East Midlands Gateway
Phase 2 (EMG2)

Document DCO 6.17/MCO 6.17

ENVIRONMENTAL STATEMENT

Volume 1 Main Statement

Chapter 17

Population and Human Health

July 2025

17

The East Midlands Gateway Phase 2 and Highway Order 202X and The East Midlands Gateway Rail Freight and Highway (Amendment) Order 202X

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17. Population and Human Health

17.1. Introduction

17.1.1. This chapter presents the findings of the assessment work undertaken concerning potential impacts of the **EMG2 Project**, as described in full in **Chapter 3: Project Description (Document DCO 6.3/MCO 6.3)**, on population and health matters. In brief, the **EMG2 Project** comprises three main components as follows:

Main Component	Details	Works Nos.
DCO Application/DCO Scheme		
EMG2 Works	Logistics and advanced manufacturing development located on the EMG2 Main Site south of East Midlands Airport and the A453, and west of the M1 motorway. Together with an upgrade to the EMG1 substation and provision of a community park.	DCO Works Nos. 1 to 5 as described in the draft DCO. DCO Works Nos. 20 and 21 as described in the draft DCO.
Highway Works	Works to the highway network: the A453 EMG2 access junction works; significant improvements at Junction 24 of the M1 (referred to as the J24 Improvements) and works to the wider highway network including active travel works.	DCO Works Nos. 6 to 19 as described in the draft DCO.
MCO Application/MCO Scheme		
EMG1 Works	Additional warehousing development on Plot 16 together with works to increase the permitted height of the cranes at the EMG1 rail-freight terminal, improvements to the public transport interchange, site management building and the EMG1 access works.	MCO Works Nos. 3A, 3B, 5A, 5B, 5C, 6A and 8A in the draft MCO.

17.1.2. In recognition that this chapter forms part of a single ES covering both the DCO Application and the MCO Application, it makes a clear distinction where necessary between the component parts and, consistent with the dual application approach**,** assesses the impacts arising from the DCO Application and MCO Application separately and then together as the **EMG2 Project** in combination.

17.1.3. Population and health can be influenced (both adversely and beneficially) by a number of environmental and socio-economic determinants which can vary on a project by project basis, and are further modified by local community circumstance and existing health burden.

17.1.4. The purpose of the population and health chapter is to draw from and build upon the key outputs provided in the project description and within each relevant ES topic chapter to

further test potential risk to local communities, and where appropriate, to set such risk into context.

17.1.5. The chapter is supported by the following technical appendices:

- **Appendix 17A: Informal Scoping Exercise with LCC (Document DCO 6.17A/MCO 6.17A);**
- **Appendix 17B: Population and Health Baseline (Document DCO 6.17B/MCO 6.17B);**
- **Appendix 17C: Health Impact Assessment; (Document DCO 6.17C/MCO 6.17B);**
- **Appendix 17D: Equality Statement (Document DCO 6.17D/MCO 6.17D); and**
- **Appendix 17E: Baseline Study Area (Document ref: 6.17E/MCO 6.17E**).

17.2. Scope and Methodology of the Assessment

Introduction

17.2.1. This section of the chapter is common to both the DCO Application and the MCO Application.

Study area

17.2.2. Environmental health determinants (such as changes to air quality and noise exposure) typically have a local distribution pattern, where the hazards are limited by their concentration and physical dispersion characteristics. Likewise, changes in transport nature and flow rate have a particular distribution on the local road network.

17.2.3. As baseline data is limited to administrative boundaries, the collection of health data (relevant to environmental health determinants) focusses upon all administrative wards that fall within 500m of **EMG2 Project**. This comprises:

- Castle Donington Central;
- Castle Donington Castle;
- Castle Donington Park[1];
- Daleacre Hill;
- Kegworth;
- Long Whatton & Diseworth; and
- Worthington & Breedon.

17.2.4. It should be noted that trend data is not readily available at the ward level and therefore data presented in the population and health baseline primarily relates to the administrative area of North West Leicestershire District Council, which all of the above wards are located within

[1] Located marginally beyond the 500m criteria for inclusion, but scoped in for completeness to capture the entire community of Castle Donington.

and is therefore considered to be representative of the communities living in these wards. Despite district level data being used for presentation purposes, data at the lowest geographic level possible is used for any quantitative assessment to ensure the highest levels of accuracy possible.

17.2.5. Socio-economic health determinants (such as employment and related income generation) have a wider geographic scope of influence than environmental health determinants due to the willingness to commute significant distances to work. The study area for socio-economic baseline statistics is consistent with the socio-economic technical discipline (**Chapter 5: Socio-Economic, Document DCO 6.5/MCO 6.5**), extending beyond just North West Leicestershire.

17.2.6. The study area defining the relevant sensitive receptors identified for assessment purposes is consistent with the inter-related technical aspects which inform the assessment of population and human health. For example, noise and air quality will assess different receptors as they have different distribution characteristics; the population and health assessment will use key outputs at the receptor level for both noise and air quality to establish the secondary effect on health and wellbeing.

17.2.7. A study area of 500m from the **EMG2 Project** has been used in order to identify receptors that will be the focus of **Appendix 17D: Equality Statement** (**Document DCO 6.17D/MCO 6.17D**). Within this area, OS Address Base data will be analysed to identify community facilities that are primarily used by individuals with protected characteristics and could therefore experience disproportionate or differential effects (for example, schools, care homes and places of worship), consistent with the Equality Act 2010.

Consultation

17.2.8. **Table 17.1** summarises all comments made by PINS and the relevant statutory consultees during scoping consultation and contained within the Scoping Opinion which are relevant to health and equality matters, outlining how/where they will be addressed in the ES.

Table 17.1: Summary of scoping consultation with PINS and statutory consultees

ID	Consultee	Summary of comment	Applicant Response
3.0.1	PINS	The Scoping Report does not confirm whether population and human health impacts will be considered in relation to other environmental topics such as (but not limited to) electromagnetic fields (EMF), ground conditions, lighting (including landscape and visual impacts), or flood risk. Not all details of the Proposed Development are yet defined, and this has affected the Inspectorate's ability to comment on this matter.	This chapter of the ES considers population and human health. The inclusion of all health determinants listed have been explored as part of the informal scoping exercise provided in **Appendix 17A**, with the rationale for scoping in/out also detailed. The Applicant has engaged and agreed with LCC on the proposed scope and focus.
3.0.1	PINS	In light of comments raised by consultation bodies in relation to the assessment of human health, the Inspectorate considers that a	An assessment of a broader range of health determinants than those

ID	Consultee	Summary of comment	Applicant Response
		broader range of potential population and human health effects than air quality, noise and socio-economics could arise. As such, the Inspectorate considers this is best addressed together in a comprehensive human health and population chapter.	listed has been included in this chapter.
n/a	Kegworth Parish Council	Kegworth Parish Council would like to see the following included in the ES: • A description of the production processes (manufacturing) at the main site, and a description of the effects on human health from any such air pollution and radiation • An estimate of expected noise from the expanded rail freight interchange and a description of the noise's likely significant effects on human health • A description of the expected significant adverse effects of the development on the environment (including to human health) deriving from the vulnerability of the development to risks of accident and disaster	As outlined in **Appendix 17A**, potential human health effects from air quality and noise have been scoped into the population and health assessment. The assessment in this chapter provides a more in depth analysis than **Chapter 7: Noise and Vibration** and **Chapter 8: Air Quality**, because impacts are considered beyond pre-defined thresholds. Radiation has been scoped out on the basis that there are no significant existing or proposed sources of ionising or non-ionising radiation. The potential impacts on human health from major accidents and disasters will be considered within its own independent chapter (**Chapter 20: Major Accidents and Disasters**).
n/a	LCC	The Applicant has justified the scoping out of population and human health on the basis that noise, air quality and socioeconomic impacts will be considered in separate chapters. However, air quality, noise and socio-economic impacts do not cover the full extent to which this proposal would impact on health. Chapters on air quality, noise and socio-economic impacts may not specifically look through the lens of health in the same way that a dedicated population and human health chapter would. This could result in the chapters failing to consider the health needs of the local population, current	This population and human health chapter includes a health specific baseline which identifies any existing burdens of poor health. This chapter draws from key outputs across a range of technical disciplines (such as those listed: air quality, noise and socio-economic) to robustly consider the potential impacts, including cumulative impacts, from a public health perspective.

ID	Consultee	Summary of comment	Applicant Response
		challenges to health, and the likely cumulative impact to health on the local population, therefore missing the opportunity to mitigate any risks identified and/or enhance any positive impacts.	
n/a	LCC	LCC consider that the following would be assessed more fully if a population health chapter or health impact assessment were to be included within the scope of the ES: • Direct influences on health and behaviour – including but not limited to physical activity and mental wellbeing. • Community and Social Influences - including but not limited to local pride, divisions in community, social isolation, community identity, cultural and spiritual ethos, design for low crime. • Living environmental conditions potentially affecting health – including factors such as built environment, noise, air and water quality, flooding risk, attractiveness of area, street furniture, shade and rest, green space, blue space, outdoor physical activity, community safety, smell/odour, waste disposal, road hazards / safety, community severance, cycling and walking facilities and infrastructure, public transport, prioritise pedestrian and cyclists, traffic calming, walkability including connectivity, mixed land use, injury hazards. • Economic conditions and links affecting health - including unemployment, income, economic inactivity, type of employment and workplace conditions. • Access to and quality of services - including public amenities, transport including parking; public transport including stops, education and training and information technology.	A HIA is appended to the population and human health ES chapter (**Appendix 17C**). An informal scoping exercise has been undertaken, and catalogued in **Appendix 17A**, to establish which health determinants outlined in IEMAs Guide to Effective Scoping of Human Health in EIA are considered relevant to the **EMG2 Project**, with the rationale for scoping in/out also detailed. The Applicant has engaged with LCC and agreed the proposed scope and focus of this chapter.

ID	Consultee	Summary of comment	Applicant Response
		• Macro-economic, environmental and sustainability factors - this domain considers factors such as Government policies, gross domestic product, economic development, biological diversity, climate.	
n/a	LCC	LCC request that the following areas (middle layer super output areas), which are identified as high risk in terms of potential health inequalities, to be considered more fully in a dedicated population and human health chapter and supported by a Health Impact Assessment: • Charnwood: Loughborough Lemyngton & Hastings, Storer and Queens Park, University, Shelthorpe & Woodthorpe, Syston West and Shepshed East • Harborough: Market Harborough Central • Hinckley and Bosworth: Barwell, Hinckley Central and Hinckley Clarendon Park • Melton: Melton Mowbray West • North West Leicestershire: Agar Nook, Coalville • Oadby and Wigston: Wigston Town, South Wigston	While we appreciate that the MSOAs listed by LCC are identified as high risk in terms of potential health inequalities, all fall outside the proposed study area for baseline data collection in relation to environmental determinants of health and some are located at large distances from the site. It should be reiterated that the wards which make up the proposed study area for baseline data collection in relation to environmental determinants of health are those located within 500m of the Order Limits and are likely to experience the most impacts. As the study area for the socio-economic assessment extends beyond North West Leicestershire (and includes the Unitary and County Council areas of Leicester, Leicestershire, Derby, Derbyshire, Nottingham and Nottinghamshire), the MSOAs listed are captured in this part of the assessment, where existing high levels of deprivation may result in disproportionate benefits to these communities through employment opportunities associated with the **EMG2 Project**.
n/a	LCC	Implications to the following groups should be explored: • People who identify as Lesbian, Gay, Bisexual or Transgender (LGBT)	The potential impact (adverse and beneficial) on vulnerable receptor groups (as defined by LCC) will be considered in the population and health

ID	Consultee	Summary of comment	Applicant Response
		• People with a disability, including people with a learning disability • People who are homeless • Victims of modern slavery • Sex workers • Vulnerable migrants • Carers • People with severe mental illness • Prisoners • People who have experienced trauma • Looked after children and care experienced adults • People living in poverty/deprivation • A complex picture was identified around race and ethnicity but evidence of health inequalities being most common for people who are Bangladeshi, Pakistani or Gypsy or Irish Travellers	assessment where appropriate. As discussed with LCC, some groups have been scoped out from analysis – the rationale for this is provided in **Table 17.6**.
n/a	LCC	We would ask for the proximity to Traveller sites near to the development and potential health impacts to be scoped within a population health chapter or health impact assessment. At least two traveller sites appear to be close to the development area.	LCC have provided local insight on the location of gypsy/traveller sites, which are included in the equality assessment (Receptor IDs: LCC1, LCC2, LCC3).
n/a	LCC	In relation to air quality and noise, consideration should be given to the cumulative impacts on the health and wellbeing of local residents during both construction and operational phases.	Consistent with the regulatory requirements of EIA, cumulative population and human health effects are assessed within **Section 17.8** of this chapter.
n/a	LCC	The air quality chapter (in addition to a standalone population health chapter) should examine current health outcomes for the area including links to air pollution, for example Dementia rates. Dementia rates in North West Leicestershire are significantly higher than the England average. Asthma QOF prevalence (6 years plus) in North West Leicestershire (at 7.8%) is also higher than the value for East Midlands and England. The chapter should also consider population groups most vulnerable to the impacts of poor air quality on health as per the Chief Medical Officer Annual	Baseline health circumstance is explored as part of the baseline assessment and includes an analysis of health outcomes relevant to air pollution, for example dementia and hospital admissions for respiratory disease. It should be noted that while data has been collected at the lowest geographic level possible, trend data is not readily available at the ward level and therefore data

ID	Consultee	Summary of comment	Applicant Response
		Report on Air Quality 2022. Taking into consideration areas of vulnerability indicated by the Health Inequalities JSNA and likely population changes to the districts shown in the Demography JSNA.	presented in the population and health baseline primarily relates to administrative area of North West Leicestershire. The equality assessment has considered impacts on people with protected characteristics (e.g. young people, older people and people with existing health conditions/disabilities).
n/a	UKHSA	We believe the summation of relevant issues into a specific section of the ES provides a focus which ensures that public health is given adequate consideration. The section should summarise key information, risk assessments, proposed mitigation measures, conclusions, and residual impacts, relating to human health.	Detailed consideration of all topics from a public health perspective are considered in this chapter unless otherwise stated.
n/a	UKHSA	UKHSA and OHID's predecessor organisation Public Health England produced an advice document 'Advice on the content of Environmental Statements accompanying an application under the NSIP Regime', setting out aspects to be addressed within the Environmental Statement.	The advice document 'Advice on the content of Environmental Statements accompanying an application under the NSIP Regime' is noted and has been taken into consideration, although the main guidance documents of reference when undertaking the population and human health assessment are the more recent IEMA Guide to Effective Scoping of Human Health in EIA and IEMA Guide to Determining Significance for Human Health in EIA.
n/a	UKHSA	Please note that where impacts relating to health and/or further assessments are scoped out, promoters should fully explain and justify this within the submitted documentation.	The justification for scoping out health determinants is included in **Appendix 17A**.
n/a	UKHSA	With regards to air quality, our position is that pollutants associated with road traffic or combustion, particularly particulate matter and oxides of nitrogen are non-threshold; i.e, an exposed population is likely to be subject to potential harm at any	Air quality is specifically assessed in **Chapter 8: Air Quality**. However air quality is a key determinant of health and exposure to non-threshold pollutants is assessed in this chapter. Embedded mitigation

ID	Consultee	Summary of comment	Applicant Response
		level and that reducing public exposure to non-threshold pollutants (such as particulate matter and nitrogen dioxide) below air quality standards will have potential public health benefits. We support approaches which minimise or mitigate public exposure to non-threshold air pollutants, address inequalities (in exposure) and maximise co-benefits (such as physical exercise). We encourage their consideration during development design, environmental and health impact assessment, and development consent.	measures to reduce air quality impacts are considered in the assessment of significance and detailed in **Chapter 8: Air Quality**.
n/a	UKHSA	The applicant should assess the potential public health impact of Electromagnetic Fields (EMF) associated with electrical equipment on the development, or, alternatively, provide a statement or explain why EMFs can be scoped out. Further UKHSA advice is available in the document Advice on the content of Environmental Statements accompanying an application under the NSIP Regime'.	The rationale for scoping out EMF is provided in **Appendix 17A**.
n/a	UKHSA	The following wider determinants of health and wellbeing we expect the ES to address, to demonstrate whether they are likely to give rise to significant effects, are: • Access • Traffic and Transport • Socioeconomic • Land Use	As detailed in **Appendix 17A**, the listed health determinants have been assessed in this chapter.
n/a	UKHSA	Diseworth will be the most likely affected community, where the residents will already be subject to effects from East Midlands Airport in addition to any East Midlands Gateway intra-project cumulative effects.	The existing impacts of East Midlands Airport have been taken into consideration through establishing the current baseline circumstance for public health and all relevant determinants of health (e.g. air quality, noise and transport). Therefore, the main assessment has taken into consideration the inter-project effects.
n/a	UKHSA	Within a population health chapter consideration should be given to the cumulative impacts of multiple changes in determinants of health	Consistent with the regulatory requirements of EIA, cumulative, inter-related and in-combination

ID	Consultee	Summary of comment	Applicant Response
		cross all potential impacts. These collectively can have the potential be significantly affect the population, and vulnerable population groups, and the combined effect should be identified, considered and appropriately mitigated.	population and human health effects have been assessed within this chapter.
n/a	UKHSA	Environmental noise can cause stress and sleep disturbance, which over the long term can lead to a number of adverse health outcomes. The Noise Policy Statement for England (NPSE) sets out the government's overall policy on noise. Its aims are to: • avoid significant adverse impacts on health and quality of life; • mitigate and minimise adverse impacts on health and quality of life; and • contribute to the improvement of health and quality of life. UKHSA's consideration of the effects of health and quality and life attributable to noise is guided by the recommendations in the Environmental Noise Guidelines for the European Region 2018 published by the World Health Organization and informed by high quality systematic reviews of the scientific evidence including the UKHSA' Spatial Assessment of the Attributable Burden of Disease due to Transportation Noise in England. For noise exposure, UKHSA expects assessments of significance to be closely linked to the associated impacts on health and quality of life in line with the NPSE, and not on noise exposure per se.	Noise is a key determinant of health and has been assessed in this chapter. The overall significance of effect has taken into consideration the NPSE aims. The study area for assessing the population and health impacts of changes in the noise environment remains consistent with the noise assessment to ensure that all areas that are impacted are captured.

17.2.9. **Table 17.2** summarises all comments made by statutory consultees to the statutory consultation which are relevant to health and equality matters, outlining how/where they will be addressed in the ES.

Table 17.2: Summary of statutory consultation comment

ID	Consultee	Summary of statutory consultation comment	Applicant Response
n/a	LCC	LCC advised at a meeting in January 2025 that potential impacts on diet and nutrition, and on community safety should be assessed for both the construction and operational phases of development. This approach was agreed by the Applicant team. However, this assessment appears to be missing from section 17.5.	Both diet and nutrition and community safety are scoped into the population and health assessment on the advice of LCC. In relation to diet and nutrition, LCC were concerned specifically with access to food banks, should severance impacts arise. This is a secondary impact, dependent on the assessment of severance in **Chapter 6: Traffic and Transportation**. The population and health assessment has drawn from these conclusions to assess the impact on access to food banks during construction and operation. In relation to community safety, the Applicant advised LCC that measures to deter trespassing on the site would be detailed in **Chapter 3: Project Description**. Despite this, on the advice of LCC, the population and health assessment includes a section on this with relevant cross-references to where this information is detailed.
n/a	UKHSA	The UKHSA recommends that once the assessments have been completed, both the technical and non-technical documentation clearly outline the quantified health impacts from the Scheme.	On the basis that the magnitude of change in noise exposure from the **EMG2 Project** is small, whereby a significant noise effect is predicted only at one residential receptor, it is not considered proportionate to undertake a quantitative health assessment of changes in noise in this instance.
n/a	UKHSA	UKHSA notes that EMFs have been scoped out of the project and that the reasoning for this is to be provided in Appendix 17a. This appendix will be made	As outlined in **Appendix 17A**, radiation has been scoped out on the basis that no significant sources of ionising or non-ionising

ID	Consultee	Summary of statutory consultation comment	Applicant Response
		available once the Environmental Statement (ES) has been finalised, when another consultation will take place. We thus have no comments at this stage.	radiation (e.g. electric and magnetic fields) would be introduced during construction or operation of the **EMG2 Project**.
n/a	UKHSA	It is noted that a separate population and human health chapter is included within the ES in accordance with the SoS scoping opinion. It is further noted that a health impact assessment and equalities impact assessment will also inform the chapter. However, this chapter (Chapter 17) is still undergoing development, in particular, sections 17.5 on potential impacts, 17.8 on cumulate effects, 17.9 the summary and conclusions, and all the appendices with supporting data are currently incomplete. Therefore, there is insufficient detail in the (PEIR) to make a comprehensive or constructive response. We therefore recommend further consultation, regarding population and human health, with appropriate stakeholders, is undertaken prior to the submission of the ES.	Informal engagement with LCC has been undertaken throughout the DCO process as the assessment of population and health effects has developed.
n/a	UKHSA	As well as residents [the traffic noise assessment] should include an assessment of the potential health impacts of the noise on noise sensitive non-residential receptors.	As part of the equality assessment, consideration of sensitive non-residential receptors within 500m of the **EMG2 Project** have been circulated for inclusion in noise modelling. These receptors are listed in Table 1.5 of **Appendix 17A**.
n/a	UKHSA	The UKHSA recommends that the assessment is not limited to these documents and acknowledges the growing evidence of the links between road traffic noise and health. Estimates of the positive or negative noise impacts of the proposed scheme on health and quality of life need to be shown. The UKHSA recommends that the numbers of dwellings and people impacted by the scheme are	The link between road traffic noise and health is acknowledged

ID	Consultee	Summary of statutory consultation comment	Applicant Response
		shown in noise exposure bands where relevant.	
n/a	UKHSA	Chapter 17 (pages 8 and 9) states, “Noise is a key determinant of health that will be assessed in the chapter.” How this will be done has not been explained fully yet. The UKHSA recommends this chapter gives a clearer acknowledgement of the strengthening body of evidence that noise is associated with adverse health effects, including cardiovascular and metabolic health outcomes.	The potential health effects from changes in noise exposure will be assessed qualitatively on the basis that the magnitude of noise impacts are small, whereby a significant noise effect is predicted only at one residential receptor, and therefore it would not be proportionate to undertake a quantitative assessment.
n/a	UKHSA	Chapter 17 should also acknowledge that noise from the scheme could have an adverse impact on people’s use of, and the restorative benefits associated with, green space in the study area.	An assessment of noise impacts at green spaces has not been included as part of Chapter 7: Noise and Vibration.
n/a	UKHSA	Table 17.2 lists the summary of desktop study sources. The UKHSA believes this should include the Public Health Outcomes Framework (PHOF) indicators for - The rate of complaints about noise (B14a), daytime noise (B14b) and night-time noise (B14c) and include an estimation of the potential impact of the Scheme on these indicators.	The data in the PHOF is based on the results of strategic noise mapping, and covers transportation noise only. Furthermore, the PHOF provides data for the whole of a local authority area and refers to the situation in 2021. On this basis is unclear how referencing the PHOF would help with the decision-making process.
n/a	UKHSA	The are already a number of noise sources surrounding the scheme including the M1, M42/A42, A50 and East Midlands Airport. The cumulative impact of noise on areas such as Diseworth should be included in the health assessment.	Existing noise sources would be considered as part of the baseline, whereby the impacts of the **EMG2 Project** would be considered in addition to this as part of the main assessment. The cumulative assessment is reserved for other proposed and consented developments that may come forward in the future.

Baseline study

17.2.10. Information on population and health was collected through a detailed desktop review of existing studies and datasets. These are summarised at **Table 17.3**.

Table 17.3: Summary of desktop study sources

Indicator	Source	Year
Population estimates	NOMIS	2021
Employment	OHID Fingertips	2022/23
Life expectancy at birth	OHID Fingertips	2020-22
Healthy life expectancy	OHID Fingertips	2018-20
Mortality rate (all-cause, cancer, circulatory disease, respiratory disease)	NOMIS	2022
Hospital admissions (respiratory disease, coronary heart disease)	OHID Fingertips	2022/23
Hospital admissions (coronary heart disease)	OHID Fingertips	2022/23
Suicide rate	OHID Fingertips	2020-22
Dementia diagnosis rate	OHID Fingertips	2024
Hospital admissions for intentional self harm	OHID Fingertips	2022/23
Admission episodes for alcohol-specific conditions (under 18s)	OHID Fingertips	2020/21 – 2022/23
Admission episodes for alcohol-related conditions	OHID Fingertips	2022/23
Smoking prevalence	OHID Fingertips	2022/23
Physically active adults	OHID Fingertips	2022/23
Year 6 prevalence of obesity	OHID Fingertips	2022/23
Adults classified as overweight or obese	OHID Fingertips	2022/23

Assessment criteria

17.2.11. The significance of an effect is determined based on the magnitude of an impact and the sensitivity of the receptor. This section describes the criteria applied in this chapter to characterise the magnitude of potential impacts and sensitivity of receptors. It is similar to that set out in **Chapter 1: Introduction** (**Document DCO 6.1/MCO 6.1)** but refined for the purposes of this assessment.

Magnitude of impact

17.2.12. Magnitude of impact, based on the change that the **EMG2 Project** would have upon the receptor, is considered within the range of major, moderate, minor and negligible. Consideration is given to scale, duration and frequency of impact, and reversibility with reference to the definitions in **Table 17.4**.

17.2.13. The magnitude of impact classification will be informed by the detailed analysis provided in **Appendix 17C: Health Impact Assessment** (**Document DCO 6.17C/MCO 6.17C)**, which will be summarised **in Section 17.5**.

Table 17.4: Criteria for magnitude of impact

Magnitude of impact	Description
Major	High exposure or scale; long-term duration; continuous frequency; severity predominantly related to mortality or changes in morbidity (physical or mental health) for very severe illness/injury outcomes; majority of population affected; permanent change; substantial service quality implications.
Moderate	Low exposure or medium scale; medium-term duration; frequent events; severity predominantly related to moderate changes in morbidity or major change in quality-of-life; large minority of population affected; gradual reversal; small service quality implications.
Minor	Very low exposure or small scale; short-term duration; occasional events; severity predominantly related to minor change in morbidity or moderate change in quality-of-life; small minority of population affected; rapid reversal; slight service quality implications
Negligible	Negligible exposure or scale; very short-term duration; one-off frequency; severity predominantly relates to a minor change in quality-of-life; very few people affected; immediate reversal once activity complete; no service quality implication.

Sensitivity of receptors

17.2.14. Within a defined population, individuals will range in level of sensitivity due to a series of factors such as age, socio-economic deprivation and the prevalence of any pre-existing health conditions which could become exacerbated. These individuals can be considered particularly vulnerable to changes in environmental and socio-economic factors (both adversely and beneficially) whereby they could experience disproportionate effects when compared to the general population.

17.2.15. As an example, the elderly, young children and individuals with chronic pre-existing respiratory conditions would be more sensitive to adverse changes to air quality, with the potential for emergency admission to hospital more likely than for someone of working age who has good respiratory health. On the other hand, an individual who has been unemployed for a long period of time would benefit more from employment opportunities generated by the **EMG2 Project** in comparison to an individual who is already employed.

17.2.16. A scale for sensitivity of the relevant receptors is identified in **Table 17.5**. The thresholds have been derived with reference to the IEMA Guidelines, best practice and professional judgment.

Table 17.5: Criteria for sensitivity

Sensitivity	Description
High	High levels of deprivation (including pockets of deprivation); reliance on resources shared (between the population and the project); existing wide inequalities between the most and least healthy; a community whose outlook is predominantly anxiety or concern; people who are prevented from undertaking daily activities; dependants; people with very poor health status; and/or people with a very low capacity to adapt.

Sensitivity	Description
Medium	Moderate levels of deprivation; few alternatives to shared resources; existing widening inequalities between the most and least healthy; a community whose outlook is predominantly uncertainty with some concern; people who are highly limited from undertaking daily activities; people providing or requiring a lot of care; people with poor health status; and/or people with a limited capacity to adapt.
Low	Low levels of deprivation; many alternatives to shared resources; existing narrowing inequalities between the most and least healthy; a community whose outlook is predominantly ambivalence with some concern; people who are slightly limited from undertaking daily activities; people providing or requiring some care; people with fair health status; and/or people with a high capacity to adapt.
Negligible	Very low levels of deprivation; no shared resources; existing narrow inequalities between the most and least healthy; a community whose outlook is predominantly support with some concern; people who are not limited from undertaking daily activities; people who are independent (not a carer or dependant); people with good health status; and/or people with a very high capacity to adapt.

17.2.17. Extensive baseline data has been collected in order to interpret local health circumstance and consequent population sensitivity. This information is provided in **Appendix 17B: Population and Health Baseline** (**Document DCO 6.17B/MCO 6.17B)**. Overall, it is concluded that baseline local health circumstance in the study area is comparable to or better than the regional and national averages.

17.2.18. As such, when looking at the population in general, the existing burden of poor health and sensitivity of the population within the study area is “low”. However, this does not exclude the probability that there will be individuals within a defined population who are particularly sensitive and could experience disproportionate effects.

17.2.19. Consistent with IEMA guidance, vulnerable groups have also been considered in the population and health assessment. The Leicestershire Inequalities Joint Strategic Needs Assessment has been used to inform the assessment of vulnerable groups, which are outlined in **Table 17.6**. These vulnerable groups will be assessed as having “high” sensitivity. As discussed with LCC, some vulnerable groups are not considered relevant to the **EMG2 Project**; the rationale for scoping these vulnerable groups is provided where this is the case.

Table 17.6: Vulnerable group analysis

Vulnerable group	Scoped in/out (including rationale)
People who identify as Lesbian, Gay, Bisexual or Transgender (LGBT)	Scoped out – gender reassignment and sexual orientation are both protected characteristics. While no specific receptors have been identified where LGBT people are the priority user, LGBT people are considered within the thematic assessment provided in **Appendix 17D: Equality Statement**.
People with a disability, including	Scoped out – disability is a protected characteristic. Residential institutions and medical facilities, where people with disabilities are likely to be a primary user group, have been identified in receptor-

Vulnerable group	Scoped in/out (including rationale)
people with a learning disability	led assessment provided in **Appendix 17D: Equality Statement**. In addition, disabled people are considered within the thematic assessment provided in **Appendix 17D: Equality Statement**.
People who are homeless	Scoped out – construction and operational activities would not have an impact on people who are homeless.
Victims of modern slavery	Scoped out – dealt with at a strategic level through compliance with The Modern Slavery Act 2015 to address modern slavery in businesses and their supply chains.
Sex workers	Scoped out – it has been established during the informal scoping process with LCC that the construction and operational workforce would commute on a daily basis and would not contribute to risk taking behaviour. As a result, construction and operational activities would not have an impact on sex workers.
Vulnerable migrants	Scoped out – vulnerable migrants are not considered to be disproportionately or differentially affected by changes in environmental factors but may experience socio-economic deprivation. Consideration of this is embedded in the assessment of people living in poverty/deprivation which has been scoped in.
Carers	Scoped out – construction and operational activities would not have an impact on carers.
People with severe mental illness	Scoped out – disability (including mental illness) is a protected characteristic. Residential institutions and medical facilities, where people with disabilities (including those with mental illness) are likely to be a primary user group, have been identified in receptor-led assessment provided in **Appendix 17D: Equality Statement**. In addition, disabled people are considered within the thematic assessment provided in **Appendix 17D: Equality Statement**.
Prisoners	Scoped out – there are no prisons located close enough in proximity to the **EMG2 Project** to be impacted by changes in environmental factors. Furthermore, ex-prisoners are not considered to be disproportionately or differentially affected by changes in environmental factors but may experience socio-economic deprivation. Consideration of this is embedded in the assessment of people living in poverty/deprivation which has been scoped in.
People who have experienced trauma	Scoped out – construction and operational activities would not have an impact on people who have experienced trauma.
Looked after children and care experienced adults	Scoped out – age is a protected characteristic. Elderly people (including those who are under care in residential institutions) have been identified in the receptor-led and thematic assessments provided in **Appendix 17D: Equality Statement**. Similarly, children (including those attending education facilities) have been the receptor-led and thematic assessments provided in **Appendix 17D: Equality Statement**.
People living in poverty/deprivation	Scoped in

Vulnerable group	Scoped in/out (including rationale)
Racial and ethnic minorities (particularly those who are Bangladeshi, Pakistani or Gypsy or Irish Travellers)	Scoped out – several nearby gypsy/traveller sites have been identified by LCC. As race is a protected characteristic, an assessment on this vulnerable receptor is provided in **Appendix 17D: Equality Statement**.

17.2.20. In addition to considering the above vulnerable groups generally as part of the population and health assessment, specific community receptors within 500m that may have protected characteristics have been considered in **Appendix 17D: Equality Statement** (**Document DCO 6.17D/MCO 6.17D**).

Significance of effect

17.2.21. The predicted level of effect is based on the consideration of magnitude of impact and sensitivity of the receptor to come to a professional judgement, in line with IEMA Guidance, as to how important this effect is, using **Table 17.7** as a guide.

17.2.22. For the purposes of this assessment the level of impact is considered significant in circumstances when the overall significance of effect is moderate or above. In addition to the significance of the impact, the nature of the impact, being either beneficial or adverse, has also been considered accordingly.

Table 17.7: Significance of effect

Receptor sensitivity	Magnitude of impact			
	Major	**Moderate**	**Minor**	**Negligible**
High	Major*	Major/moderate*	Moderate/minor	Minor/negligible
Medium	Major/moderate*	Moderate	Minor	Minor/negligible
Low	Moderate/minor	Minor	Minor	Negligible
Negligible	Minor/negligible	Minor/negligible	Negligible	Negligible

* These effects are typically considered significant for the purposes of the EIA Regulations

Uncertainties and/or limitations

17.2.23. The population and health assessment draws from and builds upon the technical outputs from several inter-related technical topics (most notably the air quality, noise and vibration, transport and socio-economic assessment chapters), to investigate changes in environmental and socio-economic conditions directly attributable to the **EMG2 Project**. As a consequence, the limitations of the supporting assessments, and the conservative assumptions applied to address them, are inherent to the assessment of health.

17.2.24. As per Paragraph 17.2.4, it should be noted that trend data is not readily available at the ward level and therefore data presented in the population and health baseline primarily relates to administrative area of North West Leicestershire District Council , which all of the above wards are located within and is therefore considered to be representative of the communities living in these wards. Despite district level data being used for presentation

purposes, data at the lowest geographic level possible is used for any quantitative assessment to ensure the highest levels of accuracy possible.

17.3. Policy, Guidance and Legislative Context

17.3.1. This section of the chapter is common to both the DCO Application and the MCO Application.

17.3.2. While a wide range of environmental, social and economic factors have the potential to influence population and health, to ensure a focused list, the policy, guidance and legislation referenced in this section have been included only if they explicitly relate to health and/or wellbeing.

Legislation

17.3.3. There is no legislation directly relevant to the assessment of population and human health beyond Paragraph 5(2)(a) and Schedule 4 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, that requires an EIA to assess the effects likely to be significant on population and human health.

National Policy

National Policy Statement for National Networks (NPSNN)

17.3.4. The National Networks National Policy Statement (NPS) (Department for Transport, 2024) sets out the UK Government's policy for the delivery of nationally significant road and rail networks. Health is a key theme of the National Policy Statement for National Networks (NPSNN), whereby paragraph 4.71 states that new or enhanced national network infrastructure may have direct impacts on health because of traffic, noise, vibration, air quality and emissions, light pollution, community severance, dust, odour, polluting water, hazardous waste and pests. They may also have indirect health impacts: for example, if they affect access to key public services, local transport, opportunities for walking, cycling and wheeling, or the use of open space for recreation and physical activity.

17.3.5. Paragraph 4.72 states that effects on human beings should be assessed, identifying any potential adverse health impacts, and identify measures to avoid, mitigate or as a last resort compensate for adverse health impacts as appropriate. Enhancement opportunities are also mentioned, and should be identified by promoting local improvements for active travel and horse riders driven by the principles of good design to create safe and attractive routes to encourage health and wellbeing; this includes potential impacts on vulnerable groups within society.

National Planning Policy Framework

17.3.6. The National Planning Policy Framework (NPPF) sets out the planning policies for England.

17.3.7. Promoting healthy and safe communities is a central theme, whereby the NPPF states that planning policies and decisions should aim to achieve healthy, inclusive and safe places and beautiful buildings which promote social interaction (including opportunities for meetings between people who might not otherwise come into contact with each other), are safe and accessible, and enable and support healthy lifestyles (Paragraph 96).

17.3.8. Furthermore, the NPPF (Paragraph 98) states that to provide the social, recreational and cultural facilities and services that communities need, planning policies and decisions should:

- plan positively for the provision and use of shared spaces, community facilities and other local services;
- take into account and support the delivery of local strategies to improve health, social and cultural wellbeing;
- guard against the unnecessary loss of valued facilities and services;
- ensure that established shops, facilities and services are able to develop and modernise, and are retained for the benefit of the community; and
- ensure an integrated approach to considering the location of housing, economic uses and community facilities and services.

17.3.9. Paragraph 101 also states that to ensure faster delivery of other public service infrastructure, such as healthcare infrastructure, local planning authorities should work proactively and positively with delivery partners and statutory bodies to plan for required facilities and resolve key planning issues before applications are submitted. Significant weight should be placed on the importance of new, expanded or upgraded public service infrastructure when considering proposals for development.

Local Policy

North West Leicestershire Local Plan (2021)

17.3.10. Objective 1 of the adopted North West Leicestershire Local Plan is to promote the health and wellbeing of the district's population. Beyond this, there are limited references to human health which largely relate to hot food takeaways (not relevant to the **EMG2 Project**) and provision of community health infrastructure to support residential development (also not relevant to the **EMG2 Project**).

Draft North West Leicestershire Local Plan 2020-2040

17.3.11. Objective 1 of the draft North West Leicestershire Local Plan 2020-2040 is also to enable the health and wellbeing of the district's population. In addition, objective 11 is to maintain access to services and facilities including jobs, shops, education, sport and recreation, green space, cultural facilities, communication networks and health & social care and ensure that development is supported by the physical and social infrastructure the community needs and that this is brought forward in a coordinated and timely way; of most relevance to the **EMG2 Project** is maintenance of access to jobs, education, green space and cultural facilities.

17.3.12. The following draft policies are considered relevant to the **EMG2 Project**.

17.3.13. Policy AP5 – Health and Wellbeing (Strategic Policy) is a new draft policy, the draft text for which states that development that maintains and improves the health and wellbeing of our residents, encouraging healthy lifestyles by tackling the causes of ill health and inequalities will be supported. Health considerations will be embedded in decision making and the

Council will support the creation of a high quality, accessible and inclusive environment. Of relevance to the **EMG2 Project**, the policy goes on to state that to achieve this, the Council will: support the delivery of a safe walking and cycling network to increase access to active travel, considering active design within development and connections with the wider community, services and employment opportunities; promote and increase access to, and the protection and improvement of, green and blue spaces, sports facilities and play and recreation opportunities; prevent negative impacts on residential amenity and wider public safety from noise, ground instability, ground and water contamination, vibration and air quality; and support healthy eating and promote healthy food choices.

17.3.14. Policy AP6 – Health Impact Assessments is a new draft policy. While no draft text is provided, this is directly relevant to the population and human health assessment, which will embed the methods and principles of health impact assessment within the regulatory requirements of EIA.

Guidance

17.3.15. The assessment has been carried out with reference to the following guidance:

- Planning Practice Guidance; and
- IEMA Guide to Determining Significance for Human Health.

17.3.16. The Planning Practice Guidance (PPG) supports the NPPF and provides guidance across a range of topic areas. As stated in the PPG, planning and health need to be considered firstly in terms of creating environments that support and encourage healthy lifestyles, and secondly in terms of healthcare capacity. In addition, engagement with individuals and/or organisations, such as the relevant Director(s) of Public Health, will help ensure local public health strategies and any inequalities are considered appropriately.

17.3.17. Furthermore, the IEMA guidance on 'Determining Significance for Human Health in EIA' responds to gaps and inconsistencies across existing guidance as to how health, particularly regarding significance (including sensitivity and magnitude classifications), is assessed in EIA. This promotes greater consistency in the assessment process; particularly in how EIA health conclusions are reached, interpreted, defended and applied to the greatest positive effect.

17.4. Baseline Conditions

Introduction

17.4.1. This section of the chapter is common to both the DCO Application and the MCO Application.

Current baseline

17.4.2. Individuals and communities have varying susceptibilities to adverse and/or beneficial population and health effects associated with changes in environmental and socio-economic conditions as a result of: demographic structure (for instance, age); existing burden of poor health; behaviours (for instance, lifestyle choices which constitute risk factors); and socio-economic circumstance.

17.4.3. The current baseline is provided in full in **Appendix 17B: Population and Health Baseline** (**Document DCO 6.17B/MCO 6.17B**). In summary, the population living in the ward study area are more elderly than the national average. Life expectancy in the district study area is comparable to (male) or higher than (female) the regional and national averages; consistent with this, mortality rates in the ward and district study area are comparable to or lower than the regional and national averages. District-level hospital admissions for coronary heart disease are also lower than the national average, while hospital admissions for respiratory disease are higher than the national average (data only available for the NHS Region). At the ward level, hospital admissions are also either comparable to or better than the regional and national averages.

17.4.4. Mental health statistics show that the district study area has comparable mental health to the regional and national averages. Dementia diagnosis on the other hand is comparatively low.

17.4.5. Alcohol specific conditions (under 18s) and adult smoking prevalence in the district study area are better than regional and national averages, while alcohol related admissions in the adult population has increased to a level which is worse than regionally and nationally. Physical activity in adults has fluctuated over the years and recently shows an increase to a level which is higher than all relevant comparators. While this is the case, the percentage of adults classified as overweight or obese in the district study area has been consistently higher than the regional and national averages and has increased over time. The prevalence of obesity in children has also been increasing in the district study area, consistent with regional and national trends, but remains consistently lower than all relevant comparators.

17.4.6. Overall, the majority of indicators are either comparable to or better than the regional and national averages. As such, it can be concluded that the population living in the study area is not considerably more or less sensitive to changes in environmental and/or socio-economic conditions associated with the **EMG2 Project**.

Future baseline

17.4.7. Consistent with recent local and national trends, the health of the population living within the study area is likely to improve over the lifetime of the **EMG2 Project**. This will be the case with or without the **EMG2 Project**.

17.4.8. While this is the case, any improvement is challenging to predict with high confidence and unlikely to be substantial. On this basis, it is considered appropriate (and precautionary) to use present-day statistics for the purpose of this assessment, offering a precautionary approach.

17.5. Potential Impacts

Introduction

17.5.1. As previously stated, this section has been informed be the detailed analysis provided in **Appendix 17C: Health Impact Assessment** (**Document 6.17C/MCO 6.17C**), which will be summarised in the sections below to reach a conclusion on magnitude of impact and significance of effect.

DCO Application (EMG2 Works and Highway Works)

Construction phase

Health effects from changes in air quality

17.5.2. The full assessment provided in **Appendix 17C: Health Impact Assessment** (**Document 6.17C**) focusses on changes in dust emissions and traffic pollutants.

17.5.3. Regarding dust, with the implementation of appropriate mitigation measures, the residual effect from dust at nearby receptors assessed in **Chapter 8: Air Quality** (**Document DCO 6.8)** is expected not to be significant.

17.5.4. There is also the potential for changes in local air quality from construction related traffic movements. These have been assessed for the **EMG2 Project** as a whole.

17.5.5. On the basis that only small changes in the air quality environment are predicted and would be temporary in nature, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.6. In addition, vulnerable receptor groups scoped in are considered as having high sensitivity. For the purposes of EIA, this includes people living in poverty/deprivation. While it is acknowledged that other receptors nearby are sensitive, and as outlined in **Table 17.6**, this is covered in **Appendix 17D: Equality Statement** (**Document DCO 6.17D**). Considering the high sensitivity of people living in poverty/deprivation, the resultant significance of effect is at worst minor (not significant).

Health effects from changes in noise and vibration

17.5.7. The full assessment provided in **Appendix 17C: Equality Statement** (**Document 6.17D**) focusses on changes in noise exposure at residential receptors from construction activities and traffic movements during the day and night time periods, which has the potential to cause annoyance and sleep disturbance if in exceedance of specific thresholds that are set to protect the environment and human health.

17.5.8. Changes in noise exposure at hotels have been excluded from the population and health assessment on the basis that users of these resources would only be exposed to changes in noise for a short period of time.

17.5.9. Changes in the noise environment from the DCO Application (**EMG2 Works** and **Highway Works)** do not exceed the SOAEL at any nearby receptors. While there are exceedances of the LOAEL at four of the 10 residential receptors assessed, such exceedances would be short-term and temporary in nature, and would not persist for long enough for there to be any material impact on health and wellbeing.

17.5.10. There is also the potential for changes in noise exposure from construction related traffic movements. These have been assessed for the **EMG2 Project** as a whole.

17.5.11. On this basis, and considering the temporary nature of construction phase noise impacts, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.12. In addition, vulnerable receptor groups scoped in are considered as having high sensitivity. For the purposes of EIA, this includes people living in poverty/deprivation. While it is acknowledged that other receptors nearby are sensitive, and as outlined in **Table 17.6**, this is covered in **Appendix 17C: Equality Statement** (**Document DCO 6.17C**). Considering the high sensitivity of people living in poverty/deprivation, the resultant significance of effect is at worst minor (not significant).

Health effects from changes in transport, access and connections

17.5.13. As outlined in **Chapter 6: Traffic and Transportation** (**Document DCO 6.6**), traffic impacts during the construction phase would be lower than during operation. Furthermore, changes in traffic are assessed for the **EMG2 Project** as a whole, rather than for the DCO Application in isolation. As a result, the worst-case population and health assessment in relation to changes in transport, access and connections relates to the operational phase for the **EMG2 Project**.

Health effects from changes in diet and nutrition

17.5.14. As outlined in **Appendix 17A: Informal Scoping Exercise with LCC** (**Document DCO 6.17A**), the assessment of impacts on diet and nutrition relates the impacts from changes in severance on accessing food banks. However, as outlined above traffic impacts during the construction phase would be lower than during operation. Furthermore, changes in traffic are assessed for the **EMG2 Project** as a whole, rather than for the DCO Application in isolation. As a result, the worst-case population and health assessment in relation to changes in diet and nutrition relates to the operational phase for the **EMG2 Project**.

Health effects from changes in community safety

17.5.15. As outlined in the full assessment provided in **Appendix 17C: Health Impact Assessment** (**Document DCO 6.17C**), there would be 24/7 security at the **EMG2 Works**, supplemented by CCTV. The off-site **Highway Works** would have visiting security via patrols from the **EMG2 Works**. Fencing would also be installed to secure each compound area.

17.5.16. When active during construction working hours, the potential for trespassing and associated impacts on community safety during these construction hours would be unlikely. Furthermore, low levels of security lighting would remain on outside of construction working hours where deemed necessary to enhance security out of hours to reduce potential for trespassing and associated impacts on community safety.

17.5.17. Overall, the mitigation measures proposed would mitigate the potential for unauthorised access to construction compounds. As such, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.18. It is not considered that the significance of effect would change for the vulnerable receptor groups in this instance. This is on the basis that the mitigation measures employed for the **EMG2 Works** would be equally effective to deter unauthorised access to construction compounds.

Health effects from changes in the visual environment (with regards to community identity, culture, resilience and influence)

17.5.19. The full assessment provided in **Appendix 17C: Health Impact Assessment** (**Document DCO 6.17C**) focusses on changes in the visual environment from settlements and recreational routes. Road users have been excluded on the basis that any impacts while travelling by car would not impact health and wellbeing. Visual impacts for users, workers and visitors to Pegasus Business Park and Hotel, Donington Park Services and East Midlands Airport have also been excluded on this basis.

17.5.20. Construction of the **EMG2 Works** has the potential to cause changes in the visual environment for:

- residents at Diseworth;
- residents of other generally more scattered/individual properties
- users of Hyam's Lane PROW;
- users of Long Holden and the Cross Britain Way PROW; and
- users of other PROW.

17.5.21. Construction of the **Highways Works** (in particular the M1 – A50 link) has the potential to cause changes in the visual environment for the following receptors:

- residents at Kegworth;
- residents of other generally more scattered/individual properties
- a stretch of PROW (footpath) on top of and to the east of the existing EMG mounding (immediately west of Plot 16) (footpath); and
- users of the Midshires Way (at Long Lane) and another PROW (running parallel to this but west of Long Lane).

17.5.22. The extent of visual impacts summarised above will vary, with some experiencing greater visual impact over a longer period of the construction process and others more limited impacts. Additionally, visual impacts from receptor locations will vary throughout the course of construction depending on the phasing and working arrangement of activities. Regarding visual changes from PROW, people use these resources in a transient way and therefore would only be subjected to such views temporarily.

17.5.23. Overall, the construction visual impacts described above have the potential to affect the quality of life for a relatively small number of residents with no potential for physical health impacts associated with changes in the visual environment (including deterrence of use of PROW for physical activity and recreation due to changes in the visual environment, whereby reasonable and accessible alternative PROW exist locally and can be used

instead). As such, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.24. It is not considered that the significance of effect would change for the vulnerable receptor groups in this instance. This is on the basis that changes in the visual environment does not disproportionally affect people with varying socio-economic circumstance and so this factor would not alter the sensitivity classification.

Health effects from access to open space and PROW for physical activity, leisure/play and recreation

17.5.25. As outlined in the full assessment provided in **Appendix 17C: Health Impact Assessment** (**Document DCO 6.17C**), no public open space would be lost as a result of the DCO Application. While there would be some disruption to PROW, such disruption would be temporary in nature with a network of PROW to the west of Diseworth providing reasonable and accessible alternatives for physical activity, leisure/play and recreation. Furthermore, PROW L45/L46 (which generally follows the route of Hyam's Lane and dissects the **EMG2 Works**) will be integrated into the upgraded Hyam's Lane, which will be resurfaced to enhance cycle access.

17.5.26. On this basis, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.27. It is not considered that the significance of effect would change for the vulnerable receptor groups in this instance. This is on the basis that access to open space and PROW in the context of the DCO Application remains the same for everyone and so this factor would not alter the sensitivity classification.

Health effects from changes in socio-economic factors (employment and income)

17.5.28. As outlined in the full assessment provided in **Appendix 17C: Health Impact Assessment** (**Document DCO 6.17C**), construction of the DCO Application would last 5.8 years (medium term and temporary) and result in an average of:

- 290 full-time equivalent (FTE) net additional on-site direct employment opportunities per annum; and
- a further 145 FTE net additional off-site indirect and induced employment opportunities per annum once leakage and displacement have been taken into account.

17.5.29. Construction employment would peak in 2027 and 2028, with:

- 325 FTE net additional on-site direct employment opportunities; and
- an additional 162 FTE net additional off-site indirect and induced employment opportunities, once leakage and displacement have been taken into account.

17.5.30. On the basis that these employment opportunities would be temporary and medium term in nature, it is considered that the health and wellbeing benefits would only have an impact at the individual level rather than at the population level. As such, the magnitude of impact would be minor. Considering the low sensitivity of the general population, the resultant significance of effect is minor beneficial (not significant).

17.5.31. In addition, vulnerable receptor groups scoped in are considered as having high sensitivity. For the purposes of EIA, this includes people living in poverty/deprivation, which would enhance the benefits in this instance. While it is acknowledged that other receptors nearby are sensitive, and as outlined in **Table 17.6**, this is covered in **Appendix 17D: Equality Statement** (**Document DCO 6.17D**). Considering the high sensitivity of people living in poverty/deprivation, the resultant significance of effect is moderate (significant) for this subset of the population.

Operation phase

Health effects from changes in air quality

17.5.32. Potential changes in air quality during the operation phase relate to changes in traffic movements only and have been assessed for the **EMG2 Project** as a whole.

Health effects from changes in noise and vibration

17.5.33. The full assessment provided in **Appendix 17C: Health Impact Assessment** (**Document 6.17C**) focusses on changes in noise exposure at residential receptors from operational activity, fixed plant and changes in traffic flows during the day and night time periods, which has the potential to cause annoyance and sleep disturbance if in exceedance of specific thresholds that are set to protect the environment and human health.

17.5.34. As previously stated, changes in noise exposure at hotels have been excluded from the population and health assessment on the basis that users of these resources would only be exposed to changes in noise for a short period of time.

17.5.35. There is also the potential for changes in noise exposure from operational traffic movements. These have been assessed for the **EMG2 Project** as a whole.

17.5.36. Overall, the changes in the noise environment from the DCO Application would be below the level required for the onset of human health effects to occur (Lowest Observed Adverse Effect Level (LOAEL)) during the day and night time period at residential receptors. On this basis, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.37. In addition, vulnerable receptor groups scoped in are considered as having high sensitivity. For the purposes of EIA, this includes people living in poverty/deprivation. While it is acknowledged that other receptors nearby are sensitive, and as outlined in **Table 17.6**, this is covered in **Appendix 17D: Equality Statement** (**Document DCO 6.17D**). Considering the high sensitivity of people living in poverty/deprivation, the resultant significance of effect is at worst minor (not significant).

Health effects from changes in transport, access and connections

17.5.38. As outlined in **Chapter 6: Traffic and Transportation** (**Document DCO 6.6**), traffic impacts during the operational phase are assessed for the **EMG2 Project** as a whole, rather than for the DCO Scheme in isolation. As a result, the worst-case population and health assessment in relation to changes in transport, access and connections relates to the operational phase for the **EMG2 Project**.

Health effects from changes in diet and nutrition

17.5.39. As outlined in **Appendix 17A: Informal Scoping Exercise with LCC** (**Document DCO 6.17A**), the assessment of impacts on diet and nutrition relates the impacts from changes in severance on accessing food banks. However, as outlined above changes in traffic during the operation phase are assessed for the **EMG2 Project** as a whole, rather than for the DCO Scheme in isolation. As a result, the worst-case population and health assessment in relation to changes in diet and nutrition relates to the operational phase for the **EMG2 Project**.

Health effects from changes in community safety

17.5.40. During operation, the EMG2 Main Site will be managed from the existing management suite at EMG1, where there is a full-time security team that carry out regular patrols. The security officers also monitor CCTV from the camera located along the main estate roads.

17.5.41. Consistent with the security measures employed at EMG1, which have proven to be effective in deterring trespassing and anti-social behaviour, the extension of these measures to the EMG2 Main Site are considered to be protective of community safety.

17.5.42. On this basis, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.43. It is not considered that the significance of effect would change for the vulnerable receptor groups in this instance. This is on the basis that the mitigation measures employed for the would be equally effective to deter unauthorised access to the EMG2 Main Site.

Health effects from changes in the visual environment (with regards to community identity, culture, resilience and influence)

17.5.44. At the start of operation, changes in the visual environment from the DCO Application would impact the same/similar receptor groups as during the construction phase. The magnitude if these visual impacts are also likely to be the same/similar to those described in the construction phase assessment. However, the majority of visual impacts will reduce over time following the establishment and subsequent maturing/management of the proposed planting and habitats. This is particularly true for nearby receptors while more distant and elevated receptors would have views mitigated to a lesser extent.

17.5.45. Overall, once matured, the mitigation planting would reduce the visual impacts at the majority of receptors and the operational impacts described above have the potential to affect the quality of life for a relatively small number of residents in Diseworth and other individual properties in the surrounding area. Furthermore, there is no potential for physical health

impacts associated with changes in the visual environment (including deterrence of use of PROW for physical activity and recreation due to changes in the visual environment, whereby reasonable and accessible alternative PROW exist locally and can be used instead). As such, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.46. It is not considered that the significance of effect would change for the vulnerable receptor groups in this instance. This is on the basis that changes in the visual environment does not disproportionally affect people with varying socio-economic circumstance and so this factor would not alter the sensitivity classification.

Health effects from access to open space and PROW for physical activity, leisure/play and recreation

17.5.47. As outlined in **Appendix 17C: Health Impact Assessment** (**Document DCO 6.17C**), the **EMG2 Works** includes provision of an informal publicly accessible Community Park (13.4 ha) which connects to the eastern extent of Diseworth. On the basis that the existing site does not comprise any publicly accessible open space, this provision represents a net addition to existing circumstance, providing opportunities for physical activity, leisure/play and recreation.

17.5.48. In addition to the integration of PROW L45/L46 into the upgraded Hyam's Lane, which will be resurfaced to enhance cycle access (described in the construction phase assessment), several other improvement works to are proposed to extend public access routes and improved pedestrian and cycle connectivity to the surrounding areas during operation, particularly to and from Diseworth, to the Airport.

17.5.49. As a result of these improvement works, there would be permanent improvements in access to open space (the Community Park) and PROW for physical activity, leisure/play and recreation. Both quality and quantity of open space and PROW provision are taken into account; while the proposed Community Park is informal in nature, the provision would be larger than the existing publicly accessible open spaces in Diseworth and conveniently located in the eastern extent of the village which would balance out existing provision.

17.5.50. The resultant magnitude of impact on population and human health would be minor (beneficial). Considering the low sensitivity of the general population, the resultant significance of effect is minor (not significant).

17.5.51. It is not considered that the significance of effect would change for the vulnerable receptor groups in this instance. This is on the basis that access to open space and PROW in the context of the DCO Application remains the same for everyone and so this factor would not alter the sensitivity classification.

Health effects from changes in socio-economic factors (employment and income)

17.5.52. As outlined in **Appendix 17C: Health Impact Assessment** (**Document DCO 6.17C**), the DCO Application would support approximately 3,700 FTE gross on-site employment opportunities. While this is the case, it is likely that approximately 25% of the occupiers at the proposed development will be relocated from existing, functionally sub-optimal

distribution premises. As such, the DCO Application is estimated to result in a total of 2,945 FTE net additional on-site employment opportunities. A further 2,185 FTE net additional employment opportunities would be generated off-site.

17.5.53. The total number of FTE employment opportunities equates to 2,020. While these would be long-term and permanent in nature, many of these are off-site and therefore any health and wellbeing benefits would be considerably diffuse across the study area population (comprising the population of Derby, Derbyshire, Nottingham, Nottinghamshire, Leicester and Leicestershire).

17.5.54. As a result, the magnitude of impact on population and human health would be minor (beneficial). Considering the low sensitivity of the general population, the resultant significance of effect is minor (not significant).

17.5.55. In addition, vulnerable receptor groups scoped in are considered as having high sensitivity. For the purposes of EIA, this includes people living in poverty/deprivation, which would enhance the benefits in this instance. While it is acknowledged that other receptors nearby are sensitive, and as outlined in **Table 17.6**, this is covered in **Appendix 17D: Equality Statement** (**Document DCO 6.17D**). Considering the high sensitivity of people living in poverty/deprivation, the resultant significance of effect is moderate (significant) for this subset of the population.

MCO Application (EMG1 Works)

Construction phase

Health effects from changes in air quality

17.5.56. The full assessment provided in **Appendix 17C: Health Impact Assessment** (**Document MCO 6.17C**) focusses on changes in dust emissions and traffic pollutants.

17.5.57. Regarding dust, with the implementation of appropriate mitigation measures, the residual effect from dust at nearby receptors assessed in **Chapter 8: Air Quality** (**Document MCO 6.8)** is expected not to be significant.

17.5.58. Construction related traffic movements generated by construction of the **EMG1 Works** does not meet the threshold for detailed assessment and on this basis is considered to result in negligible changes in local air quality, which would be temporary in nature.

17.5.59. On the basis that only small changes in the air quality environment are predicted and would be temporary in nature, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.60. In addition, vulnerable receptor groups scoped in are considered as having high sensitivity. For the purposes of EIA, this includes people living in poverty/deprivation. While it is acknowledged that other receptors nearby are sensitive, and as outlined in **Table 17.6**, this is covered in **Appendix 17D: Equality Statement** (**Document MCO 6.17D)**. Considering the high sensitivity of people living in poverty/deprivation, the resultant significance of effect is at worst minor (not significant).

Health effects from changes in noise and vibration

17.5.61. The full assessment provided in **Appendix 17C: Health Impact Assessment** (**Document MCO 6.17C)** focusses on changes in noise exposure at residential receptors from construction activities and traffic movements during the day and night time periods, which has the potential to cause annoyance and sleep disturbance if in exceedance of specific thresholds that are set to protect the environment and human health.

17.5.62. Changes in noise exposure at hotels have been excluded from the population and health assessment on the basis that users of these resources would only be exposed to changes in noise for a short period of time.

17.5.63. Changes in the noise environment from the **EMG1 Works** would not exceed the LOAEL or SOAEL at any nearby receptor.

17.5.64. Construction related traffic movements generated by construction of the **EMG1 Works** does not meet the threshold for detailed assessment and on this basis is considered to result in negligible changes in noise exposure on affected road links, which would be temporary in nature.

17.5.65. On this basis, and considering the temporary nature of construction phase noise impacts, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.66. In addition, vulnerable receptor groups scoped in are considered as having high sensitivity. For the purposes of EIA, this includes people living in poverty/deprivation. While it is acknowledged that other receptors nearby are sensitive, and as outlined in **Table 17.6**, this is covered in **Appendix 17D: Equality Statement** (**Document MCO 6.17D)**. Considering the high sensitivity of people living in poverty/deprivation, the resultant significance of effect is at worst minor (not significant).

Health effects from changes in transport, access and connections

17.5.67. As outlined in **Chapter 6: Traffic and Transportation** (**Document MCO 6.6**), traffic impacts during the construction phase would be lower than during operation. Furthermore, changes in traffic are assessed for the **EMG2 Project** as a whole, rather than for the MCO Application in isolation. As a result, the worst-case population and health assessment in relation to changes in transport, access and connections relates to the operational phase for the **EMG2 Project**.

Health effects from changes in diet and nutrition

17.5.68. As outlined in **Appendix 17A: Informal Scoping Exercise with LCC** (**Document MCO 6.17A**), the assessment of impacts on diet and nutrition relates the impacts from changes in severance on accessing food banks. However, as outlined above traffic impacts during the construction phase would be lower than during operation. Furthermore, changes in traffic are assessed for the **EMG2 Project** as a whole, rather than for the MCO Application in isolation. As a result, the worst-case population and health assessment in relation to changes in diet and nutrition relates to the operational phase for the **EMG2 Project**.

Health effects from changes in community safety

17.5.69. The **EMG1 Works** will operate under the EMG1 DCO provisions and requirements which already include a CEMP and provisions for P-CEMPs. As a result, there would be no change to the impacts on community safety and on this basis, no additional assessment is required.

Health effects from changes in the visual environment (with regards to community identity, culture, resilience and influence)

17.5.70. The full assessment provided in **Appendix 17C: Health Impact Assessment** (**Document MCO 6.17C**) focusses on changes in the visual environment from settlements and recreational routes. Road users have been excluded on the basis that any impacts while travelling by car would not impact health and wellbeing. Visual impacts for users, workers and visitors to Pegasus Business Park and Hotel, Donington Park Services and East Midlands Airport have also been excluded on this basis.

17.5.71. Construction of the **EMG1 Works** has the potential to cause changes in the visual environment for:

- residents at Kegworth;
- residents of other generally more scattered/individual properties
- a stretch of PROW (footpath) alongside and immediately to the west of Plot 16; and
- users of the Midshires Way (at Long Lane) and another PROW (running parallel to this but west of Long Lane).

17.5.72. The extent of visual impacts summarised above will vary, with some experiencing greater visual impact over a longer period of the construction process and others more limited impacts. Additionally, visual impacts from receptor locations will vary throughout the course of construction depending on the phasing and working arrangement of activities. Regarding visual changes from PROW, people use these resources in a transient way and therefore would only be subjected to such views temporarily.

17.5.73. Overall, the construction visual impacts described above have the potential to affect the quality of life for a relatively small number of residents with no potential for physical health impacts associated with changes in the visual environment (including deterrence of use of PROW for physical activity and recreation due to changes in the visual environment, whereby reasonable and accessible alternative PROW exist locally and can be used instead). As such, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.74. It is not considered that the significance of effect would change for the vulnerable receptor groups in this instance. This is on the basis that changes in the visual environment does not disproportionally affect people with varying socio-economic circumstance and so this factor would not alter the sensitivity classification.

Health effects from access to open space and PROW for physical activity, leisure/play and recreation

17.5.75. The **EMG1 Works** would be contained within the original EMG1 site and would not impact any existing publicly accessible open space (or PROW). As a result, there would be no change to the impacts on access to open space and PROW for physical activity, leisure/play and recreation and on this basis, no additional assessment is required.

Health effects from changes in socio-economic factors (employment and income)

17.5.76. As outlined in the full assessment provided in **Appendix 17C: Health Impact Assessment** (**Document MCO 6.17C)**, construction of the MCO Application would last 2 years (short term and temporary) and result in an average of:

- 65 FTE net additional on-site direct employment opportunities per annum; and
- a further 45 FTE net additional off-site indirect and induced employment opportunities per annum once leakage and displacement have been taken into account.

17.5.77. On the basis that these employment opportunities would be temporary and short term in nature, it is considered that the health and wellbeing benefits would only have an impact at the individual level rather than at the population level. As such, the magnitude of impact would be minor. Considering the low sensitivity of the general population, the resultant significance of effect is negligible.

17.5.78. In addition, vulnerable receptor groups scoped in are considered as having high sensitivity. For the purposes of EIA, this includes people living in poverty/deprivation, which would enhance the benefits in this instance. While it is acknowledged that other receptors nearby are sensitive, and as outlined in **Table 17.6**, this is covered in **Appendix 17D: Equality Statement** (**Document MCO 6.17D**). Considering the high sensitivity of people living in poverty/deprivation, the resultant significance of effect is minor (not significant) for this subset of the population.

Operation phase

Health effects from changes in air quality

17.5.79. Potential changes in air quality during the operation phase relate to changes in traffic movements only and have been assessed for the **EMG2 Project** as a whole.

Health effects from changes in noise and vibration

17.5.80. The full assessment provided in **Appendix 17C: Health Impact Assessment** (**Document MCO 6.17C**) focusses on changes in noise exposure at residential receptors from operational activity, fixed plant and changes in traffic flows during the day and night time periods, which has the potential to cause annoyance and sleep disturbance if in exceedance of specific thresholds that are set to protect the environment and human health.

17.5.81. As previously stated, changes in noise exposure at hotels have been excluded from the population and health assessment on the basis that users of these resources would only be exposed to changes in noise for a short period of time.

17.5.82. There is also the potential for changes in noise exposure from operational traffic movements. These have been assessed for the **EMG2 Project** as a whole.

17.5.83. Overall, the changes in the noise environment from the **EMG1 Works** would be below the level required for the onset of human health effects to occur (LOAEL) during the day and night time period at residential receptors. On this basis, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.84. In addition, vulnerable receptor groups scoped in are considered as having high sensitivity. For the purposes of EIA, this includes people living in poverty/deprivation. While it is acknowledged that other receptors nearby are sensitive, and as outlined in **Table 17.6**, this is covered in **Appendix 17D: Equality Statement** (**Document MCO 6.17D**). Considering the high sensitivity of people living in poverty/deprivation, the resultant significance of effect is at worst minor (not significant).

Health effects from changes in transport, access and connections

17.5.85. As outlined in **Chapter 6: Traffic and Transportation** (**Document MCO 6.6**), traffic impacts during the operational phase are assessed for the **EMG2 Project** as a whole, rather than for the MCO Application in isolation. As a result, the worst-case population and health assessment in relation to changes in transport, access and connections relates to the operation phase for the **EMG2 Project**.

Health effects from changes in diet and nutrition

17.5.86. As outlined in **Appendix 17A: Information Scoping Exercise with LCC** (**Document MCO 6.17A**), the assessment of impacts on diet and nutrition relates the impacts from changes in severance on accessing food banks. However, as outlined above changes in traffic during the operation phase are assessed for the **EMG2 Project** as a whole, rather than for the MCO Application in isolation. As a result, the worst-case population and health assessment in relation to changes in diet and nutrition relates to the operation phase for the **EMG2 Project**.

Health effects from changes in community safety

17.5.87. As outlined in **Appendix 17C: Health Impact Assessment** (**Document MCO 6.17C**), during operation, the **EMG1 Works** will be managed from the existing management suite at EMG1, where there is a full-time security team that carry out regular patrols. The security officers also monitor CCTV from the camera located along the main estate roads.

17.5.88. Consistent with the security measures employed at EMG1, which have proven to be effective in deterring trespassing and anti-social behaviour, the extension of these measures to the **EMG1 Works** are considered to be protective of community safety.

17.5.89. On this basis, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.90. It is not considered that the significance of effect would change for the vulnerable receptor groups in this instance. This is on the basis that the mitigation measures employed for the would be equally effective to deter unauthorised access to the **EMG1 Works**.

Health effects from changes in the visual environment (with regards to community identity, culture, resilience and influence)

17.5.91. At the start of operation, changes in the visual environment from the **EMG1 Works** would impact the same/similar receptor groups as during the construction phase. The magnitude if these visual impacts are also likely to be the same/similar to those described in the construction phase assessment. However, the majority of visual impacts will reduce over time following the establishment and subsequent maturing/management of the proposed planting and habitats. This is particularly true for nearby receptors while more distant and elevated receptors would have views mitigated to a lesser extent.

17.5.92. Overall, once matured, the mitigation planting would reduce the visual impacts at the majority of receptors and the operational impacts described above have the potential to affect the quality of life for a relatively small number of residents in Kegworth and other individual properties in the surrounding area. Furthermore, there is no potential for physical health impacts associated with changes in the visual environment (including deterrence of use of PROW for physical activity and recreation due to changes in the visual environment, whereby reasonable and accessible alternative PROW exist locally and can be used instead). As such, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.93. It is not considered that the significance of effect would change for the vulnerable receptor groups in this instance. This is on the basis that changes in the visual environment does not disproportionally affect people with varying socio-economic circumstance and so this factor would not alter the sensitivity classification.

Health effects from access to open space and PROW for physical activity, leisure/play and recreation

17.5.94. The **EMG1 Works** would be contained within the original EMG1 site and would not impact any existing publicly accessible open space (or PROW). As a result, there would be no change to the impacts on access to open space and PROW for physical activity, leisure/play and recreation and on this basis, no additional assessment is required.

Health effects from changes in socio-economic factors (employment and income)

17.5.95. As outlined in **Appendix 17C: Health Impact Assessment** (**Document MCO 6.17C**), the MCO Application would support approximately 300 FTE gross on-site employment opportunities. While this is the case, it is likely that approximately 25% of the occupiers at the proposed development will be relocated from existing, functionally sub-optimal distribution premises. As such, the DCO Application is estimated to result in a total of 240

FTE net additional on-site employment opportunities. A further 165 FTE net additional employment opportunities would be generated off-site.

17.5.96. The total number of FTE employment opportunities equates to 465. While these would be long-term and permanent in nature, many of these are off-site and therefore any health and wellbeing benefits would be considerably diffuse across the study area population (comprising the population of Derby, Derbyshire, Nottingham, Nottinghamshire, Leicester and Leicestershire).

17.5.97. As a result, the magnitude of impact on population and human health would be minor (beneficial). Considering the low sensitivity of the general population, the resultant significance of effect is minor (not significant).

17.5.98. In addition, vulnerable receptor groups scoped in are considered as having high sensitivity. For the purposes of EIA, this includes people living in poverty/deprivation, which would enhance the benefits in this instance. While it is acknowledged that other receptors nearby are sensitive, and as outlined in **Table 17.6**, this is covered in **Appendix 17D: Equality Statement** (**Document MCO 6.17D**). Considering the high sensitivity of people living in poverty/deprivation, the resultant significance of effect is moderate (significant) for this subset of the population.

EMG2 Project (DCO Application and MCO Application)

Construction phase

Health effects from changes in air quality

17.5.99. The full assessment provided in **Appendix 17C: Health Impact Assessment** (**Document DCO 6.17C/MCO 6.17C)** focusses on changes in dust emissions and traffic pollutants.

17.5.100. Regarding dust, with the implementation of appropriate mitigation measures, the residual effect from dust at nearby receptors assessed in **Chapter 8: Air Quality** (**Document DCO 6.8/MCO 6.8**) is expected not to be significant.

17.5.101. There is also the potential for changes in local air quality from construction related traffic movements, primarily from the DCO Application which is larger in nature than the MCO Application. While this is the case, operation phase traffic movements are the focus of this assessment.

17.5.102. On the basis that only small changes in the air quality environment are predicted and would be temporary in nature, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.103. In addition, vulnerable receptor groups scoped in are considered as having high sensitivity. For the purposes of EIA, this includes people living in poverty/deprivation. While it is acknowledged that other receptors nearby are sensitive, and as outlined in **Table 17.6**, this is covered in **Appendix 17D: Equality Statement** (**Document DCO 6.17D/MCO 6.17D)**. Considering the high sensitivity of people living in poverty/deprivation, the resultant significance of effect is at worst minor (not significant).

Health effects from changes in noise and vibration

17.5.104. The full assessment provided in **Appendix 17C: Health Impact Assessment** (**Document DCO 6.17C/MCO 6.17C**) focusses on changes in noise exposure at residential receptors from construction activities and traffic movements during the day and night time periods, which has the potential to cause annoyance and sleep disturbance if in exceedance of specific thresholds that are set to protect the environment and human health.

17.5.105. Changes in noise exposure at hotels have been excluded from the population and health assessment on the basis that users of these resources would only be exposed to changes in noise for a short period of time.

17.5.106. The changes in the noise environment for the **EMG2 Project** as a whole would result in noise exceedances of the LOAEL at the same four residential receptors affected by the DCO Application, which would be short-term and temporary in nature, and would not persist for long enough for there to be any material impact on health and wellbeing.

17.5.107. There is also the potential for changes in local air quality from construction related traffic movements, primarily from the DCO Application which is larger in nature than the MCO Application. While this is the case, operation phase traffic movements are the focus of this assessment.

17.5.108. On this basis, and considering the temporary nature of construction phase noise impacts, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.109. In addition, vulnerable receptor groups scoped in are considered as having high sensitivity. For the purposes of EIA, this includes people living in poverty/deprivation. While it is acknowledged that other receptors nearby are sensitive, and as outlined in **Table 17.6**, this is covered in **Appendix 17D: Equality Statement** (**Document DCO 6.17D/MCO 6.17D)**. Considering the high sensitivity of people living in poverty/deprivation, the resultant significance of effect is at worst minor (not significant).

Health effects from changes in transport, access and connections

17.5.110. As outlined in **Chapter 6: Traffic and Transportation** (**Document DCO 6.6/MCO 6.6**), traffic impacts during the construction phase would be lower than during operation. As a result, the worst-case population and health assessment in relation to changes in transport, access and connections relates to the operational phase for the **EMG2 Project**.

Health effects from changes in diet and nutrition

17.5.111. As outlined in **Appendix 17A: Informal Scoping Exercise with LCC** (**Document DCO 6.17A/MCO 6.17A**), the assessment of impacts on diet and nutrition relates the impacts from changes in severance on accessing food banks. However, as outlined above traffic impacts during the construction phase would be lower than during operation. As a result, the worst-case population and health assessment in relation to changes in diet and nutrition relates to the operational phase for the **EMG2 Project**.

Health effects from changes in community safety

17.5.112. On the basis that no additional assessment is required in relation to the MCO Application (as community safety measure remain the same as what is currently being implemented), the assessment of community safety in the context of the **EMG2 Project** remains the same as for the DCO Application.

Health effects from changes in the visual environment (with regards to community identity, culture, resilience and influence)

17.5.113. As outlined in **Chapter 10: Landscape and Visual** (**Document DCO 6.10/MCO 6.10**), the construction visual effects of the **EMG2 Project** will reflect the combined effects of the DCO Application and MCO Application, however will principally be from the **EMG2 Works**.

17.5.114. It is noted that there are limited situations where the **EMG2 Works** will be seen in combination with the **EMG1 Works**. As a result, the assessment for the DCO Application is representative of the impact from the **EMG2 Project** as a whole.

17.5.115. On this basis, the construction visual impacts for the **EMG2 Project** have the potential to affect the quality of life for a relatively small number of residents in Diseworth, Kegworth and other individual properties in the surrounding area. Furthermore, there is no potential for physical health impacts associated with changes in the visual environment (including deterrence of use of PROW for physical activity and recreation due to changes in the visual environment, whereby reasonable and accessible alternative PROW exist locally and can be used instead).

17.5.116. It is not considered that the significance of effect would change for the vulnerable receptor groups in this instance. This is on the basis that changes in the visual environment does not disproportionally affect people with varying socio-economic circumstance and so this factor would not alter the sensitivity classification.

Health effects from access to open space and PROW for physical activity, leisure/play and recreation

17.5.117. On the basis that no additional assessment is required in relation to the MCO Application (as the MCO Application would be contained within the original EMG1 site and would not impact any existing publicly accessible open space or PROW), the assessment of health effects from access to open space and PROW for physical activity, leisure/play and recreation in the context of the **EMG2 Project** remains the same as for the DCO Application.

Health effects from changes in socio-economic factors (employment and income)

17.5.118. As outlined in the full assessment provided in **Appendix 17C: Health Impact Assessment** (**Document DCO 6.17C/MCO 6.17C**), construction of the **EMG2 Project** would last 5.8 years (medium term and temporary) and result in an average of:

- 320 full-time equivalent (FTE) net additional on-site direct employment opportunities per annum; and

- a further 160 FTE net additional off-site indirect and induced employment opportunities per annum once leakage and displacement have been taken into account.

17.5.119. Construction employment would peak in 2028, with:

- 475 FTE net additional on-site direct employment opportunities; and
- an additional 240 FTE net additional off-site indirect and induced employment opportunities, once leakage and displacement have been taken into account.

17.5.120. On the basis that these employment opportunities would be temporary and medium term in nature, it is considered that the health and wellbeing benefits would only have an impact at the individual level rather than at the population level. As such, the magnitude of impact would be minor. Considering the low sensitivity of the general population, the resultant significance of effect is minor beneficial (not significant).

17.5.121. In addition, vulnerable receptor groups scoped in are considered as having high sensitivity. For the purposes of EIA, this includes people living in poverty/deprivation, which would enhance the benefits in this instance. While it is acknowledged that other receptors nearby are sensitive, and as outlined in **Table 17.6**, this is covered in **Appendix 17D: Equality Statement** (**Document DCO 6.17D/MCO 6.17D)**. Considering the high sensitivity of people living in poverty/deprivation, the resultant significance of effect is moderate (significant) for this subset of the population.

Operation phase

Health effects from changes in air quality

17.5.122. Air quality modelling results are provided in **Appendix 8G** (**Document DCO 6.8G/MCO 6.8G**), whereby two scenarios have been assessed for the operation phase:

- 2028 Scenario 1a vs 2a; and
- 2028 Scenario 1b vs 2b.

17.5.123. For 2028 Scenario 1a vs 2a, the average and worst case change in traffic pollutants at residential receptors are summarised as follows:

- NO2: average change of 0.3 µg/m^3 and maximum change of 2.3 µg/m^3;
- PM10: average change of 0.1 µg/m^3 and maximum change of 1.7 µg/m^3; and
- PM2.5: average change of 0.1 µg/m^3 and maximum change of 0.9 µg/m^3.

17.5.124. For 2028 Scenario 1b vs 2b, the average and worst case change in traffic pollutants at residential receptors are summarised as follows:

- NO2: average change of 0.4 µg/m^3 and maximum change of 2.6 µg/m^3;
- PM10: average change of 0.2 µg/m^3 and maximum change of 1.9 µg/m^3; and
- PM2.5: average change of 0.1 µg/m^3 and maximum change of 1.0 µg/m^3.

17.5.125. It should be noted that there are no exceedances of the relevant objective threshold set to be protective of the environment and human health at any residential receptor assessed. A quantitative health assessment will be undertaken to establish the potential human health effects at the population level. On this basis, the magnitude of impact on population and human health is anticipated to be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.126. In addition, vulnerable receptor groups scoped in are considered as having high sensitivity. For the purposes of EIA, this includes people living in poverty/deprivation. While it is acknowledged that other receptors nearby are sensitive, and as outlined in **Table 17.6**, this is covered in **Appendix 17D: Equality Statement** (**Document DCO 6.17D/MCO 6.17D**). Considering the high sensitivity of people living in poverty/deprivation, the resultant significance of effect is at worst minor (not significant).

Health effects from changes in noise and vibration

17.5.127. The full assessment provided in **Appendix 17C: Health Impact Assessment** (**Document 6.17C/MCO 6.17C**) focusses on changes in noise exposure at residential receptors from operational activity, fixed plant and changes in traffic flows during the day and night time periods, which has the potential to cause annoyance and sleep disturbance if in exceedance of specific thresholds that are set to protect the environment and human health.

17.5.128. As previously stated, changes in noise exposure at hotels have been excluded from the population and health assessment on the basis that users of these resources would only be exposed to changes in noise for a short period of time.

17.5.129. There is also the potential for changes in noise exposure from operational traffic movements. As outlined in **Chapter 7: Noise and Vibration** (**Document DCO 6.7/MCO 6.7**), operational traffic noise from the **EMG2 Works** would have no significant effect at the majority of receptors. The exception to this is R11 Grimes Gate during the night time period; however, this is only during the 2028 scenario with no local allocations. Local developments around the area are expected to dilute operational impacts.

17.5.130. Overall, the changes in the noise environment from the **EMG2 Project** would be below the level required for the onset of human health effects to occur (LOAEL) during the day and night time period at residential receptors. In relation to traffic specifically, the change in noise exposure at R11 Grimes Gate during the night time period would not result in any population-level human health impacts. On this basis, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.131. In addition, vulnerable receptor groups scoped in are considered as having high sensitivity. For the purposes of EIA, this includes people living in poverty/deprivation. While it is acknowledged that other receptors nearby are sensitive, and as outlined in **Table 17.6**, this is covered in **Appendix 17D: Equality Statement** (**Document DCO 6.17D/MCO 6.17D**). Considering the high sensitivity of people living in poverty/deprivation, the resultant significance of effect is at worst minor (not significant).

Health effects from changes in transport, access and connections

17.5.132. The following assessment themes in **Chapter 6: Traffic and Transportation** (**Document DCO 6.6/MCO 6.6**) are considered relevant to the assessment of population and health and are considered in detail in **Appendix 17C: Health Impact Assessment** (**Document DCO 6.17C/MCO 6.17C**):

- severance;
- non-motorised user delay;
- non-motorised user amenity;
- fear and intimidation; and
- road user and pedestrian safety.

17.5.133. As outlined in **Appendix 17C: Health Impact Assessment** (**Document DCO 6.17C/MCO 6.17C**), in addition to analysing the percentage increase in AADT and HGV flows, it is important to consider the context before concluding the impacts on each road link. A link by link summary is provided in **Appendix 17C: Health Impact Assessment** (**Document DCO 6.17C/MCO 6.17C**), with the concluding paragraphs provided below.

17.5.134. Regarding severance, the majority of road links affected have limited pedestrian or cycle desire lines, limiting the demand for crossing. Where there is a desire line to cross, or new desire line created, sufficient infrastructure exists to facilitate this. As a result, it is not considered that there are any material adverse impacts on severance from a population and health perspective.

17.5.135. Regarding non-motorised user delay, some affected road links have limited pedestrian/cyclist infrastructure. The road links that do have pedestrian/cyclist infrastructure would limit the potential for there to be any impact on non-motorised user delay. Proposed improvements on the remaining road links would have a beneficial impact on non-motorised user delay. As a result, it is not considered that there are any material adverse impacts on motorised user delay from a population and health perspective.

17.5.136. Regarding non-motorised user amenity, some affected road links have limited pedestrian/cyclist infrastructure. The road links that do have pedestrian/cyclist infrastructure would limit the potential for there to be any impact on non-motorised user amenity. Proposed improvements on the remaining road links would have a beneficial impact on non-motorised user amenity. As a result, it is not considered that there are any material adverse impacts on motorised user amenity from a population and health perspective.

17.5.137. Regarding fear and intimidation, while changes in traffic would vary across the road links assessed, for various reasons – such as low speed limits, crossing infrastructure, proposed enhancement measures, low absolute change in traffic movements, the resultant impact on fear and intimidation is not considered to be material on a case by case basis.

17.5.138. Regarding road user and pedestrian safety, PICs at Link 10 have improved due to signage improvements, whereby the increase in traffic flows associated with the **EMG2 Project** are not anticipated to increase the risk of collision. Furthermore, the significant infrastructure

improvements proposed will reduce traffic flows on the A453 and M1 northbound off-slip, leading to a permanent, beneficial impact on road user and pedestrian safety.

17.5.139. Overall, the magnitude of impact on population and human health would be at worst minor adverse. Considering the low sensitivity of the general population, the resultant significance of effect is minor (not significant).

17.5.140. It is not considered that the significance of effect would change for the vulnerable receptor groups in this instance. This is on the basis that changes in the traffic nature and flow rate do not differentially affect people with varying socio-economic circumstance and so this factor would not alter the sensitivity classification.

Health effects from changes in diet and nutrition

17.5.141. As outlined in **Appendix 17A: Informal Scoping Exercise with LCC** (**Document DCO 6.17A/MCO 6.17A**), the assessment of changes in diet and nutrition relates to the impacts from changes in severance on accessing food banks.

17.5.142. As outlined in the section above, in terms of severance, the majority of road links affected have limited pedestrian or cycle desire lines, limiting the demand for crossing. Where there is a desire line to cross, or new desire line created, sufficient infrastructure exists to facilitate this. The resultant magnitude of impact on population and human health from severance would be negligible, whereby the associated impacts on access to food banks and diet/nutrition would therefore also be negligible.

17.5.143. Those accessing food banks are inherently vulnerable, and are likely to experience higher than average levels of poverty/deprivation. Therefore in this instance, the receptor sensitivity classification is inherently high. Considering the high sensitivity of people living in poverty/deprivation, the resultant significance of effect is minor (not significant).

Health effects from changes in community safety

17.5.144. As outlined in **Appendix 17C: Health Impact Assessment** (**Document DCO 6.17C/MCO 6.17C**), during operation, the **EMG2 Project** will be managed from the existing management suite at EMG1, where there is a full-time security team that carry out regular patrols. The security officers also monitor CCTV from the camera located along the main estate roads.

17.5.145. Consistent with the security measures employed at EMG1, which have proven to be effective in deterring trespassing and anti-social behaviour, the extension of these measures to the **EMG2 Project** are considered to be protective of community safety.

17.5.146. On this basis, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.147. It is not considered that the significance of effect would change for the vulnerable receptor groups in this instance. This is on the basis that the mitigation measures employed for the would be equally effective to deter unauthorised access to the **EMG2 Project**.

Health effects from changes in the visual environment (with regards to community identity, culture, resilience and influence)

17.5.148. At the start of operation, changes in the visual environment for the **EMG2 Project** would impact the same/similar receptor groups as during the construction phase. The magnitude if these visual impacts are also likely to be the same/similar to those described in the construction phase assessment. However, the majority of visual impacts will reduce over time following the establishment and subsequent maturing/management of the proposed planting and habitats. This is particularly true for nearby receptors while more distant and elevated receptors would have views mitigated to a lesser extent.

17.5.149. Overall, once matured, the mitigation planting would reduce the visual impacts at the majority of receptors and the operational impacts described above have the potential to affect the quality of life for a relatively small number of residents in Diseworth, Kegworth and other individual properties in the surrounding area. Furthermore, there is no potential for physical health impacts associated with changes in the visual environment (including deterrence of use of PROW for physical activity and recreation due to changes in the visual environment, whereby reasonable and accessible alternative PROW exist locally and can be used instead). As such, the magnitude of impact on population and human health would be negligible. Considering the low sensitivity of the general population, the resultant significance of effect is negligible (not significant).

17.5.150. It is not considered that the significance of effect would change for the vulnerable receptor groups in this instance. This is on the basis that changes in the visual environment does not disproportionally affect people with varying socio-economic circumstance and so this factor would not alter the sensitivity classification.

Health effects from access to open space and PROW for physical activity, leisure/play and recreation

17.5.151. As outlined in **Appendix 17C: Health Impact Assessment** (**Document DCO 6.17C/MCO 6.17C)**, the **EMG2 Project** includes provision of an informal publicly accessible community park (13.4 ha) which connects to the eastern extent of Diseworth. On the basis that the existing site does not comprise any publicly accessible open space, this provision represents a net addition to existing circumstance, providing opportunities for physical activity, leisure/play and recreation.

17.5.152. In addition to the integration of PROW L45/L46 into the upgraded Hyam's Lane, which will be resurfaced to enhance cycle access (described in the construction phase assessment), several other improvement works to are proposed to extend public access routes and improved pedestrian and cycle connectivity to the surrounding areas during operation, particularly to and from Diseworth, to the Airport.

17.5.153. As a result of these improvement works, there would be permanent improvements in access to open space (the community park) and PROW for physical activity, leisure/play and recreation. Both quality and quantity of open space and PROW provision are taken into account; while the proposed community park is informal in nature, the provision would be larger than the existing publicly accessible open spaces in Diseworth and conveniently located in the eastern extent of the village which would balance out existing provision.

17.5.154. The resultant magnitude of impact on population and human health would be minor (beneficial). Considering the low sensitivity of the general population, the resultant significance of effect is minor (not significant).

17.5.155. It is not considered that the significance of effect would change for the vulnerable receptor groups in this instance. This is on the basis that access to open space and PROW in the context of the **EMG2 Project** remains the same for everyone and so this factor would not alter the sensitivity classification.

Health effects from changes in socio-economic factors (employment and income)

17.5.156. As outlined in **Appendix 17C: Health Impact Assessment** (**Document DCO 6.17C/MCO 6.17C**), the **EMG2 Project** would support approximately 4,000 FTE gross on-site employment opportunities. While this is the case, it is likely that approximately 25% of the occupiers at the proposed development will be relocated from existing, functionally sub-optimal distribution premises. As such, the **EMG2 Project** is estimated to result in a total of 3,185 FTE net additional on-site employment opportunities. A further 2,185 FTE net additional employment opportunities would be generated off-site.

17.5.157. The total number of FTE employment opportunities equates to 6,185. While these would be long-term and permanent in nature, many of these are off-site and therefore any health and wellbeing benefits would be considerably diffuse across the study area population (comprising the population of Derby, Derbyshire, Nottingham, Nottinghamshire, Leicester and Leicestershire).

17.5.158. As a result, the magnitude of impact on population and human health would be minor (beneficial). Considering the low sensitivity of the general population, the resultant significance of effect is minor (not significant).

17.5.159. In addition, vulnerable receptor groups scoped in are considered as having high sensitivity. For the purposes of EIA, this includes people living in poverty/deprivation, which would enhance the benefits in this instance. While it is acknowledged that other receptors nearby are sensitive, and as outlined in **Table 17.6**, this is covered in **Appendix 17D: Equality Statement** (**Document DCO 6.17D/MCO 6.17D**). Considering the high sensitivity of people living in poverty/deprivation, the resultant significance of effect is moderate (significant) for this subset of the population.

17.6. Mitigation Measures

17.6.1. Public health is by definition preventative in nature. Therefore, mitigation measures adopted as part of the construction and operation of the **EMG2 Project** will focus on precursors to health and wellbeing outcomes, thereby providing an opportunity for intervention to prevent any adverse impacts.

17.6.2. The inherent mitigation measures relevant to the assessment of population and human health are described in **Section 17.5**. On the basis that no significant adverse population and human health effects are reported, no additional health-specific mitigation measures are proposed.

17.7. Residual Effects

17.7.1. On the basis that no additional health-specific mitigation measures are proposed, the residual population and human health effects remain the same as reported in **Section 17.5**.

17.8. Cumulative Effects

17.8.1. The shortlisted cumulative developments as identified in **Chapter 21: Cumulative Impacts (Document DCO 6.21/MCO 6.21)** are outlined in **Table 17.8** and have been considered from a population and human health perspective.

17.8.2. Several residential/mixed-use cumulative developments (ID 7, 12, 20) have been scoped out (or partially scoped out where they are mixed use) on the basis that, while they would introduce new human receptors, the distance of each from the Order Limits is considered too far for there to be any interaction between environmental health determinants from both sites.

17.8.3. In addition, ID 10 has been scoped out on the basis that this development only has the potential to interact with the **EMG2 Project** once operational, and as a solar farm would have no material impact on any environmental or socio-economic determinants, and limited potential to interact with the **EMG2 Project**.

17.8.4. The remaining shortlisted cumulative developments outlined in **Table 17.8** (ID 1b, 3, 4, 12, 13, 14, 15, 16, 17, 20) are scoped in on the basis that they have the potential to contribute to socio-economic impacts relevant to the assessment of population and health, such as employment.

Table 17.8: Cumulative developments relevant to population and human health

ID	Application Ref	Description	Distance	Justification for scoping in/out
1b	24/01200/FULM	Employment building (Use Class B2/B8) with total floorspace of 59,910 sq.m.	2.5km to north of **EMG1 Works**	Scoped in – contributes to socio-economic determinants of health
3	20/00316/OUTM and 22/00954/REMM and 24/00575/VCIM	4no. Logistics buildings with a total floorspace of 77,480sq.m.	2.5km to north of **EMG1 Works**	Scoped in – contributes to socio-economic determinants of health
4	19/01496/OUT / APP/G2435/W22/ 3292404 and 24/00074/REMM	Employment development of up to 92,500sq.m. (E(g), B2, B8)	2km to north-west of **EMG1 Works**	Scoped in – contributes to socio-economic determinants of health
7	n/a	Residential development of	2.5km to north-west of **EMG2 Works**	Scoped out – while new human receptors are

ID	Application Ref	Description	Distance	Justification for scoping in/out
		approx. 1,076 dwellings		introduced, the distance is considered too far for there to be any interaction between environmental health determinants from both sites
10	23/01712/FULM	Ground-mounted solar farm with a generation capacity of 7.15MW	Immediately adj. to **EMG2 Works**	Scoped out – once operational, there would be no material impact on environmental or socio-economic determinants of health
12	n/a	Residential development of approx. 4,500 dwelling and 23,000 sq.m. of employment floorspace	2km to west of **EMG2 Works**	Scoped in – contributes to socio-economic determinants of health Scoped out – while new human receptors are introduced, the distance is considered too far for there to be any interaction between environmental health determinants from both sites
13	n/a	Circa 6,000sq.m. of offices and 11,850sq.m. of B2/small scale B8	2km to north-west of **EMG2 Works**	Scoped in – contributes to socio-economic determinants of health
14	n/a	Circa 30,000sq.m. of B2/small scale B8	Immediately adj. to **Highway Works**	Scoped in – contributes to socio-economic determinants of health
15	n/a	Circa 40,000sq.m. of B2/small scale B8	Immediately adj. **Highway Works**	Scoped in – contributes to socio-economic

ID	Application Ref	Description	Distance	Justification for scoping in/out
				determinants of health
16	n/a	Freeport designation for logistics and advanced manufacturing space	1-2km to west of **EMG2 Works**	Scoped in – contributes to socio-economic determinants of health
17	22/01339/LDO	Redevelopment of power station site for 810,000sq.m. of employment floorspace including up to 180,000 sq.m. of B8, energy storage and generation, and neighbourhood centre	3km to north-east of **EMG1 Works** and **Highway Works** at Jct 24 M1	Scoped in – contributes to socio-economic determinants of health
20	P/14/1833/2 and various RM approvals for both housing and employment	Sustainable Urban Extension to Loughborough comprising 3,200 homes and 16ha of employment land	5km to south-east of **EMG2 Works**	Scoped in – contributes to socio-economic determinants of health Scoped out – while new human receptors are introduced, the distance is considered too far for there to be any interaction between environmental health determinants from both sites

17.8.5. Construction and operation of all scoped in cumulative development sites will contribute to employment opportunities locally. While this is the case, there may be labour shortages in some occupation categories; however, there is the potential with training opportunities associated with this.

17.8.6. Overall, the contribution to socio-economic determinants of health would have a beneficial cumulative effect on health and wellbeing when considered in-combination with the **EMG2 Project**. As the direction of effect is beneficial, no mitigation is proposed; the resultant residual significance of effect for all cumulative developments is moderate beneficial (significant).

17.9. Summary of Effects and Conclusions

17.9.1. A summary of effects for construction and operation is provided in **Table 17.9** and T**able 17.10** respectively, overleaf.

Table 17.9: Summary of effects (construction)

Description of impact	Magnitude of impact	Sensitivity of receptor	Significance of effect	Additional mitigation	Residual effect
DCO Application/ Scheme (EMG2 Works and Highway Works)					
Health effects from changes in air quality	Negligible	Low (high for vulnerable receptors)	Negligible (not significant) to minor (not significant) for vulnerable receptors	No health-specific mitigation proposed	Negligible (not significant) to minor (not significant) for vulnerable receptors
Health effects from changes in noise and vibration	Negligible	Low (high for vulnerable receptors)	Negligible (not significant) to minor (not significant) for vulnerable receptors	No health-specific mitigation proposed	Negligible (not significant) to minor (not significant) for vulnerable receptors
Health effects from changes in transport, access and connections	n/a	n/a	n/a	n/a	n/a
Health effects from changes in diet and nutrition	n/a	n/a	n/a	n/a	n/a
Community safety	Negligible	Low	Negligible (not significant)	No health-specific mitigation proposed	Negligible (not significant)
Health effects from changes in the visual environment (with regards to community identity, culture, resilience and influence)	Negligible	Low	Negligible (not significant)	No health-specific mitigation proposed	Negligible (not significant)
Health effects from access to open space and PROW for physical activity, leisure/play and recreation	Negligible	Low	Negligible (not significant)	No health-specific mitigation proposed	Negligible (not significant)
Health effects from changes in socio-economic factors (employment and income)	Minor (beneficial)	Low (high for vulnerable receptors)	Minor beneficial (not significant) to moderate beneficial (significant) for vulnerable receptors	No health-specific mitigation proposed	Minor beneficial (not significant) to moderate beneficial (significant) for vulnerable receptors

Description of impact	Magnitude of impact	Sensitivity of receptor	Significance of effect	Additional mitigation	Residual effect
MCO Application/Scheme (EMG1 Works)					
Health effects from changes in air quality	Negligible	Low (high for vulnerable receptors)	Negligible (not significant) to minor (not significant) for vulnerable receptors	No health-specific mitigation proposed	Negligible (not significant) to minor (not significant) for vulnerable receptors
Health effects from changes in noise and vibration	Negligible	Low (high for vulnerable receptors)	Negligible (not significant) to minor (not significant) for vulnerable receptors	No health-specific mitigation proposed	Negligible (not significant) to minor (not significant) for vulnerable receptors
Health effects from changes in transport, access and connections	n/a	n/a	n/a	n/a	n/a
Health effects from changes in diet and nutrition	n/a	n/a	n/a	n/a	n/a
Community safety	n/a	n/a	n/a	n/a	n/a
Health effects from changes in the visual environment (with regards to community identity, culture, resilience and influence)	Negligible	Low	Negligible (not significant)	No health-specific mitigation proposed	Negligible (not significant)
Health effects from access to open space and PROW for physical activity, leisure/play and recreation	n/a	n/a	n/a	n/a	n/a
Health effects from changes in socio-economic factors (employment and income)	Negligible	Low (high for vulnerable receptors)	Negligible (not significant) to minor (not significant) for vulnerable receptors	No health-specific mitigation proposed	Negligible (not significant) to minor (not significant) for vulnerable receptors

Description of impact	Magnitude of impact	Sensitivity of receptor	Significance of effect	Additional mitigation	Residual effect
EMG2 Project (DCO Application and MCO Application)					
Health effects from changes in air quality	Negligible	Low (high for vulnerable receptors)	Negligible (not significant) to minor (not significant) for vulnerable receptors	No health-specific mitigation proposed	Negligible (not significant) to minor (not significant) for vulnerable receptors
Health effects from changes in noise and vibration	Negligible	Low (high for vulnerable receptors)	Negligible (not significant) to minor (not significant) for vulnerable receptors	No health-specific mitigation proposed	Negligible (not significant) to minor (not significant) for vulnerable receptors
Health effects from changes in transport, access and connections	n/a	n/a	n/a	n/a	n/a
Health effects from changes in diet and nutrition	n/a	n/a	n/a	n/a	n/a
Community safety	n/a	n/a	n/a	n/a	n/a
Health effects from changes in the visual environment (with regards to community identity, culture, resilience and influence)	Negligible	Low	Negligible (not significant)	No health-specific mitigation proposed	Negligible (not significant)
Health effects from access to open space and PROW for physical activity, leisure/play and recreation	n/a	n/a	n/a	n/a	n/a
Health effects from changes in socio-economic factors (employment and income)	Minor (beneficial)	Low (high for vulnerable receptors)	Minor beneficial (not significant) to moderate beneficial (significant) for vulnerable receptors	No health-specific mitigation proposed	Minor beneficial (not significant) to moderate beneficial (significant) for vulnerable receptors

Table 17.10: Summary of effects (operation)

Description of impact	Magnitude of impact	Sensitivity of receptor	Significance of effect	Additional mitigation	Residual effect
DCO Application/Scheme (EMG2 Works and Highways Works)					
Health effects from changes in air quality	Negligible	Low (high for vulnerable receptors)	Negligible (not significant) to minor (not significant) for vulnerable receptors	No health-specific mitigation proposed	Negligible (not significant) to minor (not significant) for vulnerable receptors
Health effects from changes in noise and vibration	Negligible	Low (high for vulnerable receptors)	Negligible (not significant) to minor (not significant) for vulnerable receptors	No health-specific mitigation proposed	Negligible (not significant) to minor (not significant) for vulnerable receptors
Health effects from changes in transport, access and connections	n/a	n/a	n/a	n/a	n/a
Health effects from changes in diet and nutrition	n/a	n/a	n/a	n/a	n/a
Community safety	Negligible	Low	Negligible (not significant)	No health-specific mitigation proposed	Negligible (not significant)
Health effects from changes in the visual environment (with regards to community identity, culture, resilience and influence)	Negligible	Low	Negligible (not significant)	No health-specific mitigation proposed	Negligible (not significant)
Health effects from access to open space and PROW for physical activity, leisure/play and recreation	Minor (beneficial)	Low	Minor beneficial (not significant)	No health-specific mitigation proposed	Minor beneficial (not significant)
Health effects from changes in socio-economic factors (employment and income)	Minor (beneficial)	Low (high for vulnerable receptors)	Minor beneficial (not significant) to moderate	No health-specific mitigation proposed	Minor beneficial (not significant) to moderate

Description of impact	Magnitude of impact	Sensitivity of receptor	Significance of effect	Additional mitigation	Residual effect
			beneficial (significant) for vulnerable receptors		beneficial (significant) for vulnerable receptors
MCO Application/Scheme (EMG1 Works)					
Health effects from changes in air quality	n/a	n/a	n/a	n/a	n/a
Health effects from changes in noise and vibration	Negligible	Low (high for vulnerable receptors)	Negligible (not significant) to minor (not significant) for vulnerable receptors	No health-specific mitigation proposed	Negligible (not significant) to minor (not significant) for vulnerable receptors
Health effects from changes in transport, access and connections	n/a	n/a	n/a	n/a	n/a
Health effects from changes in diet and nutrition	n/a	n/a	n/a	n/a	n/a
Community safety	Negligible	Low	Negligible (not significant)	No health-specific mitigation proposed	Negligible (not significant)
Health effects from changes in the visual environment (with regards to community identity, culture, resilience and influence)	Negligible	Low	Negligible (not significant)	No health-specific mitigation proposed	Negligible (not significant)
Health effects from access to open space and PROW for physical activity, leisure/play and recreation	n/a	n/a	n/a	n/a	n/a
Health effects from changes in socio-economic factors (employment and income)	Minor (beneficial)	Low (high for vulnerable receptors)	Minor beneficial (not significant) to moderate beneficial (significant) for vulnerable receptors	No health-specific mitigation proposed	Minor beneficial (not significant) to moderate beneficial (significant) for vulnerable receptors

Description of impact	Magnitude of impact	Sensitivity of receptor	Significance of effect	Additional mitigation	Residual effect
EMG2 Project (DCO Application and MCO Application)					
Health effects from changes in air quality	Negligible	Low (high for vulnerable receptors)	Negligible (not significant) to minor (not significant) for vulnerable receptors	No health-specific mitigation proposed	Negligible (not significant) to minor (not significant) for vulnerable receptors
Health effects from changes in noise and vibration	Negligible	Low (high for vulnerable receptors)	Negligible (not significant) to minor (not significant) for vulnerable receptors	No health-specific mitigation proposed	Negligible (not significant) to minor (not significant) for vulnerable receptors
Health effects from changes in transport, access and connections	Minor	Low	Minor (not significant)	No health-specific mitigation proposed	Minor (not significant)
Health effects from changes in diet and nutrition	Negligible	High	Minor (not significant)	No health-specific mitigation proposed	Minor (not significant)
Community safety	Negligible	Low	Negligible (not significant)	No health-specific mitigation proposed	Negligible (not significant)
Health effects from changes in the visual environment (with regards to community identity, culture, resilience and influence)	Negligible	Low	Negligible (not significant)	No health-specific mitigation proposed	Negligible (not significant)
Health effects from access to open space and PROW for physical activity, leisure/play and recreation	Minor (beneficial)	Low	Minor beneficial (not significant)	No health-specific mitigation proposed	Minor beneficial (not significant)
Health effects from changes in socio-economic factors (employment and income)	Minor (beneficial)	Low (high for vulnerable receptors)	Minor beneficial (not significant) to moderate beneficial (significant) for vulnerable receptors	No health-specific mitigation proposed	Minor beneficial (not significant) to moderate beneficial (significant) for vulnerable receptors