before turning north under the A14 west of the A10 bridges. The route area in question is shown on Drawing 409071-MMD-00-XX-GIS-Y-0053A as "Possible constraints or developed land" and has not been included in the current consultation. No reason is stated for excluding such land given AW's subsoil rights. With modern methods of tunnelling, compensation grouting and settlement monitoring/control there may not be a valid reason.

ii) AW publishes the results of the phase 1 public consultation to include a breakdown of the number of responses received in the categories of AW response forms returned, letters and emails received and comments and 'likes' on the Interactive Map. Since the comments and points being made will need to be grouped, this should be shown within each response category before any attempt is made to group in combined categories. There is a real, concern that the consultation has led to residents "voting" against each other. AW therefore needs to address the significant risk of statistical bias being introduced into the consultation. This may depend on the category of response received, possible multiple responses from a consultee and whether the consultee was from one of the populations originally directly

notified by AW and size of that population or has decided to respond having heard indirectly about the consultation.

b) The next steps should include further collection of historic ecological data since there are gaps in the data provided by AW as discovered during this consultation.
c) The next steps should revisit the carbon assessment to include the embedded carbon in the works itself and identified mitigation works. In addition, the operational carbon saving from non-use of the existing works should be reported to help set the future works in context.
d) The next steps should revisit the Site Selection process including the sensitivity tests since this review has exposed features of the work to date that have led to possible areas being excluded from consideration.

From: Planning <planningmatters@middlelevel.gov.uk>
Sent: 12 November 2021 14:27
To: Cambridge Waste Water Treatment Plant Relocation <CambridgeWWTPR@planninginspectorate.gov.uk>; info@cwwtpr.com
Cc: [redacted]
Subject: Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested

Email to CambridgeWWTPR@planninginspectorate.gov.uk & info@cwwtpr.com

Claire Deery [redacted]

Our Ref: 354/1, 356/PL/354 & 360/PL/401

(Please quote this reference on any correspondence)

Dear [redacted]

Over and Willingham Internal Drainage Board, Haddenham Level Drainage Commissioners + Swavesey Internal Drainage Board

Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) – Regulations 10 and 11

Application by Anglian Water Services Ltd (the Applicant) for an Order granting Development Consent for the Cambridge Wastewater Treatment Plant Relocation (the proposed Development)

Scoping consultation and notification of the Applicant's contact details and duty to make available information to the Applicant if requested

Many thanks for you email and associated notice dated 20th October in respect of the above.

Your message specifically referred to both Haddenham Level Drainage Commissioners and Swavesey Internal Drainage Board for whom the Middle Level Commissioners provide an administrative and consultancy service but neither of these authorities is directly affected by the proposal.

However, it is considered that the proposal may be more appropriate to one of the Boards administered by the Ely Group of IDB's. The contact for this office is [redacted]

Regards

[redacted]

Planning Engineer

COVID-19 - THE COMMISSIONERS' OFFICE IS OPEN TO MEMBERS OF THE PUBLIC ALTHOUGH WHEREVER POSSIBLE STAFF ARE STILL WORKING FROM HOME. STAFF CAN BE CONTACTED VIA EMAIL OR THE MAIN SWITCHBOARD NUMBER.

Middle Level Commissioners

[redacted]

Tel: [redacted] Email: planningmatters@middlelevel.gov.uk

Historic England

Ms [redacted]
The Planning Inspectorate
Temple Quay House
Temple Quay
Bristol
BS1 6PN

Direct Dial: [redacted]

Our ref: PL00757844

16 November 2021

Dear [redacted]

Infrastructure Planning (Environmental Impact Assessment) Regulations 2017
Scoping Opinion for Cambridge Waster Water Plant relocation

Thank you for your letter received by us 10 October 2021 requesting our advice on a request for a scoping opinion on proposals at the above site. Our specialist staff have considered the information provided and we offer the following advice.

This development is likely to have an impact upon designated heritage assets and their settings in the area around the site. In accordance with the advice in the National Planning Policy Framework (NPPF), we would expect the Environmental Statement to contain a thorough assessment of the likely effects which the proposed development might have upon those elements which contribute to the significance of these assets.

The remit of Historic England to advise the determining authority includes Scheduled Monuments, listed buildings and registered historic parks at grade I and II* and conservation areas. The Scoping request is accompanied by a detailed document setting out the proposed scope of an Environmental Impact Assessment (October 2021). This has included a chapter (13) that considers the Historic Environment, which covers the basics which would be required for an Environmental Impact Assessment (EIA). The report identifies a number of designated heritage assets within the vicinity of the development site and records reveal that in terms of our statutory remit there are 11 grade I and II* listed buildings; 6 Conservation Areas and 1 Scheduled Monument within a 1.5 mile radius of the application site.

The above list of assets is by no means exhaustive as we note that there are also others including grade II listed buildings whose settings may also be affected, and which should be included in any impact assessment .

The setting of a heritage asset is defined in the NPPF as 'the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset

and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral'. An assessment of setting should therefore not be limited to visual receptors and must include a consideration of other factors including (but not limited to) the erosion of the historic landscape, how the assets are approached or traversed, the spatial, historical and functional relationship of assets to one another and the wider historic landscape, as well as the impact of receptors such as noise, light and traffic movements etc. The EIA should aim to define the setting of each of the heritage assets and the contribution which different elements of that setting make to the asset's significance. This would allow an assessment of the magnitude of that impact upon the setting and any resulting benefit, loss or harm to significance. Within the assessment cumulative impact should also be considered. Historic Environment Good Practice Advice in Planning Note 3, on the Setting of Heritage Assets, is an update on the 2011 EH settings guidance and should be used to inform your assessment. In line with GPA3, we would advise that whilst systematic scoring systems and matrices my assist in analysis, setting is a matter of qualitative and expert judgement and they cannot provide a systematic answer. Technical analyses of this type should be seen primarily as material supporting a clearly expressed and non-technical narrative argument.

We would expect the historic environment to be dealt with in a specific chapter within an Environmental Statement, supported by technical information (such as desk-based assessments, ZTVs, archaeological evaluation etc.) included as appendices. Where relevant, the historic environment chapter would need to be cross-referenced to other chapters or technical appendices; for example noise, light, traffic and landscape and visual impact assessment. Where appropriate, photomontages taken from or across heritage assets can be used to help identify the potential visual impact of the proposed development.

The assessment and conclusions of EIA and application should be in accordance with and make full reference to the Planning (listed buildings and conservation areas) Act 1990 (e.g. Sections 72 and 74) and to the policies within the National Planning Policy Statement (2012). Of particular relevance in the NPPF is Paragraph 200 which makes clear that significance of heritage assets can be harmed or lost through development within its setting and that any harm should require clear and convincing justification. Paragraph 201 discusses substantial harm to an assets significance and Paragraph 202 goes on to state that where a development proposal would lead to less than substantial harm to significance, this harm should be weighed against the. public benefits of the proposal, including securing its optimum viable use. Paragraph 206 highlights that opportunities should be sought for new development within conservation areas and within the setting of heritage assets to enhance or better reveal significance.

We also advise that various other considerations should also to be taken into account when proposals of this nature are being assessed. In order for your authority to understand the potential impacts of the proposals upon the significance of both designated and non-designated heritage assets of all types, we recommend that you ensure that an assessment of the impact on designated and undesignated heritage

assets takes the following issues into account (including consideration of the impact of associated infrastructure):

• The potential impact upon the townscape, especially if a site falls within an area of historic landscape;

• Direct impacts on historic/archaeological fabric (buildings, sites or areas), whether statutorily protected or not;

• Other impacts, particularly the setting of listed buildings, scheduled monuments, registered parks and gardens, conservation areas etc., including long views and any specific designed views and vistas within historic designed landscapes. All grades of listed buildings should be identified. In some cases, inter-visibility between historic sites may be a significant issue;

• The potential for buried archaeological remains; • Effects on landscape amenity from public and private land;

• Cumulative impacts.

It is important to identify all heritage assets that may be affected on the basis of an appropriately defined study area usually underpinned by a ZTV map (Zone of Theoretical Visibility). This should include heritage assets whose setting may be affected which may be at some distance from the site. It is important that the assessment is designed to ensure that all impacts can be fully understood. Sectional drawings and techniques such as wireframe and photomontages are a useful part of this.

The assessment should also consider the potential impact which associated activities (such as construction, servicing and maintenance, and associated traffic) might have upon perceptions, understanding and appreciation of the heritage assets in the area. The assessment should also consider, where appropriate, the likelihood of alterations to drainage patterns that might lead to in situ decomposition or destruction of below ground archaeological remains and deposits, and can also lead to subsidence of buildings and monuments.

We would also expect the Environmental Statement to consider the potential impacts on any grade II listed buildings and non-designated features of historic, architectural, archaeological or artistic interest, since these can also be of national importance and make an important contribution to the character and local distinctiveness of an area and its sense of place. This information is available via the local authority Historic Environment Record (www.heritagegateway.org.uk) and relevant local authority staff.

We would strongly recommend that Conservation Officers and the archaeological staff at the County Council and the relevant local planning authorities are involved in the development of this assessment. They are best placed to advise on: local historic environment issues and priorities as appropriate; how the proposal can be tailored to avoid and minimise potential adverse impacts on the historic environment; the nature

and design of any required mitigation measures; and opportunities for securing wider benefits for the future conservation and management of heritage assets.

Finally, we should like to stress that this response is based on the information provided in this consultation. To avoid any doubt, this does not affect our obligation to provide further advice and, potentially, to object to specific proposals, which may subsequently arise, where we consider that these would have an adverse effect upon the historic environment. If you have any queries about any of the above, or would like to discuss anything further, please contact me.

Your sincerely

[redacted]

Health and Safety Executive

CEMHD Policy - Land Use Planning,
NSIP Consultations,
Building 1.2,
Redgrave Court,
Merton Road,
Bootle, Merseyside
L20 7HS.

HSE email: NSIP.applications@hse.gov.uk

FAO [redacted]
The Planning Inspectorate
Temple Quay House
Temple Quay
Bristol
BS1 6PN
By email only

Dear [redacted]

26 October 2021

PROPOSED CAMBRIDGE WASTE WATER TREATMENT PLANT RELOCATION (the project)
PROPOSAL BY ANGLIAN WATER SERVICES LIMITED (the applicant)
INFRASTRUCTURE PLANNING (ENVIROMENTAL IMPACT ASSESSMENT) REGULATIONS 2017 (as amended) REGULATIONS 10 and 11

Thank you for your letter of the 20 October 2021 regarding the information to be provided in an environmental statement relating to the above project. HSE does not comment on EIA Scoping Reports but the following information is likely to be useful to the applicant.

HSE's land use planning advice

Will the proposed development fall within any of HSE's consultation distances?

According to HSE's records the proposed DCO application boundary for this Nationally Significant Infrastructure Project is not within the consultation zones of any major accident hazard sites or major accident hazard pipelines.

This is based on the current configuration as illustrated in, for example, figure 0.0 'EIA Scoping boundary and Zones' of the document Cambridge Waste Water Treatment Plant Relocation Project EIA Scoping report October 2021

HSE's Land Use Planning advice would be dependent on the location of areas where people may be present. When we are consulted by the Applicant with further information under Section 42 of the Planning Act 2008, we can provide full advice.

Hazardous Substance Consent

The presence of hazardous substances on, over or under land at or above set threshold quantities (Controlled Quantities) will probably require Hazardous Substances Consent (HSC) under the Planning (Hazardous Substances) Act 1990 as amended. The substances, alone or when aggregated with others for which HSC is required, and the associated Controlled Quantities, are set out in The Planning (Hazardous Substances) Regulations 2015 as amended.

HSC would be required to store or use any of the Named Hazardous Substances or Categories of Substances at or above the controlled quantities set out in Schedule 1 of these Regulations.

Further information on HSC should be sought from the relevant Hazardous Substances Authority.

Consideration of risk assessments

Regulation 5(4) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 requires the assessment of significant effects to include, where relevant, the expected significant effects arising from the proposed development's vulnerability to major accidents. HSE's role on NSIPs is summarised in the following Advice Note 11 Annex on the Planning Inspectorate's website - Annex G – The Health and Safety Executive . This document includes consideration of risk assessments on page 3.

Explosives sites

HSE has no comment to make as there are no licensed explosives sites in the vicinity.

Electrical Safety

No comment from a planning perspective.

At this time, please send any further communication on this project directly to the HSE's designated e-mail account for NSIP applications at nsip.applications@hse.gov.uk. We are currently unable to accept hard copies, as our offices have limited access.

Yours sincerely,

[redacted]

[redacted]
CEMHD4 NSIP Consultation Team

From: Clerk Milton Parish Council
To: Cambridge Waste Water Treatment Plant Relocation
Subject: Anglian Water Scoping Report
Date: 04 November 2021 12:51:36

To whom it may concern

Milton Parish Council supports the choice of location and has no comment on the Scoping Report.

Kind regards.

[redacted]

Parish Council Office
Coles Road
Milton
Cambridge CB24 6BL

h[redacted]age.org.uk
[redacted]

Privileged/Confidential information may be contained in this message. If you should not have received it tell me and delete it without forwarding, copying or disclosing it to anyone. Opinions expressed are those of the individual and do not necessarily represent the opinion of the Parish Council.

Ministry of Defence

Defence Infrastructure Organisation

Safeguarding Department
Statutory & Offshore

Defence Infrastructure Organisation
[redacted]
[redacted]
[redacted]
[redacted]
Tel: [redacted]

Planning Inspectorate
Environmental Services
Central Operations
Temple Quay House
2 The Square
Bristol
BS1 6PN
England

Your Ref: WW010003

E-mail: [redacted]

www.mod.uk/DIO

Our reference: 10048964

15 November 2021

Dear [redacted]

MOD Safeguarding – Cambridge Airport

Proposal: Anglian Water's Cambridge Wastewater Treatment Plant Relocation Project – Scoping Opinion

Location: Cambridge

Thank you for consulting the Ministry of Defence (MOD) on the above proposed development which was received by this office on 20/10/2021.

This relates to Anglian Water's Cambridge Wastewater Treatment Plant Relocation Project – Scoping Opinion.

Anglian Water's site selection process has concluded that Site 3, an area north of the A14 between Fen Ditton and Horningsea, is the most appropriate site overall and is the site selected to build a new state-of-the-art facility for Cambridge and the surrounding area.

The proposed site 3 option falls within the Statutory Safeguarding Aerodrome Height (15.2m/45.7m), Technical & Birdstrike Zones surrounding Cambridge Airport.

Aerodrome Safeguarding/Technical

The proposed development site occupies the statutory height and technical safeguarding zones that ensure air traffic approaches and the line of sight of navigational aids and transmitters/receivers are not impeded.

The airspace above and around aerodromes is safeguarded to maintain an assured, obstacle free environment for aircraft manoeuvre.

Birdstrike

Within this zone, the principal concern of the MOD is that the creation of new habitats may attract and support populations of large and or flocking birds close to an aerodrome.

In light of the development falling within the above Statutory Safeguarding Zones, precise detail will be required at Pre-Planning, Full Planning/Reserve Matters stages relating to the exact location co-ordinates in easting and northing format, the elevations of any infrastructure and specific detail regarding any landscaping scheme in order to carry out the required assessment.

The MOD recognises that cranes may be used during the construction of tall buildings at this site. These may affect the line of sight of navigational aids and transmitters/receivers. If the redevelopment of this site does progress, it will be necessary for the developer to liaise with the MOD prior to the erection of cranes or temporary tall structures.

The MOD would request that a condition such as the one below be included in any planning permission granted to ensure that the MOD is notified of when and where cranes will be erected.

Submission of a Construction Management Strategy

Development shall not commence until a construction management strategy has been submitted to and approved in writing by the Local Planning Authority covering the application site and any adjoining land which will be used during the construction period. Such a strategy shall include the details of cranes and other tall construction equipment (including the details of obstacle lighting).

The approved strategy (or any variation approved in writing by the Local Planning Authority) shall be implemented for the duration of the construction period.

Reason: To ensure that construction work and construction equipment on the site and adjoining land does not obstruct air traffic movements or otherwise impede the effective operation of air traffic navigation transmitter/receiver systems.

I trust this is clear however should you have any questions please do not hesitate to contact me.

Yours sincerely

[redacted]

From: [redacted]
Sent: 16 November 2021 17:10
To: Cambridge Waste Water Treatment Plant Relocation <CambridgeWWTPR@planninginspectorate.gov.uk>
Cc: Cambridge Waste Water Treatment Plant Relocation <CambridgeWWTPR@planninginspectorate.gov.uk>; [redacted]
<[redacted]
Subject: RE: WW010003 - Cambridge Wastewater Treatment Plant Relocation - EIA Scoping Notification

Dear [redacted]

Please find detail of what we consider should be provided in the ES;

- The ES should include a Traffic & Transportation chapter as per the EIA regulations; and
- the application be accompanied by a full Transport Assessment. The Assessment should be undertaken in accordance with Dft Circular 02/2013 "The Strategic Road Network and the Delivery of Sustainable Development". The Transport Assessment should be informed by a Walking Cycling and Horse Riding Assessment Report (WCHAR). Full assessment should be made of M14 junctions 33-35.

We at National Highways have been engaged with Anglian Water and their consultants in ongoing pre-application discussions; which is has been productive and collaborative to date.

Many thanks

[redacted]

[redacted]

Operations (East) | National Highways

Woodlands | Manton Lane | Bedford | MK41 7LW
Mobile: [redacted]
Web:[redacted]

From: NATS Safeguarding <NATSSafeguarding@nats.co.uk>
Sent: 26 October 2021 12:59
To: Cambridge Waste Water Treatment Plant Relocation <CambridgeWWTPR@planninginspectorate.gov.uk>
Cc: [redacted]
Subject: RE: WW010003 - Cambridge Wastewater Treatment Plant Relocation - EIA Scoping Notification

Our Ref: SG32297

Dear Sir/Madam

The proposed development has been examined from a technical safeguarding aspect and does not conflict with our safeguarding criteria. Accordingly, NATS (En Route) Public Limited Company (NERL) has no safeguarding objection to the proposal.

However, please be aware that this response applies specifically to the above consultation and only reflects the position of NATS (that is responsible for the management of en route air traffic) based on the information supplied at the time of this application. This letter does not provide any indication of the position of any other party, whether they be an airport, airspace user or otherwise. It remains your responsibility to ensure that all the appropriate consultees are properly consulted.

If any changes are proposed to the information supplied to NATS in regard to this application which become the basis of a revised, amended or further application for approval, then as a statutory consultee NERL requires that it be further consulted on any such changes prior to any planning permission or any consent being granted.

Yours faithfully

NATS Safeguarding

E: natssafeguarding@nats.co.uk

4000 Parkway, Whiteley,
Fareham, Hants PO15 7FL
www.nats.co.uk

Town planning Technician
1 Stratford Place,
London
E15 1AZ

Planning Inspectorate

Date 16/11/2021

Network Rail Consultation Response

Reference: WW010003
Location: Cambridge Wastewater Treatment Plant Relocation
Proposal: **EIA Scoping opinion**

Thank you for your recent correspondence relating to the above scoping opinion.

Network Rail own, operate and develop Britain's railway infrastructure. Our role is to deliver a safe and reliable railway. All consultations are assessed with the safety of the operational railway in mind and responded to on this basis.

In relation to the above, any Environmental Impact Assessment should include consideration of how the scheme and its construction will impact on the operational railway infrastructure. It should include a Transport Assessment that gives details of construction traffic haulage routes particularly with regards to railway assets (such as bridges and level crossings etc).

Please note that where work over, under and adjacent to the railway infrastructure is required, agreement with Network Rail must be sought beforehand and the developer must liaise closely with our Asset Protection Team before works starts.

Network Rail strongly recommends the developer contacts the Asset Protection Team on AngliaASPROLandClearances@networkrail.co.uk prior to any works commencing on site, and also to agree an Asset Protection Agreement with us to enable approval of detailed works. More information can also be obtained from our website [redacted]

I trust the above clearly sets out Network Rail's position on the planning application. Should you require any more information from Network Rail, please do not hesitate to contact me.

Kind regards,

[redacted]
Town Planning Technician | Property | Eastern Route
One Eversholt Street, London, NW1 2DN
Mobile: [redacted]
Email: [redacted]
Website: www.networkrail.co.uk/property

From: [redacted]
To: Cambridge Waste Water Treatment Plant Relocation
Cc: [redacted] Strategy Clearance; [redacted]
Subject: RE: Propose CPO under DCO Powers - industry notification - Cambridge Wastewater Treatment
Date: 17 November 2021 07:13:06
Attachments: image002.png
image003.png

Good morning,

GTR has no comments/queries to make on this proposal. Please accept this email as our formal response.

Note: Please include [redacted] (cc'd) for any consultations on future similar matters.

Have a good day all.

Regards,

[redacted]
Govia Thameslink Railway (GTR) Ltd | 2nd Floor | Monument Place | 24 Monument Street | London | EC3R 8AJ

Please note my work week is Monday to Thursday. I am away from the business every Friday with no access to emails
Should you require urgent assistance, please contact Andrew Smith - [redacted]

From: Strategy Clearance <S[redacted]>
Sent: 15 November 2021 12:10
To: [redacted]
Subject: Propose CPO under DCO Powers - industry notification - Cambridge Wastewater Treatment
Importance: High

OFFICIAL

Dear Customer/ Stakeholder

With a view to ensuring that our customers and stakeholders are kept informed as regards possible compulsory acquisition of our property, Network Rail would like to inform you of the following

potential compulsory purchase order (CPO).

The details are as follows:

1. Acquiring Council/ Authority: Anglian Water Services Ltd
2. Location/Description: Proposed – Cambridge Wastewater Treatment
3. Contact Details: [redacted] email: CambridgeWWTPR@planninginspectorate.gov.uk

Attached to this e-mail are the following

Letter from the Planning Inspectorate
Plans:
Further information: https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/WW010003/WW010003-000033-WW010003%20-%20Scoping%20Report.pdf

We recognise that CPOs may reflect proposals that are consistent with, or beneficial to, the operation of the railway; but alternatively may afford constraints in respect of the future use or development of the railway. This information is provided on a preliminary basis in order that you may consider whether you are likely to have any interest that you would wish to pursue direct with the prospective acquiring authority (in which case we would be grateful if you will copy in Network Rail).

Please send any responses to **by 17th November 2021,** to CambridgeWWTPR@planninginspectorate.gov.uk. Please also copy in [redacted] and Strategy Clearance.
.
Network Rail will in the meantime be considering its position on the potential DCO.

[redacted]

www.networkrail.co.uk/property

Advance Notice:

North Herts Council

www.north-herts.gov.uk

[redacted]
EIA Advisor
Major Casework Directorate
The Planning Inspectorate
Environmental Services
Central Operations
Temple Quay House
2 The Square
Bristol BS1 6PN

Our Ref : 21/02982/NHC
Your Ref: WW010003
Contact : [redacted]
Direct Line : [redacted]
Email : [redacted]
Date : 17th November 2021

Sent by email

Dear [redacted]

NHC Consultee : Planning Act 2008 (as amended) and The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) Regulations 10 and 11
Application by Anglian Water Services Limited (the Applicant) for an Order granting Development Consent for the Cambridge Wastewater Treatment Plant Relocation.
Scoping Consultation. NORTH HERTS COUNCIL CONSULTEE ONLY
Cambridge Wastewater Treatment Plant Relocation, North Of The A14 Between Fen Ditton And Horningsea, Cambridgeshire,

Thank you for consulting North Hertfordshire District Council on the above.

Having reviewed the documents on your website I can confirm that NHDC has no detailed comments to make in relation to the proposal, given its distance from North Hertfordshire.

I am sure that you will have consulted the relevant Highways Authorities and Highways England, but we request that the Environmental Statement considers the impact of traffic on the wider highway network both during construction and when the treatment plant is operating.

North Hertfordshire District Council's Environmental Health Team (who cover land contamination, air quality and noise and other nuisances) were consulted on the above. They had no concerns or comments to make.

Yours faithfully,

[redacted]
Development & Conservation Manager

The Council's Privacy Notice is available on our website: https://www.north-herts.gov.uk/home/council-data-and-performance/data-protection/information-management-gdpr

Proposed DCO Application by Anglian Water for Cambridge Waste Water Treatment Plant Relocation Project

Royal Mail response to EIA Scoping Consultation

Under section 35 of the Postal Services Act 2011, Royal Mail has been designated by Ofcom as a provider of the Universal Postal Service. Royal Mail is the only such provider in the United Kingdom. The Act provides that Ofcom's primary regulatory duty is to secure the provision of the Universal Postal Service. Ofcom discharges this duty by imposing regulatory conditions on Royal Mail, requiring it to provide the Universal Postal Service.

Royal Mail's performance of the Universal Service Provider obligations is in the public interest and should not be affected detrimentally by any statutorily authorised project. Accordingly, Royal Mail seeks to take all reasonable steps to protect its assets and operational interests from any potentially adverse impacts of proposed development.

Royal Mail and its advisor BNP Paribas Real Estate have reviewed the ES Scoping report dated October 2021.

This waste water infrastructure scheme has been identified as having potential to affect Royal Mail operational interests due to the potential for construction phase traffic impact on the highway network.

However, at this time Royal Mail is not able to provide a consultation response due to insufficient information being available at this point in time by which to adequately assess the level of risk to its operation and the available mitigations for any risk. Therefore, Royal Mail wishes to reserve its position to submit a consultation response/s at a later stage in the DCO consenting process and to submit representations to the Public Examination, if required.

In the meantime, any further consultation information on this infrastructure proposal and any questions of Royal Mail should be sent to:

[redacted] **Royal Mail Group Limited**

[redacted] **Director, BNP Paribas Real Estate**

Please can you confirm receipt of this holding statement by Royal Mail.

End

UK Health Security Agency

Environmental Hazards and Emergencies Department
Centre for Radiation, Chemical and Environmental Hazards
Seaton House, City Link
London Road
Nottingham, NG42 4LA

nsipconsultations@phe.gov.uk
www.gov.uk/ukhsa

Your Ref: WW010003
Our Ref: CIRIS: 58350

[redacted]
Environmental Services
Central Operations
The Planning Inspectorate
Temple Quay House
2 The Square
BRISTOL BS1 6PN

17th November 2021

Dear [redacted]

Nationally Significant Infrastructure Project
Cambridge Wastewater Treatment Plant Relocation
Scoping Consultation Stage

Thank you for your consultation regarding the above development. The UK Health Security Agency (UKHSA) and the Office for Health Improvement and Disparities (OHID) (formerly Public Health England) welcome the opportunity to comment on your proposals and Preliminary Environmental Information Report (PEIR) at this stage of the Nationally Significant Infrastructure Project (NSIP). Advice offered by UKHSA and OHID is impartial and independent.

The health of an individual or a population is the result of a complex interaction of a wide range of different determinants of health, from an individual's genetic make-up, to lifestyles and behaviours, and the communities, local economy, built and natural environments to global ecosystem trends. All developments will have some effect on the determinants of health, which in turn will influence the health and wellbeing of the general population, vulnerable groups and individual people. Although assessing impacts on health beyond direct effects from for example emissions to air or road traffic incidents is complex, there is a need to ensure a proportionate assessment focused on an application's significant effects.

Having considered the submitted scoping report, we wish to make the following specific comments and recommendations:

Environmental Public Health

We recognise the promoter's proposal to include a health section. We believe the summation of relevant issues into a specific section of the report provides a focus which ensures that public health is given adequate consideration. The section should summarise key information, risk assessments,

proposed mitigation measures, conclusions and residual impacts, relating to human health. Compliance with the requirements of National Policy Statements and relevant guidance and standards should also be highlighted.

In terms of the level of detail to be included in an Environmental Statement (ES), we recognise that the differing nature of projects is such that their impacts will vary. The attached appendix summarises UKHSA's requirements and recommendations regarding the content of and methodology used in preparing the ES (this was originally developed by our predecessor organisation: Public Health England). Please note that where impacts relating to health and/or further assessments are scoped out, promoters should fully explain and justify this within the submitted documentation.

From our review of the *Cambridge Wastewater Treatment Plant Relocation EIA Scoping Report*, (October 2021) it was noted that there appears to be a recurring error throughout the document where, what presumably should read, 'PM_{10}' has been incorrectly substituted with, '$PM_{2\,5}$'. To illustrate this point, just one example of this recurring error exists in Chapter 7 – Air Quality, Section 7.2.2, third bulletpoint, which reads as follows (error highlighted):

> *…particulate matter defined as those less than 10 and 2.5 microns in diameter, $PM_{2.5}$ and $PM_{2.5}$ respectively…*

Recommendation

To avoid any potential confusion in this or future documentation, we would recommend that the recurring error identified with reference to 'PM_{10}' is corrected.

Our position is that pollutants associated with road traffic or combustion, particularly particulate matter and oxides of nitrogen are non-threshold; i.e., an exposed population is likely to be subject to potential harm at any level and that reducing public exposures of non-threshold pollutants (such as particulate matter and nitrogen dioxide) below air quality standards will have potential public health benefits. We support approaches which minimise or mitigate public exposure to non-threshold air pollutants, address inequalities (in exposure), maximise co-benefits (such as physical exercise). We encourage their consideration during development design, environmental and health impact assessment, and development consent.

It is noted that the current proposals do not appear to consider possible health impacts of Electric and Magnetic Fields (EMF).

Recommendation

We request that the ES clarifies this and if necessary, the proposer should confirm either that the proposed development does not impact any receptors from potential sources of EMF; or ensure that an adequate assessment of the possible impacts is undertaken and included in the ES.

Human Health and Wellbeing

This section comprises the response from the Office for Health Improvement & Disparities (OHID). It identifies the wider determinants of health and wellbeing we expect the ES to address, to demonstrate whether they are likely to give rise to significant effects. OHID has focused its approach on scoping determinants of health and wellbeing under four themes, which have been derived from an analysis of the wider determinants of health mentioned in the National Policy Statements. The four themes are:

- Access
- Traffic and Transport
- Socioeconomic
- Land Use

Having considered the scoping report OHID wish to make the following specific comments and recommendations:

General

The scoping report references the South Cambridgeshire District Council Local Development Framework and the Health Impact Assessment, Supplementary Planning Document. OHID agree with the Council's preferred approach for an integrated assessment.

Mental health

The inclusion of mental health as a potential effect in the scoping report is welcomed, but no baseline mental health and wellbeing data is provided to indicate levels of sensitivity of the local community. We also support the recognition of the complex relationship between noise, amenity and community change with mental health and wellbeing. Mental well-being is fundamental to achieving a healthy, resilient and thriving population. It underpins healthy lifestyles, physical health, educational attainment, employment and productivity, relationships, community safety and cohesion and quality of life. A scheme of this scale and nature has impacts on the over-arching protective factors, which are:

- Enhancing control
- Increasing resilience and community assets
- Facilitating participation and promoting inclusion.

Recommendation

The assessment of mental health and wellbeing should consider guidance by the National Mental Wellbeing Impact Assessment Collaborative for opportunities to support mental wellbeing. Where necessary ensure that clear mitigation strategies are adequately linked to any local services or assets.

In addition to the baseline indicators the assessment would benefit from including social cohesion/connectedness, satisfaction with local area and quality of life indicators owing to their established links to mental health and wellbeing.

In terms of sources, we would draw your attention to the following:

- PHE Fingertips – Mental Health and Wellbeing JSNA
    - Area profiles with various indicators on common mental disorders (including anxiety) and severe mental illness which can be benchmarked with other local areas as well as regional and national data
- Office for National Statistics - Wellbeing Indicators
    - Range of datasets related to wellbeing available including young people's wellbeing measures, personal wellbeing estimates and loneliness rates by local authority

When estimating community anxiety and stress in particular, a qualitative assessment may be most appropriate. This may involve conducting resident surveys but also information received through public consultations, including community engagement exercises. The Mental Well-being Impact Assessment Toolkit (MWIA) may assist with this. Whilst it has not been developed for NSIPs specifically, it contains key principles that should be demonstrated in a project's community engagement and impact assessment. We would also encourage you to consult with the local authority's public health team who are likely to have Health Intelligence specialists who will have knowledge about the availability of local data.

Housing affordability and supply

The scoping report recognised that the presence of significant numbers of non-home based construction workers could foreseeably have an impact on the local availability of affordable housing and demands on local services (Para 11.8.1 and Table 11-7). Those residents looking for low cost affordable homes will have the least capacity to respond to change (for example, where there may be an overlap between construction workers seeking accommodation in the private rented sector, and people in receipt of housing benefit seeking the same lower-cost accommodation). The scoping report proposes to scope in demand for local accommodation and public services due to the temporary workforce (Table 11-7) for the construction phase. OHID agrees to scope this matter out for the operational phase.

The scoping report Health Chapter later proposes to scope out demand for local housing and service demand (Para 12.10.8 and Table 12-6) commenting that it is unlikely that the Proposed Development will create sizable demand for accommodation during construction. No data or evidence is provided to support this statement and it contradicts the findings of the community chapter.

No indication of the scale of demand from the construction workforce was provided and it is unclear whether the cumulative effect from other large developments nearby have been considered.

Recommendation

OHID does not agree that demand on local housing or accommodation and local service demand should be scoped out during the construction phase. Demand for temporary accommodation and local services by the non-home based workers should be identified and an assessment made regarding the impact, including on local housing supply and affordability and homelessness provision of short term housing supply. Given the potential for other large developments near the study area the cumulative effects on housing provision should be included.

Vulnerable populations/ sensitive receptors

An initial approach to the identification of sensitive receptors has been provided and does make links to the list of protected characteristics within an Equality Impact Assessment (EqIA). Any EqIA produced to support the application for the DCO Project will assess the potential for effects to be disproportionately or differentially experienced by groups with Protected Characteristics as defined by the Equality Act 2010.

The impacts on health and wellbeing and health inequalities of the scheme may have particular effect on vulnerable or sensitive populations, including those that fall within the list of protected characteristics. The ES and any Equalities Impact Assessment should not be completely separated.

Recommendation

The assessments and findings of the ES and any Equalities Impact Assessment should be cross referenced between the two documents, particularly to ensure the comprehensive assessment of potential impacts for health and inequalities and where resulting mitigation measures are mutually supportive.

The final ES must identify additional mitigation measures identified as necessary in connection to vulnerable populations and those within the protected characteristics.

Yours sincerely

For and on behalf of the UK Health Security Agency
nsipconsultations@phe.gov.uk

Please mark any correspondence for the attention of National Infrastructure Planning Administration.

Appendix: PHE recommendations regarding the scoping document

Introduction

The Planning Inspectorate's Advice Note 11: Working with Public Bodies covers many of the generic points of interaction relevant to the Planning Inspectorate and Public Health England (PHE). The purpose of this Annex is to help applicants understand the issues that PHE expect to see addressed by applicants preparing an Environmental Statement (ES) as part of their Nationally Significant Infrastructure Planning (NSIP) submission.

We have included a comprehensive outline of the type of issues we would expect to be considered as part of an NSIP which falls under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations). PHE encourages applicants to contact us as early in the process as possible if they wish to discuss or clarify any matters relating to chemical, poison, radiation or wider public health.

General Information on Public Health England

PHE was established on 1 April 2013 to bring together public health specialists from more than 70 organisations into a single public health service. We are an executive agency of the Department of Health and are a distinct delivery organisation with operational autonomy to advise and support government, local authorities and the National Health Service (NHS) in a professionally independent manner.

We work closely with public health professionals in Wales, Scotland and Northern Ireland, and internationally.[1] We have specialist teams advising on specific issues and the potential impacts arising from environmental public health including chemicals, noise, air quality, ionising and non-ionising radiation.

PHE's NSIP roles and responsibilities

PHE is a statutory consultee in the NSIP process for any *applications likely to involve chemicals, poisons or radiation which could potentially cause harm to people and are likely to affect significantly public health*.[2] PHE will consider potential significant effects (direct and indirect) of a proposed development on population and human health and the impacts from chemicals, radiation and environmental hazards. We also consider other factors which may have an impact on public health, such as the wider determinants of health, health improvement and health inequalities (where PHE has a legal duty specified in the Health and Social Care Act 2012)[3].

Under certain circumstances PHE may provide comments on radiation on behalf of the Scottish Government. If a proposer is submitting a planning application in Scotland which may require advice on radiation you are recommended to contact the appropriate Scottish Planning Authority for advice on how to proceed.

In the case of applications in Wales, PHE remains a statutory consultee but the regime applies to a more limited range of development types. For NSIP applications likely to affect land in Wales, an applicant should still consult PHE but, additionally will be required to consult the Welsh Government.

Environmental Impact Assessments – PHE Responsibilities

PHE has a statutory role as a consultation body under the EIA Regulations. Where an applicant has requested a scoping opinion from the Planning Inspectorate[4], PHE will be consulted regarding the scope, and level of detail, of the information to be provided in the ES. PHE has a duty to make information available to the applicant.

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[1] https://www.gov.uk/government/organisations/public-health-england/about#priorities

[2] The Infrastructure Planning (Interested Parties and Miscellaneous Prescribed Provisions) Regulations 2015

[3] http://www.legislation.gov.uk/ukpga/2012/7/contents/enacted

[4] The scoping process is administered and undertaken by the Planning Inspectorate on behalf of the Secretary of State

PHE provides advice relating to EIA within this document and during the NSIP consultation stages. PHE encourages applicants to discuss the scope of the ES with us at an early stage to explore, for example, whether careful site selection or other design issues could minimise or eliminate public health impacts or to outline the requirement for, scope and methodology of any assessments related to public health. PHE's standard recommendations in response to EIA scoping consultations are below.

PHE's recommendations to applicants regarding Environmental Impact Assessments

General approach

PHE provides advice relating to EIA within this document and during the NSIP consultation stages. It is the role of the applicant to prepare the ES.

When preparing an ES the applicant should give consideration to best practice guidance such as the Government's Handbook for scoping projects: environmental impact assessment[5], and Guidance: on Environmental Impact Assessment[6]

The Planning Inspectorate's Advice Note Seven: Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements also provide guidance to applicants and other persons with interest in the EIA process as it relates to NSIPs.
It is important that the submitted ES identifies and assesses the potential public health impacts of the activities at, and emissions from, the development.

Applicants are reminded that Section 5(2)(a) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 specifically includes a requirement that the EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on population and human health.

PHE is of the opinion that this requirement encompasses the wider determinants of public health, as well as chemicals, poisons and radiation. Further information on PHE's recommendations and requirements is included below.

PHE understands that there may be separate sections of the ES covering the assessment of impacts on air, land, water and so on, but expects an ES to include a specific section summarising potential impacts on population and health. This section should bring together and interpret the information from other assessments as necessary. The health, wellbeing and population impacts section should address the following steps.

1. Screening: Identify any significant effects.
    a. Summarise the methodologies used to identify health impacts, assess significance and sources of information
    b. Evaluate any reference standards used in carrying out the assessment and in evaluating health impacts (e.g., environmental quality standards)
    c. Where the applicant proposes the 'scoping out' of any effects a clear rationale and justification should be provided along with any supporting evidence.

2. Baseline Survey:

[5] https://www.gov.uk/government/publications/handbook-for-scoping-projects-environmental-impact-assessment

[6] https://www.gov.uk/guidance/environmental-impact-assessment#the-purpose-of-environmental-impact-assessment

a. Identify information needed and available, evaluate quality and applicability of available information
b. Undertake assessment

3. Alternatives:
    a. Consideration of alternatives (including alternative sites, choice of process, and the phasing of construction) is widely regarded as good practice. Ideally, the EIA process should start at the stage of site selection, so that the environmental merits of practicable alternatives can be properly considered. Where this is undertaken, the main alternatives considered should be outlined in the ES[7].

4. Design and assess possible mitigation
    a. Consider and propose suitable corrective actions should mitigation measures not perform as effectively predicted.

5. Impact Prediction: Quantify and Assess Impacts:
    a. Evaluate and assess the extent of any positive and negative effects of the development. Effects should be assessed in terms of likely health outcomes, including those relating to the wider determinants of health such as socio-economic outcomes, in addition to health outcomes resulting from exposure to environmental hazards. Mental health effects should be included and given equivalent weighting to physical effects.
    b. Clearly identify any omissions, uncertainties and dependencies (e.g., air quality assessments being dependant on the accuracy of traffic predictions)
    c. Evaluate short-term impacts associated with the construction and development phase
    d. Evaluate long-term impacts associated with the operation of the development
    e. Evaluate any impacts associated with decommissioning of the development
    f. Evaluate any potential cumulative impacts as a result of the development, currently approved developments which have yet to be constructed, and proposed developments which do not currently have development consent

6. Monitoring and Audit
    a. Identify key modelling predictions and mitigation impacts and consider implementing monitoring and audit to assess their accuracy / effectiveness.

Any assessments undertaken to inform the ES should be proportionate to the potential impacts of the proposal, therefore we accept that, in some circumstances particular assessments may not be relevant to an application, or that an assessment may be adequately completed using a qualitative rather than quantitative methodology. In cases where this decision is made, the applicant should fully explain and justify their rationale in the submitted documentation.

Human and environmental receptors

The applicant should clearly identify the development's location and the distance of the development to off-site receptors that may be affected by emissions from, or activities at, the development. Off-site receptors may include people living in residential premises; people working in commercial, and industrial premises and people using transport infrastructure (such as roads and railways), recreational areas, and publicly-accessible land.

Identify and consider impacts on residential areas and sensitive receptors (such as schools, nursing homes and healthcare facilities, as well as other vulnerable population groups such as those who are young, older, with disabilities or long-term conditions, or on low incomes) in the area(s) which may be affected by emissions, this should include consideration of any new receptors arising from future development

[7] DCLG guidance, 1999 http://www.communities.gov.uk/documents/planningandbuilding/pdf/155958.pdf

Consideration should also be given to environmental receptors such as the surrounding land, watercourses, surface and groundwater, and drinking water supplies such as wells, boreholes and water abstraction points.

Impacts arising from construction and decommissioning
Any assessment of impacts arising from emissions or activities due to construction and decommissioning should consider potential impacts on all receptors and describe monitoring and mitigation during these phases. Construction and decommissioning will be associated with vehicle movements and cumulative impacts should be accounted for.

We would expect the applicant to follow best practice guidance during all phases from construction to decommissioning to ensure appropriate measures are in place to mitigate any potential negative impact on health from emissions (point source, fugitive and traffic-related) and activities. An effective Construction Environmental Management Plan (CEMP) (and Decommissioning Environmental Management Plan (DEMP)) will help provide reassurance that activities are well managed. The applicant should ensure that there are robust mechanisms in place to respond to any complaints made during construction, operation, and decommissioning of the facility.

Emissions to air and water
PHE has a number of comments regarding the assessment of emissions from any type of development in order that the ES provides a comprehensive assessment of potential impacts.

When considering a baseline (of existing environmental quality) and in the assessment and future monitoring of impacts these should:

- include an evaluation of the public health benefits of development options which reduce air pollution – even below limit values – as pollutants such as nitrogen dioxide and particulate matter show no threshold below which health effects do not occur;[8, 9]
- consider the construction, operational, and decommissioning phases;
- consider the typical operational emissions and emissions from start-up, shut-down, abnormal operation and accidents when assessing potential impacts and include an assessment of worst-case impacts;
- fully account for fugitive emissions;
- include appropriate estimates of background levels (i.e., when assessing the human health risk of a chemical emitted from a facility or operation, background exposure to the chemical from other sources should be taken into account);
- encompass the combined impacts of all pollutants which may be emitted by the development with all pollutants arising from associated development and transport, considered in a single holistic assessment (i.e., of overall impacts);
- identify and consider impacts on residential areas and sensitive receptors (such as schools, nursing homes and healthcare facilities) in the area(s) which may be affected by emissions. This should include consideration of any new receptors arising from future development;
- identify cumulative and incremental impacts (i.e., assess cumulative impacts from multiple sources), including those arising from associated development, other existing and proposed development in the local area, and new vehicle movements associated with the proposed development; associated transport emissions should include consideration of non-road impacts (i.e., rail, sea, and air);
- compare predicted environmental concentrations to the applicable standard or guideline value for the affected medium. Where available, the most recent UK standards for the appropriate media

[8] https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution

[9] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/795185/Review_of_interventions_to_improve_air_quality.pdf

(i.e., air, water, and/or soil) and health-based guideline values should be used when quantifying the risk to human health from chemical pollutants;

- where UK standards or guideline values are not available, or other reputable International bodies e.g. European Union or OECD:
    - If no standard or guideline value exists, the predicted exposure to humans should be estimated and compared to an appropriate health-based value (e.g., a Tolerable Daily Intake or equivalent);
    - This should consider all applicable routes of exposure (e.g., include consideration of aspects such as the deposition of chemicals emitted to air and their uptake via ingestion).
- include appropriate screening assessments and detailed dispersion modelling where this is screened as necessary;
- include Chemical Abstract Service (CAS) numbers alongside chemical names, where referenced in the ES;
- include consideration of local authority, Environment Agency, Natural Resources Wales, Defra national network, and any other local site-specific sources of monitoring data;
- when quantitatively assessing the health risk of genotoxic and carcinogenic chemical pollutants, PHE does not favour the use of mathematical models to extrapolate from high dose levels used in animal carcinogenicity studies to well below the observed region of a dose-response relationship. When only animal data are available, we recommend that the Committee on Carcinogenicity of Chemicals approach[10] is used.

Whilst screening of impacts using qualitative methodologies is common practice (eg, for impacts arising from fugitive emissions such as dust), where it is possible to undertake a quantitative assessment of impacts then this should be undertaken.

PHE's view is that the applicant should appraise and describe the measures that will be used to control both point source and fugitive emissions and demonstrate that standards, guideline values or health-based values will not be exceeded due to emissions from the installation, as described above. This should include consideration of any emitted pollutants for which there are no set emission limits. When assessing the potential impact of a proposed installation on environmental quality, predicted environmental concentrations should be compared to the permitted concentrations in the affected media; this should include both standards for short and long-term exposure. Further to assessments of compliance with limit values, for non-threshold pollutants (ie, those that have no threshold below which health effects do not occur) the **benefits** of development options which reduce population exposure should be evaluated.

Additional points specific to emissions to air
When considering baseline conditions (of existing air quality) and the assessment and future monitoring of impacts, these should include:

- consideration of impacts on existing areas of poor air quality e.g. existing or proposed local authority Air Quality Management Areas (AQMAs) or Clean Air Zones (CAZ). The applicant should demonstrate close working/consultation with the appropriate local authorities
- modelling using appropriate meteorological data (i.e. from the nearest suitable meteorological station and include a range of years and worst-case conditions)
- modelling taking into account local topography, congestion and acceleration

Additional points specific to emissions to water
When considering baseline conditions (of existing water quality) and the assessment and future monitoring of impacts, these should:

- include assessment of potential impacts on human health and not focus solely on ecological impacts
- identify and consider all routes by which emissions may lead to population exposure (e.g., surface watercourses, recreational waters, sewers, geological routes etc.)

[10] https://www.gov.uk/government/publications/cancer-risk-characterisation-methods

- assess the potential off-site effects of emissions to groundwater (eg, on aquifers used for drinking water) and surface water (used for drinking water abstraction) in terms of the potential for population exposure
- include consideration of potential impacts on recreational users (eg, from fishing, canoeing etc.) alongside assessment of potential exposure via drinking water

Land quality
We would expect the applicant to provide details of any hazardous contamination present on site (including ground gas) as part of a site condition report and associated risk assessment.

Emissions to and from the ground should be considered in terms of the previous history of the site and the potential of the site, during construction and once operational, to give rise to issues. Public health impacts associated with ground contamination and/or the migration of material off-site should be assessed in accordance with the Environment Agency publication Land Contamination: risk management [11] and the potential impact on nearby receptors; control and mitigation measures should be outlined.

Waste
The applicant should demonstrate compliance with the waste hierarchy (e.g. with respect to re-use, recycling or recovery and disposal).
For wastes arising from the development the ES should assess:
- the implications and wider environmental and public health impacts of different waste disposal options
- disposal route(s) and transport method(s) and how potential impacts on public health will be mitigated

If the development includes wastes delivered to the installation:
- Consider issues associated with waste delivery and acceptance procedures (including delivery of prohibited wastes) and should assess potential off-site impacts and describe their mitigation

Other aspects
Within the ES, PHE would expect to see information about how the applicant would respond to accidents with potential off-site emissions (e.g., flooding or fires, spills, leaks or releases off-site). Assessment of accidents should: identify all potential hazards in relation to construction, operation and decommissioning; include an assessment of the risks posed; and identify risk management measures and contingency actions that will be employed in the event of an accident in order to mitigate off-site effects.

PHE would expect the applicant to consider the COMAH Regulations (Control of Major Accident Hazards) and the Major Accident Off-Site Emergency Plan (Management of Waste from Extractive Industries) (England and Wales) Regulations: both in terms of their applicability to the development itself, and the development's potential to impact on, or be impacted by, any nearby installations themselves subject to these Regulations.

There is evidence that, in some cases, perception of risk may have a greater impact on health than the hazard itself. A 2009 report[12], jointly published by Liverpool John Moores University and the Health Protection Agency (HPA), examined health risk perception and environmental problems using a number of case studies. As a point to consider, the report suggested: "*Estimation of community anxiety and stress should be included as part of every risk or impact assessment of proposed plans that involve a potential environmental hazard. This is true even when the physical health risks may be negligible*." PHE supports the inclusion of this information within ES' as good practice.

Electromagnetic fields (EMF)

[11] Available from https://www.gov.uk/guidance/land-contamination-how-to-manage-the-risks
[12] Available from: http://allcatsrgrey.org.uk/wp/download/public_health/Health-Risk-Perception-Env-Probs.pdf

This advice relates to electrical installations such as substations and connecting underground cables or overhead lines. PHE advice on the health effects of power frequency electric and magnetic fields is available on the Gov.UK website.[13]

There is a potential health impact associated with the electric and magnetic fields around substations, overhead power lines and underground cables. The field strengths tend to reduce with distance from such equipment.

The following information provides a framework for considering the health impact associated with the electric and magnetic fields produced by the proposed development, including the direct and indirect effects of the electric and magnetic fields as indicated above.

Policy Measures for the Electricity Industry

A voluntary code of practice is published which sets out key principles for complying with the ICNIRP guidelines.[14] Companion codes of practice dealing with optimum phasing of high voltage power lines and aspects of the guidelines that relate to indirect effects are also available.[15],[16]

Exposure Guidelines

PHE recommends the adoption in the UK of the EMF exposure guidelines published by the International Commission on Non-ionizing Radiation Protection (ICNIRP). Formal advice to this effect, based on an accompanying comprehensive review of the scientific evidence, was published in 2004 by the National Radiological Protection Board (NRPB), one of PHE's predecessor organisations[17]

Updates to the ICNIRP guidelines for static fields have been issued in 2009 and for low frequency fields in 2010. However, Government policy is that the ICNIRP guidelines are implemented as expressed in the 1999 EU Council Recommendation on limiting exposure of the general public (1999/519/EC):[18]

Static magnetic fields

For static magnetic fields, the ICNIRP guidelines published in 2009 recommend that acute exposure of the general public should not exceed 400 mT (millitesla), for any part of the body, although the previously recommended value of 40 mT is the value used in the Council Recommendation. However, because of potential indirect adverse effects, ICNIRP recognises that practical policies need to be implemented to prevent inadvertent harmful exposure of people with implanted electronic medical devices and implants containing ferromagnetic materials, and injuries due to flying ferromagnetic objects, and these considerations can lead to much lower restrictions, such as 0.5 mT.

Power frequency electric and magnetic fields

At 50 Hz, the known direct effects include those of induced currents in the body on the central nervous system (CNS) and indirect effects include the risk of painful spark discharge on contact with metal objects exposed to electric fields. The ICNIRP guidelines published in 1998 give reference levels for public exposure to 50 Hz electric and magnetic fields, and these are respectively 5 kV m^{-1} (kilovolts per metre) and 100 μT (microtesla). The reference level for

[13] https://www.gov.uk/government/collections/electromagnetic-fields#low-frequency-electric-and-magnetic-fields
[14] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/37447/1256-code-practice-emf-public-exp-guidelines.pdf
[15] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48309/1255-code-practice-optimum-phasing-power-lines.pdf
[16] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/224766/powerlines_vcop_microshocks.pdf
[17] http://webarchive.nationalarchives.gov.uk/20140629102627/http://www.hpa.org.uk/Publications/Radiation/NPRBArchive/DocumentsOfTheNRPB/Absd1502/
[18] http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/Publichealth/Healthprotection/DH_4089500

magnetic fields changes to 200 μT in the revised (ICNIRP 2010) guidelines because of new basic restrictions based on induced electric fields inside the body, rather than induced current density. If people are not exposed to field strengths above these levels, direct effects on the CNS should be avoided and indirect effects such as the risk of painful spark discharge will be small. The reference levels are not in themselves limits but provide guidance for assessing compliance with underlying basic restrictions and reducing the risk of indirect effects.

Long term effects

There is concern about the possible effects of long-term exposure to extremely low frequency electric and magnetic fields, from power lines. In the NRPB advice issued in 2004, it was concluded that the studies that suggest health effects, including those concerning childhood leukaemia in relation to power frequency magnetic fields, could not be used to derive quantitative guidance on restricting exposure. However, the results of these studies represented uncertainty in the underlying evidence base, and taken together with people's concerns, provided a basis for providing an additional recommendation for Government to consider the need for further precautionary measures, particularly with respect to the exposure of children to power frequency magnetic fields.

The Stakeholder Advisory Group on ELF EMFs (SAGE)

SAGE was set up to explore the implications for a precautionary approach to extremely low frequency electric and magnetic fields (ELF EMFs), which include power frequency fields, and to make practical recommendations to Government:[19]

Relevant here is SAGE's 2007 First Interim Assessment, which mades several recommendations concerning high voltage power lines. In responding, Government supported the implementation of low cost options such as optimal phasing to reduce exposure; however it did not support the option of creating corridors around power lines in which development would be restricted on health grounds, which was considered to be a disproportionate measure given the evidence base on the potential long term health risks arising from exposure. The Government response to SAGE's First Interim Assessment is available on the national archive website.[20]

The Government also supported calls for providing more information on power frequency electric and magnetic fields, which is available on the PHE web pages.

Ionising radiation

Particular considerations apply when an application involves the possibility of exposure to ionising radiation. In such cases it is important that the basic principles of radiation protection recommended by the International Commission on Radiological Protection[21] (ICRP) are followed. PHE provides advice on the application of these recommendations in the UK. The ICRP recommendations are implemented in the Euratom Basic Safety Standards[22] (BSS) and these form the basis for UK legislation, including the Ionising Radiation Regulations 1999, the Radioactive Substances Act 1993, and the Environmental Permitting Regulations 2016.

As part of the EIA process PHE expects applicants to carry out the necessary radiological impact assessments to demonstrate compliance with UK legislation and the principles of radiation protection. This should be set out clearly in a separate section or report and should not require any further analysis by PHE. In particular, the important principles of justification, optimisation and

[19] [redacted]

[20] http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_107124

[21] These recommendations are given in publications of the ICRP notably publications 90 and 103 see the website at http://www.icrp.org/

[22] Council Directive 96/29/EURATOM laying down basic safety standards for the protection of the health of workers and the general public against the dangers arising from ionising radiation.

radiation dose limitation should be addressed. In addition compliance with the Euratom BSS and UK legislation should be clear.

When considering the radiological impact of routine discharges of radionuclides to the environment PHE would, as part of the EIA process, expect to see a full radiation dose assessment considering both individual and collective (population) doses for the public and, where necessary, workers. For individual doses, consideration should be given to those members of the public who are likely to receive the highest exposures (referred to as the representative person, which is equivalent to the previous term, critical group).

Different age groups should be considered as appropriate and should normally include adults, 1 year old and 10 year old children. In particular situations doses to the fetus should also be calculated[23].

The estimated doses to the representative person should be compared to the appropriate radiation dose criteria (dose constraints and dose limits), taking account of other releases of radionuclides from nearby locations as appropriate. Collective doses should also be considered for the UK, European and world populations where appropriate.

The methods for assessing individual and collective radiation doses should follow the guidance given in 'Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment August 2012 [24]

It is important that the methods used in any radiological dose assessment are clear and that key parameter values and assumptions are given (for example, the location of the representative persons, habit data and models used in the assessment).

Any radiological impact assessment, undertaken as part of the EIA, should also consider the possibility of short-term planned releases and the potential for accidental releases of radionuclides to the environment. This can be done by referring to compliance with the Ionising Radiation Regulations and other relevant legislation and guidance.

The radiological impact of any solid waste storage and disposal should also be addressed in the assessment to ensure that this complies with UK practice and legislation; information should be provided on the category of waste involved (e.g. very low level waste, VLLW). It is also important that the radiological impact associated with the decommissioning of the site is addressed.

Of relevance here is PHE advice on radiological criteria and assessments for land-based solid waste disposal facilities[25]. PHE advises that assessments of radiological impact during the operational phase should be performed in the same way as for any site authorised to discharge radioactive waste. PHE also advises that assessments of radiological impact during the post operational phase of the facility should consider long timescales (possibly in excess of 10,000 years) that are appropriate to the long-lived nature of the radionuclides in the waste, some of which may have half-lives of millions of years.

The radiological assessment should consider exposure of members of hypothetical representative groups for a number of scenarios including the expected migration of radionuclides from the facility, and inadvertent intrusion into the facility once institutional control has ceased.

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[23] HPA (2008) Guidance on the application of dose coefficients for the embryo, fetus and breastfed infant in dose assessments for members of the public. Doc HPA, RCE-5, 1-78, available at https://www.gov.uk/government/publications/embryo-fetus-and-breastfed-infant-application-of-dose-coefficients

[24] The Environment Agency (EA), Scottish Environment Protection Agency (SEPA), Northern Ireland Environment Agency, Health Protection Agency and the Food Standards Agency (FSA).
Principles for the Assessment of Prospective Public Doses arising from Authorised Discharges of Radioactive Waste to the Environment August 2012.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/296390/geho1202bklh-e-e.pdf

[25] HPA RCE-8, Radiological Protection Objectives for the Land-based Disposal of Solid Radioactive Wastes, February 2009

For scenarios where the probability of occurrence can be estimated, both doses and health risks should be presented, where the health risk is the product of the probability that the scenario occurs, the dose if the scenario occurs and the health risk corresponding to unit dose.

For inadvertent intrusion, the dose if the intrusion occurs should be presented. It is recommended that the post-closure phase be considered as a series of timescales, with the approach changing from more quantitative to more qualitative as times further in the future are considered.

The level of detail and sophistication in the modelling should also reflect the level of hazard presented by the waste. The uncertainty due to the long timescales means that the concept of collective dose has very limited use, although estimates of collective dose from the 'expected' migration scenario can be used to compare the relatively early impacts from some disposal options if required.

Noise from National Networks and Airports

Public Health England's mission is to protect and improve the nation's health and wellbeing and reduce health inequalities. Environmental noise can cause stress and disturb sleep, which over the long term can lead to a number of adverse health outcomes. [26] [27]

The Noise Policy Statement for England (NPSE) [28] sets out the government's overall policy on noise. Its aims are to:

- avoid significant adverse impacts on health and quality of life;
- mitigate and minimise adverse impacts on health and quality of life; and
- contribute to the improvement of health and quality of life.

These aims should be applied within a broader context of sustainable development, where noise is considered alongside other economic, social and environmental factors. PHE expects such factors may include [29]:

- Ensuring healthy lives and promoting well-being for all at all ages;
- promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all;
- building resilient infrastructure, promoting inclusive and sustainable industrialisation and fostering innovation;
- reducing inequality; and
- making cities and human settlements inclusive, safe, resilient and sustainable.

PHE's consideration of the effects of health and quality and life attributable to noise is guided by the recommendations in the 2018 Environmental Noise Guidelines for the European Region 27 published by the World Health Organization, and informed by high quality systematic reviews of the scientific evidence [28] [30] [31] The scientific evidence on noise and health is rapidly developing, and PHE's recommendations are also informed by relevant studies that are judged to be scientifically robust and consistent with the overall body of evidence.

[26] World Health Organisation, *Environmental Noise Guidelines for the European Region.* 2018.

[27] Lercher, P., G. Aasvang, and Y.e. de Kluizenaar, *WHO Noise and Health Evidence Reviews.*

[28] DEFRA, *Noise Policy Statement for England.* 2010.

[29] United Nations. *Sustainable Development Goals*. 2020 01/06/2020]; Available from: [redacted]

[30] Clark, C., C. Crumpler, and A.H. Notley, *Evidence for Environmental Noise Effects on Health for the United Kingdom Policy Context: A Systematic Review of the Effects of Environmental Noise on Mental Health, Wellbeing, Quality of Life, Cancer, Dementia, Birth, Reproductive Outcomes, and Cognition.* Int J Environ Res Public Health, 2020. **17**(2).

[31] van Kamp, I., et al., *Evidence Relating to Environmental Noise Exposure and Annoyance, Sleep Disturbance, Cardio-Vascular and Metabolic Health Outcomes in the Context of IGCB (N): A Scoping Review of New Evidence.* Int J Environ Res Public Health, 2020. **17**(9).

In line with its mission, PHE believes that Nationally Significant Infrastructure Projects (NSIP) should not only limit significant adverse effects, but also explore opportunities to improve the health and quality of life of local communities and reduce inequalities.

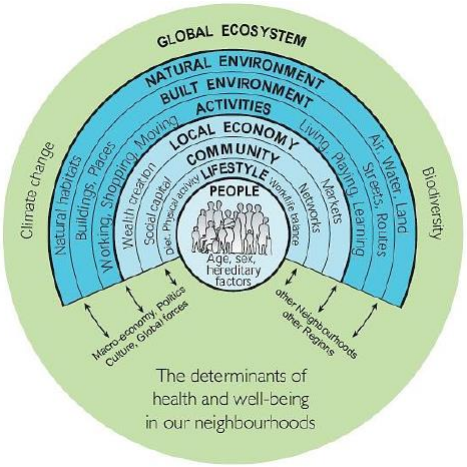
PHE also recognises the developing body of evidence showing that areas of tranquillity offer opportunities for health benefits through psychological restoration. NSIP applications need to demonstrate that they have given due consideration to the protection of the existing sound environment in these areas.

Further, more detailed, guidance on PHE's scoping advice for noise issues associated with road schemes is included in Appendix 3.

Wider Determinants of Health

The World Health Organization (WHO's) defines health as "a state of complete physical, mental and social well-being and not merely an absence of disease or infirmity" (WHO, 1948).

The health and wellbeing of an individual or a population is the result of a complex interaction of a wide range of different determinants of health, from an individual's genetic make-up, to lifestyles and behaviours, and the communities, local economy, built and natural environments to global ecosystem trends. All developments will have some effect on the determinants of health, which in turn will influence the health and wellbeing of the general population, vulnerable groups and individual people.



Barton and Grant[32]

PHE recognises that evaluating an NSIP's impacts on health through the wider determinants is more complex than assessing a project's direct impacts against clearly defined regulatory protections. The 2017 EIA Regulations clarify that the likely significant effects of a development proposal on population and human health must be assessed.

PHE's expectations are that the proponent of an NSIP will conduct a proportionate and evidence-based assessment of the anticipated direct and indirect effects on health and wellbeing in line with the relevant regulatory and policy requirements. Consideration should be given to impacts during the construction, operation and decommissioning phase of NSIPs. Consideration should be given to the avoidance or mitigation of any negative impacts, as well as to how the NSIP could be designed to maximise potential positive benefits.

We accept that the relevance of wider determinants and associated impacts will vary depending on the nature of the proposed development. PHE has focused its approach on scoping determinants of

[32] Barton H, Grant M. A health map for the local human habitat. The Journal of the Royal Society for the Promotion of Health 2006; 126(6): 252-3.

health and wellbeing under four themes, which have been derived from an analysis of the wider determinants of health mentioned in the National Policy Statements.
The four themes are:

- Access
- Traffic and Transport
- Socioeconomic
- Land Use

PHE has developed a list of 21 determinants of health and wellbeing under these four broad themes. These determinants should be considered within any scoping report and if the applicant proposes to scope any areas out of the assessment, they should provide clear evidence-based reasoning and justification. Appendix 2 provides greater detail on the nature of each determinant.

Methodology

PHE will expect assessments to set out the methodology used to assess impacts on each determinant included in the scope of the assessment. In some instances, the methodologies described may be established and refer to existing standards and/or guidance. In other instances, there may be no pre-defined methodology, which can often be the case for the wider determinants of health; as such there should be an application of a logical evidence based impact assessment method that:

- identifies the temporal and geographic scope of assessment
- identifies affected sensitive receptors (general population and vulnerable populations) to impacts from the relevant determinant
- establishes the current baseline situation
- identifies the NSIP's potential direct and indirect impacts on each population
- if impacts are identified, evaluates whether the potential effect is likely to be significant in relation to the affected population
- identifies appropriate mitigation to eliminate or minimise impacts or the subsequent effects on health and inequalities
- identifies opportunities to achieve benefits from the scheme for health and inequalities
- considers any in combination or cumulative effects
- identifies appropriate monitoring programmes

Currently there is no standard methodology for assessing the population and human health effects of infrastructure projects, but a number of guides exist, including:

- Institute of Environmental Management and Assessment, 2017: Health in Environmental Assessment, a primer for a proportionate approach;[33]
- NHS London Healthy Urban Development Unit (HUDU), 2015. Healthy Urban Planning Checklist and Rapid Health Impact Assessment Tool;[34]
- Wales Health Impact Assessment Unit, 2012: HIA a practical guide;[35]
- National Mental Wellbeing Impact Assessment Development Unit 2011: Mental Wellbeing Impact Assessment Toolkit;[36]

PHE expects assessments to follow best practice from these guides and from methodologies adopted within other successful health/environmental impacts assessments.

[33] [redacted]

[34] [redacted]

[35] [redacted]

[36] [redacted]

Determining significant effects
Neither the EIA regulations nor the National Policy Statements provide a definition of what constitutes a 'significant' effect, and so PHE have derived a list of factors which it will take into consideration in the assessment of significance of effects, as outlined below. These list of factors should be read in conjunction with guidance from the above guides.

1. Sensitivity:

Is the population exposed to the NSIP at particular risk from effects on this determinant due to pre-existing vulnerabilities or inequalities (for example, are there high numbers in the local population of people who are young, older, with disabilities or long-term conditions, or on a low income)? Will the NSIP widen existing inequalities or introduce new inequalities in relation to this determinant?

2. Magnitude:

How likely is the impact on this determinant to occur? If likely, will the impact affect a large number of people / Will the impact affect a large geographic extent? Will the effects be frequent or continuous? Will the effects be temporary or permanent and irreversible?

3. Cumulative effects:

Will the NSIP's impacts on this determinant combine with effects from other existing or proposed NSIPs or large-scale developments in the area, resulting in an overall cumulative effect different to that of the project alone?
What are the cumulative effects of the impacts of the scheme on communities or populations. Individual impacts individually may not be significant but in combination may produce an overall significant effect.

4. Importance:

Is there evidence for the NSIP's effect on this determinant on health? Is the impact on this determinant important in the context of national, regional or local policy?

5. Acceptability:

What is the local community's level of acceptance of the NSIP in relation to this determinant? Do the local community have confidence that the applicants will promote positive health impacts and mitigate against negative health effects?

6. Opportunity for mitigation:

If this determinant is included in the scope for the EIA is there an opportunity to enhance any positive health impacts and/or mitigate any negative health impacts?

Vulnerable groups
Certain parts of the population may experience disproportionate negative health effects as a result of a development. Vulnerable populations can be identified through research literature, local population health data or from the identification of pre-existing health conditions that increase vulnerability.

The effects on health and wellbeing and health inequalities of the scheme will have particular effect on vulnerable or disadvantaged populations, including those that fall within the list of protected characteristics. Some protected groups are more likely to have elevated vulnerability associated with social and economic disadvantages. Consideration should be given to language or lifestyles that influence how certain populations are affected by impacts of the proposal, for example non-English speakers may face barriers to accessing information about the works or expressing their concerns.

Equality Impact Assessments (EqIA) are used to identify disproportionate effects on Protected Groups (defined by the Equality Act, 2010), including health effects. The assessments and findings of the Environmental Statement and the EqIA should be crossed referenced between the two documents, particularly to ensure the assessment of potential impacts for health and inequalities and that resulting mitigation measures are mutually supportive.

The Wales Health Impact Assessment Support Unit (WHIASU), provides a suggested guide to vulnerable groups

Age related groups
• Children and young people
• Older people
Income related groups
• People on low income
• Economically inactive
• Unemployed/workless
• People who are unable to work due to ill health

Groups who suffer discrimination or other social disadvantage
• People with physical or learning disabilities/difficulties
• Refugee groups
• People seeking asylum
• Travellers
• Single parent families
• Lesbian, gay or transgender people
• Black and minority ethnic groups
• Religious groups

Geographical groups
• People living in areas known to exhibit poor economic and/or health indicators
• People living in isolated/over-populated areas
• People unable to access services and facilities

Mental health
PHE supports the use of the broad definition of health proposed by the World Health Organisation (WHO). Mental well-being is fundamental to achieving a healthy, resilient and thriving population. It underpins healthy lifestyles, physical health, educational attainment, employment and productivity, relationships, community safety and cohesion and quality of life. NSIP schemes can be of such scale and nature that they will impact on the over-arching protective factors, which are:

- Enhancing control
- Increasing resilience and community assets
- Facilitating participation and promoting inclusion.

There should be parity between mental and physical health, and any assessment of health impact should include the appreciation of both. A systematic approach to the assessment of the impacts on mental health, including suicide, is required. The Mental Well-being Impact Assessment (MWIA) could be used as a methodology. The assessment should identify vulnerable populations and provide clear mitigation strategies that are adequately linked to any local services or assets

Perceptions about the proposed scheme may increase the risk of anxiety or health effects by perceived effects. “Estimation of community anxiety and stress should be included as part of every risk or impact assessment of proposed plans that involve a potential environmental hazard.

Evidence base and baseline data
Baseline population / community health data (quantitative and qualitative) should be sufficient to represent current health status and identify areas or groups with poor health or inequalities. This should provide sufficient information on the physical and mental health and wellbeing and social determinants of health for the affected populations and any vulnerable groups identified.

A baseline health assessment could include:

- General population data (including size, density, age, gender, income and employment, socio-economic status, crime and disorder etc, health status.)
- Environmental information (housing, transport, access to services, provision and access to green space, tranquillity or sound environment)
- Data on behaviour, such as levels of physical activity, smoking, car usage, walking and cycling
- Surveys of local conditions
- Local concerns and anxieties (where documented)
- Secondary analysis of existing local data
- Resident surveys or consultations
- Health status, particularly of the population groups already identified as vulnerable and likely to benefit or be harmed by the proposal. This should include mental health and suicide.
- Quality of life indicators (if available / relevant)
- Local people's views of the area and of the services provided (community engagement exercises)

There will be a range of publicly available health data including:

- National datasets such as those from the Office of National Statistics,
- PHE, including the fingertips data sets,
- Non-governmental organisations,
- Local public health reports, such as the Joint Strategic Needs Assessment and Health and Wellbeing Strategies;
- Consultation with local authorities, including public health teams
- Information received through public consultations, including community engagement exercises

There should be a narrative which interprets the data collected in the context of the project. A list of tables and data is not sufficient, so the report should consider:

- Are particular groups or vulnerable groups likely to be impacted more than others and is this clearly described and explained?
- What indicators within the current health baseline that are worse than England average/ local ward or LSOA levels?
- What are the levels of inequality in the study area?
  What are the potential inequalities in the distribution of impacts?

Mitigation

If the assessment has identified that significant negative effects are likely to occur with respect to the wider determinants of health, the assessment should include a description of planned mitigation measures the applicant will implement to avoid or prevent effects on the population.

Mitigation and/or monitoring proposals should be logical, feasible and have a clear governance and accountability framework indicating who will be responsible for implementation and how this will be secured during the construction and/or operation of the NSIP.

Any proposed mitigation should have sufficient detail to allow for an assessment of the adequacy of the proposed mitigation measures.

Positive benefits from the scheme

The scale of many NSIP developments will generate the potential for positive impacts on health and wellbeing; however, delivering such positive health outcomes often requires specific enabling or enhancement measures. For example, the construction of a new road network to access an NSIP site may provide an opportunity to improve the active transport infrastructure for the local community. PHE expects developments to consider and report on the opportunity and feasibility of positive impacts. These may be stand alone or be considered as part of the mitigation measures.

Replacement publicly accessible space or community assets
The replacement of community assets provides opportunity for positive impacts and the design, location and operation of the replacement asset should be considered in consultation with user, the local community and agencies.

Any replacement recreational land, open space or other community assets should be located and designed to:

- Not unreasonably extend journey times or increase transport costs, or result in too many people being prevented from travelling sustainably due to unsuitable walking or cycling routes.
- Ensure that accessibility planning has been properly taken into account and that the proposal will not adversely impact on disadvantaged groups.
- Meet identified community needs which may go beyond direct replacement but can be reasonably incorporated
- Provide acceptable recreational amenity, including noise environment, for outdoor spaces associated with the individual community facilities
- The design of the sites should be carried out in consultation with the local community. It should incorporate features and designs to enable access and use across the life course.
- The PEIR should contain sufficient detail regarding the location and design in order to determine the acceptability of the replacement facilities.
- Quality, quantity and accessibility should be determined against defined criteria agreed with stakeholders. The following evidence based assessment tools should be considered:

The quality of the provision of replacement green space should be assessed, for example by the use of:

Building with Nature - There are 6 wellbeing standards, which are:

- Accessible
- Inclusive
- Seasonal enjoyment
- Locally relevant
- Socially sustainable
- Distinctive

The ANGSt standards address amount, access and quality

The ORVaL tool - This tool works on areas that are currently publicly accessible and looks at welfare values for this area. The site functionality allows users to investigate how altering the land cover, features or the area of existing recreation sites will change usage and welfare values. This allows a comparison between existing and the proposed sites. Contact should be made with the ORVaL team to establish the functionality of the tool relevant to the DCO and interpretation of the findings[37].

Green Flag Award- a robust framework for assessing the quality of public green spaces of all types and sizes.

Employment
NSIP schemes have the potential to negatively impact through the relocation or loss of local businesses. Equally they can offer an opportunity for new business activity and employment both at the construction stage and operation of the development approved by the DCO.
There is clear evidence that good work improves health and wellbeing across people's lives and protects against social exclusion. Conversely, unemployment is bad for health and wellbeing, as it is associated with an increased risk of mortality and morbidity. For many individuals, in particular those with long-term conditions such as mental health problems, musculoskeletal (MSK) conditions and

[37] [redacted]

disabilities, health issues can be a barrier to gaining and retaining employment. Employment rates are lowest among disabled people, with only 51.3% in work, meaning there is a substantial employment rate gap in the UK between disabled and non-disabled people (81.4% in employment). Among these working age disabled people in the UK, 54% have a mental health or MSK condition as their main health condition[38]. Enabling people with health issues to obtain or retain work, and be productive within the workplace, is a crucial part of the economic success and wellbeing of every community and industry.
It is important that people are supported to gain employment and maintain economic independence for themselves and their families, especially as they age. This is of particular importance for individuals with long-term conditions and disabilities, due to the barriers they face in gaining employment and retaining a job.

Where relevant any assessments should include:

- The impact of business relocation in order to identify the likely level of job losses within the study area
- The proposed support mechanisms to be established for business owners and employees
- A clear strategy and action plan that addresses barriers to employment within the local population and those that cease employment due to the DCO.

Compulsory purchase
NSIP schemes can involve the compulsory acquisition of property from land take. Mitigation will involve supporting home-owners and tenants in understanding and utilising the compensation and support offered through the compensation policies.
The impacts from compulsory acquisition of land and property can affect health and wellbeing, including mental health, for example from home, school and employment relocation and loss of employment. This will be particularly relevant to sensitive receptors within communities, many of which will form part of the private rented sector.

Compensation and support can be an important element of mitigation, but developers should consider opportunities to work through partners and local Voluntary, Community and Social Enterprise (VCSE) organisations. These organisations offer the potential for engagement with vulnerable groups and may gain greater acceptance by the wider community.

Any compulsory purchase support schemes should ensure sufficient competency in public health, including public mental health, in order to help support local communities. The aim would be to establish a workforce that is confident, competent and committed to:
promote good physical and mental health across the population
prevent mental illness and suicide
improve the quality and length of life of people living within affected communities

The Public mental health leadership and workforce development framework[39] published by PHE offers a skills framework for the wider public health workforce. As well as the competences in this framework. Health Education England (HEE) have published a course content guide entitled Public Mental Health Content Guide For introductory courses or professional development in mental health and wellbeing[40].

[38] [redacted]

[39] [redacted]

Monitoring
PHE expects an assessment to include consideration of the need for monitoring and the ES should clearly state the principles on which the monitoring strategy has been established, including monitoring in response to unforeseen impacts or effects.

It may be appropriate to undertake monitoring where:

- Critical assumptions have been made in the absence of supporting evidence or data
- There is uncertainty about whether significant negative effects are likely to occur and it would be appropriate to include planned monitoring measures to track their presence, scale and nature.
- There is uncertainty about the potential success of mitigation measures
- It is necessary to track the nature of the impact or effect and provide useful and timely feedback that would allow action to be taken should negative effects occur

The monitoring strategy should set out:

- Monitoring methodologies
- Data sources, particularly if being obtained from third parties or open access data
- Assessment methods
- Publication methodology
- Reporting frequency
- Temporal and geographic scope

For very large controversial schemes it may be worth considering the need to have an independent organisation undertake / report on the monitoring and the need for academic robustness.

Community based reports
Large complex schemes that involve significant effects on communities or significant cumulative effects can benefit from identifying impacts and reporting at an individual community level. This assists in the identification of the overall potential effects across a range of impacts. These community level reports will also aid local communities to engage with consultations by providing relevant and accessible information.

How to contact PHE
If you wish to contact us regarding an existing or potential NSIP application please email: nsipconsultations@phe.gov.uk

Appendix 2

Table 1 – Wider determinants of health and wellbeing

Health and wellbeing themes			
Access	Traffic and Transport	Socioeconomic	Land Use
Wider determinants of health and wellbeing			
Access to : • local public and key services and facilities. • Good quality affordable housing. • Healthy affordable food. • The natural environment. • The natural environment within the urban environment. • Leisure, recreation and physical activities within the urban and natural environments.	• Accessibility. • Access to/by public transport. • Opportunities for access by cycling and walking. • Links between communities. • Community severance. • Connections to jobs. • Connections to services, facilities and leisure opportunities.	• Employment opportunities, including training opportunities. • Local business activity. • Regeneration. • Tourism and leisure industries. • Community/social cohesions and access to social networks. • Community engagement.	• Land use in urban and/or /rural settings. • Quality of Urban and natural environments

1) **<u>Access</u>**

a. Access to local, public and key services and facilities
Access to local facilities can increase mobility and social participation. Body mass index is significantly associated with access to facilities, including factors such as the mix and density of facilities in the area. The distance to facilities has no or only a small effect on walking and other physical activities. Access to recreational facilities can increase physical activity, especially walking for recreation, reduce body weight, reduce the risk of high blood pressure, and reduce the number of vehicle trips, the distances travelled and greenhouse gas emissions.

Local services include health and social care, education, employment, and leisure and recreation. Local facilities include community centres, shops, banks/credit unions and Post Offices. Services and facilities can be operated by the public, private and/or voluntary sectors. Access to services and facilities is important to both physical and mental health and wellbeing. Access is affected by factors such as availability, proximity to people's place of residence, existence of transport services or active travel infrastructure to the location of services and facilities, and the quality of services and facilities.

The construction or operation of an NSIP can affect access adversely: it may increase demand and therefore reduce availability for the existing community; during

construction, physical accessibility may be reduced due to increased traffic and/or the blockage of or changes to certain travel routes. It is also possible that some local services and facilities are lost due to the land-take needed for the NSIP.

Conversely if new routes are built or new services or facilities provided the NSIP may increase access. NSIPs relating to utilities such as energy and water can maintain, secure or increase access to those utilities, and thereby support health and wellbeing.

b. Access to good-quality affordable housing
Housing refurbishment can lead to an improvement in general health and reduce health inequalities. Housing improvements may also benefit mental health. The provision of diverse forms and types of housing is associated with increased physical activity. The provision of affordable housing is strongly associated with improved safety perceptions in the neighbourhood, particularly among people from low-income groups. For vulnerable groups, the provision of affordable housing can lead to improvements in social, behavioural and health related outcomes. For some people with long term conditions, the provision of secure and affordable housing can increase engagement with healthcare services, which can lead to improved health-related outcomes. The provision of secure and affordable housing can also reduce engagement in risky health-related behaviours. For people who are homeless, the provision of affordable housing increases engagement with healthcare services, improves quality of life and increases employment, and contributes to improving mental health.

Access to housing meets a basic human need, although housing of itself is not necessarily sufficient to support health and wellbeing: it is also important that the housing is of good quality and affordable. Factors affecting the quality of housing include energy efficiency (eg effective heating, insulation), sanitation and hygiene (eg toilet and bathroom), indoor air quality including ventilation and the presence of damp and/or mould, resilience to climate change, and overcrowding. The affordability of housing is important because for many people, especially people on a low income, housing will be the largest monthly expense; if the cost of housing is high, people may not be able to meet other needs such as the need for heating in winter or food. Some proposals for NSIPs include the provision of housing, which could be beneficial for the health and wellbeing of the local population. It is also possible that some housing will be subject to a compulsory purchase order due to the land-take needed for an NSIP.

c. Access to affordable healthy food
Access to healthy food is related to the provision of public and active transport infrastructure and the location and proximity of outlets selling healthier food such as fruit and vegetables. For the general population, increased access to healthy, affordable food through a variety of outlets (shops, supermarkets, farmers' markets and community gardens) is associated with improved dietary behaviours, including attitudes towards healthy eating and food purchasing behaviour, and improved adult weight. Increased access to unhealthier food retail outlets is associated with increased weight in the general population and increased obesity and unhealthy eating behaviours among children living in low-income areas. Urban agriculture can improve attitudes towards healthier food and increase fruit and vegetable consumption.

Factors affecting access to healthy affordable food include whether it is readily available from local shops, supermarkets, markets or delivery schemes and/or there are opportunities to grow food in local allotments or community gardens. People in environments where there is a high proportion of fast food outlets may not have easy access to healthy affordable food.

d. Access to the natural environment
Availability of and access to safe open green space is associated with increased

physical activity across a variety of behaviours, social connectedness, childhood development, reduced risk of overweight and obesity and improved physical and mental health outcomes. While the quantity of green space in a neighbourhood helps to promote physical activity and is beneficial to physical health, eg lower rates of mortality from cardiovascular disease and respiratory disease in men, the availability of green environments is likely to contribute more to mental health than to physical health: the prevalence of some disease clusters, particularly anxiety and depression, is lower in living environments which have more green space within a 1-km radius.

The proximity, size, type, quality, distribution, density and context of green space are also important factors. Quality of green space may be a better predictor of health than quantity, and any type of green space in a neighbourhood does not necessarily act as a venue for, or will encourage, physical activity. 'Walkable' green environments are important for better health, and streetscape greenery is as strongly related to self-reported health as green areas. Residents in deprived areas are more likely to perceive access to green space as difficult, to report poorer safety, to visit the green space less frequently and to have lower levels of physical activity. The benefits to health and wellbeing of blue space include lower psychological distress.

The natural environment includes the landscape, waterscape and seascape. Factors affecting access include the proximity of the natural environment to people's place of residence, the existence of public transport services or active travel infrastructure to the natural environment, the quality of the natural environment and feelings of safety in the natural environment. The construction of an NSIP may be an opportunity to provide green and/or blue infrastructure in the local area. It is also possible that green or blue infrastructure will be lost due to the land-take needed for the NSIP.

e. Access to the natural environment within the urban environment
Public open spaces are key elements of the built environment. Ecosystem services through the provision of green infrastructure are as important as other types of urban infrastructure. It supports physical, psychological and social health, although the quality, perceptions of safety and accessibility of green space affects its use. Safe parks may be particularly important for promoting physical activity among urban adolescents. Proximity to urban green space and an increased proportion of green space are associated with decreased treatment of anxiety/mood disorders, the benefits deriving from both participation in usable green space near to home and observable green space in the neighbourhood. Urban agriculture may increase opportunities for physical activity and social connections.

A view of 'greenery' or of the sea moderates the annoyance response to noise. Water is associated with positive perceptive experiences in urban environments, with benefits for health such as enhanced contemplation, emotional bonding, participation and physical activity. Increasing biodiversity in urban environments, however, may promote the introduction of vector or host organisms for infectious pathogens, eg green connectivity may potentiate the role of rats and ticks in the spread of disease, and bodies of water may provide habitats for mosquitoes.

The natural environment within the urban environment includes the provision of green and blue space in towns and cities. Factors involved in access include the proximity of the green and/or blue space to people's place of residence, the existence of transport services or active travel infrastructure to the green and/or blue space, the quality of the green and/or blue space and feelings of safety when using the green and/or blue space. The construction of an NSIP may be an opportunity to provide green and/or blue infrastructure in the local urban environment. It is also possible that green or blue infrastructure in the urban environment will be lost due to the land-take needed for the NSIP.

f. Access to leisure, recreation and physical activity opportunities within the urban and natural environments.
Access to recreational opportunities, facilities and services is associated with risk factors for long-term disease; it can increase physical activity, especially walking for recreation, reduce body mass index and overweight and obesity, reduce the risk of high blood pressure, and reduce the number of vehicle trips, the distances travelled and greenhouse gas emissions. It can also enhance social connectedness. Children tend to play on light-traffic streets, whereas outdoor activities are less common on high-traffic streets. A perception of air pollution can be a barrier to participating in outdoor physical activity[41]. However, the health co-benefits from physical activity outweigh the adverse effects of air pollution. There is a positive association between urban agriculture and increased opportunities for physical activity and social connectivity. Gardening in an allotment setting can result in many positive physical and mental health-related outcomes. Exercising in the natural environment can have a positive effect on mental wellbeing when compared with exercising indoors.

Leisure and recreation opportunities include opportunities that are both formal, such as belonging to a sports club, and informal, such as walking in the local park or wood. Physical activity opportunities include routine activity as part of daily life, such as walking or cycling to work, and activity as part of leisure or recreation, such as playing football. The construction of an NSIP may enhance the opportunities available for leisure and recreation and physical activity through the provision of new or improved travel routes, community infrastructure and/or green or blue space. Conversely, construction may reduce access through the disruption of travel routes to leisure, recreation and physical activity opportunities.

2) **Traffic and Transport**

a. Accessibility
Walkability, regional accessibility, pavements and bike facilities are positively associated with physical activity and negatively related to body weight and high blood pressure, and reduce the number of vehicle trips, the distances travelled and greenhouse gas emissions. Body mass index is associated with street network accessibility and slope variability.

Accessibility in relation to transport and travel has several aspects including whether potential users can gain physical access to the infrastructure and access to the services the infrastructure provides. The design and operation of transport infrastructure and the associated services should take account of the travel needs of all potential users including people with limited mobility. People whose specific needs should be considered include pregnant women, older people, children and young people and people with a disability. Other aspects of transport infrastructure affecting accessibility include safety and affordability, both of which will affect people's ability to travel to places of employment and/or key local services and facilities and/or access their social networks.

b. Access to / by public transport
Provision of high-quality public transport is associated with higher levels of active travel among children and among people commuting to work, with a decrease in the use of

[41] Annear, M., Keeling, S., Wilkinson, T., Cushman, G., Gidlow, B., & Hopkins, H. (2014). Environmental influences on healthy and active ageing: A systematic review. Ageing & Society, 34 (4), 590-622. Available at

private cars. Combining public transport with other forms of active travel can improve cardiovascular fitness. Innovative or new public transport interventions may need to be marketed and promoted differently to different groups of transport users, eg by emphasising novelty to car users while ensuring that the new system is seen by existing users as coherently integrated with existing services.

Transport facilitates access to other services, facilities and amenities important to health and wellbeing. Public transport is any transport open to members of the public including bus, rail and taxi services operated by the public, private or community sectors. For people who do not have access to private transport, access to public transport is important as the main agency of travel especially for journeys >1 mile. Access to public transport is not sufficient, however, and access by public transport needs to be taken into account: public transport services should link places where people live with the destinations they need or want to visit such as places of employment, education and healthcare, shops, banks and leisure facilities. Other aspects of access to public transport include affordability, safety, frequency and reliability of services.

c. Opportunities for / access by cycling & walking
Walking and cycling infrastructure can enhance street connectivity, helping to reduce perceptions of long-distance trips and providing alternative routes for active travel. Awareness of air pollution could be a barrier to participating in active travel, however those that choose to walk or cycle often experience lower exposure to pollution, and create less pollution than those in vehicles[42].Prioritising pedestrians and cyclists through changes in physical infrastructure can have positive behavioural and health outcomes, such as physical activity, mobility and cardiovascular outcomes. The provision and proximity of active transport infrastructure is also related to other long-term disease risk factors, such as access to healthy food, social connectedness and air quality.

Perceived or objective danger may also have an adverse effect on cycling and walking, both of which activities decrease with increasing traffic volume and speed, and cycling for leisure decreases as local traffic density increases. Health gains from active travel policies outweigh the adverse effects of road traffic incidents. New infrastructure to promote cycling, walking and the use of public transport can increase the time spent cycling on the commute to work, and the overall time spent commuting among the least-active people. Active travel to work or school can be associated with body mass index and weight, and may reduce cardiovascular risk factors and improve cardiovascular outcomes. The distance of services from cycle paths can have an adverse effect on cycling behaviour, whereas mixed land use, higher densities and reduced distances to non-residential destinations promote transportation walking.

d. Links between communities
Social connectedness can be enhanced by the provision of public and active transport infrastructure and the location of employment, amenities, facilities and services.

e. Community severance
In neighbourhoods with high volumes of traffic, the likelihood of people knowing and trusting neighbours is reduced.

f. Connections to jobs
The location of employment opportunities and the provision of public and active transportation infrastructure are associated with risk factors for long-term disease such as physical activity. Good pedestrian and cycling infrastructure can promote commuting

[42] Defra 2019, Clean Air Strategy 2019. Available at https://www.gov.uk/government/publications/clean-air-strategy-2019

physical activity. Improved transport infrastructure has the potential to shift the population distribution of physical activity in relation to commuting, although a prerequisite may be a supportive social environment. Mixed land use, higher densities and reduced distances to non-residential destinations promote transportation walking.

The ease of access to employment, shops and services including the provision of public and active transport are important considerations and schemes should take any opportunity to improve infrastructure to promote cycling, walking and the use of public transport

g. Connections to services, facilities and leisure opportunities
Mixed land use, higher densities and reduced distances to non-residential destinations promote transportation walking. Access to recreational opportunities and the location of shops and services are associated with risk factors for long-term disease such as physical activity, access to healthy food and social connectedness. Increased distance of services from cycle paths can have an adverse effect on cycling behaviour.

3) **Socio Economic**

a. Employment opportunities including training opportunities
Employment is generally good for physical and mental health and well-being, and worklessness is associated with poorer physical and mental health and well-being. Work can be therapeutic and can reverse the adverse health effects of unemployment for healthy people of working age, many disabled people, most people with common health problems and social security beneficiaries. Account must be taken of the nature and quality of work and its social context and jobs should be safe and accommodating. Overall, the beneficial effects of work outweigh the risks of work and are greater than the harmful effects of long-term unemployment or prolonged sickness absence. Employment has a protective effect on depression and general mental health.

Transitions from unemployment to paid employment can reduce the risk of distress and improve mental health, whereas transitions into unemployment are psychologically distressing and detrimental to mental health. The mental health benefits of becoming employed are also dependent on the psychosocial quality of the job, including level of control, demands, complexity, job insecurity and level of pay: transition from unemployment to a high-quality job is good for mental health, whereas transition from unemployment to a low-quality job is worse for mental health than being unemployed. For people receiving social benefits, entry into paid employment can improve quality of life and self-rated health (physical, mental, social) within a short time-frame. For people receiving disability benefits, transition into employment can improve mental and physical health. For people with mental health needs, entry into employment reduces the use of mental health services.

For vocational rehabilitation of people with severe mental illness (SMI), Supported Employment is more effective than Pre-vocational Training in helping clients obtain competitive employment; moreover, clients in Supported Employment earn more and work more hours per month than those in Pre-vocational Training.

b. Local Business Activity
It is important to demonstrate how a proposed development will contribute to ensuring the vitality of town centres. Schemes should consider the impact on local employment, promote beneficial competition within and between town centres, and create attractive, diverse places where people want to live, visit and work

In rural areas the applicant should assess the impact of the proposals on a prosperous rural economy, demonstrate how they will support the sustainable growth and

expansion of all types of business and enterprise in rural areas, promoting the development and diversification of agricultural and other land based rural businesses.

c. Regeneration
Following rebuilding and housing improvements in deprived neighbourhoods, better housing conditions are associated with better health behaviours; allowing people to remain in their neighbourhood during demolition and rebuilding is more likely to stimulate life-changing improvements in health behaviour than in people who are relocated. The partial demolition of neighbourhoods does not appear to affect residents' physical or mental health. Mega-events, such as the Olympic Games, often promoted on the basis of their potential legacy for regeneration, appear to have only a short-term impact on mental health.

d. Tourism and Leisure Industries
The applicant should assess the impact of the proposed development on retail, leisure, commercial, office, tourism, cultural, community and residential development needed in town centres. In rural locations assessment and evaluation of potential impacts on sustainable rural tourism and leisure developments that benefit businesses in rural areas, communities and visitors should be undertaken.

e. Community / social cohesion and access to social networks
The location of employment, shops and services, provision of public and active transport infrastructure and access to open space and recreational opportunities are associated with social connectedness. Access to local amenities can increase social participation. Neighbourhoods that are more walkable can increase social capital. Urban agriculture can increase opportunities for social connectivity. Infrastructure developments, however, can affect the quality of life of communities living in the vicinity, mediated by substantial community change, including feelings of threat and anxiety, which can lead to psychosocial stress and intra-community conflict.

f. Community engagement
Public participation can improve environmental impact assessments, thereby increasing the total welfare of different interest groups in the community. Infrastructure development may be more acceptable to communities if it involves substantial public participation.

4) **Land Use**

a. Land use in urban and / or rural settings
Land-use mix including infrastructure:
Land use affects health not only by shaping the built environment, but also through the balance of various types of infrastructure including transport. Vulnerable groups in the population are disproportionately affected by decisions about land use, transport and the built environment. Land use and transport policies can result in negative health impacts due to low physical activity levels, sedentary behaviours, road traffic incidents, social isolation, air pollution, noise and heat. Mixed land use can increase both active travel and physical activity. Transportation walking is related to land-use mix, density and distance to non-residential destinations; recreational walking is related to density and mixed use. Using modelling, if land-use density and diversity are increased, there is a shift from motorised transport to cycling, walking and the use of public transport with consequent health gain from a reduction in long-term conditions including diabetes, cardiovascular disease and respiratory disease.

b. Quality of urban and natural environments
Long-term conditions such as cardiovascular disease, diabetes, obesity, asthma and depression can be moderated by the built environment. People in neighbourhoods

characterised by high ‘walkability’ walk more than people in neighbourhoods with low ‘walkability’ irrespective of the land-use mix. In neighbourhoods associated with high ‘walkability’ there is an increase in physical activity and social capital, a reduction in overweight and blood pressure, and fewer reports of depression and of alcohol abuse. The presence of walkable land uses, rather than their equal mixture, relates to a healthy weight. Transportation walking is at its highest levels in neighbourhoods where the land-use mix includes residential, retail, office, health, welfare and community, and entertainment, culture and recreation land uses; recreational walking is at its highest levels when the land-use mix includes public open space, sporting infrastructure and primary and rural land uses. Reduced levels of pollution and street connectivity increase participation in physical activity.

Good-quality street lighting and traffic calming can increase pedestrian activity, while traffic calming reduces the risk of pedestrian injury. 20-mph zones and limits are effective at reducing the incidence of road traffic incidents and injuries, while good-quality street lighting may prevent them. Public open spaces within neighbourhoods encourage physical activity, although the physical activity is dependent on different aspects of open space, such as proximity, size and quality. Improving the quality of urban green spaces and parks can increase visitation and physical activity levels.

Living in a neighbourhood overlooking public areas can improve mental health, and residential greenness can reduce the risk of cardiovascular mortality. Crime and safety issues in a neighbourhood affect both health status and mental health. Despite the complexity of the relationship, the presence of green space has a positive effect on crime, and general environmental improvements may reduce the fear of crime. Trees can have a cooling effect on the environment – an urban park is cooler than a non-green site. Linking road infrastructure planning and green infrastructure planning can produce improved outcomes for both, including meeting local communities' landscape sustainability objectives.

Appendix 3
NSIP National Networks – Road schemes (scoping stage)
Public Health England Generic Response: Noise and Public Health
Guiding principles

Public Health England's mission is to protect and improve the nation's health and wellbeing and reduce health inequalities. Environmental noise can cause stress and disturb sleep, which over the long term can lead to a number of adverse health outcomes [1, 2]. The Noise Policy Statement for England (NPSE) [3] sets out the government's overall policy on noise. Its aims are to:

- avoid significant adverse impacts on health and quality of life;
- mitigate and minimise adverse impacts on health and quality of life; and
- contribute to the improvement of health and quality of life.

These aims should be applied within a broader context of sustainable development, where noise is considered alongside other economic, social and environmental factors. PHE expects such factors may include [4]:

- Ensuring healthy lives and promoting well-being for all at all ages;
- promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all;
- building resilient infrastructure, promoting inclusive and sustainable industrialisation and fostering innovation;
- reducing inequality; and
- making cities and human settlements inclusive, safe, resilient and sustainable.

PHE's consideration of the effects of health and quality and life attributable to noise is guided by the recommendations in the 2018 Environmental Noise Guidelines for the European Region [1] published by the World Health Organization, and informed by high quality systematic reviews of the scientific evidence [2, 5, 6]. The scientific evidence on noise and health is rapidly developing, and PHE's recommendations are also informed by relevant studies that are judged to be scientifically robust and consistent with the overall body of evidence.

In line with its mission, PHE believes that Nationally Significant Infrastructure Projects (NSIP) should not only limit significant adverse effects, but also explore opportunities to improve the health and quality of life of local communities and reduce inequalities.
PHE also recognises the developing body of evidence showing that areas of tranquillity offer opportunities for health benefits through psychological restoration. NSIP applications need to demonstrate that they have given due consideration to the protection of the existing sound environment in these areas.

Significance of Impacts
Determining significance of impacts is an essential element of an Environmental Impact Assessment, and therefore significance needs to be clearly defined at the earliest opportunity by the Applicant. PHE recommends that the definition of significance is discussed and agreed with relevant stakeholders, including local authority environmental health and public health teams and local community representatives, through a documented consultation process. PHE recommends that any disagreement amongst stakeholders on the methodology for defining significance is acknowledged in the planning application documentation and could inform additional sensitivity analyses.

For noise exposure, PHE expects assessments of significance to be closely linked to the associated impacts on health and quality of life, and not on noise exposure per se (in line with the NPSE). The latest revision of the Design Manual for Roads and Bridges (DMRB) Table 3.49 LA111 [7] includes proposed values for the Lowest Observable Adverse Effect Level (LOAEL) and Significant Observable Adverse Effect Level (SOAEL)43 for operational noise, and these values are likely to

[43] As defined in the Noise Policy Statement for England [3] and the Planning Practice Guidance [14].

inform judgements on significance of impact. Whilst DMRB does not explicitly reference the underpinning evidence that informed these numbers, the night time LOAEL and SOAEL of 40 dB Lnight (outside, free-field) and 55 dB Lnight (outside, free-field) respectively, correspond to the guideline value and interim target proposed in the WHO Night Noise Guidelines (2009) [8]. The Night Noise Guidelines emphasized that the interim target was "not a health-based limit value by itself. Vulnerable groups cannot be protected at this level".

The daytime SOAEL of 68 dB LA10,18hr (façade) appears to be derived from the relative noise level in the Noise Insulation Regulations (NIR) [9], which is linked to the provision of enhanced noise insulation for new highway infrastructure. The NIR does not explicitly refer to the underpinning evidence on which the relevant noise level is based, and there is a lack of good quality evidence linking noise exposure expressed in the LA10 metric to health effects. Therefore, it is helpful to convert these levels to Lden and LAeq,16hr metrics, which are more widely used in the noise and health literature. Assuming motorway traffic, a level of 68 dB LA10,18hr (façade) is approximately equivalent to 44 free-field outdoor levels of 69dB Lden (or45 64LAeq,16hr). The corresponding internal noise levels are46 approximately 54dB LAeq,16hr (open windows), 48dB LAeq,16hr (tilted windows) and 36dB LAeq,16hr (closed windows).

For construction noise the latest revision of the DMRB makes reference to Section E3.2 and Table E.1 in Annex E (informative) of BS 5228-1:2009+A1:2014 [10] for the definition of SOAELs. Table E.1 of BS 5228-1:2009+A1:2014 provides examples of threshold values in three categories, based on existing ambient values. Threshold values are higher when ambient noise levels are higher. Daytime (07:00-19:00, weekdays) thresholds can be traced back to principles promoted by the Wilson Committee in 1963 [11]: "Noise from construction and demolition sites should not exceed the level at which conversation in the nearest building would be difficult with the windows shut." The Wilson committee also recommended that "Noisy work likely to cause annoyance locally should not be permitted between 22.00 hours and 07.00 hours." BS 5228 states that these principles have been expanded over time to include a suite of noise levels covering the whole day/week period taking into account the varying sensitivities through these periods.

With reference to the noise exposure hierarchy table in the Planning Practice Guidance (Noise) [14], PHE is not aware of good quality scientific evidence that links specific noise levels to behavioural/attitudinal changes in the general population. Reactions to noise at an individual level are strongly confounded by personal, situational and environmental non-acoustic factors [16, 17], and large inter-personal variations are observed in the reaction of a population to a particular noise level [18-21]. For these reasons PHE is not able to provide evidence-based general recommendations for SOAELs that are able to achieve the aims and objectives of the Noise Policy Statement for England and the Planning Practice Guidance on noise. DMRB allows for project specific LOAELs and SOAELs to be defined if necessary, and PHE recommends that for each scheme the Applicant gives careful consideration of the following:

- The existing noise exposure of affected communities – in particular, consideration of any designated Noise Important Areas identified in proximity to the scheme;
- The size of the population affected – for example an effect may be deemed significant if a large number of people are exposed to a relatively small noise change;
- The relative change in number and type of vehicle pass-bys;
- Changes in the temporal distribution of noise during day/evening/night, or between weekdays and weekends;

[44] Using equation 4.16 from [22], assuming free-field levels; $L_{A10,18hr}$ (free-field) = $L_{A10,18hr}$ (façade) – 2.5dB(A) as per CRTN [13].

[45] Using conversion factors in para. 2.2.13 Transport Analysis Guidance (TAG) Unit A3 [15]

[46] Using external – internal level differences reported by Locher et al. (2018) [12], based on measurements at 102 dwellings in Switzerland in 2016.

- Soundscape and tranquillity, in particular the value that communities put on the lack of environmental noise in their area, or conversely, on the lack of public areas within walking distance that are relatively free from environmental noise;
- Opportunities for respite (predictable periods of relief from noise), either spatially or temporally;
- Cumulative exposure to other environmental risk factors, including other sources of noise and air pollution,
- Local health needs, sensitivities and objectives.

The WHO Environmental Noise Guidelines (2018) do not define LOAELs for environmental noise sources, partly because the scientific evidence suggests that there is no clear threshold where adverse impacts on health and quality of life cease to occur in the general population. Based on the systematic reviews that informed the 2018 WHO Environmental Noise Guidelines [2], the daytime operational noise LOAEL quoted in DMRB is equivalent to approximately 8% of the population Highly Annoyed47, and the night time LOAEL is equivalent to approximately 2% of the population Highly Sleep Disturbed48. Therefore, the impact assessment should acknowledge that adverse health effects will occur beyond the assessment threshold (LOAEL). PHE recommends that the Applicant explains what its chosen SOAELs for a specific scheme mean in population health terms in a similar fashion.

PHE does not believe that the current scientific evidence supports the modification of SOAELs and UAELs based on the existing noise insulation specification of residential dwellings, and in particular whether enhanced sound insulation avoids significant adverse effects on health and quality of life. See also sections on Mitigation and Step Changes in Noise Exposure.

Health Outcomes

PHE encourages the applicant to present noise exposure data in terms of the Lden metric (in addition to Leq and L10), to facilitate interpretation by a broad range of stakeholders. This is because most recent scientific evidence on the health effects of environmental noise is presented in terms of Lden [1, 5, 6]. PHE believes that quantifying the health impacts associated with noise exposure and presenting them in health-based metrics allows decision makers to make more informed decisions.

For transportation sources, PHE recommends the quantification of health outcomes using the methodology agreed by the Interdepartmental Group on Costs and Benefits - Noise subgroup [IGCB(N) [23] (currently under review)), and more recent systematic reviews [1, 5, 6]. PHE believes there is sufficient evidence to quantify the following health outcomes: long-term annoyance, sleep disturbance, ischaemic heart disease (IHD), and potentially stroke49 and diabetes50. Effects can be expressed in terms of number of people affected, number of disease cases, and Disability Adjusted Life Years (DALYs). THE IGCB(N) guidance can also be used to translate these effects into monetary terms.

Some health outcomes, namely annoyance and self-reported sleep disturbance, can be influenced by the local context and situation. In these cases, it would be preferable to use exposure-response functions (ERFs) derived in a local context. However, PHE is not aware of any ERFs for road traffic being available for a UK context from data gathered in the last two decades. Therefore, in PHE's view the ERFs presented in the WHO-commissioned systematic reviews offer a good foundation for appraisal of the health effects associated with road traffic noise [2]. For annoyance, the average

[47] 55 dB $L_{A10,18hr}$ (façade) is approximately equal to 57 dB L_{den} (free-field), assuming motorway traffic [13, 22]. Applying the exposure-response function presented in Guski et al., 2017 [19] for road traffic noise and annoyance (excluding Alpine and Asian studies), approximately 8% of a population is highly annoyed at 57 dB L_{den}.

[48] Applying the exposure-response function presented in Basner et al., 2018 [20] for road traffic noise and sleep disturbance gives the result that approximately 2% of a population is highly sleep disturbed at 40 dB L_{night}.

[49] A literature review commissioned by Defra [6] identified nine longitudinal studies on road traffic noise and incidence of stroke, and eight longitudinal studies on road traffic noise and stroke mortality.

[50] A literature review commissioned by Defra [6] identified four longitudinal studies on road traffic noise and incidence of diabetes.

curve derived excluding Alpine and Asian studies may be considered more transferable to a UK context. For metabolic outcomes, no ERF was published in the WHO ENG 2018. A recent meta-analysis of five cohort studies of road traffic noise and incidence of diabetes was reported by Vienneau in 2019 [24].

Where schemes have the potential to impact a large number of people, PHE expects the Applicant to carry out literature scoping reviews to ensure that the most robust and up-to-date scientific evidence is being used to quantify adverse effects attributable to the Scheme.

PHE expects to see a clear outline of the steps taken to arrive at the final judgement of significance based on these health outcomes, including a description of local circumstances and modifiers anticipated, and how reasonably foreseeable changes in these circumstances will be dealt with during the assessment process.

Identification and Consideration of Receptors
The identification of noise sensitive receptors in proximity to the proposed scheme - or route options - is essential in providing a full assessment of potential impacts. Examples of noise sensitive receptors include but are not limited to:

- Noise Important Areas
- Residential areas
- Schools, hospitals and care homes
- Community green and blue spaces and areas valued for their tranquillity, such as local and national parks
- Public Rights of Way (PRoWs)

Noise Important Areas (NIAs) are areas with the highest levels of noise exposure at a national level and as such require very careful consideration in terms of protection from increased noise levels as well as opportunities for noise mitigation that can lead to an improvement in health and quality of life. DMRB requires a list of noise mitigation measures that the project will deliver in Noise Important Areas. PHE supports this requirement - new development should offer an opportunity to reduce the health burden of existing transport infrastructure, particularly for those worst affected. PHE would encourage this approach to extend beyond NIAs, in line with the third aim of NPSE [3].

Baseline Sound Environment
The greater the understanding of the baseline sound environment, the greater the potential for the assessment to reflect the nature and scale of potential impacts, adverse or beneficial, associated with the Scheme. PHE recommends that traditional averaged noise levels are supplemented by a qualitative characterisation of the sound environment, including any particularly valued characteristics (for example, tranquillity) and the types of sources contributing to it [25].

PHE recommends that baseline noise surveys are carried out to provide a reliable depiction of local diurnal noise variations for both weekdays and weekends, in a variety of locations, including the difference between day (07:00-19:00), evening (19:00-23:00) and night-time (23:00-07:00) periods. This is particularly important if there are areas within the scheme assessment boundary with atypical traffic day/evening/night distributions. Achieving these aims is likely to require long-term noise monitoring in multiple locations for a period greater than seven days. This information should be used to test the robustness of any conversions between noise metrics (e.g. converting from LA10,18hr to LAeq,2300-0700 and Lden).

PHE suggests that a variety of metrics can be used to describe the sound environment with and without the scheme – for example, levels averaged over finer time periods, background noise levels expressed as percentiles, and number of event metrics (e.g. N65 day, N60 night) – and that, where possible, this suite of metrics is used to inform judgements of significance. There is emerging evidence that intermittency metrics can have an additional predictive value over traditional long-term time-averaged metrics for road traffic noise [27].

Mitigation
PHE expects decisions regarding noise mitigation measures to be underpinned by good quality evidence, in particular whether mitigation measures are proven to reduce adverse impacts on health and quality of life. For interventions where evidence is weak or lacking, PHE expects a proposed strategy for monitoring and evaluating their effectiveness during construction and operation, to ensure the effectiveness of said measures.
With regards to road traffic noise, low-noise road surfaces, acoustic barriers, traffic management and noise insulation schemes can all be considered. Priority should be given to reducing noise at source, and noise insulation schemes should be considered as a last resort. PHE expects any proposed noise insulation schemes to take a holistic approach which achieves a healthy indoor environment, taking into consideration noise, ventilation, overheating risk, indoor air quality and occupants' preference to open windows. There is, at present, insufficient good quality evidence as to whether insulation schemes are effective at reducing long-term annoyance and self-reported sleep disturbance [28], and initiatives to evaluate the effectiveness of noise insulation to improve health outcomes are strongly encouraged.
PHE notes the suggestion in DMRB methodology that post-construction noise monitoring cannot provide a reliable gauge for reference against predicted impacts of operational noise. The issues highlighted in DMRB relate to noise exposure, and not to health outcomes. PHE suggests that monitoring of health and quality of life can be considered pre and post operational phases, to ascertain whether mitigation measures are having the desired effect for local communities.
PHE expects consideration of potential adverse effects due to noise and vibration during construction and recommends that a full and detailed Construction Environmental Management Plan (CEMP) is developed and implemented by the Applicant and/or the contractor responsible for construction. PHE recommends that the CEMP includes a detailed programme of construction which highlights the times and durations of particularly noisy works, the measures taken to reduce noise at source, the strategy for actively communicating this information to local communities, and procedures for responding effectively to any specific issues arising.
There is a paucity of scientific evidence on the health effects attributable to construction noise associated with large infrastructure projects [5, 6] where construction activities may last for a relatively long period of time. PHE recommends that the Applicant considers emerging evidence as it becomes available and reviews its assessment of impacts as appropriate.

Green Spaces and Private Amenity Areas
PHE expects proposals to take into consideration the evidence which suggests that quiet areas can have both a direct beneficial health effect and can also help restore or compensate for the adverse health effects of noise in the residential environment [29-31]. Research from the Netherlands suggests that people living in noisy areas appear to have a greater need for areas offering quiet than individuals who are not exposed to noise at home [29]. Control of noise at source is the most effective mitigation for protecting outdoor spaces; noise insulation schemes do not protect external amenity spaces (such as private gardens and balconies or community recreation facilities and green spaces) from increased noise exposure.

PHE expects consideration to be given to the importance of existing green spaces as well as opportunities to create new tranquil spaces which are easily accessible to those communities exposed to increased noise from the scheme. These spaces should be of a high design quality and have a sustainable long-term management strategy in place.

Step-changes in Noise Exposure and the Change-effect
The Applicant should take into consideration the "change-Effect", i.e. the potential for a real or anticipated step-change in noise exposure to result in attitudinal responses that are greater or lower than that which would be expected in a steady state scenario [28, 32]. Where a perception of change is considered likely, PHE recommends that the change-effect is taken into account in the assessment for the opening year of the proposed development. For longer term assessments, the effects of population mobility need to be taken into consideration.

Community Engagement and Consultation Feedback

PHE recommends that public consultations carried out during the planning application process clearly identify the predicted changes to the sound environment during construction and operation of the Scheme, the predicted health effects on neighbouring communities, proposed noise mitigation strategies and any proposed measures for monitoring that such mitigation measures will achieve their desired outcomes.

PHE encourages the Applicant to use effective ways of communicating any changes in the acoustic environment generated by the scheme to local communities. For example, immersive and suitably calibrated audio-visual demonstrations can help make noise and visual changes more intuitive to understand and accessible to a wider demographic. If the proposed scheme will have an impact over a relatively large geographical area, the Applicant should consider community-specific fact-sheets and/or impact maps, which are easily accessible to all individuals both in hard copy and online. If online, search functionality can potentially be included, for example, by postcode.

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