

APPENDIX I

PLANNING CONSULTATION RESPONSE

Responding Officer / Team:	<p>Greg Kearney</p> <p>Environmental Quality and Growth Team (EQG) Environmental Services, Cambridge City Council</p> <p>As the application development site area covers and includes land within the jurisdiction of both Cambridge City Council (CCiC) and South Cambridgeshire District Council (SCDC) administrative boundaries this is an agreed joint / collective environmental health related response on behalf of officers from both authorities.</p>
Date:	2nd March 2020
Planning Ref No:	18/0481/OUT (CCiC) & S/1231/18/OL (SCDC)
M3 Ref No:	WK/201978956 & WK/201856192
Description of Development:	<p>Land North Of Cherry Hinton (LNCH), Coldhams Lane, Cambridge, Cambridgeshire</p> <p>Outline planning application (all matters reserved except for means of access in respect of junction arrangements onto Coldhams Lane, Cherry Hinton Road and Airport Way) for a maximum of 1200 residential dwellings (including retirement living facility (within Use Class C2/C3), a local centre comprising uses within Use Class A1/A2/A3/A4/A5/B1a/D1/D2, primary and secondary schools, community facilities, open spaces, allotments, landscaping and associated infrastructure.</p> <p>Amendments to the above application:</p> <p>1) Additional information submitted by covering letter dated 06 December 2019:</p> <ul style="list-style-type: none">- Remediation Options Sustainability Statement (Mott Macdonald 02.12.19)- Proposed draft conditions, reasons and Section 106 obligations in relation to ground conditions (04.12.19)- Note of meeting dated 30.10.19 attended by Council officers, Environment Agency and Applicant Team- Response to Environment Agency queries (LDA Design)- Environment Statement Review (LDA Design November 2019)

	<p>2) Additional information submitted by covering letter dated 29 March 2019:</p> <ul style="list-style-type: none"> - The information addresses changes to planning policy at national and local levels, since the application was originally submitted in March 2018. - It also addresses issues raised during the original consultation process, by providing further technical information and supporting documentation. - The main content of the application, parameter plans and conclusions have not changed. - For further information in respect of the proposed changes, please refer to the updated Planning Statement (March 2019). The revisions have been highlighted in yellow for ease of reference.
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Cross one:

☒ The development proposed is **acceptable** subject to the imposition of the condition(s)/informative(s) outlined below for the environmental health issues / topics as detailed.

☐ The development proposed is **unacceptable** and should be refused for the reason(s) set out below.

☐ It is not possible to comment on the proposed development and the additional information set out below will be required in order to provide comments.

This response is our final detailed comments and position having reviewed submissions to date and supersedes our previous planning consultation response memos dated the 23rd August 2019 (our M3 Ref No: WK/201856192) and 18th June 2018 (our M3 Ref No: WK/201856192) respectively.

We have the following comments to make and where appropriate officers have recommended draft conditions / informatives for topic assessments that are found to be acceptable in principle, subject to final agreement.

It is understood that a full list of conditions and associated informatives are likely to be drafted and circulated in due course, for further detailed comment and final agreement.

Please contact the following officers for further guidance in connection with their relevant field:

- **Construction – Environmental Pollution , Operational Noise, Odour, Artificial Lighting and any other additional Operational Issues** - contact: Greg Kearney, Environmental Health Officer - 01223 457891
- **Contaminated Land** - contact: David Abiorwerth, Scientific Officer - 01223 457661
 - **Air Quality** - contact: Elizabeth Bruce, Scientific Officer- 01223 457926

List of required conditions/Informatives:

- **Standard conditions:**

CC64 - Details of contractor Operations

(Could be incorporated into SW-DCEMP bespoke condition as an item if not already)

- **Bespoke conditions:**

Construction Phase Environmental Impacts / Pollution

Site Wide Demolition and Construction Environmental Management Plan (SW-DCEMP)

Prior to the commencement of any development, a Site Wide Demolition and Construction Environmental Management Plan (SW- DCEMP) shall be submitted to and approved in writing by the local planning authority. The DCEMP shall include the consideration of the following aspects of demolition and construction:

- a) Demolition, construction and phasing programme.
- b) Contractors' access arrangements for vehicles, plant and personnel including the location of construction traffic routes to, from and within the site, details of their signing, monitoring and enforcement measures.
- c) Construction/Demolition works and the operation of related plant / equipment including maintenance and checking shall only be carried out between 0800 hours to 1800 hours Monday to Friday, and 0800 hours to 1300 hours on Saturday and at no time on Sundays, Bank or Public Holidays (core construction/demolition hours), unless in accordance with agreed emergency procedures for deviation and agreed prior notice and agreement procedures for works outside agreed limits and hours.
- d) Deliveries and collections / dispatches for construction/demolition purposes shall only be carried out between 0800 to 1800 hours Monday to Friday, 0800 to 1300 hours on Saturdays and at no time on Sundays, bank or public holidays (core construction/demolition delivery and collection / dispatch hours) , unless otherwise agreed in writing by the local planning authority in advance.
- e) Soil / Materials Management Strategy having particular regard to potential contaminated land and the reuse and recycling of soil on site, the importation and storage of soil and materials including audit trails.
- f) Noise impact assessment methodology, mitigation measures, noise monitoring and recording statements / procedures in accordance with the provisions of BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites. Noise (or as superseded).
- g) Vibration impact assessment methodology, mitigation measures, vibration monitoring and recording statements / procedures in accordance with the provisions of BS 5228-2: 2009+A1:2014 Code of practice for noise and vibration

control on construction and open sites. Vibration (or as superseded). Details of any foundation piling construction methods / options, as appropriate.

- h) Dust management / monitoring plan and wheel washing measures. Non-Road Mobile Machinery (NRMM), demolition or construction works or similar emissions standards. Confirmation of use of concrete crushers.
- i) Prohibition of the burning of waste on site during demolition/construction.
- j) Site artificial lighting. Site artificial lighting during construction and demolition including hours of operation, position and impact on neighbouring properties.
- k) Drainage control measures including the use of settling tanks, oil interceptors and bunds.
- l) Screening and hoarding details.
- m) Access and protection arrangements around the site for pedestrians, cyclists and other road users.
- n) Procedures for interference with public highways, including permanent and temporary realignment, diversions and road closures.
- o) External safety and information signing and notices.
- p) Consideration of sensitive receptors.
- q) Prior notice and agreement procedures for works outside agreed limits or protocols including core construction/demolition and construction/demolition delivery and collection / dispatch hours.
- r) Implementation of a Stakeholder Engagement / Residents Communication Plan-CEMP Monitoring, Review and Complaints procedures, including complaints response.
- s) Membership of the City Council's and or national Considerate Contractors Scheme.

Thereafter all phases of the development - "Enabling Works", "Strategic Engineering or Landscaping Elements", and "Development Parcels", shall be undertaken in accordance with the approved Site Wide DCEMP.

With Each Reserved Matters Application: Site Specific - Construction Method Statement (SS-CMS) or Site Specific Construction and Environmental Management Plan (SS-CEMP)

Prior to the commencement of development on any Strategic Engineering / Landscaping Element and Development Parcel (apart from Enabling Works), a Strategic Engineering / Landscaping Element and Development Parcel Site Specific Demolition Construction and Environmental Management Plan (SS-DCEMP) shall be submitted to and approved in writing by the local planning authority for that element or Development Parcel.

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The SS-DCEMP shall demonstrate how the demolition / construction of the reserved matters approval accords with the construction criteria a) to s) of the approved site wide Demolition and Construction Environmental Management Plan (SW-DCEMP). In addition to criteria a) to s), the SS-DCEMP shall also provide a specific construction programme and plan identifying: the contractor site storage area/compound; screening and hoarding locations; access arrangements for vehicles, plant and personnel; building material, plant and equipment storage areas; contractor parking arrangements for construction and personnel vehicles; and the location of the contractor offices.

Thereafter the development of the Strategic Engineering / Landscaping Element and Development Parcel shall be undertaken in accordance with the relevant approved SS-DCEMP.

Noise and Vibration –Operational

Development Parcel - Noise Impact Assessment with Acoustic Design and Noise Insulation / Mitigation Scheme Report: Residential & Noise-Sensitive Uses

Within any Reserved Matters application for a Development Parcel which includes residential type or other noise-sensitive uses including schools, other educational establishments and public open spaces a Noise Impact Assessment with Acoustic Design and Noise Insulation / Mitigation Scheme Report to protect the said noise sensitive development / uses internally and externally where applicable, from the following sources of noise, shall be submitted to and approved in writing by the Local Planning Authority:

- Existing / future local transport noise in the area (including aircraft associated with Cambridge City Airport and road traffic from Airport Way / Cherry Hinton Road / Teversham Drift, Coldhams Lane / the A14);
- Other activity / operations taking place at / within Cambridge City Airport, including aircraft engine ground running testing;
- Any industrial, commercial and business premises at Coldhams Business Park, Norman Way;
- Any proposed / future local transport noise associated with internal roads / streets / highways of the approved development itself; and
- Any proposed / future industrial, commercial, business, education or community premises and uses including local centres and sports / recreational uses and areas of play of the approved development itself.

The Noise Impact Assessment with Acoustic Design and Noise Insulation / Mitigation Scheme Report for each Reserved Matters application for a Development Parcel which includes noise sensitive uses shall include a site specific Noise Impact Assessment of noise impacts (by a combination of noise monitoring and prediction / modelling), the acoustic design approach that will be followed and specific details of the noise insulation / mitigation measures / features to be used and implemented, to achieve acceptable internal and external noise levels.

The report and scheme shall include careful consideration of the following:

- Phasing and build out time of various reserved matters application phases;

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- Aircraft engine ground running testing within the ground running enclosure (GRE) at Cambridge City Airport approved under Cambridge City Council planning permission ref. 16/2212/FUL (having regard to and low frequency noise characteristics) as part of external building envelope sound reduction performance;
- The need to provide an alternative form of fresh air ventilation (mechanical or acoustically attenuated passive ventilation free areas of sufficient size) to achieve a minimum of 2 to 4 air changes per hour (ACH) in habitable rooms, when opening external windows and doors would result in unacceptable internal noise levels; and
- Timescale for phased implementation;

The relevant Reserved Matters Application for each Development Parcel shall be constructed and completed in accordance with the approved Noise Impact Assessment with Acoustic Design and Noise Insulation / Mitigation Scheme Report for such Development Parcel and any scheme measures and any alternative form of ventilation provision as required in respect of a residential unit or noise sensitive building on such Development Parcel as part of the scheme shall be fully implemented prior to occupation that building on such Development Parcel and shall be maintained and retained thereafter.

REASON: To avoid noise from giving rise to significant adverse impacts on health and quality of life and to mitigate and reduce to a minimum potential adverse impacts on noise-sensitive uses to secure acceptable internal and external living conditions in accordance with paragraphs 170 e) 180 a) and 182 of the National Planning Policy Framework (NPPF, February 2019), policies CE/10 Road Infrastructure and CE/26 Noise of the Cambridge East Area Action Plan Adopted February 2008, policies SS/3: Cambridge East, HQ/1: Design Principles and SC/10: Noise Pollution of the South Cambridgeshire Local Plan, Adopted September 2018 and policies 13: Cambridge East and 35: Protection of human health and quality of life from noise and vibration of the Cambridge Local Plan, October 2018.

Operational Noise Assessment and Insulation/Mitigation/Management Scheme – Non Residential Uses

Within any reserved matters application for a Development Parcel which includes / incorporating planning class uses other than residential (e.g. non-residential use classes including employment areas, industrial / commercial / business / retail units, waste recycling facilities, schools / educational establishments, community buildings /local centres, markets, recreational uses such as sports, games and play areas including associated operational plant and equipment), an operational noise impact assessment of these uses on proposed and existing noise-sensitive uses, including, where appropriate, a scheme for the noise insulation of any building(s) or use(s) / activities and plant / equipment and consideration of other noise mitigation and management measures (location / layout, engineering and administrative) to minimise the level of noise emanating from the said building(s), use(s) / activities and plant / equipment shall be submitted to and approved in writing by the local planning authority.

The approved noise insulation / mitigation and management scheme shall be fully constructed, completed and implemented before the relevant building(s) are occupied, uses / activities are commenced or plant / equipment are operated / used and shall be maintained and retained thereafter.

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REASON: To avoid noise from giving rise to significant adverse impacts on health and quality of life and to mitigate and reduce to a minimum potential adverse impacts on proposed and existing noise-sensitive uses resulting from noise and secure acceptable living conditions in accordance with paragraphs 170 e) and 180 a) of the National Planning Policy Framework (NPPF, February 2019), policies CE/10 Road Infrastructure and CE/26: Noise of the Cambridge East Area Action Plan Adopted February 2008, policies SS/3: Cambridge East, HQ/1: Design Principles and SC/10: Noise Pollution of the South Cambridgeshire Local Plan, September 2018 and policies 13: Cambridge East and 35: Protection of human health and quality of life from noise and vibration of the Cambridge Local Plan, October 2018.

Artificial Lighting Design Scheme - Bespoke Condition

Artificial Lighting Design Scheme – Operational

Within any reserved matters application for a Strategic Engineering or Landscaping Element or Development Parcel with any artificial lighting such as street, car park, floodlighting, security and building lighting, an artificial lighting design scheme with detailed impact assessment and a programme for delivery, shall be submitted to and approved in writing by the local planning authority. The scheme shall include details of any artificial lighting to be installed on site and a horizontal / vertical isolux artificial lighting impact assessment with predicted lighting levels at existing and future residential properties shall be undertaken (including luminaire type / profiles, mounting location / height, aiming angles / orientation, angle of glare, operational controls, horizontal / vertical isolux contour light levels and calculated glare levels to receptors - direct source luminance / luminous intensity in the direction and height of any sensitive residential receiver).

Artificial lighting on and off site shall meet the Obtrusive Light Limitations for Exterior Lighting Installations for an Environmental Zone - E2 in accordance with the Institute of Lighting Professionals - Guidance Notes for the Reduction of Obtrusive Light - GN01:2011 (or as superseded) and any mitigation measures to contain and reduce to a minimum potential artificial light spill and glare shall be detailed / specified.

The artificial lighting design scheme shall be in accordance with the principles and approach detailed in the submitted Environmental Statement (UPDATED), March 2019 - Appendix 5.7: 'Land North of Cherry Hinton - Lighting Assessment (Project Ref: 37305 / Rev: 04/ Date: March 2019 & Doc Ref: 3005)'.

The artificial lighting design scheme as approved shall be fully implemented prior the use of artificial lighting commencing or occupation, whichever is first and shall be maintained and retained thereafter.

Reason: To limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation in accordance with paragraph 180 c) of the National Planning Policy Framework (NPPF, February 2019), policy SC/9: Lighting Proposals of the South Cambridgeshire Local Plan, September 2018 and policy 34: Light pollution control of the Cambridge Local Plan, October 2018.

Air Quality – Operational - Bespoke Conditions

Combustion Appliances – Low Emissions (CHP and Low NOx)

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Prior to the installation of any gas fired combustion appliances for any development, technical details and information demonstrating the use of low Nitrogen Oxide (NOx) combustion boilers, i.e. individual gas fired boilers that meet a dry NOx emission rating of $\leq 40\text{mg/kWh}$, to minimise emissions from the development that may impact on air quality, shall be submitted to and approved in writing by the Local Planning Authority.

If the proposals include any gas fired Combined Heat and Power (CHP) System, technical details and information demonstrating that the system meets the following emissions standards for various engines types shall be submitted for approval in writing by the Local Planning Authority:

- Spark ignition engine: less than or equal to 150 mg NOx/Nm³
- Compression ignition engine: less than 400 mg NOx/Nm³
- Gas turbine: less than 50 mg NOx/Nm³

The details shall include a manufacturers Nitrogen Oxides (NOx) emission test certificate or other evidence to demonstrate that every boiler installed meets the emissions standards above.

The scheme details as approved shall be fully installed and operational before first occupation and shall be maintained and retained thereafter for the life of that gas fired combustion appliance. Any replacement gas fired combustion appliances shall meet the same or better emissions standards.

Reason: To protect local air quality and human health by ensuring that the production of air pollutants such as nitrogen dioxide and particulate matter are kept to a minimum during the lifetime of the development, to contribute toward National Air Quality Objectives in accordance with the requirements of the National Planning Policy Framework (NPPF, 2019) paragraphs 170 and 181, policy CE/27 Air Quality of the Cambridge East Area Action Plan 2008, policy SC/12: Air Quality of the South Cambridgeshire Local Plan, September 2018, policy 36- Air Quality, Odour and Dust of the Cambridge Local Plan, October 2018 and Cambridge City Councils adopted Air Quality Action Plan (2018).

Pre-Commencement: Site Wide Electric Vehicle (EV) Charge Point Provision and Infrastructure Strategy (Local Air Quality related)

Prior to the commencement of development, a 'Site Wide Electric Vehicle Charging Point Provision and Infrastructure Strategy' including an implementation plan shall be submitted to and approved in writing by the Local Planning Authority.

The strategy shall be appropriate for the proposed end use(s) of the development and shall provide full details of the provision of allocated parking spaces for dedicated electric vehicle charging in line with the principles set out in the National Planning Policy Framework, the Cambridge Local Plan and Cambridge City Council's Air Quality Action Plan. The strategy shall include consideration of both active (slow, fast and rapid) and passive electric vehicle charge point provision and design to enable the charging of electric vehicles in safe, accessible and convenient locations.

The Strategy shall include the following principles which are to be applied to the detailed design of the Development Parcels as they come forward:

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- 100% provision of a dedicated active slow electric vehicle charge point with a minimum power rating output of 7kW for each residential dwelling with allocated / dedicated on-plot parking;
- Minimum 50% provision of dedicated active slow electric vehicle charge points with a minimum power rating output of 7kW for residential dwellings with communal and courtyard parking;
- Dedicated slow electric vehicle charge points with a minimum power rating output of 7kW for at least 50% of non-residential parking spaces and
- Either at least one Rapid electric vehicle charge point for each 1,000m² non-residential floorspace, or at least one Fast electric vehicle charge point for each 1,000m² non-residential floorspace, should a Rapid charge point not be technically feasible
- The rapid and/or fast electric vehicle charge point parking spaces shall be exclusively reserved for electric vehicle charging.
- Additional passive electric vehicle charge provision of the necessary infrastructure including capacity in the connection to the local electricity distribution network and electricity distribution board, as well as the provision of cabling to parking spaces for all remaining car parking spaces to facilitate and enable the future installation and activation of additional active electric vehicle charge points as required.
- Electric vehicle charge points shall be compliant with BS7671 and BS EN IEC 61851-1:2019 or as superseded / replaced as applicable at the time for each subsequent Reserved Matters application.

Reason: In the interests of encouraging more sustainable modes and forms of transport and to reduce the impact of development on local air quality, in accordance with the National Planning Policy Framework (NPPF, 2019) paragraphs 105, 110, 170 and 181, policy CE/27 Air Quality of the Cambridge East Area Action Plan 2008, policy SC/12: Air Quality of the South Cambridgeshire Local Plan, September 2018, policy 36 - Air Quality, Odour and Dust of the Cambridge Local Plan (October, 2018) and Cambridge City Council's adopted Air Quality Action Plan (2018).

With Reserved Matters Application Submission: Electric Vehicle (EV) Charge Point Provision and Infrastructure Scheme Strategy Delivery (Local Air Quality related)

With each reserved matters application for any development parcel, an Electric Vehicle Charge Point Provision and Infrastructure Scheme that demonstrates compliance with the over-arching 'Site Wide Electric Vehicle Charging Point Provision and Infrastructure Strategy' approved under condition INSERT NO / title- above shall be submitted to and approved in writing by the Local Planning Authority. The scheme shall include full details of the number, location, unit design, charge time (slow, fast and rapid) , installation, compliance with relevant BS7671 and BS61851 or other relevant standards at that time, management and maintenance of the electric vehicle charge points (active and passive) and how the uptake of electric vehicle charge points will be monitored in order to determine the activation of passive spaces in the future.

The electric vehicle charge point provision and infrastructure scheme for each reserved matters application for any development parcel shall be fully implemented in accordance with the approved scheme details prior to occupation and maintained and retained thereafter.

Reason: In the interests of encouraging more sustainable modes and forms of transport and to reduce the impact of development on local air quality, in accordance with the National Planning Policy Framework (NPPF, 2019) paragraphs 105, 110, 170 and 181, policy CE/27 Air Quality of the Cambridge East Area Action Plan 2008, policy SC/12: Air Quality of the South Cambridgeshire Local Plan, September 2018, policy 36 - Air Quality, Odour and Dust of the Cambridge Local Plan (October, 2018) and Cambridge City Council's adopted Air Quality Action Plan (2018).

Car Clubs – Site Wide (or by S106 Obligation as appropriate)

Prior to commencement of the development, a site-wide car club parking and membership strategy shall be submitted to and approved in writing by the Local Planning Authority.

The strategy shall include the provision of a minimum of one car club vehicle with one dedicated car club parking space per 500 dwellings in new residential developments and/or one vehicle per 10,000 m² in non-residential developments. The dedicated parking space shall be for the exclusive use of car club vehicle(s). The car club parking spaces shall be provided in accordance with the approved strategy prior to the first occupation of the development and shall be maintained and retained thereafter.

Reason: In the interests of encouraging more sustainable modes and forms of transport and to reduce the impact of development on local air quality, in accordance with the National Planning Policy Framework (NPPF, 2019) paragraph 105, 110, 170 and 181, Policy 36 of the Cambridge Local Plan (2018) and Cambridge City Council's adopted Air Quality Action Plan (2018), Policy SC/12 and TI/2 of the South Cambridgeshire Local Plan (2018).

Odour / Fume Generation & Control / Building Ventilation - Non-residential premises / uses - Operational

With Reserved Matters Application Submission: Odour / Fume Generation & Control / Building Ventilation - Non-residential premises / uses - Operational

Prior to, or concurrently with the submission of any detailed reserved matters application for any development parcel with non-residential premises / uses, a ventilation scheme to include details of equipment and systems for the purpose of extraction, filtration and abatement of odours and fumes to discharge at an appropriate outlet height / level and the standard of dilution / dispersion expected, shall be submitted to and approved in writing by the local planning authority.

The approved extraction/filtration/abatement ventilation scheme shall be installed before the non-residential premises / use hereby permitted is commenced and shall be fully maintained in accordance with the manufacturer specifications / instructions to ensure its continued satisfactory operation and retained thereafter.

Reason: To protect the amenity of nearby properties from malodour or fumes in accordance with policy CE/27: Air Quality of the Cambridge East Area Action Plan 2008, policy SC/14: Odour and Other Fugitive Emissions to Air of the South Cambridgeshire Local Plan, Adopted September 2018 and policy 36: Air quality, odour and dust of the Cambridge Local Plan, October 2018

Pre-Commencement Conditions – Groundwater Remediation Pilot Trial

Design of Groundwater Remediation Pilot Trial

No development shall commence until a schedule of works containing the design details for a pilot-scale perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) groundwater remediation treatment scheme has been submitted to and approved in writing by the Local Planning Authority. Such details shall include, as a minimum, the type of treatment proposed, treatment locations, number and locations of groundwater monitoring boreholes (pre-trial, during the trial, and post-trial), and a programme (including dates) and methodology for undertaking the works and preparing a completion report. The pilot scale PFOS and PFOA groundwater remediation treatment scheme shall be carried out in accordance with the approved details.

Reason - to ensure an appropriate groundwater remediation treatment pilot scheme in the interests of the protection and prevention of the pollution of controlled waters, and protection of human health, from potential pollutants associated with current and previous land uses in accordance with National Planning Policy Framework (NPPF) paragraphs 170, 178, & 179 (2019), the Environment Agency Groundwater Protection Position Statement (The Environment Agency's Approach to Groundwater Protection, Feb 2018, version 1.2), the objectives of policies CC/7 & SC/11 of the South Cambridgeshire District Council Local Plan, and policies 33 & 31 of the Cambridge City Local Plan.

Implementation & Completion of Groundwater Remediation Pilot Trial

No development shall commence until the pilot-scale PFOS & PFOA groundwater remediation treatment scheme approved by condition X has been fully implemented in accordance with the agreed schedule of works/measures and a completion report detailing the results and an assessment of the performance of the pilot scheme, together with any recommendations and further actions required, has been submitted to and approved in writing by the Local Planning Authority.

Reason - to ensure that the groundwater remediation treatment pilot scheme is deliverable and able to protect and prevent the pollution of controlled waters, and to protect human health, from potential pollutants associated with current and previous land uses in accordance with National Planning Policy Framework (NPPF) paragraphs 170, 178, & 179 (2019), the Environment Agency Groundwater Protection Position Statement (The Environment Agency's Approach to Groundwater Protection, Feb 2018, version 1.2), the objectives of policies CC/7 & SC/11 of the South Cambridgeshire District Council Local Plan, and policies 33 & 31 of the Cambridge City Local Plan.

Pre-Commencement Conditions – Site-Wide Site Investigation & Remediation Strategy

Submission of Site Investigation Report

Prior to the commencement of development all further site investigation and/or groundwater monitoring as identified in the Pilot Trial Completion Report approved pursuant to condition X shall be undertaken and a final site-wide site investigation

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report detailing all works that have been undertaken to determine the nature and extent of all contamination, including the results of the soil, gas and/or water analysis and subsequent risk assessment to any receptors, shall be submitted to and approved in writing by the Local Planning Authority.

Reason –in the interests of the protection and prevention the pollution of controlled waters, and the protection of human health, from potential pollutants associated with current and previous land uses in accordance with National Planning Policy Framework (NPPF) paragraphs 170, 178, & 179 (2019), the Environment Agency Groundwater Protection Position Statement (The Environment Agency's Approach to Groundwater Protection, Feb 2018, version 1.2), the objectives of policies CC/7 & SC/11 of the South Cambridgeshire District Council Local Plan, and policies 33 & 31 of the Cambridge City Local Plan.

Submission of Remediation Strategy

Prior to the commencement of development a Remediation Strategy prepared in accordance with the recommendations set out in the Remediation Options Sustainability Assessment (Rev D) dated 2 December 2019 submitted in support of the planning application; the recommendations contained in Chapter 12 of the Environmental Statement dated March 2019; and the findings of the Pilot Trial Completion Report approved pursuant to condition X shall be submitted to and approved in writing by the Local Planning Authority. The Remediation Strategy shall detail the works and measures, both within and outside of the application site boundary within the ownership and control of the applicants, required in order to bring the site (including controlled waters) to a condition suitable for the intended use. The strategy shall include a schedule and phasing plan for the proposed remediation works and measures (setting out a programme for the phased delivery of all remediation activities in respect of each Development Parcel and Strategic Engineering and Landscaping Element that will be implemented and including any monitoring and maintenance that may be required) and a plan for the reuse of site-won soils (if applicable). The remediation activities identified by the approved strategy shall be fully implemented on each Development Parcel and Strategic Engineering and Landscaping Element in accordance with the approved details and programme and in each case (save for ongoing maintenance and monitoring) prior to the occupation of any residential dwelling on that Development Parcel or prior to the first use of that Strategic Engineering and Landscaping Element. Any monitoring and maintenance requirements in respect of such Development Parcel or Strategic Engineering and Landscaping Element identified by the approved strategy shall be fully implemented on such Development Parcel or Strategic Engineering and Landscaping Element thereafter.

Reason - to ensure that the site-wide remediation strategy is able to protect and prevent the pollution of controlled waters, and to protect human health, from potential pollutants associated with current and previous land uses in accordance with National Planning Policy Framework (NPPF) paragraphs 170, 178, & 179 (2019), the Environment Agency Groundwater Protection Position Statement (The Environment Agency's Approach to Groundwater Protection, Feb 2018, version 1.2), the objectives of policies CC/7 & SC/11 of the South Cambridgeshire District Council Local Plan, and policies 33 & 31 of the Cambridge City Local Plan.

Site-Wide Maintenance and Monitoring Scheme

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No development shall commence until a site-wide maintenance and monitoring scheme has been submitted to and approved in writing by the Local Planning Authority. The site-wide maintenance and monitoring scheme shall contain:

- a) the methodology to achieve the effective on-going monitoring and the maintenance of the groundwater remediation works including arrangements for contingency if the remediation proves ineffective or unworkable;
- b) Details of the management body or bodies which will be appointed to undertake the monitoring and maintenance required by the approved scheme; and
- c) Details of the funding mechanism to deliver the long-term requirements of the approved scheme.

Reason – to maintain protection of controlled waters from potential pollutants, in line with National Planning Policy Framework (NPPF), Environment Agency Groundwater Protection: Principles and Practice (GP3) and the objectives of policy of policy CC/7 and SC/11 of the South Cambridgeshire District Council Local Plan, policy 33 and 31 of the Cambridge City Local Plan.

Pre-Occupation Conditions – Completion of Remediation, Unexpected Contamination, and Material Management Plan

Completion/Verification Report

Prior to the first occupation of any residential dwelling on each Development Parcel or first use of a Strategic Engineering and Landscaping Element the following shall be submitted to, and approved in writing by the Local Planning Authority:

- a) A completion report demonstrating that (save for ongoing maintenance and monitoring) the approved site-wide remediation strategy has been fully implemented for that Development Parcel or Strategic Engineering and Landscaping Element and that the site of Development Parcel or Strategic Engineering and Landscaping Element (as applicable) has been remediated to a standard appropriate for the proposed end use.
- b) Details verifying the suitability of materials (soils and aggregates) brought onto, reused, and removed from the Development Parcel or Strategic Engineering and Landscaping Element shall be included in the completion/verification report along with full details of the proposed post-remedial monitoring and maintenance scheme required to monitor the long-term effectiveness of the remediation strategy in respect of the relevant Development Parcel or Strategic Engineering and Landscaping Element over the lifetime of the development.

Thereafter, the approved post-remedial monitoring and maintenance scheme shall be fully implemented in respect of the relevant Development Parcel or Strategic Engineering and Landscaping Element and no works shall take place within the relevant part of the site such as to prejudice the effectiveness of the approved and implemented remediation strategy in respect of that part of the site.

Reason – to protect and prevent the pollution of controlled waters, and to protect human health, from potential pollutants associated with current and previous land uses in line with National Planning Policy Framework (NPPF) paragraphs 170, 178, & 179, the latest Environment Agency Groundwater Protection Position Statement (The Environment Agency's Approach to Groundwater Protection, Feb 2018, version 1.2), the objectives of policies CC/7 & SC/11 of the South Cambridgeshire District Council Local Plan, and policies 33 & 31 of the Cambridge City Local Plan.

Unexpected Contamination

If unexpected contamination is encountered whilst undertaking the development which has not previously been identified, works shall immediately cease on the relevant part of the site until the Local Planning Authority has been notified and the additional contamination has been fully assessed and remediation approved. The approved remediation shall then be fully implemented under condition X.

Reason - to protect and prevent the pollution of controlled waters, and to protect human health, from potential pollutants associated with current and previous land uses in accordance with National Planning Policy Framework (NPPF) paragraphs 170, 178, & 179 (2019), the Environment Agency Groundwater Protection Position Statement (The Environment Agency's Approach to Groundwater Protection, Feb 2018, version 1.2), the objectives of policies CC/7 & SC/11 of the South Cambridgeshire District Council Local Plan, and policies 33 & 31 of the Cambridge City Local Plan.

Material Management Plan

Prior to the importation and/or exportation of material (soils and aggregates) necessary for the development of each Development Parcel or Strategic Engineering and Landscaping Element, a Materials Management Plan (MMP) in respect of such Development Parcel or Strategic Engineering and Landscaping Element shall be submitted to and approved in writing by the Local Planning Authority. Each MMP shall:

- (a) Include details of the volumes and types of such material proposed to be imported and/or exported from the relevant part of the site
- (b) Include details of the management of the haulage of such materials proposed to be imported and/or exported from the relevant part of the site with respect to local air quality and loss of amenity to nearby residents from associated noise, dust, odour, and light emissions.
- (c) Include details of the proposed source(s) of such imported material in respect of the relevant part of the site.
- (d) Include details of the chemical testing for all such imported materials to be undertaken before placement onto the relevant part of the site.
- (e) Include the results of the chemical testing of contaminants which must show the relevant material is suitable for use on the relevant part of the development.
- (f) Include confirmation of the chain of evidence to be kept during the importation and/or exportation of all such materials necessary for the development and the movement and placement of all reused site-won materials in respect of the relevant part of the site.

All works on each Development Parcel or Strategic Engineering and Landscaping Element will be undertaken in accordance with the relevant approved MMP.

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Reason – to protect and prevent the pollution of controlled waters, and to protect human health, from potential pollutants associated with current and previous land uses in accordance with National Planning Policy Framework (NPPF) paragraphs 170, 178, & 179 (2019), the Environment Agency Groundwater Protection Position Statement (The Environment Agency's Approach to Groundwater Protection, Feb 2018, version 1.2), the objectives of policies CC/7 & SC/11 of the South Cambridgeshire District Council Local Plan, and policies 33 & 31 of the Cambridge City Local Plan.

Other miscellaneous conditions

Cessation of Fire Training Ground (FTG) and use of Cross Wind Runway – Cambridge City Airport

The continued use of the current Fire Training Ground (FTG) and cross wind runway at Cambridge City Airport have the potential to have adverse noise and air quality impacts on the quality of life / amenity of the proposed development.

These impacts have not been fully assessed within the ES. However Table 17.1: Summary of Primary and Tertiary Mitigation Measures of the ES states that the **'existing Fire Training Ground (FTG), located immediately adjacent to the Site, would cease operation prior to the first occupation of any residential unit to be constructed as part of the Proposed Development.'**

The buildings and infrastructure associated with the FTG would remain in-situ within the boundary of Cambridge Airport. The cross wind runway at Cambridge Airport will cease use for the taking off and landing of aircraft prior to the occupation of any dwelling on the Site.

It is stated that this can be secured by a planning obligation or condition. We agree with this approach and if secured the impacts of these sources of pollution will be negated and no further action is required.

However, the timing of Fire Training Ground (FTG) cessation may also need to have regard to remediation works that may be required for any ground water contamination.

Phasing Prior to, or concurrently with the submission of the first of the reserved matters application(s) for a Development Parcel, a Phasing Plan which accords with the section 106 triggers shall be submitted to the local planning authority for approval. The Phasing Plan shall include the broad sequence of providing the following elements and a mechanism for the Plan's review and amendment:

- a) development parcels
- b) major distributor roads/routes within the site, including timing of provision and opening of access points into the site
- c) the local centre
- d) strategic foul surface water features and SUDS
- e) open space and allotments
- f) strategic electricity, telecommunications, potable water mains provisions and gas networks
- g) environmental mitigation measures, actions or activities including phasing, intended to remedy, reduce, or offset known negative adverse impacts as a**

result of existing pollution in the area and the development itself, as identified in the submitted ES.

- h) primary and secondary schools

No development shall commence apart from enabling works and Strategic Engineering and Landscape Elements until such time as the phasing plan has been approved in writing by the local planning authority. The development shall be carried out broadly in accordance with the approved phasing contained within the phasing plan unless otherwise agreed in writing by the Local Planning Authority.

Site Wide Design Code Prior to, or concurrently with the submission of the first of the reserved matters applications for a Development Parcel, a **Site Wide Design Code**, shall be submitted to the local planning authority for approval. The **Site Wide Design Code** shall be prepared in accordance with the principles and parameters established by this outline approval and shall include both strategic and detailed elements. The **Site Wide Design Code** shall include:

- a) The overall vision of the development;
- b) The character, mix of uses and heights established through the approved parameter plans and include the block principles and the structure of public spaces, making reference to the phasing of land parcels;
- c) The street hierarchy, including the principles and extent of the adoptable highway, along with traffic calming measures;
- d) Typical street cross-sections which will include details of tree planting, tree species, underground utility/service trenches, and on street parking;
- e) How the design of the streets and spaces takes into account mobility and visually impaired users;
- f) Block principles to establish use, density and building typologies. In addition, design principles including primary frontages, pedestrian access points, fronts and backs and threshold definition shall be provided;
- g) Key groupings and other key buildings including information about height, scale, form, level of enclosure, building materials and design features;
- h) Approach to incorporation of ancillary infrastructure/buildings such as substations, pumping stations, pipes, flues, vents, meter boxes, external letterboxes, **electric vehicle charging infrastructure**, fibres wires and cables required by statutory undertakers as part of building design;
- i) Details of the approach to vehicular parking across the entire site including the location and layout of parking for people with disabilities and for each building type, including details of a design approach for access points into and the ventilation of undercroft/underground parking;
- j) Details of the approach to cycle parking for all uses and for each building type, including the distribution (resident/visitor parking and location in the development), type of rack, spacing and any secure or non-secure structures associated with the storage of cycles;
- k) The approach to the character and treatment of the structural planting to the development areas within the primary open land and secondary open land (including the approach to SuDS design integration into the green fingers);
- l) The approach to the treatment of any hedge or footpath corridors and retained trees and woodlands;
- m) The conceptual design and approach to the public realm (making reference to the Public Art Strategy, materials, signage, utilities and any other street furniture);

- n) The conceptual design and approach to the **artificial** lighting strategy and how this will be applied to different areas of the development with different lighting needs, so as to maximise energy efficiency, minimise light pollution and avoid street clutter;
- o) Details of waste and recycling provision for all building types and underground recycling points;
- p) Utility routes, type and specification;
- q) Measures to demonstrate how the design can to maximise resource efficiency and climate change adaptation through external, passive means, such as landscaping, orientation, massing, and external building features;
- r) Details of measures to minimise opportunities for crime;
- s) Measures to show how the principles of good acoustic design will address and minimise the impact of existing traffic/aircraft noise, traffic noise from the internal roads of the development itself, noise from Cambridge City Airport etc on future noise sensitive uses e.g. residents and schools;
- t) Details of good Urban Design principles and design of urban infrastructure to reduce air pollution – including street dimensions, use of Green Infrastructure (GI) such as trees, parks, and green walls
- u) Details of the Design review procedure and of circumstances where a review shall be implemented.

The Site Wide Design Code shall explain its purpose, structure and status and set out the mandatory and discretionary elements where the Design Code will apply, who should use the Design Code, and how to use the Design Code. No development apart from enabling works and Strategic Engineering and Landscape Elements shall commence until the Design Code for the entire site has been approved in writing by the local planning authority.

Allotment provision

Any reserved matters applications for a Development Parcel or Strategic Engineering and Landscape Element which incorporate allotment provision shall where appropriate include the following details:

- a) A plan of the allotments, principles of plot layout and design providing for a range of plot sizes designed to allow flexibility to meet the needs of future plot holders; areas for communal storage of, for example, manure and compost;
- b) Proposed management arrangements **and draft allotment tenancy agreements / rules- ‘Allotment Management Strategy’**. **This should include consideration of general and individual plot holder draft Rules, Conditions and Code of Conduct, with compliance thereafter.**
- c) Access and parking arrangements to allow easy and safe access to the allotments;
- d) Details of the allotment clubhouse / store;
- e) Boundary treatment, including security arrangements for the allotments;
- f) Water supply, including use of stored rainwater and SuDS for watering crops.

The provision of allotments shall be carried out in accordance with the approved details and in accordance with the approved phasing programme.

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- **Standard Informatives:**

DCNVI - Dem/Con noise/vibration informative
 EHOC62 – plant noise insulation informative
 ENVAGI - Environment Agency Informative
 PLNOIN - Plant sound insulation informative
 SUBSTI - Substation Informative
 CONCR - Concrete crusher informative
 HHSRS - Housing Health & Safety Rating System In

- **Bespoke informatives:**

INFORMATIVE: Noise Conditions: Development Parcel - Noise Impact Assessment with Acoustic Design and Noise Insulation / Mitigation Scheme Report: Residential & Noise-Sensitive Uses Operational Noise Assessment and Insulation/Mitigation/Management Scheme – Non Residential Uses

For the purposes of satisfying condition x & x: (Development Parcel - Noise Impact Assessment with Acoustic Design and Noise Insulation / Mitigation Scheme Report : Residential & Development Parcel - Noise-Sensitive Uses Operational Noise Assessment and Insulation/Mitigation/Management Scheme – Non Residential Uses), 3D propagation sound / noise modelling should be used to predict and assess the outdoor propagation of noise across the site including façade incident noise levels (at various floor levels) from all sources of noise cumulatively, taking account of how noise is attenuated by topography, existing buildings and proposed new buildings and environmental noise barriers. This will help to ensure effective noise control / attenuation measures are incorporated and optimised at the design stage and allows the façade attenuation performance to be tailored relative to the predicted external noise level and determine which habitable rooms are likely to require an alternative form of ventilation, if opening external windows is not acceptable.

Due regard shall be given to relevant national and industry standards, codes of practice and best practice technical guidance including:

- Defra's Noise Policy Statement for England, March 2010
- BS 8233:2014 - Guidance on sound insulation and noise reduction for buildings,
- BS 4142:2014+A1:2019 - Methods for rating and assessing industrial and commercial sound
- ProPG: Planning & Noise - Professional Practice Guidance on Planning & Noise- New Residential Development, May 2017
- The Acoustics of Schools: a design guide - Institute of Acoustics (IOA) and the Association of Noise Consultants (ANC), November 2015
- Acoustic Design of Schools: Performance Standards, Building Bulletin 93, February 2015
- WHO Environmental Noise Guidelines for the European Region, 2018
- Night noise guidelines for Europe - WHO/Europe, 2009
- WHO Guidelines for Community Noise - WHO, 1999
- *'Greater Cambridge Sustainable Design and Construction Supplementary Planning Document, Adopted January 2020'* – Section 3.6 Pollution - Noise Pollution (including vibration) (pages 89 -113) and appendix 8 : Further technical guidance related to noise pollution- available online at:

- <https://www.scams.gov.uk/planning/local-plan-and-neighbourhood-planning/sustainable-design-and-construction-consultation-spd/>
- <https://www.scams.gov.uk/media/14406/final-greater-cambridge-sus-dc-spd.pdf>

The report shall demonstrate that a good acoustic design approach / process has been followed for both internal and external spaces including consideration of the following hierarchy of noise management measures (but not limited to) in descending order of preference; to mitigate and to reduce to a minimum potential adverse impacts arising from noise, so that the use of building envelope and landscape noise insulation / mitigation scheme measures, whilst necessary in some areas is minimised:

- (i) Maximising the spatial separation of noise source(s) and receptor(s).
- (ii) Using existing topography and existing structures (that are likely to last the expected life of the noise-sensitive scheme) to screen the proposed development site from significant sources of noise.
- (iii) Using the site layout of the scheme to reduce noise propagation across the site and to locate non-noise-sensitive buildings adjacent to road noise sources to provide screening to residential units.
- (iv) Creating setbacks.
- (v) Using the shape and orientation of buildings to reflect and or shield noise to protect the most noise sensitive uses / habitable rooms including the provision of 'quiet facades' to residential units where practicable.
- (vi) Locating noise sensitive areas/rooms away from the parts of the site most exposed to noises and careful internal configuration of internal rooms to reduce the noise exposure of noise-sensitive habitable rooms.
- (vii) Stacking similar room uses (such as kitchens and living rooms) above each other.
- (viii) Positioning non-residential uses closer to the noise source in mixed use developments
- (ix) Anti-vibration foundations/vibration reducing separation trenches.
- (x) Opportunities for incorporating environmental acoustic / noise barriers as part of the scheme to screen the proposed development site from significant sources of noise - such as landscaping / mounds, fencing and solid balconies to reflect/shield sound.
- (xi) Architectural features such as side fins / balconies to provide local screening to windows / doors to noise sensitive habitable rooms.
- (xii) Incorporating 'sound proof' construction/cladding materials e.g. absorptive materials/finishes to balcony soffits and reveals.
- (xiii) Building noise insulation scheme – use the building envelope / fabric to mitigate and attenuate noise ingress to acceptable levels – acoustic insulating and soundproofing doors, walls, windows, floors and ceilings with an appropriate level of acoustic performance
- (xiv) Ventilation strategy - alternative forms of ventilation provision if acceptable internal noise levels within habitable rooms are exceeded with partially open external windows / doors (to negate the need to ventilate passively via an openable window) e.g. mechanical ventilation systems or acoustically attenuated passive ventilation free areas to achieve background and rapid / purge ventilation standards / requirements.

Where sound insulation requirements of the building envelope preclude the opening of windows for rapid ventilation to facilitate thermal comfort control / summer cooling, an alternative form of ventilation will also need to be considered within the context of achieving acceptable internal design noise level criteria.

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If internal acceptable noise levels in habitable rooms cannot be achieved with windows partially open for ventilation (assuming a 15dB reduction across / for an open window) and where the associated rooms are not dual aspect (to a quieter facade), an alternative form of background and rapid / purge ventilation (acoustically attenuated passive or mechanical) will need to be provided at a minimum rate of 2 - 4 air changes per hour (ACH) to each habitable room with full operational controls for occupants.

Building Regulations - Approved Document F: ventilation does not control mechanical ventilation operational noise but advises that self-generated ventilation system noise should not discourage their use by occupants. In duct attenuation / lined ducting may be required for whole house systems. It will therefore be necessary to demonstrate that the operating sound level of any system does not discourage the use by occupiers and an internal Noise Rating level of NR25 to 30 or lower is recommended. Ventilation systems should be tested in accordance with ISO 3741:2010: Acoustics -- Determination of sound power levels and sound energy levels of noise sources using sound pressure -- Precision methods for reverberation test rooms or similar.

Each complete window system, including frames, glass and seals should be tested in accordance with BS EN ISO 10140-2:2010 (various) and rated in accordance with BS EN ISO 717-1:2013 'Acoustics. Rating of sound insulation in buildings and of building elements' or as superseded. The test certificates should be provided to the LPA when available.

Dust Informative

If a dust management plan is required during construction reference and regard shall be given to various national and industry best practical technical guidance such as:

- Guidance on the assessment of dust from demolition and construction, version 1.1 (IAQM, 2016)
- Guidance on Monitoring in the Vicinity of Demolition and Construction Sites, version 1.1 (IAQM, 2018)
- Control of dust and emissions during construction and demolition -supplementary planning guidance, (Greater London Authority, July 2014).

Overall Conclusion

Officers have reviewed the revised and updated application documents submitted under cover of a Terence O'Rourke (TOR) letter dated 29th March 2019 and 6th December 2019 respectively, along with the original application submissions.

Additional impacts / effects assessment and information / clarifications have been provided in relation to noise / vibration, air quality / odour, artificial lighting and contaminated land effects and impacts.

Having reviewed all the submissions to date, we conclude that the following environmental health issues and any associated direct and indirect effects / impacts will not give rise to any significant adverse impacts and can be controlled, mitigated and reduced to an acceptable level, to protect the health and quality of life (amenity)

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of existing premises in the area and proposed future residential premises, subject to the imposition of the conditions recommended above under various issue / topic sections):

- Construction Phase Environmental Impacts / Pollution
- Noise / Vibration – Operational Impacts on both existing and proposed Noise Sensitive Receptors (Living Conditions):
 - Airport / aircraft activity noise from Cambridge Airport and traffic noise from Coldhams Lane, Cherry Hinton Road and Airport Way on future residents, public open spaces and schools
 - Noise from industrial noise sources at Cambridge Airport on future residential premises
 - Traffic noise impact from any internal primary roads within the development site on future residents of development itself
 - Operational Off-Site Traffic Noise Impact on Local Roads
 - Operational noise and vibration impact of proposed employment, commercial and mixed-uses including fixed plant and equipment and school / recreational development and Local Equipped Areas of Play (LEAPs) and Neighbourhood Equipped Areas of Play (NEAPs) on existing and proposed residential uses
- Artificial Lighting – Construction and Operational
- Air Quality – Operational
- Odour / Fume Generation & Control / Building Ventilation - Non-residential premises / uses Operational
- Contaminated Land / Land affected by Contamination
- Additional Operational Issues:
 - Design Coding
 - Fire Training Ground (FTG) and use of Cross Wind Runway – Cambridge City Airport
 - Operational Odour / Fume Generation & Control
 - Odour / Fume Generation & Building Ventilation – Operational
 - Proposed Allotments Location
 - Cumulative Effects

For these topic areas the conditions recommended would either ensure that no significant adverse impacts associated with the development are likely to arise or where there is the potential for any residual adverse impacts they can be mitigated and reduced to a minimum / negligible acceptable level. It is our view that the proposals are acceptable in respect of these impacts and the recommended conditions will secure and provide an acceptable level of protection for the amenity / quality of life of existing and future residential properties both off and on site.

It is understood that a full list of conditions and associated informatives are likely to be drafted and circulated in due course, for further detailed comment and final agreement.

1.0 Additional ES Updated Information / Clarifications Submission

Our initial planning consultation response memo dated the 18th June 2018 (Planning Ref No: 18/0481/OUT (CCiC) & S/1231/18/OL (SCDC) / M3 Ref No: WK/201856192) detailed a number of outstanding issues and deficiencies associated with the originally

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submitted application and in particular the Environmental Impact Assessment – Environmental Statement Volume 2 - Main Report, June 2016.

We concluded that the submissions were lacking sufficient detail / assessment and in particular in relation to the following environmental health related issues / impacts and in particular:

- Noise and Vibration - Operational: Living Conditions of future occupiers
- Odour Impacts – Cambridge Airport Potential Odour Sources - Odour Field Study
- Artificial Lighting – Operational: Environmental Zone Classification
- Contaminated Land – Environment Agency Objection

Further additional impacts / effects assessment and information / clarifications were requested.

In response to this request, various technical meetings and discussions have been held with applicant and their consultants (mainly relating to noise, air quality and contaminated land), followed up by information exchange and correspondence to agree the remit of any additional technical assessment and a way forward.

Relevant application documents have been revised and updated accordingly and a set of amended documents / supplementary information have been formally submitted for consideration by covering letter dated 29 March 2019, including the following:

- LAND NORTH OF CHERRY HINTON - PLANNING STATEMENT (UPDATED), March 2019
- LAND NORTH OF CHERRY HINTON - DESIGN AND ACCESS STATEMENT (UPDATED), March 2019
- Land North of Cherry Hinton - Environmental Statement: Non-Technical Summary - UPDATED, March 2019
- Land North of Cherry Hinton - Environmental Statement - UPDATED Volume II: Main Text, March 2019
- Addendum to Sustainability Statement (Date: 25/06/2018 with updates on 07/03/2019 & 25/03/2019)
- Remediation Options Sustainability Statement (Mott Macdonald 02.12.19)
- Proposed draft conditions, reasons and Section 106 obligations in relation to ground conditions (04.12.19)
- Note of meeting dated 30.10.19 attended by Council officers, Environment Agency and Applicant Team.
- Response to Environment Agency queries (LDA Design)
- Environment Statement Review (LDA Design November 2019)

December 2019 Additional Info

- *Remediation Options Sustainability Statement* by Mott Macdonald, ref: 400182, rev D, dated 2nd December 2019
- *Letter Report - Proposed Draft Bespoke Conditions, Reasons, & Section 106 Obligations in relation to ground conditions*, dated 4th December 2019

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- *Response to Environment Agency Queries* by LDA Design, ref: 5776_EA_Response
- *Environment Statement Review* by LDA Design, ref: 5776_EIA_Review, V 0.2, dated 24th November 2019

2.0 Summary - Application Proposals

The application has been submitted to both Cambridge City Council (CCiC) and South Cambridgeshire District Council (SCDC) as the site area covers land within the jurisdiction of both local planning authorities.

As an outline application, a set of Parameter Plans are submitted to provide a framework to guide future detailed development proposals, initially through the production of a Design Code, and then progression of detailed Reserved Matters.

The application prescribes the proposed land uses, access and movement strategy, landscape and green infrastructure, maximum building heights and sets urban form principles for future development.

The application includes full detailed submissions in the form of new highway junction arrangements onto / off Coldhams Lane, Cherry Hinton and Airport Way and highway improvement works necessary to create access to the site. The new junctions off Coldhams Lane and Cherry Hinton Road will be connected by a new spine road running through the site.

To summarise, outline planning permission with all matters reserved, except for the means of access to the development, is sought for:

- Mixed use residential led scheme providing up to a maximum of 1,200 dwellings (Class C3).
- Potential retirement living facility; up to 90 bed spaces (Class C2/C3 within 1,200 above).
- Local centre; up to 1,850 sq.m floorspace (Use Class A1/A2/A3/A4/A5/B1a/D1/D2 flexible units – of which a food store will not be more than 500 sq.m).
- Community hall (Class D2); up to 250 sq.m (within 1,850sq.m above).
- Primary School 2FE.
- Secondary School 6FE.
- New primary access street from Cherry Hinton Road to Coldhams Lane (that passes through the local centre), as well as other access routes.
- Pedestrian, cycle and vehicle routes and parking.
- Open space and landscaping; including pocket parks, play areas, playing fields, allotments, SuDs water features, and formal and informal open space.

(It is noted that a variety of public open spaces and green infrastructure will also be provided as part of the proposed development, including Local Equipped Areas of Play (LEAPs) and Neighbourhood Equipped Areas of Play (NEAPs), allotments, community gardens, and community sports pitches provided within the secondary school Site.)

- Ancillary works and infrastructure.

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This major urban type development project with submitted application documents and reports (plans / statements / strategies) and Environmental Impact Assessment (EIA) with associated Environment Statement (ES) with Appendices /Figures is complex and detailed in many respects.

The overall aim of EIA is to “*protect the environment by ensuring that a local planning authority when deciding whether to grant planning permission for a project, which is likely to have significant effects on the environment, does so in the full knowledge of the likely significant effects, and takes this into account in the decision making process*”.

The purpose of an ES is to provide all the necessary information in a readily understandable format for public scrutiny to allow an informed decision to be made on whether planning permission should be granted. The ES should assess the potential significance environmental effects / impacts, namely their evaluation, prediction (nature, extent and magnitude of any impact) and the identification and description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment, as appropriate.

The proposed Application Site – LNCH is allocated for development in the Cambridge East Area Action Plan 2008, South Cambridgeshire Local Plan, Adopted September 2018 and the Cambridge Local Plan, October 2018.

However, it is also important to note that the local plans state that proposals for residential development on the LNCH Site, amongst other requirements, ‘*will be supported if acceptable mitigation of environmental and health impacts (including noise) from the airport can be provided*’.

2.1 Environmental Health Issues / Health Determinants

In summary, the following environmental health issues / health determinants need to be considered and effectively controlled in order to minimise potential adverse impacts on existing and future local residents, to protect the quality of life / amenity and health of the wider community / living environment and to secure acceptable living conditions and a sustainable development:

- **Construction Phase – Environmental Impacts / Pollution**
- **Noise / Vibration – Operational Impacts on both existing and proposed Noise Sensitive Receptors (Living Conditions):**
 - **Airport / aircraft activity noise from Cambridge Airport and traffic noise from Coldhams Lane, Cherry Hinton Road and Airport Way on future residents, public open spaces and schools**
 - **Noise from industrial noise sources at Cambridge Airport on future residential premises**
 - **Traffic noise impact from any internal primary roads within the development site on future residents of development itself**
 - **Operational Off-Site Traffic Noise Impact on Local Roads**
 - **Operational noise and vibration impact of proposed employment, commercial and mixed-uses including fixed plant and equipment and school / recreational development and Local Equipped Areas of Play (LEAPs) and Neighbourhood Equipped Areas of Play (NEAPs) on existing and proposed residential uses**

- **Odour Impacts / Effects – Cambridge Airport Potential Odour Sources**
- **Artificial Lighting – Construction and Operational**
- **Air Quality – Operational**
- **Odour / Fume Generation & Control / Building Ventilation - Non-residential premises / uses – Operational**
- **Contaminated Land / Land affected by Contamination**

- **Additional Operational Issues:**
 - **Design Coding**
 - **Fire Training Ground (FTG) and use of Cross Wind Runway – Cambridge City Airport**
 - **Proposed Allotments Location**
 - **Cumulative Effects**

2.2 Impacts / Effects on Existing Sensitive Premises

As the proposed development will be constructed in phases likely to be built out over a 7 to 10 year period and due to the nature, scale and location of the development it is paramount that environmental pollution from the demolition / construction and operational phases in the long term do not give rise to unacceptable significant and other adverse impacts / effects.

Potential off-site existing sensitive receptors include existing local residential premises at the following general locations:

- along the south-west / southern boundary border of the Site (Coldhams Lane, Hatherdene Close, Rosemary Lane, Braybrooke Place, Reilly Way, March Lane, Teversham Drift including recently approved application ref 17/1381/S73 -variation of 16/0970/S73 for development of site to provide up to 57 dwellings at Field at Corner of Norman Way and Hatherdene Close),
- east / south east of Cherry Hinton Road (Dolphin Close, Caribou Way, Gazelle Way), and
- east of Airport Way (Church Road, Lady Jermy Way, Lapwings Close, Marshalls Close in Teversham)

2.3 Impacts / Effects on Future Development - Noise Sensitive Premises

The existing environmental noise climate experienced at and within the proposed development site is comprised of various noise sources dominated mainly by airport / aircraft noise from Cambridge Cityl Airport and traffic noise from Coldhams Lane, Cherry Hinton Road and Airport Way. Distant A14 traffic noise can also be heard to varying degrees but at lower levels.

Noise levels vary spatially throughout the development site in volume, intensity, character and duration during the day, evening and night time periods.

Whilst we accept that the principle of residential development on the proposed site is established in local plan / policy terms it will be important to ensure that existing environmental noise sources do not give rise to unacceptable adverse noise impacts / effects on any new noise sensitive development and in particular the proposed residential premises and primary and secondary school. It is paramount that any development follows the principle of good acoustic design to avoid noise from giving

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rise to unacceptable significant adverse impacts on health and quality of life of future and existing uses and any other adverse impacts on health and quality of life arising from noise need to be mitigated and reduced to a minimum.

One of the core planning principles of the national planning policy framework is to always seek to secure high quality design including good acoustic design and a good standard of amenity / quality of life for all existing and future occupants of land and buildings.

3.0 Construction Phase Environmental Impacts / Pollution

(This section should be read in conjunction with comments relating to Chapter 12 - Noise and Vibration - Construction noise and vibration impacts / effects)

The proposed development will be constructed in phases likely to be over an approximate 7 to 10 year period. At this stage in the planning process, an indicative three-phase construction programme is proposed with construction phase starting in 2020 and finish in 2027. It is anticipated that the development will be built out at approximately 170 homes per annum.

Pollution such as noise / vibration and dust / emissions to air from the demolition and construction phases has the potential to affect the amenity of surrounding properties both on and off site, if not controlled and minimised by the use of best practical mitigation means.

3.1 Construction & Environmental Management Plan - CEMP

An updated Appendix 4.1 titled '*Land North of Cherry Hinton - Outline Construction and Environmental Management Plan (Project Ref: 37305 | V5.0 | Date: March 2019 (Peter Brett Associates (pba) Doc Ref: 37305/3003/CEMP)*' has been submitted in support of the ES.

It is stated that the outline CEMP provides a framework which governs the construction works associated with the proposed development of the Land North of Cherry Hinton for all contractors.

It sets out, in broad terms, the environmental issues and management procedures to be adopted during the construction works on site to help control potential adverse impacts to the environment and the local community – identifies methods to avoid, minimise and mitigate construction effects on the environment. The document has also considered the potential impact of construction on Cambridge Airport and identified measures required to mitigate potential construction effects which could impact its operation.

The Outline CEMP will be passed onto the Principal Contractor, once appointed, to review, implement and audit a Detailed CEMP. It is understood that the Principal Contractor will be charged with responsibility for management, co-ordination and implementation of the CEMP.

The CEMP has been prepared on the basis of the Environmental Impact Assessment (EIA) undertaken in relation to the proposed development and documented in the

Environmental Statement (ES), as well as additional technical work such as the Lighting Assessment.

The EIA / ES and supporting technical documents which have been used to inform the CEMP have considered relevant local policy requirements in relation to construction impacts associated with each discipline.

In summary, the objectives of this Outline CEMP are to:

- Minimise (eliminating where practicable) the adverse environmental effects of the construction of the proposed development;
- Document the environmental controls to be adopted during construction;
- Enable agreement with the relevant approval authorities on mitigation measures to be adopted during construction; and
- Provide a framework for contractors to manage construction impacts.

The CEMP is comprised of the following sections:

1. Introduction
2. Site Location and Proposed Development
3. Construction Management & Methodology
4. Visual Considerations
5. Ecology and Nature Conservation
6. Transport
7. Air Quality
8. Noise and Vibration
9. Lighting
10. Protection of Historic Features
11. Water Resources
12. Contamination and Ground Conditions
13. Waste and Materials Management
14. Consideration for Others and the Environment
15. Conclusions

3.2 Conclusion – Construction Phase Environmental Impacts / Pollution

As the proposed development will be constructed in phases likely to be over a 7 to 10 year period some of which are relatively close to existing residential premises it is paramount that pollution such as noise / vibration and dust / emissions to air from the construction phases are controlled and minimised by the use of best practical mitigation means.

The submitted ES updated Appendix 4.1 - outline CEMP is comprehensive in respect of environmental health related matters and in particular sections 2, 3, 7, 8, 9, 12, 14, and 15. It has been carried out with reference to national and industry standards, codes of practice and best practice technical guidance.

It is a strategic environmental plan for the construction of the proposed development and provides a framework that sets out the environmental issues and management procedures to be adopted during construction works on site.

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More detailed plot specific CEMPs of similar (final wording to be finalised) for specific development phases as they come forward should be provided. In addition, it is noted that Construction Waste Management Plans (CWMPs), Materials Management Plan (MMP) and Construction Traffic Management Plans (CTMPs) are to be prepared in parallel.

The submitted outline CEMP is sufficient for an outline application. A bespoke condition could be imposed requiring compliance with the submitted ES updated Appendix 4.1 - Outline CEMP general principles, assessment methodologies and approach to secure mitigation. Such an approach is detailed in para. 3.6.8 - Construction Environmental Management Plan (CEMP) of Chapter 3 - The Proposed Development of the ES, Volume 2, Main Report.

However, as the submitted ES updated Appendix 4.1 - Outline CEMP is generic an alternative Site Wide Construction Environmental Management Plan (SW-CEMP) condition is recommended.

In addition, as the development is likely to be phased, a condition should also be imposed requiring that for each detailed reserved matters application / phase a Site Specific Construction Method Statement (SS-CMS) / Site Specific Construction and Environmental Management Plan (SS-DCEMP demonstrating compliance with any approved SW-CEMP as approved and as appropriate, shall be submitted for approval.

4.0 Noise and Vibration – Construction & Operational Impacts on both existing and proposed Noise Sensitive Receptors (Living Conditions):

The following updated submissions make reference to and or consider potential environmental noise impacts on existing residential premises and the proposed development itself:

- LAND NORTH OF CHERRY HINTON - PLANNING STATEMENT (UPDATED), March 2019
- LAND NORTH OF CHERRY HINTON - DESIGN AND ACCESS STATEMENT (UPDATED), March 2019
- Land North of Cherry Hinton - Environmental Statement: Non-Technical Summary - UPDATED, March 2019
- Land North of Cherry Hinton - Environmental Statement - UPDATED Volume II: Main Text, March 2019
 - Chapter 9 – Noise and Vibration,
 - Chapter 16 – Cumulative Effects
 - Chapter 17 - Summary of Mitigation
- Addendum to Sustainability Statement (Date: 25/06/2018 with updates on 07/03/2019 & 25/03/2019)
- HEALTH IMPACT ASSESSMENT, March 2018 (Project Ref: 37305/3004 | Rev: V1.2 | Date: March 2018)

4.1 Chapter 9 – Noise and Vibration (updated, Match 2019)

The ES Chapter 9 – Noise and Vibration is comprised of the following sections:

- **Introduction**

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- **Planning Policy and Legislation (National and Local - Noise and Aviation)**
 - Planning Policy
 - *National Planning Policy Framework (NPPF, 2019)*
 - *Noise Policy Statement for England (NPSE, 2010)*
 - *Planning Practice Guidance – Noise (PPG-N, 2015)*
 - *Aviation Policy Framework (APF, 2013)*
 - Local Planning Policies
 - CCiC and SCDC
 - Legislative Context
 - *Control of Pollution Act 1974*
 - *Environmental Noise Directive 2002/49/EC*
- **Assessment Methodology**
 - Consultation (with CCiC and SCDC)
 - Sources of Information and guidance documents
 - *British Standard (BS) 5228:2009+A1:2014*
 - *British Standard (BS) 4142:2014*
 - *British Standard (BS) 8233:2014*
 - *BB93, 2015 (Department for Education. Acoustic Design of Schools: Performance Standards, Building Bulletin 93, February 2015).*
 - *Calculation of Road Traffic Noise (1988)*
 - *Design Manual for Roads and Bridges (2011)*
 - *World Health Organisation Guidelines (2000, 2009 and 2018)*
 - *Possible Options for the Identification of SOAEL and LOAEL in support of the NPSE (AECOM, 2014)*
 - *Professional Practice Guidance on Planning and Noise - ProPG (2017)*
 - *Cambridge Airport Noise Action Plan 2014 – 2019*
 - *Aircraft Engine Ground Running (EGR)*
 - Study Area
 - Assessment Process/Criteria
 - Noise Surveys
 - Suitability of the site
 - *Road Traffic noise*
 - *Fixed Wing Aircraft and Helicopter noise*
 - *Engine Ground Running (EGR) Noise*
 - *Combined noise from all sources*
 - Construction Noise Assessment
 - Operational Noise Assessment
 - Assessing significant effects
 - Assumption and Limitations
- **Baseline Conditions**
 - Suitability of the Site
 - Public outdoor amenity spaces
 - Residential receptors
 - Primary school
 - Secondary school
 - Local centre
- **Potential Effects**

- Construction Phase
 - Construction traffic
- Operational Phase
 - Suitability of the site
 - Operational noise from the Proposed Development
- **Proposed Mitigation**
- **Residual Effects**
 - Construction Phase
 - Operational Phase
 - Residential
 - School Site
- **Impact Interactions**
- **Summary**
- **References**

During the post-submission period, discussions have been held between the applicant team and this service to address comments made to the original submission. The amended / updated ES chapter documents the post submission engagement, the additional assessments undertaken and information / evidence gathered since the original submission following a request for further information, clarifications and assessment,.

The chapter details the approach and findings of the assessment of potential effects of the proposed development relating to noise and vibration both during the construction and operational phases and provides a review of the baseline noise conditions within the Application Site and surrounding area. The Chapter then presents the results of the assessment of the effect of the proposed development on the baseline assessment scenarios to determine the anticipated magnitude and significance of effects on existing environments. The suitability of the proposed site for noise sensitive residential type uses is considered.

Mitigation measures are presented and discussed to avoid significant adverse noise impact from arising and to reduce and minimise to an acceptable level the effects of noise and vibration during both the construction and operational phases of the proposed development.

4.2 Conclusion: Noise / Vibration – Construction

The impact of noise and vibration during construction is also discussed in detail under section '**3.0 Construction - Environmental Pollution**' above.

In summary, during construction noise will be generated both within the site and on local roads as additional vehicles will be travelling to and from the site. Exact details of construction work, plant to be used and where activities will take place are not known at this stage. Therefore, an indicative construction noise assessment has been carried out using typical plant, fixed distances and worst-case assumptions.

Construction noise generated within the site would be of temporary minor adverse significant effect at the nearest residential units to the Site and within any occupied residencies within the site. Construction traffic flow data was provided by transport consultant PBA, which was used to calculate the magnitude of change in road traffic noise during the construction. It is concluded that the proposed development would have a negligible impact on road traffic noise during construction which is categorised as being of minor significance. Residents on Cherry Hinton Road and Airport Way will be particularly sensitive to noise generated from construction road traffic. It is also anticipated that some of the residential units that form part of the proposal will be occupied whilst construction works are being undertaken on site and therefore have the potential to be affected.

The noise impact assessment of construction phase activities and construction related traffic that has been undertaken is acceptable.

It is agreed that the proposed development would have a negligible impact on road traffic noise during construction which is categorised as being of minor significance. It is also agreed that with the implementation of best practical means to mitigate noise and vibration as proposed, construction noise generated within the site would be of temporary minor adverse significant effect at the nearest residential units to the Site and within any future occupied residencies within the site. No adverse health impacts are envisaged.

As stated in section 3.0 above it is recommended that bespoke conditions are imposed requiring compliance with the submitted site wide Construction Environmental Management Plan (CEMP) which details general principles, assessment methodologies and approach to secure adequate noise / vibration mitigation. Each detailed reserved matters application / phase require a specific CEMP / Construction Method Statement (CMS) demonstrating compliance with the approved site wide CEMP, as appropriate.

4.3 Conclusion - Operational off-site traffic noise impact on local roads

Operational noise impacts from the proposed development relate to changes in road traffic flows and any plant associated with the schools or local centre. Operational road traffic flow data has been predicted for future scenarios with and without the proposed development – traffic flow years 2027 and a completed design year of 2043. This traffic flow data has been used to calculate the difference in road traffic noise along the existing road network.

Operational noise generated by the proposed development will include changes in local road traffic noise off-site. We agree with the conclusion that the proposed development would have a negligible impact on long term local road traffic noise during operation, which is categorised as being of minor significance. No mitigation or further action required.

4.4 Conclusion: Noise / Vibration – Operational

In summary, the following operational related noise and vibration impacts with effects are relevant:

- Noise / Vibration – Operational Impacts on both existing and proposed Noise Sensitive Receptors:

- Airport / aircraft activity noise from Cambridge City Airport and traffic noise from Coldhams Lane, Cherry Hinton Road and Airport Way on future residents, public open spaces and schools
- Noise from industrial noise sources at Cambridge Airport and Coldhams Lane on future residential premises
- Traffic noise impact from any internal primary roads within the development site on future residents of development itself
- Operational noise and vibration impact of proposed employment, commercial and mixed-uses including fixed plant and equipment and school / recreational development and Local Equipped Areas of Play (LEAPs) and Neighbourhood Equipped Areas of Play (NEAPs) on existing and proposed residential uses

The updated noise assessment is comprehensive and has been undertaken having regard to and is in accordance with relevant planning policy and national / industry impact assessment methodologies, noise standards, codes of practice and best practice technical guidance.

The existing environmental noise climate experienced at and within the proposed development site is comprised of various noise sources dominated mainly by airport / aircraft noise from and associated with Cambridge City Airport and traffic noise from Coldhams Lane (on the western site boundary), Cherry Hinton Road and Airport Way (along the eastern site boundary). Distant A14 traffic noise can also be heard to varying degrees but at lower levels.

The main operational activities at Cambridge Airport comprise of:

- Aircraft maintenance, repair and overhaul operations including aircraft Engine Ground Running (EGR);
- Aircraft operations (fixed wing and helicopters), including general and business aviation, East Anglian Air Ambulance and occasional commercial and charter passenger flights; and
- Flying clubs (fixed wing and helicopters)

Noise levels vary spatially throughout the development site in volume, intensity, character and duration during the day, evening and night time periods and are relatively complex.

The contribution from each noise source has been individually assessed along with the overall combined noise for the suitability for the proposed development. The assessment for suitability of use has been considered against proposed Lowest Observed Significant Effect Levels (LOAELs) and Significant Observed Adverse Effect Levels (SOAELs) for noise. Although the word 'level' is used here, this does not mean that the effects can only be defined in terms of a single value of noise exposure. In some circumstances adverse effects are defined in terms of a combination of more than one factor such as noise exposure, the number of occurrences of the noise in a given time period, the duration of the noise and the time of day the noise occurs.

In addition there is no definitive absolute methodology / approach or defined thresholds / numerical criteria to determine significance of noise impacts / effects for every noise source. The subjective nature of noise means that there is not a simple

relationship between noise levels and the impact on those affected. This will depend on how various factors combine in any particular situation.

Noise levels across the public outdoor amenity spaces within the proposed development vary. Some, more screened amenity spaces, would experience noise levels between 50 dB LA eq 16 hour and 55 dB LA eq 16 hour, which is an appropriate level of noise for such spaces considering the urban location. Other public amenity spaces are exposed to noise levels up to 57 dB LA eq 16 hour, which is reasonable as the slightly higher noise levels are contained to only part of the space.

Due to the proximity with Airport Way, the noise levels at the location of the proposed secondary school are currently at the upper end of acceptable and it is possible that for some periods of the day the noise levels will exceed this limit.

However, as part of the proposed development, an environmental noise barrier (most likely to be in the form of an acoustic screen / earth bund) is proposed as embedded mitigation along part of the eastern site boundary with Airport Way, to reduce noise levels within the secondary school grounds.

The height of the noise barrier has been tested at 2m, 2.5m and 3m to assess the corresponding potential noise reduction benefits for those height options. The distribution of noise does not substantially change by increasing the height of the barrier above 2m and the eastern facades of the school buildings still experience noise levels in excess of 55 dB under all three scenarios. The noise assessment concludes that an increase in the height of the noise barrier is not warranted and, a 2m barrier is deemed most appropriate.

At 2m, the screening from this noise barrier and other buildings within the site will assist in providing further mitigation. Furthermore, internal noise levels will be achieved through design layout and/or building fabric to comply with various standards. A detailed noise assessment will be provided at Reserved Matters stage.

It is also noted that the submitted LAND NORTH OF CHERRY HINTON PLANNING STATEMENT (UPDATED) March 2019, states in section 6.243 that *'The impact of raising the height of the barrier in reducing levels is not considered justified when measured against the visual impact on the boundary of Airport Way and into the Green Belt'*.

We agree that the noise levels at the location of the proposed primary school are currently within an acceptable range. Once screening from the buildings within the proposed development is considered the noise level at the primary school site reduces further.

Potential noise impacts upon existing receptors, brought about by operational phases of the proposed development, have been determined and assessed against relevant criteria. Noise limits have been discussed for any plant such that the impacts are not significant.

We accept that the principle of residential development on the proposed site is established in local plan / policy terms and it will be important to ensure that existing environmental noise sources do not give rise to unacceptable adverse noise impacts

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/ effects on any new noise sensitive development and in particular the proposed residential premises and primary and secondary school.

The noise assessment has identified the need to specify a minimum acoustic criterion for building fabric, glazing and ventilation for the dwellings and school buildings to protect against suitable internal noise levels being exceeded. Following the implementation of these measures the noise climate across the site is considered appropriate for the Proposed Development.

Good acoustic design of site / building layout and noise mitigation measures are proposed and specified for residential dwellings across the site in order to protect the amenity of future residents externally and to prevent suitable internal noise levels being exceeded. Mitigation measures could include acoustic glazing, building materials, fenestration and ventilation design, with specific details to be secured by condition at Reserved Matters stage.

The site is suitable for development. However it is paramount that any development follows the principle of good acoustic design to avoid noise from giving rise to unacceptable significant adverse impacts on health and quality of life of future and existing uses and to ensure that any other adverse impacts on health and quality of life arising from noise need to be mitigated and reduced to a minimum.

The specific mitigation measures and approach applicable to operational noise are outlined in section 9.6 - Proposed Mitigation and summarised in Chapter 17.0 - Summary of Mitigation and *Table 17.1: Summary of Primary and Tertiary Mitigation Measures*, which also includes the delivery method to ensure the mitigation measures are implemented as detailed below.

Environmental Effector or Receptor	Mitigation Measure	Type of Mitigation: Avoidance, Reduction, Compensation, Remediation, Enhancement	Delivery Method (e.g. planning condition, S106, design etc.)
Primary – Embedded Mitigation			
Noise Impact on Outdoor Amenity Space	Greater distribution of a network of public open spaces within the built development.	Avoidance	Planning Condition requiring Reserved Matters Application(s) to demonstrate residents have access to suitable outdoor amenity space.
Noise Impact on Outdoor	Noise Barrier/Bund along the eastern edge of the Site as	Reduction	Planning Condition requiring

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teaching spaces at the Secondary School Site	shown on the Landscape and Green Infrastructure Parameter Plan		submission of a detailed noise assessment and design details of the noise barrier/bund.
Residential Amenity, Noise and Air Quality	<p>The existing Fire Training Ground (FTG), located immediately adjacent to the Site, would cease operation prior to the first occupation of any residential unit to be constructed as part of the Proposed Development. The buildings and infrastructure associated with the FTG would remain in-situ within the boundary of Cambridge Airport.</p> <p>The cross wind runway at Cambridge Airport will cease use for the taking off and landing of aircraft prior to the occupation of any dwelling on the Site.</p>	Avoidance	Planning Obligation
Tertiary Mitigation			
Exceedance of internal noise level guideline values at residential and school façades	<p>The design, layout, orientation of buildings and uses will need to be considered at the detailed design stage, and planning conditions will be imposed to ensure that the internal noise levels are compliant with Government guidance/standards for both residential properties (BS8233:2014), schools (BB93) and community buildings (BS8233:2014)</p> <p>The types of measures that may be required include the standard of masonry construction and specification of glazing. Mechanical ventilation may be required to ensure internal air flow without compromising internal noise levels, the detail of which will be explored at reserved matters stage.</p>	Reduction	<p>Planning Condition requiring Reserved Matter Application(s) to include details of noise attenuation/insulation scheme (having regard to the building fabric, glazing and mechanical ventilation requirements) for the residential units and school buildings.</p>

In conclusion, the main sources of noise in the area are road traffic, aircraft activity at Cambridge Airport and aircraft maintenance repair and overhaul work at the airport.

The assessment for suitability of use for the Proposed Development and significance of any noise impact has been assessed having regard to relevant noise related planning policy and national / industry impact assessment methodologies, noise standards, codes of practice and best practice technical guidance.

We agree with the overall ES conclusion that the noise climate across site for the majority of the time lies between the Lowest Observed Significant Effect Levels (LOAELs) and Significant Observed Adverse Effect Levels (SOAELs), which is considered an observed adverse effect level for noise.

National planning practice guidance on noise states that likely outcomes / impacts experienced would be that *'noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise with potential for some reported sleep disturbance'*. The national planning advice is to mitigate and reduce noise impacts to a minimum.

It is important to understand that the LOAEL and SOAEL threshold values derived for road traffic and aircraft noise correlate to the noise exposure average over / during the whole day period over 16 hours (0700 to 2300hrs), aircraft engine testing / running over 11 hours. It is not appropriate to assess short-term exposure noise descriptors (for example 1 hour, 5 minute and SEL / Lmax) using LOAEL and SOAEL, as there are no acceptability standards for such short periods during the daytime.

Due to the context of the site the reality is that from time to time short periods of aircraft noise will be clearly audible e.g. intermittent airplane and helicopter take off and landings. When the GRE is in use engine noise will also be audible and in particular during periods of high powered running for typically 30 mins at a time.

However, these are considered relatively infrequent and for the majority of the time occur during the daytime hours 0700 to 1900hrs. The level of activity at the airport reduces considerably during the evening (1900 to 2300hrs) and apart from exceptional circumstances e.g. East of England air ambulance movements there is little or no activity during the night-time hours (2300 to 0700hrs).

The application site external edge boundaries / periphery of the site will experience the highest noise levels due to a direct line of sight and proximity to various noise sources.

The noise levels at the location of the secondary school are currently at the upper end of acceptable. However, as part of the Proposed Development, a noise bund is proposed along part of the eastern site boundary with Airport Way. When screening from this barrier and other buildings within the Proposed Development is considered, the noise levels reduce to an acceptable level. The

noise levels at the location of the proposed primary school are currently within an acceptable range.

Noise levels across the public outdoor amenity spaces within the Proposed Development vary. Some, more screened amenity spaces, would experience an appropriate level of noise for such spaces, other public amenity spaces are exposed to higher noise levels which is reasonable as the slightly higher noise levels are contained to only part of the amenity spaces.

The noise assessment has identified the need to specify a minimum acoustic criterion for building fabric, glazing and ventilation for the dwellings and school buildings to protect against suitable internal noise levels being exceeded. Following the implementation of these measures the noise climate across the site is considered appropriate for the Proposed Development.

Having regard to the character of the area with urban sources of noise, the noise climate is considered appropriate for the proposed development subject to good acoustic design and noise insulation / mitigation measures to reduce and minimise adverse noise impacts / effects. The need for and type of mitigation will depend on a variety of factors including the nature of the aviation activity, location and normal environmental conditions in that context.

At the detailed design stages, it is recommended that 3D propagation sound / noise modelling should be used to predict and assess the outdoor propagation of noise across the site including façade incident noise levels (at various floor levels) from all sources of noise cumulatively, taking account of how noise is attenuated by topography, existing buildings and proposed new buildings (heights and location) and any environmental noise barriers. This will help to ensure effective noise control / attenuation measures are incorporated and optimised at the design stage by considering good acoustic design.

This can be secured by bespoke conditions as recommended.

This approach has been evidenced through the noise assessment and design process which will need to ensure that the development accords with the following planning policy requirements:

- paragraph 170 e) and 180 a) of the National Planning Policy Framework (NPPF, February 2019)
- policies CE/10 Road Infrastructure and CE/26 Noise of the Cambridge East Area Action Plan Adopted February 2008,
- policies SS/3: Cambridge East, HQ/1: Design Principles and SC/10: Noise Pollution of the South Cambridgeshire Local Plan, Adopted September 2018
- policies 13: Cambridge East and 35: Protection of human health and quality of life from noise and vibration of the Cambridge Local Plan, October 2018
- Land North of Cherry Hinton Supplementary Planning Document (LNCH SPD), adopted March 2018

4.5 Additional Operational Noise Issues - Non-residential uses

The following operational noise issues will also require consideration and noise mitigation as necessary:

- **Non-residential uses – Operational** : Operational noise levels associated with non-residential uses such as the community hub including function rooms, retail and commercial uses and recreational uses such as sports halls / sports pitches and community uses at schools, Local Equipped Areas of Play (LEAPs) and Neighbourhood Equipped Areas of Play (NEAPs) and any MUGA.

Mitigation measures including careful design and location / distance separation and acoustic barriers / screening may need to be considered and put in place to ensure that noise from any noisy activities / uses, operational plant / equipment and delivery and servicing do not give rise to significant adverse noise effects and to otherwise mitigate and reduce any adverse noise impact to a minimum.

It is noted that the DAS, March 2019 refers to the fact that LEAPs and NEAPs will require buffer zones of 20m and 30m respectively between the activity area and houses. The recommended source of these buffer zones is not detailed but it appears that they are in accordance with SCDCs' *'Local Development Framework: Open Space in New Developments - Supplementary Planning Document, Adopted January 2009'*. The Buffer Zone is the space between the facility and the nearest residential property, which is required to minimise disturbance. This is general guidance and may need to be supported by noise assessment depending on the nature of the activities and play equipment proposed.

Any impacts can be assessed and mitigated by condition as recommended.

- **Internal streets / roads - Operational:** Traffic noise impact from any internal primary roads within the development site on future residents of development itself

The impact of traffic noise from the proposed development itself affecting new dwellings on site and in particular those alongside and overlooking primary and secondary traffic / highway routes, based on predicted traffic modeling is a material consideration. A noise insulation scheme for residential uses in these locations will be required. External amenity areas such as balconies on the noisy façade may not be acceptable unless justified.

- There are three separate commercial / industrial and warehouse / storage units located at 3 to 13 Coldhams Business Park, Coldhams Lane / Norman Way, Cambridge, CB1 3LH with rear accesses and service yards approximately 50 to 70 metres directly opposite the western edge of the development site, where residential premises are proposed.

It is understood that these industrial / commercial type premises operate on a 24/7 basis and night-time deliveries and collections are permitted. Operational noise associated with these units may have a significant adverse impact on the proposed residential in this general location. A BS 4142 type noise assessment will be required to assess such impacts as part of any reserved matters application for residential in this area etc. The applicant should be aware that such industrial noise sources may influence the final design and layout of noise sensitive residential premises in this location including internal habitable room layout / configuration and whether any opening windows would be acceptable on facades overlooking the industrial estate.

However, it is considered that these matters are detailed design issues which can be controlled by condition and assessed and mitigated as necessary at any reserved matters application detailed design stage, as recommended.

5.0 Odour Impacts – Cambridge City Airport (CCA) Potential Odour Sources

Chapter 10 - Air Quality Impact Assessment of the ES (UPDATED) -Volume II: Main Text, March 2019 also considers the approach and findings of the assessment of potential odour impacts associated with Cambridge City Airport (CCA) on the proposed development.

The development site is located adjacent to CCA and a number of emission sources have been identified that are potentially odorous. The principal sources of odour pollution are from aircraft emissions, from the main aircraft engines and auxiliary power units (APUs), and emissions from the engines used in Ground Support Equipment (including airside vehicles and mobile ground power units). Odours are primarily from the incomplete combustion of aviation kerosene and diesel when aircraft are taxiing or idling

It is stated that odour emissions will occur at the runway (during take-off and landing), taxiways, aprons and the recently approved Ground Running Enclosure (GRE) which is to be located close to Hangar 17 on the west side of the airport site. The majority of odour emissions (>90%) are likely to be released during the engine start-up, taxiing and queuing of aircraft, when aircraft engines are at low (idle) thrust settings. Historically complaints about odours from the airport have been related to aircraft Engine Ground Running (EGR) – engine testing, rather than normal airport operations.

The chapter acknowledges that while the proposed development will introduce sensitive properties closer to the runway than those existing properties at Church End, there are already properties at a similar distance or closer to the runway than the at Nuttings Road and Airport Way.

Furthermore, it is stated that the recently approved and constructed Ground Run Enclosure (GRE - Cambridge City Council permission 16/2212/FUL and South Cambridgeshire District Council permission S/3591/16/FL) at the CCA is located approximately 500 m away from the site and will be operated to align with an Odour Management Plan (OMP) as required by condition, to prevent potential odour nuisance, such that complaints relating to engine testing should be minimised. It is also noted that the new GRE can only be used up to 500 hours per year as required by condition, with each test lasting no longer than four hours at any time. Some engine testing will occur outside the GRE on main runways but such occurrences are considered as being very exceptional rather than the norm. The nearest airport apron is located over 700 m away from the proposed development.

5.1 Conclusion: Odour Impacts – Cambridge City Airport (CCA) Potential Odour Sources

We agree with the ES (UPDATED), March 2019, that in the case of airports, the use of odour dispersion modelling for impact assessment is relatively uncommon and highly uncertain, is generally considered to be unreliable, and therefore the conclusions of the impact assessment have been based mainly on the findings of an odour risk assessment which is considered to be most appropriate.

The impact assessment has used a risk-based approach undertaken having regard to national and industry odour standards, guidance and criteria including the Institute of Air Quality Management (IAQM) '*Guidance on the assessment of odour for planning (IAQM, 2014)*'.

It is also important to note that the human nose is very sensitive to odours, and many substances that are perceived as odorous are usually present at detection threshold levels below which there is a direct harmful effect on human health.

However, as agreed with the CCiC Environmental Health Officers, prior to the original application submission, additional field survey work in the form of a total of twelve field odour site surveys (sniff testing) were undertaken between 19 June and 21st August 2018 to support the findings of the odour risk assessment. These surveys follow the methodology set out in Appendix 10.9 of the updated ES, March 2019. These surveys followed a methodology agreed with CCiC and consistent with the IAQM odour guidance and were carried out by certified, trained assessors.

Surveys were undertaken for as many wind speeds and directions as possible, as many times of day as possible (covering the operational hours of CCA), and to coincide with as many aircraft operations as possible (including engine testing as well as small and large aircraft movements). Additionally, the surveys include sniff-tests surrounding CCA to provide additional context to the assessment.

The use of a multi-tool approach to the odour assessment adheres with the guidance provided by the IAQM. The findings of this work are submitted as part of the updated ES as supplementary information to assist the Council's assessment of odour related matters.

It is reported in the ES that the field surveys demonstrate that CCA odour emissions are infrequently detectable outside of the airport and are only detectable during engine testing or large aircraft operations, both of which occur very infrequently and for short durations. When detected, the odours will be very faint and the overall odour effect throughout application site is considered negligible.

Overall, it is judged that odour effects at the Proposed Development resulting from the operation of CCA will be negligible and not significant. This judgement is based on the conclusions of the odour risk assessment and odour field surveys, which identify the potential for negligible odour effects.

As reported in the ES, we agree with the results of the odour field surveys which support the risk based odour impact assessment conclusion that the odour effects of the airport are negligible and not significant. CCA odours are very unlikely to have an adverse impact on the health and quality of life / amenity of the development site, and therefore no mitigation is required. No further action is required in relation to this matter.

6.0 Artificial Lighting - Construction & Operational

In response to our initial planning comments and request for additional assessment, clarifications and justification an updated / revised ES Appendix 5.7 titled '*Land North*

of Cherry Hinton - Lighting Assessment (Project Ref: 37305 | Rev: 04| Date: March 2019 & Doc Ref: 3005)' has been submitted.

It is stated that this lighting assessment supports the Landscape and Visual Impact Assessment provided in Chapter 5 of the Environmental Statement (ES) submitted with the outline planning application.

The updated / revised light assessment considers the potential effects from obtrusive light that may arise from the artificial lighting associated with the construction and long term operation of the Proposed Development.

The key aims and objectives of the lighting assessment are to:

- identify national and local planning policy and guidance as relevant to lighting for the proposed development;
- determine the existing lighting conditions within the Site and wider study area;
- establish the minimum lighting levels required to construct and operate the proposed development safely, securely and energy efficiently;
- assess the potential effects of the minimum exterior artificial lighting required for the proposed development on light sensitive receptors (including CCA); and
- establish design objectives for the lighting design to ensure obtrusive light is minimised to within guideline levels.

6.1 Artificial Lighting: Construction

Artificial lighting during the construction phases will generally be temporary in nature. With a careful lighting scheme / design, location / orientation of luminaire including security lighting and use we do not envisage any unacceptable adverse impacts on the local area.

The submitted Appendix 4.1 titled '*Land North of Cherry Hinton - Outline Construction and Environmental Management Plan (Project Ref: 37305 | V4.0 | Date: March 2018 & Doc Ref: 37305/3003/CEMP)*' also includes a section of artificial lighting which is generally acceptable.

In conclusion, prior to commencement of development a site wide CEMP and reserved matters application CMS type conditions are recommended which includes an item on artificial lighting control and consideration of appropriate mitigation measures to be submitted in writing for approval by the LPA.

6.2 Artificial Lighting: Operational

The updated / revised ES Appendix 5.7 titled '*Land North of Cherry Hinton - Lighting Assessment (Project Ref: 37305 | Rev: 04| Date: March 2019 & Doc Ref: 3005)*' includes consideration of the following:

- relevant legislation / policy / guidance;
- assessment methodology;
- existing baseline conditions determination / ILP Environmental Zone classification;
- the location of sensitive receptors;
- lighting sources / requirements;

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- potential impacts and
- consideration of mitigation including lighting design schemes.

It is recommended in Appendix 5.7 that all detailed lighting design for externally lit areas will need be conditioned and submitted for approval as part of subsequent reserved matters application(s). This approach is robust and acceptable.

It is stated that the potential effects of obtrusive light from the operational development may therefore affect both existing sensitive receptors outside of the proposed development, as set out in Table 5.2: Existing Sensitive Receptor – closest existing residents along the southern south-west boundary border of the Site (*those at Coldhams Lane, Hatherdene Close, Rosemary Lane, Braybrooke Place, Reilly Way, March Lane, Teversham Drift*), to the east / south east of the Site to the east of Cherry Hinton Road (*Dolphin Close, Caribou Way, Gazelle Way - adjacent to south boundary*) and east of Airport Way (*Church Road, Lady Jermy Way, Lapwings Close, Marshalls Close in Teversham*) and future sensitive receptors within the proposed development (as set out in Table 5.3). Potential effects are set out in Section 7.5 and 7.6.

The predominant light sources introduced at the proposed development are identified as follows:

- residential street / security lighting
- car park lighting for residential
- educational and community uses
- flood lighting for sports pitches and MUGAs, and
- road lighting where necessary for access junctions onto the highway network.

6.3 Conclusion: Artificial Lighting – Operational

The NPPF states that good design needs to limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.

Environmental Health are particularly concerned about the impact / effects of obtrusive lighting / light intrusion including glare on residential premises as it can be considered a statutory nuisance and can have an adverse impact on quality of life / amenity.

We do not consider the impacts on other potential receptors such as Cambridge Airport (Aviation), road users, the general public, landscape and visual or nature conservation / ecology (flora and fauna).

The operational artificial lighting impact assessment has been undertaken having regard to relevant planning policy and national / industry artificial lighting standards, codes of practice and best practice technical guidance and in particular the following Institution of Lighting Professionals (ILP) documents / guidance:

- Guidance Notes for the Reduction of Obtrusive Light - GN01:2011
- Professional Lighting Guide 04: Guidance on Undertaking Environmental Lighting Impact Assessments, 2013 (ILP, PLG04, 2013)

It was qualitatively determined in the original submitted Lighting Assessment Report, March 2018 that the baseline conditions of the application site is located within Environmental Zone E3 (Suburban). However, the results of the additional lighting

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survey undertaken in August 2018 (Appendix G - Response to EHO Comments Technical Note) show that the application site is Environmental Zone E2 (Rural with low district brightness in the Site and it is in rural surroundings) with a small section of land on the edge of the application site being classified as Environmental Zone E3 (Suburban, with medium district brightness) due to light obtrusion from the existing settlement area.

The ILP guidance suggests that localised elevated levels of lighting should not be considered as part of the overall classification. Therefore, the Site has been categorised as ILP Environmental Zone E2 (Rural) as there are low levels of district brightness predominantly in the Site and it is in rural surroundings.

Given the scale and nature of the land uses within the proposed development, it is anticipated that in area which are to be developed (i.e. residential, mixed-use/local centre and schools) the ILP Environmental Zone may change to E3 (Sub-urban) once the proposed development (or phases of the proposed development) becomes operational.

It is also noted that the preliminary lighting design for the MUGA (Appendix F - Multi-Use Games Area Lighting Design Technical Note) associated with the secondary school indicates that flood lighting can be installed to minimise the impact of obtrusive light on proposed residents to the west within guideline levels.

The location of the MUGAs has been reviewed in relation to the consideration areas. As such, the MUGAs have been relocated to areas with the least possible effect of the lighting onto the other consideration areas.

Luminaires have been designed to be directed into the MUGAs to aid in mitigating the light spill. Due to advancements in external lighting, LED technology allows for luminaires to be directionally focused which further limits light spill. Internal louvres shall also be attached to the luminaires.

The central principle of mitigation for operational lighting of the proposed development outline is that any future lighting designs prepared for submission of reserved matters should confirm light levels are, as far as possible, are kept within the limitations set for ILP Environmental Zone. It is therefore recommended in the submissions that as part of the mitigation strategy, that wherever technically and financially feasible; and appropriate in terms of safety, new artificial lighting for each phase is kept within the limits set out for ILP Environmental Zone E2 (Rural).

A lighting design showing lux contour lines should be prepared to support the reserved matters application for Compliance for any given plot(s) for any external lighting in publically accessible locations. These areas include road lighting, car park lighting, security lighting and flood lighting to and are required to demonstrate that the lighting levels will be kept within the thresholds of ILP Environmental Zone E2 where technically possible.

Airport Hangar mounted task and security lighting give rise to a degree of glare on the application site but vertical lux readings show that due to the distance of the application site from Cambridge Airport, the lux levels are within guideline values (ILP Guide, 2011).

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We conclude that operational artificial lighting is unlikely to give rise unacceptable adverse impacts on existing residential premises in the area and future occupiers of the site subject to further detailed lighting design approval.

Therefore further detailed lighting design for externally lit areas of the scheme (e.g. residential, educational, sports pitches, MUGAs, community use and roads) should be submitted and approved by the Local Planning Authority. This should be secured for each reserved matters application by condition, as recommended.

7.0 Air Quality – Operational

The proposed outline application is located within both Cambridge City and South Cambridge District Council areas and includes 1,200 homes, a 750 pupil intake Secondary School, 472 pupil intake Primary School and 1,850m² Local Centre incorporating shops, cafes and community centre.

Although located outside both districts designated Air Quality Management Areas (AQMA), the proposed development represents an intensification of use in a currently undeveloped area and introduces new emission sources and receptors into the area.

There is a Supplementary Planning Document (Land North of Cherry Hinton SPD, March 2018) pertaining to this application, of which section 5.47 relates to air quality. An Environmental Statement (ES) was submitted with the application of which Chapter 10 relates to Air Quality. This information has been reviewed in Environmental Health memos dated 18th June 2018 and 23rd August 2019. These comments remain relevant and in particular our air quality comments in our memo dated the 23rd August 2019, which for completeness are repeated below in italics *‘Air Quality Comments - planning consultation response memo dated the 23rd August 2019 (our M3 Ref No: WK/201856192) repeated in italics below.’*

Predicted vehicle movements associated with the proposed development have been agreed with the Cambridgeshire County Council Transport Team. These are higher than those modelled in the Air Quality Assessment (AQA); however this change is not considered significant and will not impact on the overall conclusions. An update of the AQA is therefore not considered necessary.

The conclusions and recommendations are summarised below.

The methodology for the AQA was agreed at pre application stage with dispersion modelling undertaken at receptor points both inside and outside the development site and both inside and outside the AQMA.

The AQA demonstrates that the proposed development will not lead to any new exceedances within the development, surrounding area or AQMA's. We accept this conclusion. However the proposed development will lead to a worsening of air quality within the Cambridge City Council AQMA. This is contrary to Policy 36 of the Cambridge City Council Local Plan. Therefore mitigation is required.

In accordance with Policy 36 of the Cambridge Local Plan and the adopted Air Quality Action Plan (2018) all new developments require Electric vehicle (EV) charge points, car clubs and emissions limits on any combustion emissions to air. These should be

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delivered to the standards outlined in the recently adopted Sustainable Design and Construction SPD (2020). These can all be secured by bespoke conditions, as recommended.

This approach for mitigating the impact on air quality has been agreed with the South Cambridge District Council Air Quality Officer.

7.1 Conclusion - Air Quality – Operational

We accept the conclusion that the development will not lead to any new exceedances within the development, surrounding area and AQMA however the AQA demonstrates that it will have a negative impact on air quality within the Cambridge City Council AQMA which is contrary to Policy 36 of the Cambridge City Council Local Plan. We will expect mitigation measures to be put in place.

These should be secured by condition in the form of emission limits for boilers, both active and passive provision of EV charge points and the incorporation of car clubs. These measures are supported by the Land North of Cherry Hinton SPD, recently adopted Sustainable Design and Construction SPD (2020) and the adopted Cambridge City Council Air Quality Action Plan (2018).

Air Quality Comments - planning consultation response memo dated the 23rd August 2019 (our M3 Ref No: WK/201856192) repeated in italics below:

‘8.1 Background information/Additional comments

Having reviewed the amendments to Chapter 10.0 - Air Quality Impact Assessment of the ES (UPDATED) March 2019, we confirm that the methodology for the assessment is considered acceptable.

In terms of local air quality the main changes / updates are references to and the consideration of updates to the national and local planning policy framework, including the following:

- *Draft Clean Air Strategy 2018 (Defra)*
- *Reducing Emissions from Road Transport: Road to Zero Strategy (The Office for Low Emission Vehicles (OLEV) and Department for Transport (DfT) published a Policy Paper DfT, 2018a)*
- *The National Planning Policy Framework (NPPF) (2019)*
- *Cambridge City Council (CCiC) Local Plan (CCiC, 2018) September 2018 - Policy 36 on air quality, odour and dust*
- *The South Cambridgeshire Local Plan (2018) - Policy SC/12: Air Quality*
- *CCiC Air Quality Action Plan (CCiC, 2018)*

It is also noted that section 10.6.4 of the ES states that, a low emission strategy will be submitted to help minimise pollution, which will include a detailed travel plan setting out measures to encourage sustainable means of transport (public, cycling and walking), both active and passive provision of EV charging points and incorporation of car clubs.

We welcome the inclusion of the provision of electric vehicles and car clubs. These air quality mitigation measures should be secured by condition in accordance with Policy 36 of the Cambridge Local Plan 2018 and the Cambridge City Councils Air Quality Action Plan (2018)

Therefore our original comments remain relevant and these were as follows:

NB: These comments are provisional subject to Cambridgeshire County Council agreeing the Transport Figures. However it is worth noting that we consider the predicted vehicle movements associated with this development to be low.

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This is a new outline application. The methodology for the Air Quality Assessment (AQA) was agreed at the pre-application stage. There is a 'LAND TO THE NORTH OF CHERRY HINTON (LNCH) - SUPPLEMENTARY PLANNING DOCUMENT, March 2018 Approved for adoption with the Local Plan (LNCN SPD, March 2018)' pertaining to this application, of which sections 3.62 to 3.64, 5.39 and 5.46 relate / refer to air quality.

The development includes 1,200 homes, a 750 pupil intake Secondary School, 472 pupil intake Primary School and 1,850m² Local Centre incorporating shops, cafes and community centre.

An Environmental Statement (ES) was submitted with the application. The following chapters, supporting appendices and documents have been considered in relation to the impact of the proposed development on air quality:

- Chapter 8 Transport
- Chapter 10 Air Quality
- Chapter 15 Cumulative Impacts
- Chapter 16 Mitigation
- Energy Statement

8.2 Cumulative Effects

A list of developments that should be modelled as part of the AQA was agreed at the pre application stage. These developments are listed in Chapter 15. Section 15.9 confirms that the potential traffic from these developments has been built into the Transport Assessment. Until the Transport Figures have been approved by Cambridgeshire County Council we assume that the cumulative impact of permitted developments will have been built into the findings of the AQA as stated in Section 15.11.12.

8.3 Traffic Emissions

Chapter 8 'Transport' of the ES considers the impact of the development based on a comparison of baseline 2016 vehicle flows, future baseline vehicle flows for 2031 which incorporates the cumulative impact of permitted developments and predicted vehicle flows 'with the development'. It is supported by a Transport Assessment (TA) and Travel Plan produced by Peter Brett Associates and dated March 2018. (Appendices 8.1, 8.2 & 8.3)

18hr & 24hr 5 & 7 days averages for all vehicles and heavy vehicles were calculated based on traffic counts undertaken on two occasions across the study site in 2016. These counts formed the basis for the 2016 baseline traffic flows. The future baseline for 2031 agreed with Cambridgeshire County Council includes the cumulative impact of all predicted flows from the list of permitted developments listed in Chapter 15 Cumulative Impact, Table 15.1. This list was agreed at the pre application stage.

Section 10.2 of the TA predicts total person trip generation at peaks hours based on TRICS person trip rates for the proposed proportion of different land uses and incorporates trip rates for staff coming from outside the development. Figures were adjusted to take account of internalisation and potential for double counting.

Predicted external person trip rates are 1,087 AM Peak and 788 PM Peak (Table 10.11). It is worth noting that we consider the rates of internalisation applied 49% AM peak and 25% PM Peak to appear high.

Table 12.8 of the TA summarises the modal share applied to the trip rates and gives a total of 994 peak AM and 709 peak PM trip rates of which 429 AM peak and 342 AM peak are predicted to be car drivers and trips to the station.

Clarification is required on why the total trip rates for the AM and PM Peak do not match the total external person trip generation in Table 10.11 and it should be possible to confirm this once Cambridgeshire County Council agree the Transport figures.

These external trip rates were then allocated across the network and considered in relation to different link roads. The AADT figures used for the purposes of the air quality assessment are included in Appendix 8.3 and relate to the impact of the development on road links across the study area.

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8.4 Travel Plan

We welcome the measures recommended in the Travel Plan (produced by Peter Brett Associates and dated March 2018) which encourage the uptake of cycling, walking and the use of Public Transport.

We would welcome the incorporation of electric bike charging facilities across all land uses to encourage this increasingly popular and sustainable method of getting around the city.

Section 6.7.5 refers to the provision of a car club on site. We welcome this as a proposed measure. We would expect the provision of more than a single car club vehicle and this can be secured by condition.

Section 6.7.5 refers to electric vehicle charge points and the need to future proof. It is worth noting we will expect the provision of active EV charge points across all land uses from the outset of the development and this will be secured by condition. Monitoring of use should be incorporated into the Travel Plan monitoring and review to establish the need and triggers for converting passive to active EV charge points. The conversion of passive to active EV charge points should be built into the measures covered under the contingency fund referred to in section 8.6.8.

8.5 Combustion emissions

The Energy Statement Produced by Peter Brett Associates and dated March 2018 outlines the energy strategy for the development and reviews the opportunities for improving energy efficiency and reducing energy use. At this stage the document looks at viable options and no detailed information is available. However, it dismisses the use of district heating (gas and biomass) and CHP at this site. This is supported by the Air Quality Assessment which excludes emissions from combustion sources as no CHP or large emissions are predicted.

We would expect all boilers installed both domestic and commercial which produce emissions to air to be low NOx (meet an emission limit of 40mg/kWh). Should CHP be installed then City Council emissions limits should be met to minimise emissions to air. This can be secured by condition at outline stage with details on individual boilers provided at the reserved matter stages.

8.6 Air Quality Assessment (AQA)

Chapter 10 Air Quality of the ES considers the operational impact of the development on local air quality in relation to receptors both inside and outside the development area including within the air quality management areas (AQMA).

The methodology for the AQA was agreed at the pre application stage including cumulative impact of other permitted developments and the extent of the study area on the road network and local receptors. This methodology is outlined in Appendix 10.2 and is considered acceptable however the results and therefore these comments are provisional until the traffic data has been approved by the county's Transport Officer.

The modelling found levels of nitrogen dioxide, PM10 and PM2.5 to be below the national air quality objective at all receptors when modelled both with and without the development. The biggest increase in nitrogen dioxide levels was modelled at receptor 83 with an increase of 0.3 micrograms per cubic metre (1%) and of PM10 at receptor 36 with an increase of 0.3 micrograms per cubic metre. There is a predicted increase of 0.3 micrograms per cubic metre at receptor 48 with levels predicted above the national objective limit. This receptor is located inside the AQMA.

When modelled again using the worst case sensitivity test exceedances were predicted at three receptor points all of which are located within the City Councils AQMA. These exceedances were predicted both with and without the development. The maximum increase in nitrogen dioxide levels was predicted at receptor 36 (outside AQMA) with a predicted increase of 0.8 micrograms per cubic metre but a predicted level below the objective level.

Although it is acknowledged that this model may be over estimating concentrations it clearly demonstrates the development will lead to a worsening of air quality within the Cambridge City Council AQMA which is contrary to policy 4/14 of the existing Local Plan and Policy 36 of the emerging Local Plan. Therefore mitigation is required.

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Section 10.5.30 judges the operational effects on air quality as 'not significant' and offers no recommendations for mitigation. Section 10.6 'Proposed Mitigation' concludes that the development will not lead to any new exceedances of air quality objectives.

8.7 Low Emission Strategy

The development of a Low Emissions Strategy is referenced in several locations including Chapter 16 'Mitigation', Table 16.1 and section 10.2.31 of the Health Impact Assessment within the application documents. However no detail on the content of this is provided. This could be secured by condition and S106 as referenced in Table 16.1.

8.8 Conclusion: Air Quality

Construction Impacts

The Site has been identified as a High Risk site for dust soiling effects during earthworks and construction, a Low Risk site for dust soiling effects for trackout, and a Low Risk site for human health effects

Therefore, the need to implement a Construction Environmental Management Plan (CEMP) which contains a package of measures to minimise dust emissions is recommended by the assessment. With these measures in place, it is agreed that it is expected that any residual effects will be 'not significant'.

A CEMP can be secured by condition or similar as recommended under section 3.0 Construction & Demolition Pollution above. The potential impact and requirements for mitigation must be comprehensively assessed and carried out. Dust monitoring should also be considered.

Operational Impacts

We accept the conclusion that the development (operational) will not lead to any new national air quality objective exceedances within the proposed development and surrounding area. However the AQA demonstrates that it will have a negative impact on air quality within the current AQMA which is contrary to the Cambridge City Council Local Plan both current and emerging (policies 4/14 and 36).

Therefore we will expect mitigation measures to be put in place. These should be secured by conditions in the form of emission limits for boilers, both active and passive provision of EV charge points and the incorporation of car clubs as recommended below. These measures are supported by the Land North of Cherry Hinton SPD (LNCN SPD, March 2018) and the 'Cambridge City Council - Air Quality Action Plan 2018 – 2023: In fulfilment of Part IV of the Environment Act 1995 Local Air Quality Management – 2018' recently approved by the Councils Environment Scrutiny Committee.'

8.0 Odour / Fume Generation & Control / Building Ventilation - Non-residential premises / uses Operational

The proposal includes provision for cafés, restaurants and pubs uses (categorised as A1 to A5 / B1a/D1/D2) likely to be located within the mixed use / local centre. The proposed buildings may include commercial type / size kitchens with residential premises immediately above or nearby. The schools may also have commercial kitchens.

These uses with associated ventilation / extraction systems have the potential to generate cooking fumes, smoke and odours which may have an adverse impact on the quality of life / amenity of future residents, even at relatively low concentrations.

Ventilation systems serving kitchens or similar will need to be designed to prevent harm to amenity / quality of life so the odour controls systems will need to include an adequate level of odour control and stack dispersion. The equipment installed to remove odour from the extract air will depend upon the level of control required. Due

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regard should be given to the guidance document '*Control of Odour and Noise from Commercial Kitchen Exhaust Systems (An update to the 2004 report prepared by NETCEN for the Department for Environment, Food and Rural Affairs, EMAQ 05-09-2018)*'.

Potential operational odour / fume generation is not mentioned anywhere in the ES although relevant national and local odour related planning policy is referenced in Chapter 10 - Air Quality Impact Assessment.

However, it is acknowledged that potential operational odour / fume generation and control and abatement as necessary is usually a detailed design matter which is use and phase specific.

We are confident that any potentially significant adverse or other adverse impacts can be either avoided or minimised to an acceptable level providing industry best practice and design is followed. This should be secured by imposition of an Odour / Fume Generation & Control / Building Ventilation - Non-residential premises / uses Operational bespoke condition as recommended.

9.0 Contaminated Land / land affected by Contamination

9.1 Documents reviewed:

- *Remediation Options Sustainability Statement* by Mott Macdonald, ref: 400182, rev D, dated 2nd December 2019
- *Letter Report - Proposed Draft Bespoke Conditions, Reasons, & Section 106 Obligations in relation to ground conditions*, dated 4th December 2019
- *Response to Environment Agency Queries* by LDA Design, ref: 5776_EA_Response
- *Environment Statement Review* by LDA Design, ref: 5776_EIA_Review, V 0.2, dated 24th November 2019

9.2 Comments / Conclusion

This outline application was originally submitted to the City Council back in March 2018. After a review of the information submitted at that time, both Environmental Health and the Environment Agency advised that it was not possible to make an informed decision about the acceptability of the proposed development in terms of contaminated land risk due to a lack of robust site investigation. In particular there was a lack of information on the full extent of groundwater contamination resulting from the former use of part of the site as a fire-training ground. Former fire-training grounds have a significant and lasting legacy of contamination due to the complex chemistry of fire-fighting foam chemicals - specifically perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA).

The preliminary site investigations undertaken up until March 2018 clearly demonstrated the elevated presence of fire-fighting foam chemicals in controlled waters. However there was insufficient information in terms of the background monitoring of controlled waters and also to the exact extent of PFOS & PFOA contamination within the soils of the former fire-training ground. Under most circumstances the need for further qualitative site investigation does not usually

present an unsurmountable barrier to development and consent is granted with appropriate planning conditions. However in this particular case the contaminants of concern are relatively poorly understood when compared to other more typical industrial contaminants. What is well understood though is their toxicity, their long-term environmental persistence and mobility (especially in water), and their ability to accumulate over time both within the environment and within human tissue. As such PFOS & PFOA are classed as 'emerging' legacy contaminants that require a high level of qualitative site investigation data in order to truly quantify the risks and to inform the decision as to whether effective remediation is feasible given the conditions found on-site and the nature of the proposed development.

Since March 2018 both the Environment Agency and Environmental Health have engaged with the applicants (under respective charging and pre-application arrangements) in order to address the PFOS & PFOA data gap and the associated uncertainty described above. In the intervening 18 months the application site has been subject to further investigation and further groundwater monitoring. As a result the conceptual site model (CSM) has been greatly refined and a site-specific Detailed Quantitative Risk Assessment (DQRA) for controlled waters has been developed and accepted by the Environment Agency. As a result of this extensive liaison, both the Environment Agency and Environmental Health are now satisfied that the lack of information that characterised the 2018 submission has been addressed to such an extent that it is now possible to begin the design of a site-specific groundwater remediation strategy for PFOS & PFOA that has a reasonable prospect of being both deliverable and effective.

However, due to the inherent uncertainties associated with the current state of knowledge of PFOS & PFOA treatment in the long-term, and uncertainties over the influence of site-specific factors upon such remedial treatment (such as localised hydrogeology and the presence of other organic contaminants), there is significantly less guarantee of success than there ordinarily would be in the case of more typical industrial contaminants. This uncertainty is further compounded by the lack of a similar UK-based precedent (i.e. PFOS & PFOA contamination of a Chalk aquifer) at this time.

This higher risk of treatment failure therefore requires a highly precautionary approach when considering the granting of planning consent. However, as result of the applicant's liaison with the Environment Agency and Environmental Health, a suitably precautionary way forward has now been agreed.

The current joint EA/EH objection to the development may be withdrawn as long as site-specific pre-commencement conditions are imposed on the consent together with a Section 106 agreement. Such an approach will enable a limited scale groundwater treatment pilot trial to proceed and its results critically assessed by the Local Planning Authority prior to the commencement of development. Should the pilot trial fail then development cannot take place. However, should the pilot trial be effective, then development may progress subject to a Section 106 agreement that addresses the longer-term issues and uncertainties associated with PFOS & PFOA treatment. Any such Section 106 agreement must address the longer-term issues and uncertainties associated with PFOS & PFOA treatment, including (but not limited to) on-going groundwater monitoring post treatment, unexpected remediation results (and any associated monitoring), maintenance of capping systems, and the need for future remediation. These issues have to be secured in the face of future changes of ownership of the site (as a whole or in part) and future planning applications.

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On the basis of the information made available during the recent liaison with the applicants, these two mechanisms working together can overcome the uncertainties associated with PFOS & PFOA treatment (both short-term and long-term) and to provide the necessary level of comfort to the Local Planning Authority that any remediation strategy that may be developed for the site in the future is robust enough to ensure the effective remediation of the site for the lifetime of the development.

10.0 Additional Operational Issues - Bespoke Conditions

10.1 Design Coding - Bespoke Condition

It is assumed that a site wide 'Design code' type condition is likely to be imposed to set the rules / guidance for the design of any new development to ensure high quality design and coordinated development in accordance with various planning policies.

The layout and design of buildings and planting can reduce energy and water use and mitigate against flooding, noise pollution and overheating.

If this is the case the following items / elements should be included in any such condition:

- i. *Outdoor sports and children's play space strategy including the formal playing fields, NEAP, LEAPs and LAPs*
- ii. *The conceptual design and approach to the lighting strategy and how this will be applied to different areas of the development with different lighting needs, so as to maximise energy efficiency, minimise light pollution, in general accordance with Appendix 5.7: 'Land North of Cherry Hinton - Lighting Assessment (Project Ref: 37305 / Rev: 04/ Date: March 2019 & Doc Ref: 3005)' approved as part of this outline permission*
- iii. *Detail how a good acoustic design approach / process will be followed to address and minimise the impacts of noise (from traffic, aircraft, Cambridge City Airport etc.) on noise sensitive uses and achieve acceptable internal and external noise levels with reference to and in accordance with 'BS8233:2014- Guidance on sound insulation and noise reduction for buildings (or as superseded), The Acoustics of Schools: a design guide (Institute of Acoustics (IOA) and the Association of Noise Consultants (ANC), November 2015) and Acoustic Design of Schools: Performance Standards, Building Bulletin 93, February 2015'*

It is noted that TOR have submitted a suite of draft conditions (Land North of Cherry Hinton – Draft conditions, 19 August 2019) which includes a Site Wide Design Code condition 6. Under the bespoke conditions section above, we have included this TOR draft condition 6. Site Wide Design Code and have recommended some amendments in bold, to reflect the above.

10.2 Fire Training Ground (FTG) and use of Cross Wind Runway – Cambridge City Airport - Bespoke Condition

The continued use of the current Fire Training Ground (FTG) and cross wind runway at Cambridge City Airport have the potential to have adverse noise and air quality impacts on the quality of life / amenity of the proposed development.

These impacts have not been fully assessed within the ES. However Table 17.1: Summary of Primary and Tertiary Mitigation Measures of the ES states that the existing Fire Training Ground (FTG), located immediately adjacent to the Site, would cease operation prior to the first occupation of any residential unit to be constructed as part of the Proposed Development. The buildings and infrastructure associated with the FTG would remain in-situ within the boundary of Cambridge Airport. The cross wind runway at Cambridge Airport will cease use for the taking off and landing of aircraft prior to the occupation of any dwelling on the Site.

It is stated that this can be secured by a planning obligation or condition. We agree with this approach and if secured the impacts of these sources of pollution will be negated and no further action is required.

However, the timing of Fire Training Ground (FTG) cessation may also need to have regard to remediation works that may be required for any ground water contamination.

10.3 Proposed Allotments Location - Bespoke Condition

We have some concerns about the proximity of the proposed allotments to existing residential premises / houses and gardens at 10 to 22 March Lane, CB1 3LG and 169 to 173 Teversham Drift, CB1 3LA towards the centre of the southern application site boundary and to proposed residential units.

Allotments near homes can cause particular problems if plot-holders persistently burn waste and experience has shown this can be a general issue on certain allotment sites within the City, when they are relatively close to residential premises. If only dry garden waste is burnt under favourable weather conditions, the occasional bonfire should not cause a major problem but Environmental Health receive many complaints about smoke, smuts and smell from bonfires. Smoke can prevent residents from enjoying their gardens, opening windows or hanging out washing. It may also cause a hazard to motorists using nearby roads as a result of decreased visibility.

Having a bonfire produces smoke especially if the material is damp which can lead to smoldering. The smoke will also contain pollutants such as dioxins, carbon monoxide, nitrogen oxides and particulates. The bonfire can also add to the already high pollution levels within certain parts of the City. Bonfire emissions may also have a direct effect on residents' health, particularly for those suffering from pre-existing medical conditions such as asthma, lung problems or heart conditions.

It is a common misconception that there are specific national laws or local byelaws that prohibit garden / allotment bonfires or similar or specify times they can occur / be lit, but this is not the case. The law does not prohibit allotment holders having a bonfire, and we can only take action under the Environmental Protection Act 1990 if statutory nuisance from smoke or smell is caused but every individual complaint would have to be assessed and it is difficult to gather evidence. The planning standard is the protection of quality of life / amenity.

It is understood for example that Cambridge City Council have a set of allotment rules / guidance for the provision of allotments which includes the management and control of bonfires and similar.

It is assumed that management arrangements for the allotments are to be finalised if permission granted. If the allotments are to remain in their proposed locations we recommend that consideration should be given to controls / mechanisms such as a condition, S106 or similar, to ensure that the allotments are operated under strict allotment society type rules (The National Allotment Society) to be approved by the LPA.

This should include a clause prohibiting the lighting of fires, or having bonfires within the allotments and also prohibiting / restricting the use of powered gardening / horticultural equipment that may cause a noise nuisance. For example the allotment rules should clearly state that no bonfires are allowed. Any allotment holder who is found having a bonfire should be issued with a warning and may have their allotment lease terminated. Similar restrictions should also be considered for the keeping of livestock / animals and cockerels / pigeons, composting and waste storage.

It is recommended that a condition is imposed requiring that any reserved matters application pursuant to the grant of outline permission, which incorporates allotment provision shall include an '*Allotment Management Strategy*' that shall be submitted in writing for approval by the LPA. This should include consideration of general and individual plot holder Rules, Conditions and Code of Conduct, with compliance thereafter. The principle and final wording of any such condition requires further consideration and this service should be consulted in due course.

It is noted that TOR have submitted a suite of draft conditions (Land North of Cherry Hinton – Draft conditions, 19 August 2019) which includes a Site Wide Design Code condition 13. Under the bespoke conditions section above, we have included this TOR draft condition 13. Allotment provision and have recommended some amendments in bold, to reflect the above.

11.0 Cumulative Effects

Chapter 16- Cumulative Effects details the general approach and methodology taken throughout the ES assessment in relation to consideration of possible cumulative impacts / effects of the proposed development in combination with the environmental effects of other key major developments in the area / region on sensitive receptors identified through the EIA process.

The chapter draws together the findings from the individual inputs in the ES; defines inter-relationships between the other developments in the area surrounding the site; and establishes whether there are any other cumulative effects on the identified sensitive receptors which may require additional mitigation not previously identified.

Cumulative impacts assessment is particularly relevant to traffic / transport modelling and assessment which inform the noise and air quality chapters and assessments.

The assessment approach taken is generally acceptable and we agree with the conclusions of the cumulative assessment that following the implementation of appropriate design and mitigation secured by conditions, as outline in Table

17.1: Summary of Primary and Tertiary Mitigation Measures (Chapter 17.0 Summary of Mitigation), for the majority of environmental health topics the cumulative residual effects are ‘*negligible to minor*’ and therefore ‘*not significant*’ and can be reduced to minimum acceptable level following mitigation as outlined.

12.0 Waste Strategy

Environmental Health no longer comments on waste/recycling strategies. Please contact the Waste Strategy team direct for advice and information on these matters.

Regards,

**Greg Kearney
Principal Environmental Health Officer
Environmental Quality & Growth Team
Environmental Services
Cambridge City Council**