OAKLANDS FARM SOLAR PARK

Applicant: Oaklands Farm Solar Ltd

Environmental Statement
Chapter 10 – Transport and Access
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Oaklands Farm Solar Park - Environmental Statement Volume 1

Chapter 10: Transport and Access

Final report
Prepared by LUC
January 2024

Chapter 10
Transport and Access

Introduction

10.1 This Chapter sets out the effects of the Proposed Development on Transport and Access. It details the environmental impact of transport to and from the Site, predominantly throughout the construction phase. The effects are assessed based on the Site's current baseline travel behaviour and accessibility.

10.2 The Oaklands Farm Solar Park comprises a proposed solar farm with an associated Battery Energy Storage System (BESS). The Proposed Development would have a generating capacity of over 50MW and would be situated on 191 hectares of land at Oaklands Farm to the south-east of Walton-on-Trent and to the west of Rosliston in south Derbyshire. The solar farm itself, comprising photovoltaic panel arrays, a central electricity substation and Battery Energy Storage System together with access, landscaping and other works would be located on 135 hectares of agricultural land currently in use for arable production and grazing. A high voltage underground electricity cable would then run through land at Fairfield Farm and Park Farm to the north to connect the solar farm to the national grid via an electricity substation located at the former Drakelow Power Station which sits south of Burton-upon-Trent. Further detail on the Proposed Development is included within **Chapter 4: Project Description**.

10.3 This ES chapter has been prepared by Integrated Transport Planning (ITP) – specialist transport planning consultants with a wide range of experience across development planning sectors.

10.4 This chapter is supported by the following figures and appendices that are referenced throughout the document and provided in **Volume 2** and **Volume 3**, respectively.

- **Figure 10.1**: ATC Locations.
- **Figure 10.2**: Scenario 1 – Preferred Construction Vehicle Routing
- **Figure 10.3**: Scenario 2A – Likely Construction Vehicle Routing

- **Figure 10.4**: Scenario 2B – Back-up Construction Vehicle Routing
- **Figure 10.5**: Locations of Sensitive Receptors
- **Figure 10.6**: Study Area
- **Figure 10.7**: Assessed Construction Vehicle Routes (Southern Access)
- **Figure 10.8**: Assessed Construction Vehicle Routes (Northern Access)
- **Figure 10.9**: Assessed Construction Vehicle Routes (Central Access)
- **Appendix 10.1**: Outline Construction Traffic Management Plan
- **Appendix 10.2**: Personal Injury Collision (PIC) Data
- **Appendix 10.3**: Traffic Survey Data
- **Appendix 10.4**: TEMPro Growth Factors
- **Appendix 10.5**: AADT & AAWT Traffic Survey Analysis
- **Appendix 10.6**: Oaklands Construction Movements and Resource Plan
- **Appendix 10.7**: Indicative AIL Swept Path Analysis

Scope of the Assessment

Effect Assessed in Full

10.5 In accordance with national guidance and good practice, initial scoping of the Transport and Access effects was prepared within the 'Oaklands Farm Solar Park Scoping Report' (see **Appendix 2.1**) submitted on 13th May 2021 by LUC, in association with ITP. A Transport and Access chapter was included within the Preliminary Environmental Information Report (PEIR), which provided a high-level assessment of the likely effects of the Proposed Development.

10.6 This ES assessment builds upon the PEIR chapter, which informed statutory consultees and stakeholders of the anticipated impacts of the Proposed Development. As part of the wider EIA process, stakeholder feedback and further design considerations since submission of the PEIR means that the effects of the Proposed Development can now be assessed with greater certainty within this document.

10.7 Most effects will occur during the construction phase when materials and equipment will have to be brought to the Site. The following effects have been identified following the Scoping and PEIR stages for consideration in this assessment:

- **Direct effects during construction** from a temporary rise in the amount of traffic travelling to and from the Site on the local highway network. Traffic will consist of delivery of solar panels, mounting equipment, BESS units, the Proposed Development's substation components, electrical hardware and connections and civils materials using a mix of Heavy vehicles and Light vehicles. There will be a delivery of up to two substation transformers which will require up to two Abnormal Indivisible Load (AIL) trips. The types of users travelling to the Site will be civil, electrical and landscaping contractors.
- **Indirect effects during construction** on Transport and Access will be from a potential risk to the safety of vulnerable road users.
- **Cumulative effects during construction** on Transport and Access will be from the Proposed Development construction traffic in addition to nearby development traffic that uses the same routes as the Proposed Development.

10.8 The assessment scenarios used for this chapter are:

- Baseline (2022)
- Construction Commencement Year (2026)
- Opening Year (2027)

Effects Scoped Out

10.9 As part of this ES assessment, the effects that are 'scoped out' of detailed assessment are based upon those previously scoped out within the initial Scoping stage and PEIR assessment. The effects scoped out in this assessment have been informed by desk-based and field survey work undertaken, the professional judgement of the EIA team, policy guidance and standards, and feedback received from consultees.

- Direct effects during operation on Transport and Access:
  - The nature of the proposed use requires a negligible number of vehicle trips once operational. Operation will only require scheduled and emergency maintenance and landscaping activities such as grass cutting. This will mean a much-reduced impact on Transport and Access when the Proposed Development is operational. Maintenance of the Site is likely to follow a rolling timetable and therefore will not result in intense activity.

- Indirect effects during operation on Transport and Access:
  - There are no anticipated indirect effects during operation.
- Cumulative effects during operation on Transport and Access:
  - There are no anticipated cumulative effects during operation.
- Decommissioning:
  - The modular nature of construction means that decommissioning will be equivalent to construction and therefore the worst case has been assessed. Adequate controls will be able to be put in place as during construction. Further details on the management of the decommissioning phase are provided in **Appendix 4.5: Outline Decommissioning Environmental Management Plan**.

10.10 The principal effects of the Proposed Development on Transport and Access will be associated with construction activities and therefore will happen throughout the working day.

10.11 On this basis, and in accordance with the Scoping Opinion, Transport and Access impacts of the construction phase have been assessed through the EIA process, with the operational phase and decommissioning phase scoped out.

Summary of Changes from PEIR Assessment

10.12 Following the submission of the PEIR, comments received from statutory consultees and local stakeholders have meant some changes have been made to the proposals as well as details assessed further within this chapter. Additionally, external factors have contributed to changes in the assessment of some key items. The changes from the PEIR chapter are summarised as follows.

- Greater reference to key national and local policies and guidance.
- Dispersal of construction vehicle routes across multiple scenarios following restrictions imposed along the previously preferred construction vehicle route (Chetwynd Bridge) and delays to the construction of the Walton-on-Trent Bypass.
- Removal of solar panels from the northern parcel known as Park Farm following changes to the scheme extents resulting in changes to the level of construction traffic from what was previously presented within the PEIR.

- Amended locations for Site accesses, reflected in new junction designs and possible construction vehicle routes.
- Additional traffic surveys to understand the baseline traffic along new proposed construction vehicle routes and to assess the impact of the Proposed Development trip generation.
- Additional Collision Data to assess the level of highway safety along new proposed construction vehicle routes.
- Further consultation with local highway authority officers and specialist logistical contractor inputs.

Evolution of Proposed Construction Vehicle Routes

10.13 Significant changes to the local highway network surrounding the Site have meant the proposed construction vehicle routing has been developed further by the Applicant, and the routing assessed within this ES chapter has been reviewed since the PEIR assessment to ensure that it is reflective of local highway conditions likely at the time of construction.

10.14 A 7.5-tonne weight restriction has also been imposed on the Chetwynd Bridge, situated south of the Site on the A513, due to its structural condition. Essential maintenance works are required with long-term plans to see its full closure and for a new bridge to be constructed alongside it. In correspondence with Staffordshire County Council (SCC) and Derbyshire County Council (DCC), it is understood that there is currently no timeline or identified funding to progress the replacement bridge design and construction.

10.15 The weight restriction on the Chetwynd Bridge means that it has become unsuitable for Heavy Vehicles (above 7.5t) use and means that it can no longer be used as the preferred construction vehicle route to the Site as previously proposed in the PEIR.

Walton-on-Trent Bypass

10.16 The planned Walton-on-Trent Bypass, connecting the A38 at Barton Turn to Walton Road would increase local network capacity and safety and provide an obvious route for construction traffic accessing the Site. The scheme is, however, linked to development of housing at the former Drakelow Power Station and so is out of the control of the Applicant. There is currently uncertainty that the Walton-on-Trent Bypass will be delivered prior to the start of construction of the Proposed Development in 2026 and therefore it cannot be guaranteed that it will be available for use by construction traffic.

Proposed Construction Vehicle Routes

10.17 This ES chapter has assessed the following construction vehicle routes. Full details of these routes are discussed from paragraph **10.144** onwards.

- Scenario 1 (Preferred):
  - The Walton-on-Trent Bypass is built prior to the construction phase commencing – all construction traffic uses the Bypass, Main Street and Walton Road. This is the preferred route but it is considered unlikely.
- Scenario 2A (Likely):
  - Walton-on-Trent Bypass is not built prior to construction phase – all Heavy vehicles will route through Stapenhill via the A5189, Main Street and Rosliston Road. Light vehicles (up to 7.5t) will be dispersed along four different routes, including the Chetwynd Bridge. This is the likely route to be used by construction vehicles given the uncertainty surrounding the delivery of the Bypass prior to the construction phase commencing.
- Scenario 2B (Back-up):
  - Walton-on-Trent Bypass is not built prior to construction phase – all Heavy vehicles will route through Coton in the Elms via Coalpit Lane, and all Light vehicles are dispersed along three different routes, including the Chetwynd Bridge and the Heavy vehicle route. This is considered a back-up route in the event that there are any road closures or obstructions on the Heavy vehicle route through Stapenhill. If this scenario was used it will likely only be for a limited period, reverting to Scenario 2A at the earliest opportunity.

Assessment Methodology

Legislation and Guidance

Legislation

10.18 This assessment is carried out in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017[1] (IPR).

10.19 This ES chapter meets the standards set out within the IPR for the process of undertaking an EIA. Regulation 5 of the IPR sets out the process that must be undertaken and contained within an EIA, including identification, description and assessment of anticipated effects, and public and local stakeholder consultation. This ES chapter is a continuation of work

[1] The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. Available at: https://www.legislation.gov.uk/uksi/2017/572/regulation/3/made [Accessed 29/09/23]

undertaken at the scoping and PEIR stage and builds upon consultation with all statutory consultees and stakeholders. The likely potential effects of the Proposed Development and changes to the local context have been reflected within this assessment.

Policy

10.20 This assessment is carried out in accordance with the principles contained within the following policy documents:

- National Planning Policy Framework (2023)[2]
- Overarching National Policy Statement for Energy (EN-1) (2011)[3]
- The November 2023 draft National Policy Statement for Energy to be designated (EN-1) (2023)[4]
- National Policy Statement for Renewable Energy Infrastructure (EN-3) (2011)[5]
- The November 2023 draft National Policy Statement for Renewable Energy Infrastructure to be designated (EN-3) (2023)[6]

[2] Ministry of Housing, Communities & Local Government (2023) National Planning Policy Framework. Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2

[3] Department of Energy & Climate Change (2011) Overarching National Policy Statement for Energy (EN-1) Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf

[4] Department for Energy Security & Net Zero (2023) Draft Overarching National Policy Statement for Energy (EN-1). Available at: https://assets.publishing.service.gov.uk/media/655dc352d03a8d001207fe37/nps-renewable-energy-infrastructure-en3.pdf

[5] Department of Energy & Climate Change (2011) National Policy Statement for Renewable Energy Infrastructure (EN-3). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/37048/1940-nps-renewable-energy-en3.pdf

[6] Department for Energy Security & Net Zero (2023) Draft National Policy Statement for Renewable Energy Infrastructure (EN-3). Available at: https://assets.publishing.service.gov.uk/media/655dc352d03a8d001207fe37/nps-renewable-energy-infrastructure-en3.pdf

- DfT Circular 02/2013[7]

The National Planning Policy Framework (NPPF)

10.21 In relation to traffic and transport, the NPPF states at paragraph 115 that a *"development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impact on the road network would be severe*".

10.22 This chapter assesses the impact of traffic generated by the Proposed Development on the local highway network in detail and provides suitable mitigation to offset and manage any potential impacts.

Overarching National Policy Statement for Energy (EN-1) (2011)

10.23 The Overarching National Policy Statement (NPS) for Energy (EN-1), produced by the Department for Energy Security and Net Zero and published in 2011, sets out policies and guidance on how to assess the impact of energy related projects.

10.24 The document states that if a project is likely to have significant transport implications, an ES should include a transport appraisal, consulting the Highways Agency (now National Highways (NH)) and Highways Authorities on the assessment and mitigation. Where appropriate, the applicant should also prepare a Travel Plan that includes demand management measures to mitigate transport impacts.

10.25 The November 2023 draft NPS EN-1 to be designatedbnhas been reviewed to understand if there are any changes from the adopted EN-1 document. Whilst the assessment principles remain similar, and with both documents stating that presumption should be made in favour of granting consents to applications for nationally significant energy infrastructure projects, the November 2023 draft NPS EN-1 to be designated does include greater detail on Solar Photovoltaic infrastructure. This has been considered when assessing the Transport and Access impacts of the Proposed Development.

[7] Department for Transport. (2022) Circular 02/2013 Update: The Strategic Road Network and the delivery of sustainable development. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1093964/circular-02-2013-update.pdf

10.26 This chapter assesses both the baseline levels of traffic and a future year level of traffic with and without the Proposed Development construction traffic. Suitable mitigation to limit the impact of development traffic on sensitive receptors and on road safety has been included within an accompanying Outline Construction Traffic Management Plan (CTMP), within **Appendix 10.1: Outline Construction Traffic Management Plan**, consulted on at multiple stages with both SCC and DCC, as the local highway authorities, as well as local parish councils.

10.27 Additionally, the Proposed Development will be supported by a Staff Travel Plan included in **Document 5.15** to encourage sustainable travel to the Site, particularly during the construction phase.

National Policy Statement for Renewable Energy Infrastructure (EN-3) (2011)

10.28 The NPS EN-3 accompanies the NPS EN-1 and provides the primary policy for decisions by the Secretary of State on applications they receive for nationally significant renewable energy infrastructure.

10.29 The adopted EN-3 does not give any specific reference to the assessment of Solar Photovoltaic development; however the November 2023 draft NPS EN-3 to be designated version sets out some considerations when assessing the development of a Solar Park. Specifically, the document states that "*applicants will need to consider the suitability of the access routes to the proposed site for both the construction and operation of the solar farm with the former likely to raise more issues" (paragraph 2.10.35)*.

10.30 This chapter has provided a robust assessment of the construction vehicle routes that considers the safety of more vulnerable road users, local sensitive receptors and changes to the future form of the local highway network. The assessment does not consider operational routes given the operational phase has been scoped out due to the negligible number of trips.

Department for Transport (DfT) Circular 02/2013

10.31 The DfT Circular 02/2013, updated in July 2022, is the main policy document of the Secretary of State for managing the Strategic Road Network (SRN). The document sets out the ways in which National Highways (NH), as the custodians of the trunk motorways and all-purpose trunk roads, will engage with communities and the development industry to deliver sustainable development and economic growth.

10.32 The document has a designated section relating to Environmental Assessments which states:

"*The Company will engage in the relevant screening or scoping process where a potential impact on the SRN is identified. Environmental assessments must be comprehensive enough to establish the likely impact on air quality, light pollution and noise arising from traffic generated by a development, along with the impacts from any proposed works to the SRN and identify measures to mitigate these impacts*."

10.33 Statutory consultation has been undertaken with NH at the Scoping and PEIR stages of the EIA process. They have also been consulted with further in regard to more technical matters throughout the project, specifically in relation to the assessment of construction vehicle routes.

Guidance

10.34 This assessment is carried out in accordance with the principles contained within the following guidance documents:

- Environmental Assessment of Road Traffic and Movement, Institute of Environmental Assessment (IEMA) (2023)[8]
- Design Manual for Roads and Bridges (LA104 Environmental assessment and monitoring)[9]
- Planning Practice Guidance: Travel Plans, Transport Assessments and Statements[10]
- The 6Cs Design Guide[11]

[8] Institute of Environmental Management and Assessment (IEMA) (2023) Guidelines, Environmental Assessment of Traffic and Movement.

[9] National Highways (Formerly Highways England) (2020) Design Manual for Roads and Bridges - LA 104 Environmental assessment and monitoring. Available at: https://www.standardsforhighways.co.uk/search/0f6e0b6a-d08e-4673-8691-cab564d4a60a

[10] Department for Levelling Up, Housing and Communities, Ministry of Housing, Communities & Local Government (2014) Planning Practice Guidance – Travel Plans, Transport Assessments and Statements. Available at: https://www.gov.uk/guidance/travel-plans-transport-assessments-and-statements

[11] Cheshire East Council, Derby City Council, Derbyshire County Council, Nottingham City Council, Nottinghamshire County Council, Leicester City Council. (2017) Delivering Streets and Places. Available at: https://www.nottinghaminsight.org.uk/Document-Library/Document-Library/197452

- Reported road casualties in Great Britain: notes, definitions, symbols and conventions[12]

Environmental Assessment of Road Traffic and Movement, Institute of Environmental Management & Assessment (IEMA) (2023)

10.35 The Guidelines for the Environmental Assessment of Traffic and Movement sets out guidance for the assessment of the environmental impact of road traffic associated with major new developments.

10.36 Section 3 within the document details how to determine the traffic impact including the need to understand the baseline level of traffic, the Proposed Development traffic, and what the future levels of traffic will be on the local highway network. Section 4 sets out how to assess the magnitude and significance of the traffic on the local highway network and the environment.

10.37 The document also sets out the need to mitigate the impacts of road traffic, such as restricting the hours of operation and installing traffic calming measures. This chapter has utilised the guidelines and principles set out within this document as well as the accompanying Outline CTMP included in **Appendix 10.1: Outline Construction Traffic Management Plan** to assess all potential impacts of the construction traffic and provide appropriate mitigation where necessary.

Design Manual for Roads and Bridges (DMRB) (LA104 Environmental assessment and monitoring)

10.38 The DMRB LA104 assesses the requirements and procedures that should be followed when assessing, reporting and monitoring the environmental effects of developments in line with the EIA Directive 2014/52/EU. The document has been used as guidance for how this chapter is organised and the assessment is undertaken.

10.39 The document sets out how to define and assess magnitude and significance of effect of the Proposed Development, allowing for the descriptions to be adapted depending upon the type and scale of the project.

[12] Department for Transport (2022) Guidance: Reported road casualties in Great Britain: notes, definitions, symbols and conventions. Available at: https://www.gov.uk/government/publications/road-accidents-and-safety-statistics-notes-and-definitions/reported-road-casualties-in-great-britain-notes-definitions-symbols-and-conventions#:~:text=Severity%20of%20a%20collision%20refers,fatal%2C%20serious%20or%20slight).

10.40 This chapter has been prepared with the guidance set out in the DMRB LA104 document to robustly assess the development proposals.

Planning Practice Guidance: Travel Plans, Transport Assessments and Statements

10.41 The Planning Practice Guidance (PPG) for Travel Plans, Transport Assessments and Statements supports individuals, developers and practitioners through various aspects of the planning system. Specifically, the PPG provides context and further details to those elements discussed within the NPPF.

10.42 The PPG on Transport Assessments acts as the basis for which all local highway authorities will form their own guidance. It discusses key elements of what the Transport Assessment should be seeking to achieve. Specifically, the guidance states that a Transport Assessment should "*focus on evaluating the potential transport impacts of a development proposal… The Transport Assessment or Transport Statement may propose mitigation measures where these are necessary to avoid unacceptable or 'severe' impacts*" (Paragraph: 005 Reference ID: 42-005-20140306).

10.43 The Transport Assessment will be used to establish whether the residual impacts of the proposal are likely to be '*severe*' enough to warrant refusal in accordance with the NPPF. If necessary, a Travel Plan can play an effective role in providing mitigation regarding future occupation and operation of the development.

10.44 Specifically, the PPG states that a Transport Assessment, along with the support of a Travel Plan, should positively contribute towards:

- *"encouraging sustainable travel;*
- *lessening traffic generation and its detrimental impacts;*
- *reducing carbon emissions and climate impacts;*
- *improving health outcomes and quality of life;*
- *improving road safety; and*
- *reducing the need for new development to increase existing road capacity or provide new roads"* (Paragraph: 006 Reference ID: 42-006-20140306).

10.45 The premise of using national guidance on Transport Assessments is considered appropriate when interpreting the principles and effects within this chapter. Where necessary, the construction impacts have been suitably mitigated within the accompanying Outline CTMP.

The 6Cs Design Guide: Delivering Streets and Places

10.46 The 6Cs Design Guide – Delivering Streets and Places (DPS) provides a flexible design guide for highways and development that serve as the principal point of reference for all developments within the areas managed by the 6Cs members which are made of the following authorities:

- Cheshire East Council
- Derby City Council
- Derbyshire County Council (DCC)
- Leicester City Council
- Nottingham City Council
- Nottinghamshire County Council

10.47 Specifically, DPS sets out high-level design principles, processes and design outcomes to ensure street design and development meets national guidance and current best practice.

10.48 As the Site falls within the DCC area, DPS has been used in reference to discussions held with DCC officers relating to the proposed Site access points from the local highway network. The access arrangements are detailed in **Chapter 4: Project Description**.

Reported road casualties in Great Britain: notes, definitions, symbols and conventions.

10.49 Guidance on road casualties, published by the DfT in September 2022 provides guidance on how to define road casualties. This guidance page has been used to help inform the assessment of Road User and Pedestrian Safety.

Other Guidance Considered

10.50 Other guidance has been used when carrying out the design for the Proposed Development but is not of relevance to the EIA. The remaining guidance documents considered but not used within this assessment are outlined below.

Manual For Streets (2007)

10.51 Manual for Streets specifically relates to the design and characteristics of streets, typically residential, with a speed limit below approximately 40mph. It is less relevant to major trunk roads or unrestricted rural lanes.

Consultation

10.52 Consultation for both the scoping stage and PEIR chapter was undertaken to ensure that the methodology and key items for assessment was included within this chapter.

10.53 Further targeted consultation has been undertaken since the submission of the PEIR chapter. Consideration has been given to the responses as summarised in **Table 10.1**, with further detail provided throughout this chapter where it related to a specific element of the assessment.

Table 10.1: Consultation Responses

Consultee	Consultation Stage and Date	Issue Raised	Response/Action Taken
Planning Inspectorate	Scoping Consultation (09/2021)	Agreed with the scoping out of operational effects but stated that the ES should set out details of operational maintenance activities, predicted traffic flows (including Heavy vehicles), and how the Public Right of Way (Pen No 9) which crosses the Site will operate once the Solar Park is operational. Also recommended that the Department for Transport document 'Guidance on Transport Assessment' is used in preparation of the ES.	No significant driver and pedestrian delay is anticipated. Matters addressed within the **Assessment of Construction effects** in paragraphs **10.178, 10.205, 10.244, and 10.270**, respectively.
		Agreed with the scoping of human health on the basis that there is uncertainty with regards to the potential effects that may be experienced due to noise, transport and effects on residual amenity.	This is addressed in **Chapter 16: Other Issues**

Consultee	Consultation Stage and Date	Issue Raised	Response/Action Taken
Derbyshire County Council	Scoping Consultation (20/09/2021)	DCC generally agree with the assessment principles set out within the Scoping Report and have requested that ITP engage with DCC's Traffic Management Officers so they can input into the CTMP and have a degree of control to ensure construction vehicle routing is enforceable.	An Outline CTMP is provided at **Appendix 10.1: Outline Construction Traffic Management Plan**, and there has been ongoing contact with DCC's Traffic Management Officers to discuss the proposed construction vehicle routes. The principles set out in the Outline CTMP will be enforceable. The final CTMP will be secured by DCO requirement. Multiple meetings with DCC and SCC Highways Officers have been held leading up to the final application submission which included discussions regarding the measures included within

Consultee	Consultation Stage and Date	Issue Raised	Response/Action Taken
			the CTMP. These were held on the following dates: 1st February 2022 16th August 2022 24th April 2023 13th June 2023
	PEIR Consultation 06/2022 (joint with SDDC)	Concerns regarding general Heavy vehicle movements 'piggy backing' off temporary construction access through the 7.5t Environmental weight limit. Further consultation with the local highway authorities will be required regarding AIL routes, construction traffic routes and Road Conditioning Surveys.	Further meetings have been held with DCC and other authorities to consider the most suitable construction vehicle routes as discussed in paragraph **10.17**. Swept Path Analysis has been undertaken against the planned access arrangements. This is detailed further in paragraph **10.157.**

Consultee	Consultation Stage and Date	Issue Raised	Response/Action Taken
		Swept Path Analysis should be undertaken to ensure vehicles can access the Site and Site compounds safely. It has been noted following the consultation period that there will be a 7.5 tonne weight restriction imposed on the Chetwynd Bridge which will need to be reflected within the assessment.	The accompanying CTMP provides details of suitable management to discourage 'piggy backing' of Heavy vehicles across the 7.5t weight restriction (Except for Access) on Rosliston Road. This includes the marking of Heavy vehicles that identifies them as vehicles associate with accessing the Proposed Development.
	Targeted Consultation (24/03/2023)	Public Rights of Way officer requested details of how the safety of users of the footpath will be ensured. Raised concerns regarding construction traffic on local communities in the light of other local developments.	Safety of PRoW users is covered within **Appendix 4.3: Outline Construction and Environmental Management Plan** and **Appendix 4.4: Outline Operational Environmental Management Plan**.

Consultee	Consultation Stage and Date	Issue Raised	Response/Action Taken
			A cumulative assessment is included in this chapter from paragraph **10.311** onwards. It has not been shown that there will be any residual cumulative impact when considering other local developments.
		Many of the comments provided as part of the PEIR submission remain relevant to the final scheme, and acknowledge the continued consultation and meetings made with the local highway authority to discuss the routing.	All consultation regarding the proposed construction vehicle routing, as detailed above in the table, and any modifications to the local highway network are reflected within this chapter, as set out in the Introduction of this chapter.

Consultee	Consultation Stage and Date	Issue Raised	Response/Action Taken
Drakelow Parish Council	Scoping Consultation (25/08/2021)	Do not agree with any effects on drivers and pedestrians being scoped out because all effects, significant or not, need to be fully investigated and form part of the ES.	No significant driver and pedestrian delay is anticipated, in large part due to the likely requirements to limit construction trips to outside of peak hours, as is standard for similar developments. Any potential impact will be controlled through standard procedures secured through the accompanying Outline CTMP without the need for extensive assessment to get to that same position. The Scoping Opinion confirms that the operational and decommissioning phases can be scoped out of the EIA.

Consultee	Consultation Stage and Date	Issue Raised	Response/Action Taken
National Highways	Scoping Consultation (09/09/2021)	NH generally agree with assessment principles set out within the Scoping Report. The key comments included ensuring that the construction routes' impact on the A38 / A512 junction is fully assessed and mitigated where necessary within the CTMP. Requested to be involved with junction surveys and capacity assessment.	Construction route will seek to avoid significant highway constraints. Construction vehicle routing will be revisited where necessary. Due to the construction traffic being limited to outside peak hours, wider assessment of the strategic road network is not considered necessary.
		Requested that the assessment and related impacts are carried out and reported as described in the Department for Transport 'Guidance on Transport Assessment' in accordance with Circular 02/2013.	Circular 02/2013 has been referred to in the Policy review (paragraph **10.31**).

Consultee	Consultation Stage and Date	Issue Raised	Response/Action Taken
	PEIR Consultation (06/2022)	Advised that the development should be carried out and reported as described by the Department for Transport Guidance on Transport Assessment and in accordance with Circular 02/2013. The likely distribution proportions of vehicles on construction routes should be detailed.	Circular 02/2013 has been referred to in the Policy review (paragraph **10.31**). Traffic distribution has been detailed for each construction route and assessed as a percentage of baseline levels of traffic on the network.
	Targeted Consultation (18/04/2023)	Considering the volume of trips associated with the Proposed Development, NH do not consider there to be a material impact on the network under their jurisdiction, however they requested notification prior to the AIL movement which is proposed to utilise the M42.	The contractor will notify NH, as one of several stakeholders, of the AIL movements prior to them taking place through established road space booking systems.

Consultee	Consultation Stage and Date	Issue Raised	Response/Action Taken
Public Health England	Scoping Consultation (17/09/2021)	Noted the Scoping Report makes reference to a traffic and transport assessment but wishes to scope out driver and pedestrian delay and also noted no detail is provided regarding the methodology for the traffic and transport assessment. Therefore, the ES should include an assessment in accordance with the IEMA 'Guidelines for the Environmental Assessment of Road Traffic' (1993).	The IEMA 'Guidelines for the Environmental Assessment of Road Traffic' have been reviewed, albeit a newer version has been released since this comment was received. This assessment has been carried out in accordance with the 2023 IEMA guidance.
Rosliston Parish Council / Walton-on-Trent Parish Council	Scoping Consultation (17/09/2021)	Requested that decommissioning should be considered as part of the scoping process. Disagreed with driver / pedestrian delay being scoped out of ES. Requested that no Heavy vehicles for construction, operation or decommission should be routed through Rosliston or Walton-on-Trent.	Decommissioning of the Site means that impact will be equivalent to construction. Significant driver and pedestrian delays are not anticipated due to construction trips being made outside of peak traffic hours. The proposed construction vehicle routes avoid the identified

Consultee	Consultation Stage and Date	Issue Raised	Response/Action Taken
			villages of Rosliston and Walton-on-Trent.
South Derbyshire District Council	Scoping Consultation (07/09/2021)	Recommended review of the recently signed section 106 agreement for the Drakelow Park site which may significantly inform the future transport routing options available.	Noted. This has been referred to during optioneering, but we understand that the timeline for bringing forward the Walton-on-Trent Bypass remains uncertain.
	Targeted Consultation (21/04/2023)	Raised concerns regarding all proposed construction traffic routes and their impact in light of the proposed Walton-on-Trent Bypass and locally committed developments.	An extensive analysis of the local highway network operation and sensitive receptors are discussed within this chapter. The routing scenarios presented are reflective of constraints on the local highway and set out a hierarchy of preference to allow for unforeseen circumstances.

Consultee	Consultation Stage and Date	Issue Raised	Response/Action Taken
Staffordshire County Council	Scoping Consultation (20/09/2021)	Noted the route through Stapenhill is within Staffordshire and is particularly sensitive to Heavy vehicle usage and will need careful consideration.	The Outline CTMP considers the routing closely and includes necessary mitigation to avoid an unacceptable impact through Stapenhill. A joint meeting with Derbyshire and Staffordshire Highways Officers was held on 1st February 2022 which stated that the Walton-on-Trent Bypass should be used as the preferred construction route. However, following news that the Chetwynd Bridge will be closed to through traffic, a further meeting was held on 16th August 2022 which discussed alternative routing. SCC, DCC and NH indicated that an alternative strategy to create a hierarchy

Consultee	Consultation Stage and Date	Issue Raised	Response/Action Taken
			of routes would be supported and in the event that a preferred route was not available the dispersion of construction vehicles across the network would be acceptable.
	PEIR Consultation (06/2022)	Would welcome further dialogue with ITP as the scheme progresses to shape the CTMP	Additional meetings have taken place with SCC, DCC and NH to discuss emerging Outline CTMP proposals which are included within **Appendix 10.1**.
	Targeted Consultation (28/03/2023)	SCC agree that the preferred route should use the Walton-on-Trent Bypass should this be built prior to the proposed construction programme. They have also requested to see the assessment of the volume	A robust assessment of the construction traffic on the local highway network is presented in this chapter.

Consultee	Consultation Stage and Date	Issue Raised	Response/Action Taken
		of construction traffic likely to use the alternative construction route and any impact on junctions.	
UK Health Security Agency and OHID	PEIR Consultation (05/2022)	The ES should assess the risk of the temporary diversions of the ProW along local roads and consider the alternative of short diversions on Site whilst internal access tracks are laid on Site.	There will be no diversion of Public Rights of Way (PRoW). See **Chapter 12: Socio-Economics, Tourism and Recreation**.
Derbyshire County Council Place Department	PEIR Consultation (06/2022)	Ensure that Drakelow Public Footpath No. 5 and Walton Upon Trent Public Footpath No. 9. remain open, unobstructed and on their legal alignment; no disturbance to the path surfaces without prior utilisation; consideration given to safety of members of public during any works. Temporary closure of paths will be permitted where the paths remain unaffected;	There will be no diversion of PRoW. See **Chapter 12: Socio-Economics, Tourism and Recreation**.

Consultee	Consultation Stage and Date	Issue Raised	Response/Action Taken
		Other general comments have been made which give conditions to the useability of the PRoW.	
The British Horse Society	PEIR Consultation (06/06/2022)	Additional Heavy vehicle journeys will increase traffic volumes and will make the road higher risk for vulnerable road users (movement of construction traffic may coincide with times that equestrians are active on Bridleways).	This has been considered within the **Assessment of Construction Effects** section with further detail provided in ES **Chapter 12: Socio-Economics, Tourism and Recreation.**
Leicestershire County Council (LCC)	Targeted Consultation (23/03/2023)	The proposed AIL route uses the LCC Highway network. LCC request further consultation.	The Abnormal Indivisible Load (AIL) route will only use a short section of LCC's network, this being the A444 between the M42 and Acresford which is a primary route without any restriction to general traffic. LCC were offered a meeting to discuss this but declined to take up the offer of further engagement

Consultee	Consultation Stage and Date	Issue Raised	Response/Action Taken
			at that stage. Further consultation will take place prior to the AIL movements taking place.

Study Area

10.54 The effect of construction and maintenance activities will have a greater proportional impact on the local unclassified roads adjacent to the Site since these have a lower baseline traffic level than surrounding classified routes (A-roads, Major Road Network and Strategic Road Network).

10.55 The proposed construction vehicle routing scenarios begin at the nearest classified A-roads (A38, A444 and A5). On this basis, the study area includes the construction vehicle routes and those sensitive receptors identified within proximity to them. This area is roughly within a 5km distance of the Site but also considers the area in proximity around the construction routes that fall out of the 5km radius. The study area is presented in **Figure 10.6: Study Area**. This approach has been discussed and agreed with DCC and SCC at the time of the PEIR.

Desk Based Research and Data Sources

10.56 The following data sources have informed the assessment:

- Desk based research (Ordnance Survey maps, Google Maps and Open Street Map) to identify potential receptors.
- Ordnance Survey maps to distinguish local road classifications.
- Personal Injury Collisions (PICs) (Included in **Appendix 10.2: Personal Injury Collision Data**) on the local highway network (Obtained from Derbyshire Constabulary and SCC) (Date received: 17th November 2021, 18th November 2021 and 15th March 2023).
- Traffic Surveys to inform baseline and future local highway network traffic, and air and noise quality impact assessment (Surveys completed: 8th–14th October 2021 and 22nd–28th September 2022), included in **Appendix 10.3: Traffic Survey Data**.
- Department for Transport (DfT) traffic counters to inform baseline and future highway traffic where ATC data was not available.
- Development-specific resource and machinery estimation provided by the Applicant (Date received: 29th September 2023).
- Highway boundary data received from DCC along the proposed AIL route to inform Swept-Path Analysis (Date received: 8th August 2023).

Field Survey

10.57 The following field surveys were carried out to inform the assessment:

- Site visit conducted on 17th November 2021 when traffic volumes had recovered from the Covid-19 pandemic (prior to the Omicron wave) and during school term-time.
- Visual survey along the proposed construction vehicle routes undertaken on 13th April 2023 with data recorded from dash cam footage.
- Site visit conducted on 24th April 2023 along with Highways Development Officer at DCC and the Applicant to confirm the suitability of the AIL route through Coton in the Elms and Scenario 2A Heavy vehicle route to the north on the local highway network within Derbyshire.

Assessing Significance

10.58 This section sets out the assessment methodology of likely effects of the Proposed Development in environmental terms and follows the IEMA guidelines for the Environmental Assessment of Road Traffic and Movement[8] (2023).

10.59 The Significance of Effects matrix has been informed by the sensitivity of identified receptors, and an assessment of magnitude (the degree of change from baseline conditions).

Sensitivity

10.60 Within the IEMA guidance, groups of people / places are identified as being susceptible to changes in traffic conditions. Therefore, as part of the EIA assessment process, the level of sensitivity of identified receptors has been determined and assessed.

10.61 Based on IEMA guidance, **Table 10.2** outlines the potential receptors that should be assessed, along with their level of sensitivity to an increase in traffic. These have been classified as being ‘High’, ‘Medium’, ‘Low’ and ‘Negligible’.

Table 10.2: Sensitive Receptor Criteria

Receptor	Sensitivity	Definition of Sensitivity
Schools, colleges, playground, retirement homes.	High	The receptors/resource has little ability to absorb changes without fundamentally altering its present character or operation or is of international or national importance. Local residents whose daily activities depend upon unrestricted movement within their environment. Receptors such as schools, colleges and hospitals.
Congested junctions, shops / businesses, pedestrians / cyclists, areas of ecological / nature conservation value, residential properties close to the carriageway, collision clusters.	Medium	The receptor has moderate capacity to absorb change without significantly altering its present character or operation or is of high importance.
Sites of tourist / visitor attraction, places of worship, residential areas set back from the highway with screening.	Low	The receptor has moderate capacity to absorb change without significantly altering its present character or operation or is of high importance. Areas such as a trunk road or A class road constructed to accommodate significant Heavy vehicle volumes.

Receptor	Sensitivity	Definition of Sensitivity
Those people and places located away from the affected highway.	Very Low	Users not receptive to transport effects. Includes very small settlements and roads with no significant settlements including new strategic trunk roads or motorways.

10.62 The bespoke set of receptors and their sensitivity are presented within the assessment, from paragraph **10.160** onwards, following a review of the construction vehicle routing scenarios and identified highway links.

Magnitude

10.63 The magnitude of impact has been assessed using the anticipated construction and maintenance activities being undertaken at the Site. The impact will largely be experienced on roads used by the construction vehicles and adjacent to the Site since these have a lower baseline traffic level than surrounding classified routes.

10.64 The IEMA guidelines[8] suggests that, to understand which links should be included within the assessment, two broad rules can be used as part of the screening process:

- **Rule 1**: "*Include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%).*"
- **Rule 2**: "*Include highway links of high sensitivity where traffic flows have increased by 10% or more.*"

10.65 Considering this and the consultation responses received, it has been decided that to create a robust assessment, all relevant highway links within the assessment study area will be included for assessment regardless of the level of increase in flows. This will ensure that effects that are less related purely to the volume of traffic can be assessed, and where necessary, mitigated.

10.66 The data from the ATC sites has been applied to the whole link where only one ATC site exists. There will be some minor differences due to private accesses and other destinations part way along the link but this is unlikely to amend the outcome of the assessment as a whole, given the largely rural setting and consistency of the links along their length.

10.67 Where there is more than one ATC site on the same highway link, that with the lower baseline traffic flows has been used as this will demonstrate a greater impact of the Proposed Development construction traffic, hence providing a more robust assessment.

Environmental Effects

10.68 Reference to the IEMA guidelines[8] allow for a robust assessment of environmental effects arising from the level of change in traffic and movement from the baseline conditions as a result of the Proposed Development. The specific traffic and movement related criteria (as defined by the IEMA guidelines) that are being assessed against the baseline conditions are as follows:

- Severance of communities.
- Road vehicle driver and passenger delay.
- Non-motorised user delay.
- Non-motorised amenity.
- Fear and intimidation on and by road users.
- Road user and pedestrian safety.
- Hazardous / large loads.

Severance of Communities

10.69 Severance of communities is the "*perceived division that can occur within a community when it becomes separated by major transport infrastructure*" as set out in the IEMA guidelines[8] (paragraph 3.13). The extent of severance created by construction traffic has been assessed based on thresholds set out within the IEMA guidelines which utilises the Department for Transport indicators for determining the significance of severance.

10.70 The guidelines states that "*Changes in traffic flow of 30%, 60% and 90% are regarded as producing 'slight', 'moderate' and 'substantial' change*". These thresholds have been adopted for this assessment with the definitions of the criteria changed to Minor, Moderate and Major to allow for compatibility in developing the Significance of Effects matrix. Any increases in traffic flow below 30% is classified as Negligible.

Road Vehicle Driver and Passenger Delay

10.71 IEMA guidelines[8] note that driver delay can occur at several points on the network, although effects will only be significant when the existing traffic on the highway network is already at or close to the capacity of the system. Traffic delays to non-development traffic can occur at several points along the network surrounding the Site:

- "*At the site entrance where there will be additional turning movements*
- *On the highways passing the development site where there is likely to be additional traffic and the flow might be affected by additional parked cars*
- *At other key intersections along the highway which might be affected by additional parked cars*
- *At side roads where the ability to find gaps in the traffic may be reduced, thereby lengthening delays".*

10.72 The method of assessment for road vehicle driver and passenger delay will be based on professional judgement, considering the potential areas where delays can occur as well as the level of impact on key highway links, as set out in the **Severance of Communities** assessment criteria.

10.73 No capacity modelling assessments have been undertaken as part of this chapter. Details of the Proposed Development construction traffic is detailed within the assessment from paragraph **10.160** onwards.

Non-motorised User Delay (Pedestrian Delay)

10.74 Pedestrian delay, including delay to all non-motorised users, serves as a proxy for the delay that other modes of non-motorised users may experience when crossing roads. Changes in the volume, composition or speed of traffic may affect the ability of people to cross the highway.

10.75 IEMA guidelines do not provide any set quantitative criteria to assess non-motorised user delay, therefore a qualitative assessment based on professional judgement has been undertaken. The construction impacts on non-motorised user delay will take into consideration the level of additional construction traffic relative to the baseline traffic on proposed construction vehicle routes and the importance and attractiveness of the routes and the destinations served.

10.76 Additionally, the magnitude of impact on non-motorised user delay will draw on the impact of severance given the two are closely related.

10.77 Thresholds have been developed to help guide the assessment as follows, however the level of impact will be determined by a degree of professional judgement.

- Negligible - Construction traffic on rural roads with no pedestrian / cycle facilities provided and therefore limited potential for interaction with lower likelihood of experiencing non-motorised users.
- Minor - Construction traffic on a strategic vehicular route in a rural setting with pedestrian / cycle facilities but limited potential for interaction with lower likelihood of experiencing non-motorised users.
- Moderate - Construction traffic on main vehicular route with pedestrian / cycle facilities provided in built up areas where non-motorised user interaction is likely but motor vehicle drivers form the predominant road users.
- Major - Construction traffic on lightly trafficked route provided in town centre or similar setting where non-motorised users form a large proportion of all road users and will expect a greater degree of prioritisation.

Non-motorised Amenity (Pedestrian Amenity)

10.78 Non-motorised amenity, as set out within the IEMA guidance is broadly defined as the relative pleasantness of a journey, and is considered to be affected by traffic flow, traffic composition and the pavement width / separation from traffic.

10.79 The guidelines state that the threshold for judging significance of changes in pedestrian amenity will be where traffic flow (or Heavy vehicle component) is halved or doubled. This has been adopted as part of this assessment along with professional judgement.

Fear and Intimidation of and by Road Users

10.80 Fear and intimidation are described within the IEMA guidance as fear and intimidation created by all moving objects. The extent of fear and intimidation is typically dependent on the volume of traffic, its Heavy vehicle composition, traffic speeds and the proximity of traffic and people.

10.81 The latest IEMA guidance provides a weighting system to help assessors provide an approximation of the likelihood of pedestrian fear and intimidation. This is done by meeting

certain thresholds for hazards that are considered to generate fear and intimidation which are then added together to provide an overall level of fear and intimidation.

10.82 The level of fear and intimidation degree of hazard criteria is set out in **Table 10.3**.

Table 10.3: Level of Fear and Intimidation Degree of Hazard Scoring

Average 18-hour traffic flow (all vehicles per hour two-way)	Total 18-hour Heavy vehicle flow	Average vehicle speed	Degree of Hazard score
+1,800	+3,000	>40	30
1,200-1,800	2,000-3,000	30-40	20
600-1,200	1,000-2,000	20-30	10
<600	<1,000	<20	0

10.83 The Proposed Development trips are calculated to get their own degree of hazard score from all three elements to determine the level of fear and intimidation. The hazard score thresholds are outlined as follows:

- Extreme: 71+
- Great: 41-70
- Moderate: 21-40
- Small: 0-20

10.84 As an example, a Proposed Development that creates an 18-hour average two-way traffic flow of 1,500, a Heavy vehicle flow of <1,000 and an average vehicle speed of 35mph will have a Degree of Hazard score of 50, meaning a level of fear and intimidation rating of 'Great'.

10.85 The overall magnitude of impact is calculated by comparing the level of fear and intimidation to the baseline conditions. This is presented in **Table 10.4**.

Table 10.4: Fear and Intimidation Magnitude of Impact Criteria

Magnitude of impact	Change in step / traffic flows (AADT) from baseline conditions
Major	Two step changes in level
Moderate	One step change in level, but with >400 increase in average 18hr two-way all vehicle flow; and / or >500 increase in total 18hr Heavy vehicle flow
Minor	One step change in level, with <400 increase in average 18hr two-way all vehicle flow; and / or <500 increase in total 18hr Heavy vehicle flow
Negligible	No step changes

Road User and Pedestrian Safety

10.86 A detailed assessment of Personal Injury Collision (PIC) data obtained from both SCC and DCC for the most recent six years of available data along the proposed construction vehicle routes has been undertaken. It is typical industry standard practice to identify clusters of PICs on the highway that clearly highlight a road safety issue. These clusters will naturally coincide with the layout / dimensions of the road, road speed, traffic volume, and profile of road users.

10.87 PICs are classified based on the Department for Transport's guidance on Reported road casualties in Great Britain: notes, definitions, symbols and conventions[12]. It states, "*Severity of a collision refers to the severity of the most severely injured casualty (either fatal, serious or slight)*.

- *Slight – One in which at least one person is slightly injured but no person is killed or seriously injured.*

- *Serious – One in which at least one person is seriously injured but no person (other than a confirmed suicide) is killed.*
- *Fatal – A collision in which at least one person is killed*."

10.88 Due to the variation in the types of roads and multiple factors that influence road safety, an approximate quantitative approach has been set out in **Table 10.5**, based on professional judgement, which assists in identifying the magnitude of impact on road user and pedestrian safety along the proposed construction vehicle routes.

Table 10.5: Road User and Pedestrian Safety Magnitude of Impact Criteria

Magnitude of Impact	PIC Cluster Size	Description
Negligible	0-3	Where there are fewer than three recorded PICs on the road across the recorded six-year period that are within 20m of one another, and the severity of the PICs are no more than 'Slight'.
Minor	4-6	Where there are four to six recorded PICs on the road across the recorded six-year period that are within 20m of one another, and the severity of the PICs are no more than 'Slight'.
Moderate	7-9	Where there are seven to nine recorded PICs on the road across the recorded six-year period that are within 40m of one another, and no more than half of the PICs are recorded as 'Serious'.
Major	10+	Where there are above 10 recorded PICs on the road across the recorded six-year period that are within 40m of one another and where the severity of the PICs ranges from 'Slight' to 'Fatal'.

10.89 Professional judgement and discretion will be used to examine the individual characteristics where locations do not clearly fit into one of the categories outlined in **Table 10.5**. The magnitude of impact will also consider the type and number of Proposed

Development construction traffic that will use the roads where the PIC clusters have been identified.

Hazardous / Large Loads

10.90 The IEMA guidance indicates that *"Where the number of movements is considered to be significant, the assessment should include a risk or catastrophe analysis to illustrate the potential for an accident to happen and the likely effect of such an event"*.

10.91 This assessment has considered the movement of AILs and their potential effect on sensitive receptors. Professional judgement has been used as to whether the AIL movements will pose a risk to these receptors.

Summary of Magnitude Criteria

10.92 **Table 10.6** sets out the criteria by which any environmental effects will be assessed.

Table 10.6: Summary of Magnitude Criteria

Environmental Impact	Magnitude			
	Negligible	Minor	Moderate	Major
Severance of communities	Traffic flow increase <30%	Traffic flow increase between 30-60%	Traffic flow increase between 60-90%	Traffic flow increase >90%
Road vehicle driver and passenger delay	Assessed on a case-by-case basis using professional judgement subject to the sensitivity and vulnerability of the receptor.			
Non-motorised user delay	Construction traffic on rural road with no pedestrian / cycle	Construction traffic on strategic vehicular route in	Construction traffic on main vehicular route with pedestrian /	Construction traffic on lightly trafficked route

Environmental Impact	Magnitude			
	Negligible	Minor	Moderate	Major
	facilities provided.	a rural setting with pedestrian / cycle facilities.	cycle facilities provided in built up area.	provided in town centre setting.
Non-motorised amenity	Assessed on a case-by-case basis using professional judgement subject to the sensitivity and vulnerability of the receptor.			
Fear and intimidation on and by road users	Two step changes in level	One step change in level, but with >400 increase in average 18hr two-way all vehicle flow: and / or >500 increase in total 18hr Heavy vehicle flow	One step change in level, with <400 increase in average 18hr two-way all vehicle flow; and / or <500 increase in total 18hr Heavy vehicle flow	No step changes
Road user and pedestrian safety	Where there are below three recorded PICs on the road across the recorded six-year period that are within 20m of one another, and the severity of	Where there are two to four recorded PICs on the road across the recorded six-year period that are within 20m of one another, and the severity of	Where there are five to nine recorded PICs on the road across the recorded six-year period that are within 40m of one another, and no more than half	Where there are above 10 recorded PICs on the road across the recorded six-year period that are within 40m of one another and where the

Environmental Impact	Magnitude			
	Negligible	Minor	Moderate	Major
	the PICs are no more than 'Slight'.	the PICs are no more than 'Slight'.	of the PICs are recorded as 'Serious'.	severity of the PICs ranges from 'Slight' to 'Fatal'.
Hazardous / Large loads	Assessed on a case-by-case basis using professional judgement subject to the sensitivity and vulnerability of the receptor.			

Significance

10.93 The significance of the effect is determined through the consideration of two elements: the sensitivity of the receptor on an affected highway link; and the magnitude of the impact on a affected highway link. The affected highway links are set out within the assessment from paragraph **10.160** onwards.

10.94 The following section outlines the approach that has been used to determine these factors. The definitions of significance are detailed in **Table 10.7**.

Table 10.7: Significance of Effect Definitions

Significance of Effect	Description
Major	There is a minimum increase of 90% traffic on the local highway network and/or local trunk roads in addition to a major impact on identified environmental effects such as road safety and delay, posing a high risk to identified sensitive receptors.

Significance of Effect	Description
Moderate	There is a 60–90% increase in traffic on the local highway network in addition to a moderate impact on identified environmental effects such as road safety and delay, posing a medium risk to identified sensitive receptors.
Minor	There is a 30–60% increase in traffic on the local highway network in addition to a minor impact on identified environmental effects such as road safety and delay, posing a low risk to identified sensitive receptors
Negligible	There is <30% change in traffic on the local highway network in addition to a negligible impact on identified environmental effects such as road safety and delay posing a very low risk to identified sensitive receptors.

10.95 Table 10.8 sets out a matrix to determine the overall significance of effect based upon the magnitude of effect and sensitivity of the receptor.

Table 10.8: Significance of Effect Matrix

		Magnitude				
		No Change	Negligible	Minor	Moderate	Major
Sensitivity	Very Low	Negligible	Negligible	Negligible or Minor	Negligible or Minor	Minor
	Low	Negligible	Negligible or Minor	Negligible or Minor	Minor	Minor of Moderate
	Medium	Negligible	Negligible or Minor	Minor	Minor or Moderate	Moderate or Major

		Magnitude				
		No Change	Negligible	Minor	Moderate	Major
	High	Negligible	Minor	Minor or Moderate	Moderate or Major	Major

10.96 Effects that are classified as being 'Moderate' or 'Major' are generally considered to be significant. The assessment criteria, along with professional judgement, is applied to ensure the most accurate estimate of the significance of an effect is made, especially where an effect could be subjective between two classifications in the absence of quantitative analysis. Therefore, some significance ratings do not necessarily match those definitions outlined in **Table 10.7**. Where this applies, suitable explanation has been given in the assessment from paragraph **10.160** onwards.

Assessment Limitations

10.97 No information gaps have been identified. It is therefore considered that there is sufficient information to enable an informed decision to be taken in relation to the identification and assessment of likely significant Transport and Access effects on the environment.

Baseline Conditions

10.98 The Proposed Development is to the south-east of Walton-on-Trent, south of Drakelow Power Station. The Site is rural in nature with the closest strategic roads being the A38 to the west and the M42/A42 to the east.

Traffic Flows

10.99 Automated Traffic Count (ATC) data has been collected along the proposed construction vehicle routes to understand the existing 24-hour Annual Average Daily Traffic (AADT) and 24-hour Annual Average Weekday Traffic (AAWT). The ATC site locations are displayed in **Figure 10.1: ATC Locations**.

10.100 As part of the PEIR, nine sites were surveyed in 2021, however following re-evaluation of the potential construction vehicle routing to the Site, a further five ATC surveys were undertaken along new potential construction vehicle routes from 22nd September 2022 to 28th September 2022. The raw data from all the traffic survey sites are included in **Appendix 10.3: Traffic Survey Data**.

10.101 To ensure consistency between the two sets of data, the 2021 AADT and AAWT flows have been uplifted to 2022 using growth factors obtained from the DfT's Trip End Model Presentation Program (TEMPro), which uses the National Trip End Model (NTEM) to predict traffic forecasts using a standard methodology. These are included in **Appendix 10.4: TEMPro Growth Factors**.

10.102 The AADT and AAWT traffic has informed **Chapter 11: Noise,** and **Appendix 16.1: Air Quality Assessment**, however, it also provides a sound understanding of the baseline level of two-way traffic that exists along the proposed construction vehicle routes and to assess the Proposed Development impact.

10.103 The ATC sites are situated on the following roads and detailed in **Figure 10.1: ATC Locations**:

- Site 1 – Main Street (leading to Rosliston Road)
- Site 2 – Walton Road
- Site 3 – Rosliston Road
- Site 4 – Burton Road
- Site 5 – Coton Road
- Site 6 – Unnamed Road (west of junction between Church Street and Catton Lane)
- Site 7 – Unnamed Road north of Catton Hall
- Site 8 – Unnamed Road east of junction with A513
- Site 9 – A513 west of junction with unnamed road
- Site 10 – A513 north of Tamworth
- Site 11 – Main Street west of Walton-on-Trent
- Site 12 – Unnamed Road south of Walton-on-Trent
- Site 13 – Church Street
- Site 14 – Rosliston Road

10.104 The full AADT and AAWT analysis been included within **Appendix 10.5: AADT and AAWT Traffic Survey Analysis** with a summary of the total two-way flows at each ATC site presented in **Table 10.9**.

Table 10.9: 2022 Baseline AADT and AAWT Summary

ATC Site	2022 Two-Way Flows (All vehicles)	
	AADT	AAWT
1	13,809	14,419
2	5,971	6,623
3	3,482	3,898
4	2,133	2,180
5	912	1,006
6	1,006	1,099
7	2,386	2,632
8	3,190	3,484
9	6,106	6,660
10	4,823	5,144
11	5,591	6,220
12	1,127	1,190

13	1,480	1,639
14	1,056	1,108

10.105 Traffic flows for the A5121 and A5189 were obtained from the DfT using its online data platform. The traffic flow data at both counters provide 2022 estimated AADT data using the previous year's AADT on the link. This is an official estimation that corresponds with the baseline year of the data recorded at the ATC sites for reliable comparison. To calculate AAWT from the DfT AADT figures at these locations, a local conversion factor has been generated from the surveyed ATC sites.

10.106 The locations of the counters have been included in **Figure 10.1: ATC Locations** with the data analysis outlined in **Table 10.10** and detailed in **Appendix 10.5: AADT and AAWT Traffic Survey Analysis**.

Table 10.10: DfT Counter 2022 AADT and AAWT Summary

Counter Location	DfT Reference	AADT (Two-way)			Calculated AAWT (Two-way)
		Light vehicles	Heavy vehicles	Total	
A5121	99873	13,582	820	14,402	14,558
A4189	48293	29,978	1,010	30,988	31,325

Walton-on-Trent Bypass Flows

10.107 The Scenario 1 – Preferred construction vehicle route scenario will only be available should the Walton-on-Trent Bypass be completed prior to the construction of the Proposed Development. Therefore, the baseline condition for Scenario 1 must account for the traffic conditions anticipated once the Bypass is available for use as part of the wider highway network.

10.108 This baseline scenario was assessed as part of the Transport Assessment supporting the development of residential properties at the former Drakelow Power Station (SDDC planning reference 9/2009/0341). 2015 AM and PM peak flows, including the committed trips for which the assessment was originally prepared, have been taken from Appendix G of the Transport Assessment. Using a conversion factor derived from ATC sites 2 (Walton Road) and 11 (Main Street), the peak flows have been converted to AADT and AAWT.

10.109 The 24-hour midweek flow, based on the PM peak factor, has been used as part of this assessment as this has a lower flow than that based on the AM peak factor. This will result in a higher percentage impact from the Proposed Development and therefore result in a more robust assessment. Further details are presented in **Appendix 10.5: AADT and AAWT Traffic Survey Analysis.**

10.110 The obtained traffic flows are inclusive of trips associated with the redevelopment of the former Drakelow Power Station for residential development and therefore offers a robust assessment. This is detailed further in the assessment from paragraph **10.30110.301** onwards.

10.111 The 2015 flows have been uplifted to 2022 AAWT using the trip rates gathered from TEMPro (as outlined in paragraph **10.101**) as has been done for the 2021 and 2022 traffic surveys. The 2015 flows are based on midweek flows and therefore have been uplifted to 2022 AAWT. A summary is presented in **Table 10.11**.

Table 10.11: Walton-on-Trent Bypass 2022 AAWT

Location	PM Peak	Conversion Factor (PM Peak → AAWT)	AAWT (Two-way)	
			2015	2022
Walton-on-Trent Bypass	1,195	10.311	12,322	13,265

Highway Safety

10.112 PIC data was obtained from South Derbyshire Constabulary and SCC which identifies collisions on the proposed construction vehicle routes between the Site and the local classified road network from the most recently available five-year period (2016-2021). Following a second data request to cover the additional proposed construction vehicle routes, further data was

received which covered the five-year period up to 2022 which gives an overall coverage of six years of available data.

10.113 Summary collision data for the A5121 and A5189 was obtained from DfT open data for the most recently available 5-year period from 2017–2021.

10.114 The data received is summarised in **Table 10.12** which is broken down by collisions along the proposed construction vehicle routes, by the county they sit within.

Table 10.12: Personal Injury Collision Summary

PIC Classification	Study area within South Derbyshire	Study area within Staffordshire	Total
Fatal	0	2	2
Serious	15	19	34
Slight	26	95	121
Other	0	0	0
Total	51	116	157

10.115 Details of all recorded PICs within the vicinity of the Proposed Development are included within **Appendix 10.2: Personal Injury Collision Data**, including the severity of collisions and their location on the local highway network.

Future Baseline in the Absence of the Proposed Development

10.116 The baseline assessment set out above was conducted for the year 2022. Construction of the Proposed Development is anticipated to commence in 2026.

10.117 In the absence of the Proposed Development, the area within the vicinity of the Site will likely continue to experience an increase in baseline traffic as a result of employment and housing growth, forecast population growth and possible increasing car ownership rates.

10.118 Factors were obtained from TEMPro (as outlined in paragraph **10.101**) and applied to the 2022 AADT and AAWT flows to examine a 2026 scenario in the absence of the Proposed Development. TEMPro predicts an overall increase in background traffic across the local highway network without the Proposed Development resulting in an increase of 2.7% in AADT, and an increase of 4.1% in AAWT**.**

10.119 The 2026 AADT and AAWT background traffic flows are presented in **Table 10.13** with the full assessment included in **Appendix 10.5: AADT and AAWT Traffic Survey Analysis.**

Table 10.13: Future Baseline 2026 AADT and AAWT Summary

ATC Site	2026 Two-Way Flows (All Vehicles)	
	AADT	AAWT
1	14,313	14,939
2	6,189	6,862
3	3,609	4,039
4	2,211	2,259
5	945	1,041
6	1,042	1,139
7	2,473	2,727
8	3,306	3,609

9	6,328	6,900
10	4,829	5,505
11	5,593	6,500
12	1,128	1,262
13	1,481	1,714
14	1,057	1,167

10.120 Should the Walton-on-Trent Bypass be delivered prior to the end of 2026, the anticipated 2026 AAWT for the Bypass is presented in **Table 10.14**.

Table 10.14: Walton-on-Trent Bypass 2026 AAWT Summary

Location	2026 Two-Way Flows (All Vehicles)
	AAWT
Walton-on-Trent Bypass	13,743

10.121 As discussed from paragraph **10.107** onwards, the flows obtained for the Walton-on-Trent Bypass are inclusive of trips associated with the development of the former Drakelow Power Station. As these are likely to have been picked up within the TEMPro growth factors, an element of double counting may be present, however this results in a robust representation of future traffic flows in the absence of other data sources.

10.122 Given the construction phase is expected to commence in late 2026, with the most intense period of activity taking place during the midweek period towards the start of the project lifecycle, the 2026 AAWT has been used as a future baseline to assess the Proposed Development impact.

Implications of Climate Change

10.123 Transport and Access impacts during the construction phase are temporary in nature and therefore will not remain on the network to interact with potential climate change impacts, therefore no further assessment is considered necessary.

Design Considerations and Embedded Mitigation

10.124 Consideration has been given to the design of the construction access points and to the movement of vehicles within the Site to ensure optimal efficiency in the movement of staff and equipment whilst maintaining the safety of users on the local highway network.

10.125 All access designs are reflective of comments received from DCC development control officers on 2nd February 2023 and 8th August 2023 and are discussed in further detail in this section and within **Chapter 4: Project Description**.

Available Points of Access

Northern Access

10.126 Temporary construction access is proposed via a priority bell mouth junction, from Walton Road east into Park Farm for Heavy and Light vehicle access (see **Figure 4.3: Site Access Points** and **Figure 4.6: Park Farm Eastern Junction Design**).

10.127 A delivery Compound for deliveries of materials and equipment will be situated adjacent to the farm track, within the boundary of the Site, to allow for unloading and for vehicles to turn within.

10.128 Once deliveries have been made, Heavy vehicles will be able to exit to the west using the existing farm access track connected to the main delivery Compound (see **Figure 4.5: Park Farm Junction Design**). This will be widened at the junction with Walton Road to allow for the infrequent movement of farm vehicles should they occur when a Heavy vehicle is leaving the Site.

10.129 Further details are provided in **Chapter 4: Project Description**.

Southern Access

10.130 During construction, Light vehicles can enter the Site via the upgraded field access from Coton Road and an existing 475m farm track heading north (referred to as the ‘Southern

Construction Road') linking to the Temporary Construction Haul Road. This will also facilitate access to the Onsite 132kV substation by AILs.

10.131 Further details are provided in **Chapter 4: Project Description**.

Emergency Access

10.132 All access points across the Site will be suitable to be used as an emergency access for the emergency services during the construction phase. An appropriate landing location for air ambulances will be located should this be required. This will be detailed further as part of the Emergency Response Plan (referred to in **Appendix 4.3: Outline Construction Environmental Management Plan**) prior to construction.

Temporary Construction Haul Road

10.133 A Temporary Construction Haul Road will extend south from the delivery compound to Oaklands Farm to enable materials and equipment to be transported internally across the Site without relying on the surrounding local highway network. Heavy vehicles will leave the Site once deliveries have been made.

10.134 Temporary Construction Haul Road crossings will be provided across Coton Road (**Figure 4.9: Coton Road Crossroads Design**) and Rosliston Road (**Figure 4.8: Rosliston Road Crossroads Design**) to provide a continuous route from the north to the south of the Site and will both be designed in a crossroad format.

10.135 The internal Temporary Construction Haul Road allows vehicles to move freely within the Site rather than using the local highway network and has been designed to avoid local receptors. This approach will significantly reduce the number of interactions between existing communities and construction vehicles, limiting the environmental impact and risk to other road users which was a key concern raised at various points during the consultation process.

10.136 Further details are provided in **Chapter 4: Project Description**.

Undergrounding of Grid Connection

10.137 A new permanent access will be created into National Grid's Drakelow substation to facilitate the construction and future infrequent maintenance of the underground cable and grid connection. The access will be situated to the west of the former Drakelow Power Station access.

10.138 In line with the construction schedule, impacts on the local highway network associated with the grid connection will not occur until the latter stages of the construction phase as cabling works will begin within the Site before heading north towards the access with Walton Road and finally into the National Grid Drakelow substation.

Traffic management

10.139 During construction, the accesses from Walton Road will use temporary traffic lights and banksmen at the access to enable the safe movement of Heavy vehicles. The Temporary Construction Haul Road crossing on Rosliston Road will use temporary traffic lights during the construction phase to manage the safe movement of vehicles across Rosliston Road.

10.140 The southern crossroads on Coton Road will operate as a priority junction with visibility splays to standard and necessary traffic management in place. See **Figure 4.8: Southern Crossroads Design**

10.141 Throughout the project lifecycle, vegetation management will be undertaken to ensure that visibility splays at all junctions are maintained. Additional traffic management is subject to discussion with DCC closer to the commencement of construction and will be secured through separate permit arrangements.

Construction Vehicle Routing

10.142 Construction vehicle routing has been considered in parallel with access point location and design to determine the arrangement with least impact on surrounding receptors. The routing has been considered from the nearest points on the SRN on the basis that construction vehicles should make use of the SRN for as much of their journey as possible.

Route Definition and Suitability

10.143 An extensive construction route definition and suitability assessment has been undertaken which has led to the routing scenarios outlined below. The assessment considered the design of the Site, available points of access, limitations of the existing highway network such as low bridges, Air Quality Management Areas (AQMAs), proximity to sensitive receptors, and the proximity of the nearest SRN route.

10.144 Some of the routes identified were discounted within the route definition and suitability assessment. The originally assessed construction vehicle routes are presented in the following figures and are presented based on separate potential construction access locations.

- **Figure 10.7: Assessed Construction Vehicle Routes (Southern Access)**
- **Figure 10.8: Assessed Construction Vehicle Routes (Northern Access)**
- **Figure 10.9: Assessed Construction Vehicle Routes (Central Access)**

10.145 Those that were taken forward were used to formulate a hierarchy of potential scenarios which were ranked from preferred to the least preferred. The route definitions are outlined below, with the original numbering maintained for consistency:

- Route 1: A513, Unnamed Road.
- Route 3: Walton-on-Trent bypass, Main Street (Walton), Walton Road.
- Route 6: A5121, A5189, Main Street (Stapenhill), Rosliston Road, Walton Road.
- Route 8: A444, Gorsey Lane, Grangewood Road, Unnamed Road, Coalpit Lane, Mill Street, Church Street.
- Route 9: Riverdrive, Ankerdrive, A513, Comberford Road, A513, Unnamed Road.

Scenario 1 (Preferred Construction Vehicle Routing)

10.146 If the Walton-on-Trent Bypass is constructed prior to the commencement of the construction phase in 2026, Scenario 1 will use Route 3 which provides the shortest route from the strategic road network to the Site, with the least potential to impact sensitive receptors and is therefore the 'Preferred' route.

10.147 Assurances from SCC indicated that the Bypass should be ready for use in advance of the construction phase commencement in 2026, however this has more recently been subject to further uncertainty with the withdrawal of funding and concerns regarding the impact on the flood plain.

10.148 The routing of Scenario 1 is presented in **Figure 10.2: Scenario 1 – Preferred Construction Vehicle Routing**.

Scenario 2A (Likely Construction Vehicle Routing)

10.149 Given the uncertainty surrounding the delivery of the Walton-on-Trent Bypass prior to the construction phase commencing, the likely routing strategy to the Site will be Scenario 2A, which is formed by a combination of routes. The routes used in this scenario are:

- Route 6: Heavy and Light vehicles
- Route 1: Light vehicles
- Route 8: Light vehicles
- Route 9: Light vehicles

10.150 The routing of Scenario 1 is presented in **Figure 10.3: Scenario 2A – Likely Construction Vehicle Routing**.

Scenario 2B (Back-up Construction Vehicle Routing)

10.151 The back-up construction vehicle routing strategy is only provided in the event that there is major disruption or blockage on Route 6. Since this is the only proposed route for Heavy vehicles under Scenario 2A, it is necessary to provide a back-up option to avoid the Proposed Development becoming unimplementable. By including it in this chapter, it ensures the effects of such a situation can be presented transparently and fully understood. The routes used in this scenario are:

- Route 1: Light vehicles
- Route 8: Heavy and Light vehicles
- Route 9: Light vehicles

10.152 It is expected that the use of Scenario 2B would only last so long as Scenario 2A is unavailable for use, with construction vehicle routing reverting at the earliest opportunity.

10.153 The routing of Scenario 1 is presented in **Figure 10.4: Scenario 2B – Back-up Construction Vehicle Routing.**

Abnormal Indivisible Load

10.154 Up to two AIL movements are expected to deliver the prefabricated transformers to the Onsite 132kV substation. Each movement consists of two trips; the first being laden with the transformer on the way to the site and the second unladen as the vehicle returns.

10.155 A review of the surrounding highway network has determined that Route 8, beginning at M42 Junction 11, is the most appropriate route due to various physical restrictions, such as height and weight limits, on other routes.

10.156 The AIL movements will be police escorted in a rolling roadblock management format as the load will require the full width of the carriageway on narrow lanes and will travel at a slow

speed. Authorisation for these movement to take place are subject to the separate notification process coordinated by NH.

10.157 Swept-Path Analysis based on Ordnance Survey mapping has confirmed that the vehicle can remain within the extents of the local highway network. Surface protection, culvert reinforcement and temporary removal of street furniture will be required at locations identified in **Appendix 10.7: Indicative Abnormal Load Swept Path Analysis** and on verges at turning bends where the AIL vehicle will have to overrun.

10.158 In Scenario 1, AILs may be able to use Route 1, however given that limited detail is known regarding the design of the Walton-on-Trent Bypass, it has been assumed that AIL movements will utilise Route 8 in every scenario.

Proposed Additional Measures

Outline Construction Environmental Management Plan

10.159 An Outline Construction Environmental Management Plan (CEMP), included within **Appendix 4.3: Outline Construction Environmental Management Plan**, outlines the main mitigation and control measures that will be used to manage environmental effects throughout the construction process. Those measures that specifically relate to Transport and Access are summarised below:

- Community Liaison between the Applicant and local residents to discuss the programme of works and discuss the measures put in place to minimise the impact of construction.
- Parking allocation within the Site for construction workers to negate the need for any parking on the local highway network.
- Site waste management plan to ensure the control of waste on Site to reduce construction vehicle movements off-site

Assessment of Construction Effects

10.160 The assessment of effects is based on the project description as outlined in **Chapter 4: Project Description**. Potential effects identified are largely considered to be negative but this is confirmed in the summary tables for each scenario.

Predicted Construction Effects

10.161 Potential effects are most likely to arise during the construction phase, when materials and workers are traveling to the Site. The impact will be a temporary rise in the amount of traffic travelling to and from the Site on the local highway network, including a proportion of Heavy vehicles.

10.162 Traffic will consist of delivery of solar panels, mounting equipment, electrical hardware including transformers and cabling, in addition to traffic related to civil, electrical and landscaping contractors. This will be carried out by standard vehicles legally permitted to travel on the UK road network, ranging from cars and vans to articulated and non-articulated Heavy vehicles.

10.163 There will be a maximum of two AIL movements to the Site, which will be the delivery of the Onsite 132kV substation transformers. These movements are subject to a separate permitting process through the relevant highway authorities but their impact has also been considered as a separate section of this chapter to ensure a robust assessment.

10.164 The existing PRoW 9 (also known as the Cross Britain Way / National Forest Way) that runs east-west through the Site will remain open (discussed in more detail in **Chapter 12: Socio-Economics, Tourism and Recreation**). This runs parallel to the Temporary Construction Haul Road and may therefore also see effects from construction traffic.

Proposed Development Construction Trips

10.165 The construction programme, with key activities broken down by month and the number of vehicle movements, is presented in **Appendix 10.6: Construction Movements and Resource Plan**.

10.166 The peak daily construction vehicle movements across the construction phase will be during month four with 104 two-way movements per day (50 deliveries), broken down as 28 two-way Heavy vehicle movements and 76 two-way Light vehicle movements.

10.167 The average daily vehicle movements across the construction phase will be 81 two-way movements per day, broken down as 14 Heavy vehicle movements and 67 Light vehicle movements.

10.168 The average daily vehicle movements (81) have been used to assess the construction impact on the 2026 (AAWT) background traffic on the local highway network as this will be persistent for the majority of the construction phase.

Highway Links

10.169 Given each scenario will see construction vehicles travelling different routes, the Proposed Development construction traffic will have a different magnitude and significance of effect on sensitive receptors for each scenario. The assessment of construction effects has therefore been detailed separately for each scenario.

10.170 The assessed highway links that make up each construction vehicle route are highlighted in **Table 10.15** and are assigned to their respective scenarios.

Table 10.15: Highway Link Assessment

Highway Link	Scenario (Preferred)	Scenario 2A (Likely)	Scenario 2B (Back-up)
A5121		✓	✓
A5189		✓	✓
Rosliston Road		✓	✓
Walton-on-Trent Bypass	✓		
Walton Road	✓	✓	✓
Main Street (Walton)	✓		
Main Street (Stapenhill)		✓	✓
Mill Street		✓	✓

Church Street		✓	✓
Coalpit Lane		✓	✓
Coton Road		✓	✓
A513		✓	✓
Unnamed Road (Between A513 and Church Street)		✓	✓
Temporary Construction Haul Road	✓	✓	

Sensitive Receptors

10.171 Each highway link has been cross-referenced with the applicable sensitive receptor as required by the IEMA guidelines (2023) and shown in **Table 10.2**.

10.172 The highway links have been used to help identify bespoke sensitive receptors that have the potential to be affected by the Proposed Development construction traffic. The sensitive receptors identified, along with their assigned highway link is detailed in **Table 10.16**. Their locations are presented in **Figure 10.5: Locations of Sensitive Receptors**.

Table 10.16: Identified Sensitive Receptors

Receptor	Sensitivity	Highway Link Assignment		
		Scenario 1	Scenario 2A	Scenario 2B
Croft Residential Home	High	-	Main Street (Stapenhill)	-
Riverside Care Home	High	-	Main Street (Stapenhill)	-

Receptor	Sensitivity	Highway Link Assignment		
		Scenario 1	Scenario 2A	Scenario 2B
The First Day Nursery	High	-	Rosliston Road	-
Residential dwellings fronting the carriageway along Mill Street and Church Street in Coton in the Elms	Medium	Mill Street Church Street	Mill Street Church Street	Mill Street Church Street
Residential dwellings fronting the carriageway along Main Street and Rosliston Road in Stapenhill	Medium	-	Main Street (Stapenhill) Rosliston Road	-
Retail units and businesses on A5121 / A5189 in Burton on Trent	Medium	-	A5121 A5189	-
Public Right of Way Route 9	Medium	Walton Road Temporary Construction Haul Road	Walton Road Temporary Construction Haul Road	
Retail units and businesses at Ventura Retail Park, Tamworth	Medium	-	A513	A513

Receptor	Sensitivity	Highway Link Assignment		
		Scenario 1	Scenario 2A	Scenario 2B
Retail and businesses along Main Street and Rosliston Road in Stapenhill	Medium	-	Main Street (Stapenhill) Rosliston Road	-
Air Quality Management Area (AQMA), St Peters roundabout, Stapenhill	Medium	-	A5189 Main Street (Stapenhill)	-
Collision clusters	Medium	Walton-on-Trent Bypass Walton Road Main Street (Walton) Mill Street Church Street	A5121 A5189 Main Street (Stapenhill) Rosliston Road Mill Street Church Street Coalpit Lane A513 Unnamed Road (Between A513 and Church Street)	Mill Street Church Street Coalpit Lane A513 Unnamed Road (Between A513 and Church Street)

Receptor	Sensitivity	Highway Link Assignment		
		Scenario 1	Scenario 2A	Scenario 2B
Parked vehicles on-street along Mill Street and Church Street in Coton in the Elms	Low	Mill Street Church Street	Mill Street Church Street	Mill Street Church Street
Residential dwellings set back from the road along the A513 in Tamworth	Low	-	A513	A513
National Memorial Arboretum	Low (High during events)	-	A513	A513
Catton Hall	Low (High during events)	-	Unnamed Road (Between A513 and Church Street)	Unnamed Road (Between A513 and Church Street)
Local Farms set back from the highway	Very Low	Walton Road Main Street (Walton) Coton Road Coalpit Lane	Coton Road Coalpit Lane A513	Coton Road Coalpit Lane A513

Scenario 1 – Preferred

10.173 **Table 10.17** sets out the highway links impacted by Scenario 1, alongside their sensitive receptors.

Table 10.17: Scenario 1 Highway Link and Sensitive Receptor Assignment

Highway Link	Receptor Identified	Sensitivity of Receptor
Walton-on-Trent Bypass	None Identified	N/A
Walton Road	PRoW Route 9	Medium
	Collision Clusters	Medium
	Local farms set back from the highway	Very Low
Main Street (Walton)	PRoW Route 9	Medium
	Collision Clusters	Medium
	Local farms set back from the highway	Very Low

10.174 The level of impact of the Proposed Development construction traffic on the baseline flows are presented in **Table 10.18**.

Table 10.18: Scenario 1 Construction Traffic Impact

Highway Link	ATC Site	Future Baseline (2026 AAWT)			Development Construction Trips (average daily)			Percentage Impact of construction trips		
		Light vehicles	Heavy vehicles	Total	Light vehicles	Heavy vehicles	Total	Light vehicles	Heavy vehicles	Total
Walton-on-Trent Bypass	-	13,662	81	13,743	67	14	81	<1%	17%	<1%
Walton Road	2	6,781	80	6,862	67	14	81	1%	18%	1%
Main Street (Walton)	11	6,444	56	6,500	67	14	81	1%	25%	1%

Severance of communities

10.175 Based on the level of impact of the Proposed Development construction traffic resulting in a below 1% increase on baseline flows, the magnitude of severance on the Walton-on-Trent Bypass will be Negligible.

10.176 The total level of impact of the total Proposed Development construction traffic on baseline traffic flows on Walton Road and Main Street will be an increase of 1%. The level of Heavy vehicle impact is 18% and 25% on Walton Road and Main Street, respectively, which is largely due to the already relatively low number of Heavy vehicles that currently use the two links in comparison to overall traffic levels. Farms situated away from the highway on Main Street and Walton Road, will experience a negative severance impact as a result of general construction traffic given the level of increase on baseline flows being under 30%.

10.177 Based on professional judgement and considering the assessment criteria, the magnitude of severance impact on Walton Road and Main Street will be Minor (negative).

Road vehicle driver and passenger delay

10.178 The addition of construction vehicle traffic will not cause significant delay to the existing traffic on the Bypass given the purpose and design of the road will be to carry larger volumes of traffic, including Heavy vehicles. As the level of Proposed Development construction traffic impact will be below 1% of the baseline levels in 2026, the magnitude of impact on vehicle driver and passenger delay will be Negligible.

10.179 Once vehicles enter Main Street and Walton Road, there will be some minor delays to vehicle drivers and passengers to allow for construction vehicles accessing and egressing at the northern access of the Site. Based on professional judgement, the magnitude of impact on vehicle driver and passenger delay on both Walton Road and Main Street will be Minor (negative).

Non-motorised user delay

10.180 The Bypass will join Main Street to the north of Walton-on-Trent. At this stage it is not known how non-motorised users will be catered for by the future bridge however this is likely to be a requirement for the design. Considering this, the magnitude of impact on non-motorised user delay on the Bypass will be Negligible.

10.181 Main Street leading to Walton Road are both rural in nature and connect to the proposed northern access of the Site. Both roads do not currently have footways or crossing points to facilitate pedestrian movements. Given there will be a negligible impact on vehicle driver and passenger delay, there will not be a significant impact on non-motorised user delay. On this basis, the magnitude of impact on non-motorised user delay on both Walton Road and Main Street will be Negligible.

Non-motorised amenity

10.182 It is unclear at this stage whether the design of the Walton-on-Trent Bypass will incorporate footway or cycle infrastructure. However, it is likely that pedestrians and cyclists will choose to use Station Lane to access facilities in Walton-on-Trent given there are no pedestrian footways or designated cycle lanes along Main Street and Walton Road. Should this not be the case, and footways and cycle infrastructure are provided on the Bypass, the below 1% increase in baseline flows as a result of the Proposed Construction Traffic will still mean no significant impact will be seen on non-motorised amenity. On this basis, the magnitude of impact on non-motorised amenity on the Bypass will be Negligible.

10.183 There are no existing pedestrian footways or designated cycle lanes on Main Street and Walton Road, which is not expected to change once the construction phase commences in 2026. However, PRoW Route 9 intersects the Site from Walton Road heading south across Park farm, running alongside the temporary construction haul road. This will cause an impact on the visual amenity as well an increase in traffic noise as a result of the construction traffic. On this basis, the magnitude of impact on Non-motorised amenity on Walton Road will be Moderate (negative), whereas on Main Street it will be Negligible.

10.184 Within the Site, PRoW 9 routes adjacent to the proposed Temporary Construction Haul Road and therefore will experience some reduction in amenity regarding noise and visual impact of construction vehicles. Based on this the magnitude of impact on non-motorised amenity on the Temporary Construction Haul Road will be Moderate (negative). Further analysis of PRoWs is detailed in ES **Chapter 12: Socio-Economics, Tourism and Recreation**

Fear and intimidation on and by road users

10.185 The Proposed Development construction traffic generates a Degree of Hazard score of 20 based on the calculation previously set out in **Table 10.3**. The baseline Degree of Hazard

score for fear and intimidation on the assessed highway links is presented in **Table 10.19**. The figures shown in brackets are the Degree of Hazard scores assigned for the values given. These combine to give the overall Degree of Hazard score for the link.

Table 10.19: Scenario 1 Baseline Fear and Intimidation

Highway Link	Average 18-hour traffic flow (all vehicles per hour two-way)	Total 18-hour Heavy vehicle flow	Average vehicle speed	Degree of Hazard score
Walton-on-Trent Bypass	13,107 (30)	77 (0)	40 (20)	50 (Great)
Walton Road	6,477 (30)	77 (0)	50 (30)	60 (Great)
Main Street (Walton)	6,207 (30)	54 (0)	50 (30)	60 (Great)

10.186 As the Proposed Development construction traffic does not cause a step change from the baseline Degree of Hazard score on the highway links, this results in a Negligible magnitude of impact.

Road user and pedestrian safety

10.187 The magnitude of impact on road user and pedestrian safety, as determined by the size of a PIC cluster on the assessed highway link in Scenario 1 is detailed in **Table 10.20**.

Table 10.20: Scenario 1 Personal Injury Collision Clusters

Highway Link	Number of PIC clusters identified	PC Cluster Size	Magnitude of Impact
Walton-on-Trent Bypass	Not available	Not available	Negligible
Walton Road	2	0-3	Negligible
Main Street	3	0-3	Negligible

10.188 As the Walton-on-Trent Bypass is yet to be built, there is no collision data to provide a baseline from which to assess the magnitude of impact on road user and pedestrian safety. As part of the design process, Road Safety Audits are expected to be undertaken to ensure that the design is safe and to acceptable standards as judged by the relevant Highway Authority. The magnitude of impact on road user and pedestrian safety on the Bypass will be Negligible.

10.189 The number of collisions recorded on the remaining highway links indicates that there are no inherent highway safety issues. Given the maximum impact of construction traffic is 2% of baseline flows, there will not be a negative effect on road user and pedestrian safety and will therefore be Negligible.

Hazardous / large loads

10.190 All standard construction vehicle movements will be undertaken in vehicles of a size and load capacity standard for UK roads; therefore, the effect will be Negligible. The effects of the AIL movements are assessed separately from paragraph **10.266**. The AIL movements do not use the links identified in this scenario.

Scenario 1 Preferred – Summary of Effects

10.191 Considering the significance matrix presented in **Table 10.8**, the significance of effect for Scenario 1 without mitigation has been summarised in **Table 10.30**.

10.192 The Proposed Development construction traffic within Scenario 1 will have an overall effect of negative significance on the majority of sensitive receptors within the Site study area. From the assessment presented above, there will be between a **negligible (not significant)** and **moderate (negative) (significant)** effect on assessed environmental receptors..

Scenario 2A – Likely

10.193 **Table 10.21** sets out the highway links impacted by Scenario 2A, alongside their sensitive receptors.

Table 10.21: Scenario 2A Highway Link and Sensitive Receptor Assignment

Highway Link	Receptor Identified	Sensitivity of Receptor
Main Street (Stapenhill)	Croft Residential Home	High
	Riverside Residential Home	High
	Retail and businesses along Main Street in Stapenhill	Medium
	Residential dwellings fronting the carriageway along Main Street in Stapenhill	Medium
	Collision Clusters	Medium
Rosliston Road	The First Day Nursery	High
	Retail and businesses along Rosliston Road in Stapenhill	Medium
	Residential dwellings fronting the carriageway along Rosliston Road in Stapenhill	Medium

Highway Link	Receptor Identified	Sensitivity of Receptor
	Collision Clusters	Medium
A5121	Retail units and businesses on A5121 in Burton on Trent	Medium
	Collision Clusters	Medium
A5189	Retail units and businesses on A5189 in Burton on Trent	Medium
	Air Quality Management Area (AQMA), St Peters roundabout, Stapenhill	Medium
Walton Road	PRoW Route 9	Medium
	Collision Clusters	Medium
	Local farms set back from the highway	Medium
Temporary Construction Haul Road	PRoW Route 9	Medium
A513	Retail units and businesses at Ventura Retail Park, Tamworth	Medium
	Collision Clusters	Medium
	National Memorial Arboretum	Low

Highway Link	Receptor Identified	Sensitivity of Receptor
	Local farms set back from the highway	Very Low
Unnamed Road (Between A513 and Church Street)	Collision Clusters	Medium
	Catton Hall	Low
Mill Street	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium
	Collision Clusters	Medium
	Parked vehicles on-street along Mill Street in Coton in the Elms	Low
Church Street	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium
	Collision Clusters	Medium
	Parked vehicles on-street along Church Street in Coton in the Elms	Low
Coton Road / Coalpit Lane	Collision Clusters	Medium
	Local farms set back from the highway	Very Low

10.194 The level of impact of the Proposed Development construction traffic on the baseline flows are presented in **Table 10.22**.

Table 10.22: Scenario 2A Construction Traffic Impact

Highway Link	ATC / DfT Site	Future Baseline (2026 AAWT)			Development Construction Trips (average daily)			Percentage Impact		
		Light vehicles	Heavy vehicles	Total	Light vehicles	Heavy vehicles	Total	Light vehicles	Heavy vehicles	Total
A5121	99873	14,225	859	15,083	17	14	31	<1%	2%	<1%
A5189	48293	31,397	1,058	32,454	17	14	31	<1%	1%	<1%
Rosliston Road (Stapenhill)	1	14,453	486	14,939	17	14	31	<1%	3%	<1%
Walton Road	2	6,781	80	6,862	17	14	31	<1%	18%	<1%

Highway Link	ATC / DfT Site	Future Baseline (2026 AAWT)			Development Construction Trips (average daily)			Percentage Impact		
		Light vehicles	Heavy vehicles	Total	Light vehicles	Heavy vehicles	Total	Light vehicles	Heavy vehicles	Total
Main Street (Stapenhill)	1	14,453	486	14,939	17	14	31	<1%	3%	<1%
A513	10	5,329	176	5,505	17	-	17	<1%	-	<1%
Unnamed Road (Between A513 and Church Street)	7	2,678	49	2,727	33	-	33	1%	-	1%

Highway Link	ATC / DfT Site	Future Baseline (2026 AAWT)			Development Construction Trips (average daily)			Percentage Impact		
		Light vehicles	Heavy vehicles	Total	Light vehicles	Heavy vehicles	Total	Light vehicles	Heavy vehicles	Total
Mill Street	13	1,698	16	1,714	17	-	17	1%	-	1%
Church Street	13	1,698	16	1,714	17	-	17	1%	-	1%
Coalpit Lane	13	1,698	16	1,714	17	-	17	1%	-	1%
Coton Road	5	1,023	19	1,041	50	-	50	5%	-	5%

Severance of communities

10.195 With specific assessment of severance of communities, the A5121 and A5189 are both key strategic routes that carry large volumes of daily traffic. Both carriageways are designed to cater for both Light vehicles and Heavy vehicles to provide access into frontages and to retail stores and business parks. Similarly, multiple crossing points along the extent of the highways facilitate pedestrian movement and priority when accessing local retail and businesses.

10.196 Considering this, and that the total level of construction traffic impact on these highway links will be below 1%, the magnitude of impact on severance on the A5121 and A5189 will be Negligible.

10.197 Main Street links to Rosliston Road through Stapenhill heading south towards the Site. Both roads provide access to local residential frontages and some small businesses, catering for both Light vehicles and Heavy vehicles. Both roads operate a 30mph speed limit and have speed management in place in the form of speed bumps along the extent of the route.

10.198 There are three designated crossing points along Main Street and Rosliston Road: a Zebra crossing on Main Street towards the roundabout junction with the A5189, a Zebra crossing on Rosliston Road north of the junction with Bramble Close, and a Toucan crossing facility north of the junction with Fyfield Road.

10.199 The increase in traffic along Main Street and Rosliston Road will be below 1% however, the communities along both may experience some negative effect on severance given the small number of crossing points along the one-mile stretch of route. Using both the qualitative assessment criteria set out in paragraph **10.69**, and a degree of professional judgement when considering the speed management along the road, the magnitude of impact on severance on both Main Street and Rosliston Road will be Minor (negative).

10.200 The magnitude of impact on severance on Walton Road will be Negligible considering the level of construction traffic impact is 1%. It is a rural route with a lack of pedestrian footways and/or residential properties or businesses fronting onto the carriageway.

10.201 The A513 is an A road providing access to Ventura Retail Park for both Light vehicles and Heavy vehicles with dedicated pedestrian crossing facilities present to allow for pedestrian accessibility. Upon leaving the centre of Tamworth, the construction traffic will pass a number of residential properties fronting the carriageway before becoming a more rural route heading north towards the Site with minimal pedestrian footways and crossing points.

10.202 The proposed level of traffic impact on the A513 will be below 1% and therefore will be indistinguishable from the baseline level of traffic. Considering the route as a whole, the magnitude of impact on severance along the A513 will be Negligible.

10.203 Residential properties fronting onto Church Street and Mill Street in Coton in the Elms will not experience a significant driver and passenger delay, however, there will be a strong sensitivity to any additional construction traffic within Coton in the Elms given it is a rural community. Therefore, drawing on professional judgement, the magnitude of impact on Church Street and Mill Street will be Minor (negative).

10.204 The level of construction traffic movements along Coton Road and Coalpit Lane will not cause a negative impact on severance given this is a largely rural route. The magnitude of impact on severance on Coton Road and Coalpit Lane will be Negligible.

Road vehicle driver and passenger delay

10.205 The A5189 and A5121 experience large traffic flows each day. Given the level of impact of construction traffic is below 1% of baseline flows, the magnitude of impact on vehicle driver and passenger delay on both A5189 and A5121 will be Negligible.

10.206 The impact of construction traffic on Main Street and Rosliston road is 1% of the baseline conditions. However, as mentioned in paragraph **10.197**, both roads operate a 30mph speed limit with speed bumps located along the entire length of the route. Additionally, a site visit undertaken of all the construction vehicle routes on 13th April 2023 identified some on-street parking on certain sections of the route.

10.207 Using the assessment criteria along with a degree of professional judgement, the magnitude of impact on driver and passenger delay on Main Street and Rosliston Road will be Moderate (negative) during the peak AM and PM midweek periods, and during school drop-off and pick-up times.

10.208 On Walton Road, there will be a negative impact on vehicle drivers and passengers delay to allow for construction vehicles accessing and egressing at the Park Farm access. Therefore, and based on professional judgement, the magnitude of impact on vehicle driver and passenger delay on Walton Road is expected to be Minor (negative).

10.209 The level of construction traffic along the A513 will not cause a negative impact on vehicle driver and passenger delay to sensitive receptors within Tamworth. However, on days where events take place at the National Memorial Arboretum, it is expected that construction

traffic and event traffic will use the same routes. On this basis, and using a degree of professional judgement, the magnitude of impact on vehicle and passenger delay will be Minor (negative) during non-event days and Moderate (negative) during event days.

10.210 Similar to the A513, considering event traffic at Catton Hall that will use the same route, the magnitude of impact on the unnamed road between A513 and Church Street will be Minor (negative) during non-event days and Moderate (negative) during event days.

10.211 The level of construction traffic impact on Church Street and Mill Street will not cause a negative impact on vehicle driver and passenger delay and therefore the magnitude of impact will be Negligible.

10.212 The level of traffic movements along Coton Road and Coalpit Lane will not cause a negative impact on vehicle driver and passenger delay given this is a largely rural route and only receives a maximum 5% level of impact compared to baseline flows. The magnitude of impact on vehicle driver and passenger delay on Coton Road and Coalpit Lane will be Negligible.

Non-motorised user delay

10.213 Both the A5189 and A5121 provide crossing opportunities and footways to cater for pedestrian accessibility along the extent of their routes. The A5121 benefits from a designated off-road cycle route along the entirety of its length up to the A5189 on both sides of the carriageway. The A5189 has a designated shared cycle route up to the junction with Allsopp Road with no designated off-road route up to the St Peters Bridge.

10.214 Considering the above, along with the assessment criteria set out in paragraph **10.74**, the magnitude of impact on non-motorised user delay on the A5121 will be Negligible, whilst on the A5189 it will be Minor (negative).

10.215 The magnitude of impact on non-motorised user delay will be Minor (negative) on both Main Street and Rosliston Road considering the potential for obstruction of cyclists manoeuvring around parked cars, no designated cycle facilities, and limited crossing points. Given there will be a presence of Heavy vehicles here, this will cause greater impact on delay to cyclists given they are likely to be more cautious.

10.216 Walton Road does not have any footways or crossing points to facilitate pedestrians. Additionally, given there will be a negligible impact on vehicle driver and passenger delay, in context there will not be a negative impact on non-motorised users on the carriageway as a

result of queueing traffic. On this basis, the magnitude of impact on non-motorised user delay on Walton Road will be Negligible.

10.217 There will be below 1% impact on baseline flows on the A513 with all of these coming from Light vehicles, coupled with the fact there are multiple crossing points and footways to facilitate pedestrian movements. The majority of the route north of Tamworth is rural in nature with no pedestrian footway and cycle ways provided. On this basis, the magnitude of impact on non-motorised user delay on the A513 will be Negligible.

10.218 The level of construction traffic over the course of the construction phase will not have a significant negative impact on non-motorised user delay on Church Street or Mill Street. Therefore, the magnitude of impact will be Negligible. Similarly, there will not be a significant negative impact on Coton Road or Coalpit, therefore the magnitude of impact will also be Negligible.

Non-motorised amenity

10.219 Construction traffic will be relatively indistinguishable from the baseline traffic flows on the A5121 and A5189 and therefore the magnitude of impact on non-motorised amenity on these links will be Negligible.

10.220 Similarly, on Main Street and Rosliston Road, which is subject to a 30mph speed limit and speed management along the extent of its route, the additional construction traffic will not cause a significant negative impact on non-motorised amenity. On this basis, the magnitude of impact on Main Street and Rosliston Road will be Negligible.

10.221 There will be an impact on the visual amenity as well an increase in traffic noise (see **Chapter 11: Noise**) as a result of the construction traffic on Walton Road. On this basis, the magnitude of impact on Non-motorised amenity will be Moderate (negative).

10.222 Within the Site, PRoW 9 routes adjacent to the proposed Temporary Construction Haul Road and therefore will experience some reduction in amenity regarding noise and visual impact of construction vehicles. Based on this the magnitude of impact on non-motorised amenity on the Temporary Construction Haul Road will be Moderate (negative). Further analysis of PRoWs is detailed in ES **Chapter 12: Socio-Economics, Tourism and Recreation**

10.223 The magnitude of impact on non-motorised amenity on the A513 will be Negligible, given there will be no Heavy vehicles routing along here, and there will be a below 1% increase on baseline traffic flows.

10.224 Considering the sensitivity of Coton in the Elms the addition of construction traffic will cause some negative effect on non-motorised amenity. Although the level of traffic impact falls below the 30% traffic impact threshold in the assessment criteria, using a degree of professional judgement, the magnitude of impact on these links will be Minor (negative).

10.225 Given there are no existing pedestrian footway or cycle routes along Coalpit Lane and Coton Road, the magnitude of impact on these will be Negligible.

Fear and intimidation on and by road users

10.226 The Proposed Development construction traffic generates a Degree of Hazard score of 20 based on the calculation previously set out in **Table 10.3**.

10.227 The baseline Degree of Hazard score for fear and intimidation on the assessed highway links is presented in **Table 10.23**. The figures shown in brackets are the Degree of Hazard scores assigned for the values given. These combine to give the overall Degree of Hazard score for the link.

Table 10.23: Scenario 2A Baseline Fear and Intimidation

Highway Link	Average 18-hour traffic flow (all vehicles per hour two-way)	Total 18-hour Heavy vehicle flow	Average vehicle speed	Degree of Hazard score
A5121	14,489 (30)	808 (0)	40 (20)	50 (Great)
A5189	31,175 (30)	995 (0)	40 (20)	50 (Great)
Main Street	14,351 (30)	441 (0)	26 (10)	40 (Moderate)
Rosliston Road	14,351 (30)	441 (0)	26 (10)	40 (Moderate)
Walton Road	6,536 (30)	77 (0)	50 (30)	60 (Great)
A513	4,865 (30)	143 (0)	54 (30)	60 (Great)

Highway Link	Average 18-hour traffic flow (all vehicles per hour two-way)	Total 18-hour Heavy vehicle flow	Average vehicle speed	Degree of Hazard score
Unnamed Road (Between A513 and Church Street)	2,657 (30)	46 (0)	49 (30)	60 (Great)
Mill Street / Church Street	1,496 (20)	14 (0)	48 (30)	50 (Great)
Coalpit Lane	1,496 (20)	14 (0)	48 (30)	50 (Great)
Coton Road	1,014 (20)	18 (0)	44 (30)	50 (Great)

10.228 As the Proposed Development construction traffic does not cause a step change from the baseline Degree of Hazard score on the highway links, this results in a Negligible magnitude of impact.

10.229 Without mitigation, on event days at Catton Hall, the Unnamed Road (Between A513 and Church Street) is likely to see a slight increase in fear and intimidation due to a greater volume of vehicular traffic. On this basis, it is expected to see a Minor (negative) impact.

Road user and pedestrian safety

10.230 The magnitude of impact on road user and pedestrian safety, as determined by the size of a PIC cluster on the assessed highway links is detailed in **Table 10.24**.

Table 10.24: Scenario 2A Personal Injury Collision Clusters

Highway Link	Number of PIC clusters identified	PC Cluster Size	Magnitude of Impact
A5189	2	0-3	Negligible
A5121	3	7-9	Moderate
Walton Road	2	0-3	Negligible
Main Street	1	7-9	Moderate
Rosliston Road	2	7-9	Moderate
A513	2	10+	Major
Unnamed Road (Between A513 and Church Street)	0	0-3	Negligible
Mill Street / Church Street	0	0-3	Negligible
Coalpit Lane	0	0-3	Negligible
Coton Road	0	0-3	Negligible

10.231 The clusters with the highest number of PICs are recorded on the A513. These clusters involve more than 10 PICs and include two fatal accidents across the recorded six-year period. Given the small impact on baseline flows, the magnitude of impact of the Proposed Development construction traffic, is expected to create a Minor (negative), which will be reduced further within mitigation.

10.232 There are some collision clusters situated on the A5121 / Main Street and Rosliston Road where there are more than seven PICs recorded. Therefore, it is considered that the Proposed Development construction traffic will have a Minor (negative) impact on these locations given the small impact on baseline flows.

10.233 There was a single fatal accident recorded on St Peters Bridge, however this was a standalone PIC and therefore it is not considered that there is an inherent safety issue at this location on the A5189. This and other locations will experience a Negligible impact.

10.234 On event days, there could be an increased risk to road user and pedestrian safety and therefore there would be a Minor (negative) impact on the Unnamed Road (Between A513 and Church Street).

Hazardous / large loads

10.235 All standard construction vehicle movements will be undertaken in vehicles of a size and load capacity standard for UK roads; therefore, the effect will be Negligible. The effects of the AIL movements are assessed separately from paragraph **10.266**. The AIL movements do not use the links identified in this scenario.

Scenario 2A Likely - Summary of Effects

10.236 Considering the significance matrix presented in **Table 10.8**, the significance of effect for Scenario 2A without mitigation has been summarised in **Table 10.31**. The Proposed Development construction traffic within Scenario 2A will have an overall negative significance of effect on the majority of sensitive receptors within the Site study area. From the assessment presented above, there will be between a **negligible (not significant)** and **moderate (negative) (significant)** effect on assessed environmental receptors.

10.237 Whilst Scenario 2A passes more sensitive receptors compared to Scenario 1, the dispersal of construction traffic across routes has the benefit of diluting the impact and therefore reducing the magnitude and significance of effects.

Scenario 2B – Back-up

10.238 **Table 10.25** sets out the highway links impacted by Scenario 2B, alongside their sensitive receptors.

Table 10.25: Scenario 2B Highway Link and Sensitive Receptor Assignment

Highway Link	Receptor Identified	Sensitivity of Receptor
A513	Retail units and businesses at Ventura Retail Park, Tamworth	Medium
	Collision Clusters	Medium
	National Memorial Arboretum	Low (High during events)
	Local farms set back from the highway	Very Low
Unnamed Road (Between A513 and Church Street)	Collision Clusters	Medium
	Catton Hall	Low (High during events)
Mill Street	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium
	Collision Clusters	Medium
	Parked vehicles on-street along Mill Street in Coton in the Elms	Low
Church Street	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium
	Collision Clusters	Medium

	Parked vehicles on-street along Church Street in Coton in the Elms	Low
Coton Road / Coalpit Lane	Collision Clusters	Medium
	Local farms set back from the highway	Very Low

10.239 The level of impact of the Proposed Development construction traffic on the baseline flows are presented in **Table 10.26**.

Table 10.26: Scenario 2B Construction Traffic Impact

Highway Link	ATC / DfT Site	Future Baseline (2026 AAWT)			Development Construction Trips (average daily)			Percentage Impact		
		Light vehicles	Heavy vehicles	Total	Light vehicles	Heavy vehicles	Total	Light vehicles	Heavy vehicles	Total
Mill Street	13	1,698	16	1,714	22	14	36	1%	87%	2%
Church Street	13	1,698	16	1,714	22	14	36	1%	87%	2%
Coalpit Lane	13	1,698	16	1,714	22	14	36	1%	87%	2%
Coton Road	5	1,023	19	1,041	67	14	80	7%	76%	8%
A513	10	5,329	176	5,505	22	-	-	<1%	-	<1%
Unnamed Road (Between	7	2,678	49	2,727	44	-	44	1%	-	2%

Highway Link	ATC / DfT Site	Future Baseline (2026 AAWT)			Development Construction Trips (average daily)			Percentage Impact		
		Light vehicles	Heavy vehicles	Total	Light vehicles	Heavy vehicles	Total	Light vehicles	Heavy vehicles	Total
A513 and Church Street)										

Severance of communities

10.240 The proposed level of traffic impact on the A513 will be below 1% and therefore will be indistinguishable from the baseline level of traffic, therefore the magnitude of impact on severance along the A513 will be Negligible.

10.241 The Unnamed Road between A513 and Church Street will experience a confluence of Light vehicle flows (44 vehicles) from the construction route originating at the A38 Alrewas, and the construction route coming from Tamworth. This will create a total impact of 2% on baseline traffic flows. This is a largely rural route, with a lack of community facilities, pedestrian footways and cycleways. On this basis, the magnitude of impact on the Unnamed Road between the A513 and Church Street will be Negligible.

10.242 Mill Street and Church Street will experience construction traffic from both Heavy vehicles and Light vehicles which will have a negative effect on the communities at Coton in the Elms. The community of Coton in the Elms will experience an increased magnitude of impact on severance. Whilst considering the actual level of impact on baseline flows falls below the 30% assessment criteria outlined in paragraph **10.69**, using a degree of professional judgement based on the sensitivity of the rural community of Coton in the Elms, the magnitude of impact on severance on these links will be Moderate (negative).

10.243 Coalpit Lane and Coton Road are largely rural routes with no footways or community facilities along them. The magnitude of impact on severance on these links will be Negligible.

Road vehicle driver and passenger delay

10.244 The level of construction traffic impact along the A513 will be below 1% of baseline flows and will not cause a negative impact on vehicle driver and passenger delay. On days where events take place at the National Memorial Arboretum, the construction traffic and event traffic will use the same routes. Therefore, the magnitude of impact on vehicle and passenger delay will be Minor during non-event days and Moderate (negative) during event days.

10.245 Similar to the A513, considering the event traffic at Catton Hall that will use the same route, the magnitude of impact on the unnamed road between A513 and Church Street will be Minor during non-event days and Moderate (negative) during event days.

10.246 Residential properties fronting onto Church Street and Mill Street in Coton in the Elms will experience a small level of driver and passenger delay, along with farming activities on Coton Road and Coalpit Lane due to an increase in Heavy vehicle movements.

10.247 Using a degree of professional judgement, the magnitude of impact on road vehicle driver and passenger delay on Church Street, Mill Street, Coton Road and Coalpit Lane will be Minor (negative).

Non-motorised user delay

10.248 The overall level of impact on the A513 will be below 1% of baseline flows. There are multiple crossing points and footways to facilitate pedestrian movement within Tamworth, meaning construction traffic will not cause significant non-motorised user delay. On this basis, the magnitude of impact on non-motorised user delay on the A513 will be Negligible.

10.249 Given there are no footways, crossing facilities and cycleways on the Unnamed Road between the A513 and Church Street, nor are there any facilities that will typically encourage non-motorised user travel, the magnitude of impact on non-motorised user delay on this link will be Negligible.

10.250 The level of construction traffic using Mill Street and Church Street will not cause a significant level of non-motorised user delay. Baseline flows through Mill Street and Church Street are low in comparison to the wider local road network, and the level of impact of the construction traffic will be 2%. Overall, the magnitude of impact on non-motorised user delay on Church Street and Mill Street will be Negligible.

10.251 The magnitude of impact on non-motorised user delay on Coton Road and Coalpit Lane will be Negligible.

Non-motorised amenity

10.252 The magnitude of impact on non-motorised amenity on the A513 will be negligible. Given there will be no Heavy vehicles routing on this link, and there will be a below 1% increase in baseline flows, for non-motorised users, the construction traffic will be indistinguishable from baseline traffic. Similarly, on the Unnamed Road between the A513 and Church Street, this will remain as Negligible given there are no existing designated non-motorised infrastructure that facilitates non-motorised user trips during the baseline.

10.253 The increase in general construction traffic on Mill Street and Church Street, including the routing of Heavy vehicles on these links, will cause a negative impact on Non-motorised amenity given the sensitivity of Coton in the Elms. Therefore, the magnitude of impact on non-motorised amenity on Church Street and Mill Street will be Minor (negative).

10.254 Given there is no existing non-motorised infrastructure along Coalpit Lane and Coton Road that facilitates existing non-motorised user trips, the magnitude of impact on these will be Negligible.

Fear and intimidation on and by road users

10.255 The Proposed Development construction traffic generates a Degree of Hazard score of 20 based on the calculation previously set out in **Table 10.3**. The baseline Degree of Hazard score for fear and intimidation on the assessed highway links is presented in **Table 10.27**. The figures shown in brackets are the Degree of Hazard scores assigned for the values given. These combine to give the overall Degree of Hazard score for the link.

Table 10.27: Scenario 2B Baseline Fear and Intimidation

Highway Link	Average 18-hour traffic flow (all vehicles per hour two-way)	Total 18-hour Heavy vehicle flow	Average vehicle speed	Degree of Hazard score
A513	4,865 (30)	143 (0)	54 (30)	60 (Great)
Unamend Road (Between A513 and Church Street)	2,657 (30)	46 (0)	49 (30)	60 (Great)
Mill Street / Church Street	1,496 (20)	14 (0)	48 (30)	50 (Great)
Coalpit Lane	1,496 (20)	14 (0)	48 (30)	50 (Great)
Coton Road	1,014 (20)	18 (0)	44 (30)	50 (Great)

10.256 As the Proposed Development construction traffic does not cause a step change from the baseline Degree of Hazard score on the highway links, this results in a Negligible magnitude of impact.

10.257 The IEMA guidelines allows for a degree of professional judgement when special consideration is required when assessing fear and intimidation in particular areas. Given Coton in the Elms will be sensitive to an increase in construction traffic, especially Heavy vehicle movements, and based on issues raised during the consultation process, the magnitude of impact on fear and intimidation on Mill Street and Church Street has been increased to Minor (negative) to reflect this.

10.258 Without mitigation, on event days at Catton Hall, the Unnamed Road (Between A513 and Church Street) is likely to see a slight increase in fear and intimidation due to a greater volume of vehicular traffic. On this basis, it is expected to see a Minor (negative) impact.

Road user and pedestrian safety

10.259 The magnitude of impact on road user and pedestrian safety, as determined by the size of a PIC cluster on the assessed highway link in Scenario 2B is detailed in **Table 10.28**.

Table 10.28: Scenario 2B Personal Injury Collision Clusters

Highway Link	Number of PIC clusters identified	PC Cluster Size	Magnitude of Impact
A513	2	10+	Major
Unnamed Road (Between A513 and Church Street)	0	0-3	Negligible
Mill Street / Church Street	0	0-3	Negligible
Coalpit Lane	0	0-3	Negligible

Coton Road	0	0-3	Negligible

10.260 The clusters with the highest number of PICs are recorded on the A51 / A513. These clusters involve more than 10 PICs and include two fatal accidents across the recorded six-year period. Given the small impact on baseline flows, the magnitude of impact of the Proposed Development construction traffic is expected to create a Minor (negative) impact.

10.261 The level of collisions recorded on the remaining highway links indicates that there are no inherent highway safety issues. There will not be a negative effect on road user and pedestrian safety and the magnitude will therefore be Negligible.

Hazardous / large loads

10.262 All standard construction vehicle movements will be undertaken in vehicles of a size and load capacity standard for UK roads; therefore, the effect will be Negligible. The effects of the AIL movements are assessed separately from paragraph **10.266**. The AIL movements do not use the links identified in this scenario.

Scenario 2B Back-up - Summary of Effects

10.263 Considering the significance matrix presented in **Table 10.8**, the significance of effect for Scenario 2B without mitigation has been summarised in **Table 10.32**.

10.264 Scenario 2B sees an increase in construction vehicle trips on more rural routes, were the Likely routing through Burton on Trent and Stapenhill be unavailable. The main highway links that will experience the most significant negative effects will be along Mill Street and Church Street within Coton in the Elms as this will carry an increased number of Light Vehicles and Heavy vehicles.

10.265 From the assessment presented above, there will be between a **negligible (not significant)** and **moderate (negative) (significant)** effect on assessed environmental receptors.

AIL Movements

10.266 **Table 10.29** sets out the highway links impacted by the AIL Movements, alongside their sensitive receptors.

Table 10.29: AIL Movements Highway Link and Sensitive Receptor Assignment

Highway Link	Receptor Identified	Sensitivity of Receptor
Mill Street	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium
	Collision Clusters	Medium
	Parked vehicles on-street along Mill Street in Coton in the Elms	Low
Church Street	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium
	Collision Clusters	Medium
	Parked vehicles on-street along Church Street in Coton in the Elms	Low
Coton Road / Coalpit Lane	Collision Clusters	Medium
	Local farms set back from the highway	Very Low

10.267 Given there will only be up to two movements over the construction phase, the quantitative assessment criteria do not necessarily allow for a realistic assessment of the impact of the AIL movement, given its size and complexity to manoeuvre over general construction traffic. On this basis, there is a considerable degree of professional judgement when determining the overall impact on an environmental impact.

Severance of communities

10.268 For residential properties fronting onto Church Street and Mill Street in Coton in the Elms, temporary severance will result from the AIL movement. This will be due to road closures for parts of the day which may limit a resident's ability to travel outside of the village and to access local services. This will also be the case for farms located off Coton Road and Coalpit Lane where farming vehicle activities may be impacted.

10.269 Considering the movement will only be for a certain period of the day, it is expected that the magnitude of impact on severance on Church Street and Mill Street will be Minor (negative). On Coton Road and Coalpit Lane which are more rural highways with a lack of footways, crossing points or community facilities located along their length, the expected magnitude of impact will be Negligible (negative).

Road vehicle driver and passenger delay

10.270 Residential properties fronting onto Church Street and Mill Street in Coton in the Elms along with farming activities on Coton Road and Coalpit Lane, are likely to experience some level of driver and passenger delay on the days of the AIL movements due to road closures.

10.271 The nature of the highway network means that in the majority of instances, alternative routes are available to reach destinations therefore effects will only be experienced acutely in the vicinity of the AIL. Considering this, it is expected that the magnitude of impact on road vehicle driver and passenger delay on Church Street, Mill Street, Coalpit Lane, and Coton Road will be Minor (negative).

Non-motorised user delay

10.272 During the AIL movements, the road closures may cause some delay to cyclists using Church Street and Mill Street. Mitigation measures such as kerb and verge reinforcements where the AIL may overrun could cause some minor pedestrian delay. Overall, the magnitude of impact on non-motorised user delay on Church Street and Mill Street is expected to be Minor (negative).

10.273 Given there are no footways or cycle facilities along the majority of Coalpit Lane and Coton Road, it is expected the magnitude of impact on non-motorised user delay will be Negligible.

Non-motorised amenity

10.274 The AIL movements will cause a reduction in non-motorised amenity during the time period it takes place predominantly due to the scale of the vehicle and the length of time it will take to complete manoeuvres. This is likely to cause a temporary negative impact on visual amenity of local residents. Due to the small amount of time the AIL movement will affect any single location, the magnitude of impact on non-motorised amenity on Church Street, Mill Street, Coton Road and Coalpit Lane during the time of the AIL movements is expected to be Negligible.

Fear and intimidation on and by road users

10.275 The AIL vehicle will typically be travelling well below the posted speed limit to allow for manoeuvring of bends and to avoid obstructions. It will also be escorted by the Police and be supported with additional marshals and traffic management. On this basis, the assessment criteria for fear and intimidation does not apply itself well to the assessment of an AIL movements.

10.276 Based on professional judgement, the magnitude of impact on fear and intimidation on Mill Street, Church Street, Coton Road and Coalpit Lane is expected to be Negligible. Similar movements elsewhere have attracted large crowds who have an interest and wish to observe the movements. This demonstrates a lack of fear and intimidation associated with AIL movements.

Road user and pedestrian safety

10.277 The AIL vehicle will typically be travelling well below the posted speed limit to allow for manoeuvring of bends and to avoid obstructions. It will also be escorted by the Police and be supported with additional marshals and traffic management. Any interaction with general traffic will be highly controlled and occur at low speeds.

10.278 On this basis, the magnitude of impact on Mill Street, Church Street, Coton Road and Coalpit Lane is expected to be Negligible.

Hazardous / large loads

10.279 Given there will be up two AIL movements, this is not considered a significant number that would require a specific risk and catastrophe analysis in line with IEMA guidance. Issues

associated with the AIL movements are considered across this section and therefore this criteria itself is considered to be Negligible.

AIL Movements – Summary of Effects

10.280 Considering the significance matrix presented in **Table 10.8**, the significance of effect for the AIL movements without mitigation has been summarised in **Table 10.33**. Whilst the scale of the vehicles used for the AIL movements may be greater than those used by general construction traffic, the small number of movements and limited duration in relation to the overall construction phase results in limited effect magnitude and significance.

10.281 From the assessment presented above, there will be between a **negligible (not significant)** and **minor (negative) (not significant)** effect on assessed environmental receptors.

Proposed Mitigation

10.282 The following section sets out the additional mitigation measures that will be implemented to limit the potential impact of the Proposed Development construction traffic. This will be in addition to the embedded mitigation discussed in paragraph **10.159**.

Outline Construction Traffic Management Plan

10.283 An Outline CTMP (**Appendix 10.1: Outline Construction Traffic Management Plan**) has been prepared to ensure that those sensitive receptors that experience a significance of effect greater than 'Negligible' can be reduced. The approval of the final CTMP by the Highway Authority will be secured by means of a DCO requirement. The measures within the final CTMP will include:

- Proposed construction vehicle routing that disperses construction traffic across the study area to limit the magnitude of impact on sensitive receptors.
- Temporary signage and traffic control.
- Haul road to contain internal trips within the Site.
- A booking system (Delivery Management System) will be used to ensure deliveries to the Site will be spread across the day where possible and that heavy vehicles will not meet on the local road network.

- Enforcement of 'blackout' and reduced construction vehicle movement days.
- Limited operational hours, e.g., to avoid traditional highway peak traffic hours during the AM (08:00-09:00) and PM (17:00-18:00), and school pick-up and drop off-periods.
- Core working hours between 07:00 and 19:00 on weekdays and between 08:00 and 13:00 on Saturday, arriving up to one hour before and leaving one-hour after to allow for set-up and closedown activities.
- Staggered timing of inbound and outbound construction traffic movements.
- Designated 'routing staff' to enforce construction vehicle routes and traffic management marshals at Site access points.
- Traffic Management Group to enforce and update all measures as and if necessary.
- Condition of the construction routes to Site are to be monitored throughout the construction phase with remedial works taking place as required to ensure the existing highway conditions are not exacerbated by construction vehicles.
- Information packs will be provided to all contractors with information including heavy vehicle restrictions, construction vehicle routes, traffic management protocols, good practice and standards to be adhered to.

Public Rights of Way and Permissive Paths

10.284 As part of the Proposed Development, a new permissive path will be installed across the Site to offer a new safe walking link from Lads Grave in the south of the Site to Rosliston and Walton-on-Trent via the Cross Britain Way. This will remain open throughout the 40-year life of the project (see **Chapter 12: Socio-Economics, Tourism and Recreation**).

Core working hours and Heavy vehicle restrictions

10.285 Construction traffic movements will be scheduled to occur outside of the traditional local highway network peak hours. The agreed core working hours will inherently enforce this with additional restrictions being placed on Heavy vehicle movements which will not be permitted on the local highway network at the following times:

On Sundays or on public holidays.
Between the hours of 19:00 and 07:00 (Monday to Friday).
Between 13:00 on Saturday and 07:00 on Monday.

10.286 By restricting traffic movements to outside of traditional highway network peak hours, the magnitude of impact on key highway links will be reduced for many of the environmental effects, this includes severance, road vehicle driver and passenger delay, non-motorised user delay, non-motorised amenity, road vehicle and pedestrian safety, and fear and intimidation.

10.287 It has been highlighted that there are regular national and local events held at the National Arboretum and Catton Hall to the south of Oaklands Farm. Whilst many of these events will be held at the weekend and/or on bank holidays, the final CTMP will provide mitigation to ensure that construction traffic does not impact the running of these events if they were to operate during the week or set up of events. This includes the potential for days with limited and/or restricted construction vehicle activities.

10.288 Given the low level of construction traffic, the Proposed Development will not be expected to impact on local events. If any issues are experienced, then the timing of deliveries and construction vehicle movements can be limited and/or scheduled to avoid peak arrival times, this will help to have a positive impact on road driver and passenger delay, specifically.

10.289 To limit the number of vehicle movements, material, such as soil, generated on Site will be re-used, where possible, within other areas of the Site. This is detailed further within the Soil Management Plan included within **Appendix 4.3: Construction and Environmental Management Plan**.

Delivery Management System

10.290 A Delivery Management System will be implemented to minimise the impact of Heavy vehicle traffic during the traditional local highway network peak periods. This will employ a delivery booking schedule to restrict bookings to the allocated time periods.

'Blackout' and reduced construction vehicle movement days

10.291 On days where nationally significant events are held at the National Arboretum such as memorial days and anniversaries, as well as large regional events at Catton Hall, communications with the relevant persons will be undertaken to ascertain the likely level of traffic associated with each event. Adjustment to timing of vehicle movements will be made so as to not disrupt the event traffic.

10.292 Depending on the scale and duration of the event and the traffic generated, 'blackout days' will be considered whereby all construction traffic to the Site will halt. Any adjustments to

the timing of vehicle movements will be subject to consultation with the National Arboretum, Catton Hall, SCC and DCC.

Temporary signage strategy

10.293 Temporary signage may be erected along construction traffic routes on the local road network to provide access and routing information. These will be placed to ensure that construction vehicles and staff are able to travel directly to Site from the wider SRN and Major Road Network (MRN). Locations of the temporary signage will be agreed with DCC and SCC ahead of installation.

10.294 Temporary signage will help to enforce the designated construction vehicle routes and guide construction staff to the Site so as to avoid any sensitive receptors on routes not included within the construction vehicle routing scenarios.

10.295 In addition, all drivers of vehicles to the Site will be briefed in detail regarding the content of the Outline CTMP and any proposed traffic management measures. As such, it is not expected that any significant increased risk of road accidents will result from the proposed construction traffic.

Traffic marshals

10.296 Vehicles will be called forward to the Site using telephone or radio, with qualified personnel and guards positioned at the following locations along the construction delivery routes,

Access points directly off the local highway network onto Temporary Construction Haul Routes. Site access.

10.297 Presence of security will also stop any non-permitted vehicles into the Site and remove any potential for parked or obstructive vehicles that could impact on vehicle and passenger delay, or vehicle and pedestrian safety.

AIL Movement

10.298 All AIL vehicles will be escorted by a pilot car and Police escort and be scheduled to travel during off-peak hours where possible to allow for the vehicle to manoeuvre safely. This will ensure the safety of other road users and result in minimal disruption. Additionally, suitable traffic management along the route will be undertaken, such as verge and footway

reinforcement and culvert reinforcements. All necessary traffic management will be agreed with the relevant Highway Authorities prior the movements taking place.

Summary of Mitigation

10.299 A range of mitigating controls will be secured and enforceable to limit the impact of the Proposed Development in relation to Transport and Access. These will reduce the magnitude and significance of a wide range of effects previously set out in the Assessment.

10.300 Full details of the proposed mitigation measures are included within the accompanying Outline CTMP within **Appendix 10.1: Outline Construction Traffic Management Plan** and Outline CEMP within **Appendix 4.3: Outline Construction Environmental Management Plan**.

Residual Construction Effects

10.301 The proposed mitigation measures will help to reduce the magnitude of impact on some key sensitive receptors across all environmental effects. However, there is a level of residual construction effects that cannot be completely eliminated.

10.302 Given the nature of the mitigation measures, it is difficult to measure the magnitude of impact using a quantified method of assessment. On this basis, the residual construction effects have been determined largely through professional judgement.

10.303 The anticipated residual construction effects for each construction vehicle routing scenario are summarised below in **Tables 10.30 to 10.33**.

Table 10.30 Scenario 1 Residual Significance of Effects

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
Walton-on-Trent Bypass	None identified	-	Severance of communities	Negligible	Negligible	Negligible	Negligible
	None identified	-	Road vehicle driver and passenger delay	Negligible	Negligible	Negligible	Negligible
	None identified	-	Non-motorised user delay	Negligible	Negligible	Negligible	Negligible
	None identified	-	Non-motorised amenity	Negligible	Negligible	Negligible	Negligible
	None identified	-	Fear and intimidation on and by road users	Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Collision Clusters	Medium	Road user and pedestrian safety	Negligible	Negligible	Minor (negative)	Negligible
	None identified	-	Hazardous / large loads.	No Change	No Change	-	-
Walton Road	Local farms set back from the highway	Very Low	Severance of communities	Minor	Negligible	Minor (negative)	Negligible
	Local farms set back from the highway	Very Low	Road vehicle driver and passenger delay	Minor	Negligible	Minor (negative)	Negligible
	Local farms set back from the highway	Very Low	Non-Motorised user delay	Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	PRoW Route 9	Medium	Non-motorised amenity	Moderate	Moderate	Moderate (negative)	Minor (negative)
	Local farms set back from the highway	Very Low		Moderate	Negligible	Negligible	Negligible
	Local farms set back from the highway	Very Low	Fear and intimidation on and by road users	Negligible	Negligible	Negligible	Negligible
	Collision Clusters	Medium	Road user and pedestrian safety	Negligible	Negligible	Minor (negative)	Negligible
	Local farms set back from the highway	Very Low		Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Local farms set back from the highway	Very Low	Hazardous / large loads.	No Change	No Change	-	-
Main Street (Walton)	Local farms set back from the highway	Very Low	Severance of communities	Minor	Negligible	Minor (negative)	Negligible
	Local farms set back from the highway	Very Low	Road vehicle driver and passenger delay	Minor	Negligible	Minor (negative)	Negligible
	Local farms set back from the highway	Very Low	Non-motorised user delay	Negligible	Negligible	Negligible	Negligible
	Local farms set back from the highway	Very Low	Non-motorised amenity	Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Local farms set back from the highway	Very Low	Fear and intimidation on and by road users	Negligible	Negligible	Negligible	Negligible
	Collision Clusters	Medium	Road user and pedestrian safety	Negligible	Negligible	Minor (negative)	Negligible
	Local farms set back from the highway	Very Low		Negligible	Negligible	Negligible	Negligible
	Local farms set back from the highway	Very Low	Hazardous / large loads.	No Change	No Change	-	-
Temporary Construction Haul Road	PRoW Route 9	Medium	Non-motorised amenity	Moderate	Moderate	Moderate (negative)	Minor (negative)

Table 10.31: Scenario 2A Residual Significance of Effects

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
Main Street (Stapenhill)	Croft Residential Home	High	Severance of communities	Minor	Negligible	Moderate (negative)	Minor (negative)
	Riverside Residential Home	High		Minor	Negligible	Moderate (negative)	Minor (negative)
	Retail and businesses along Main Street	Medium		Minor	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Main Street	Medium		Minor	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Croft Residential Home	High	Road vehicle driver and passenger delay	Moderate	Negligible	Moderate (negative)	Minor (negative)
	Riverside Residential Home	High		Moderate	Negligible	Moderate (negative)	Minor (negative)
	Retail and businesses along Main Street	Medium		Moderate	Negligible	Moderate (negative)	Minor (negative)
	Residential dwellings fronting the carriageway along Main Street	Medium		Moderate	Negligible	Moderate (negative)	Minor (negative)
	Croft Residential Home	High	Non-motorised user delay	Minor	Negligible	Moderate (negative)	Minor (negative)

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Riverside Residential Home	High		Minor	Negligible	Moderate (negative)	Minor (negative)
	Retail and businesses along Main Street	Medium		Minor	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Main Street	Medium		Minor	Negligible	Minor (negative)	Negligible
	Croft Residential Home	High	Non-motorised amenity	Negligible	Negligible	Minor (negative)	Negligible
	Riverside Residential Home	High		Negligible	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Retail and businesses along Main Street	Medium		Negligible	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Main Street	Medium		Negligible	Negligible	Minor (negative)	Negligible
	Croft Residential Home	High	Fear and intimidation on and by road users	Negligible	Negligible	Minor (negative)	Minor (negative)
	Riverside Residential Home	High		Negligible	Negligible	Minor (negative)	Minor (negative)
	Retail and businesses along Main Street	Medium		Negligible	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Residential dwellings fronting the carriageway along Main Street	Medium		Negligible	Negligible	Minor (negative)	Negligible
	Collision Clusters	Medium	Road user and pedestrian safety	Minor	Negligible	Moderate (negative)	Minor (negative)
	Croft Residential Home	High		Minor	Negligible	Moderate (negative)	Minor (negative)
	Riverside Residential Home	High		Minor	Negligible	Moderate (negative)	Minor (negative)
	Retail and businesses along Main Street	Medium		Minor	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Residential dwellings fronting the carriageway along Main Street	Medium		Minor	Negligible	Minor (negative)	Negligible
	None Identified	-	Hazardous / large loads	No Change	No Change	-	-
Rosliston Road	The First Day Nursery	High	Severance of communities	Minor	Negligible	Moderate (negative)	Minor (negative)
	Retail and businesses along Rosliston Road in Stapenhill	Medium		Minor	Negligible	Minor (negative)	Minor (negative)

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Residential dwellings fronting the carriageway along Rosliston Road in Stapenhill	Medium		Minor	Negligible	Minor (negative)	Minor (negative)
	The First Day Nursery	High	Road vehicle driver and passenger delay	Moderate	Negligible	Moderate (negative)	Minor (negative)
	Retail and businesses along Rosliston Road in Stapenhill	Medium		Moderate	Negligible	Moderate (negative)	Minor (negative)
	Residential dwellings fronting the carriageway	Medium		Moderate	Negligible	Moderate (negative)	Minor (negative)

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	along Rosliston Road in Stapenhill						
	The First Day Nursery	High	Non-motorised user delay	Minor	Negligible	Moderate (negative)	Minor (negative)
	Retail and businesses along Rosliston Road in Stapenhill	Medium		Minor	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Rosliston Road in Stapenhill	Medium		Minor	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	The First Day Nursery	High	Non-motorised amenity	Negligible	Negligible	Minor (negative)	Minor (negative)
	Retail and businesses along Rosliston Road in Stapenhill	Medium		Negligible	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Rosliston Road in Stapenhill	Medium		Negligible	Negligible	Minor (negative)	Negligible
	The First Day Nursery	High	Fear and intimidation on and by road users	Negligible	Negligible	Minor (negative)	Minor (negative)

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Retail and businesses along Rosliston Road in Stapenhill	Medium		Negligible	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Rosliston Road in Stapenhill	Medium		Negligible	Negligible	Minor (negative)	Negligible
	Collision Clusters	Medium	Road user and pedestrian safety	Minor	Negligible	Moderate (negative)	Minor (negative)
	The First Day Nursery	High		Minor	Negligible	Moderate (negative)	Minor (negative)

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Retail and businesses along Rosliston Road in Stapenhill	Medium		Minor	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Rosliston Road in Stapenhill	Medium		Minor	Negligible	Minor (negative)	Negligible
	None Identified	-	Hazardous / large loads	No Change	No Change	-	-
A5121	Retail units and businesses on A5121 in Burton on Trent	Medium	Severance of communities	Negligible	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Retail units and businesses on A5121 in Burton on Trent	Medium	Road vehicle driver and passenger delay	Negligible	Negligible	Minor (negative)	Negligible
	Retail units and businesses on A5121 in Burton on Trent	Medium	Non-motorised user delay	Negligible	Negligible	Minor (negative)	Negligible
	Retail units and businesses on A5121 in Burton on Trent	Medium	Non-motorised amenity	Negligible	Negligible	Minor (negative)	Negligible
	Retail units and businesses on A5121 in Burton on Trent	Medium	Fear and intimidation on and by road users	Negligible	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Collision Clusters	Medium	Road user and pedestrian safety	Minor	Negligible	Moderate (negative)	Minor (negative)
	None identified	-	Hazardous / large loads	No Change	No Change	-	-
A5189	Retail units and businesses on A5189 in Burton on Trent	Medium	Severance of communities	Negligible	Negligible	Minor (negative)	Negligible
	Retail units and businesses on A5189 in Burton on Trent	Medium	Road vehicle driver and passenger delay	Negligible	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Retail units and businesses on A5189 in Burton on Trent	Medium	Non-motorised user delay	Minor	Negligible	Minor (negative)	Negligible
	Retail units and businesses on A5189 in Burton on Trent	Medium	Non-motorised amenity	Negligible	Negligible	Minor (negative)	Negligible
	Air Quality Management Area (AQMA), St Peters roundabout, Stapenhill	Medium		Negligible	Negligible	Minor (negative)	Negligible
	Retail units and businesses on A5189 in Burton on Trent	Medium	Fear and intimidation on and by road users	Negligible	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Collision Clusters	Medium	Road user and pedestrian safety	Negligible	Negligible	Minor (negative)	Negligible
	None identified	-	Hazardous / large loads	No Change	No Change	-	-
Walton Road	Local farms set back from the highway	Very Low	Severance of communities	Negligible	Negligible	Negligible	Negligible
	Local farms set back from the highway	Very Low	Road vehicle driver and passenger delay	Minor	Negligible	Minor (negative)	Negligible
	Local farms set back from the highway	Medium	Non-motorised user delay	Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Local farms set back from the highway	Very Low	Non-motorised amenity	Moderate	Negligible	Negligible	Negligible
	PRoW Route 9	Medium		Moderate	Negligible	Moderate (negative)	Minor (negative)
	Local farms set back from the highway	Very Low	Fear and intimidation on and by road users	Negligible	Negligible	Negligible	Negligible
	Collision Clusters	Medium	Road user and pedestrian safety	Negligible	Negligible	Minor (negative)	Negligible
	Local farms set back from the highway	Very Low		Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	None identified	-	Hazardous / large loads	No Change	No Change	-	-
Temporary Construction Haul Road	PRoW Route 9	Medium	Non-motorised amenity	Moderate	Negligible	Moderate (negative)	Minor (negative)
A513	Retail units and businesses at Ventura Retail Park, Tamworth	Medium	Severance of communities	Negligible	Negligible	Minor (negative)	Negligible
	Local farms set back from the highway	Very Low		Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Retail units and businesses at Ventura Retail Park, Tamworth	Medium	Road vehicle driver and passenger delay	Minor	Negligible	Minor (negative)	Negligible
	National Memorial Arboretum	Low (Non-event days)		Minor	Negligible	Minor (negative)	Negligible
		High (Event days)		Moderate	Minor	Moderate (negative)	Minor (negative)
	Local farms set back from the highway	Very Low		Minor	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Retail units and businesses at Ventura Retail Park, Tamworth	Medium	Non-motorised user delay	Negligible	Negligible	Minor (negative)	Negligible
	Retail units and businesses at Ventura Retail Park, Tamworth	Medium	Non-motorised amenity	Negligible	Negligible	Minor (negative)	Negligible
	Retail units and businesses at Ventura Retail Park, Tamworth	Medium	Fear and intimidation on and by road users	Negligible	Negligible	Minor (negative)	Negligible
	Local farms set back from the highway	Very Low		Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Collision Clusters	Medium	Road user and pedestrian safety	Minor	Moderate	Moderate (negative)	Minor (negative)
	Retail units and businesses at Ventura Retail Park, Tamworth	Medium		Minor	Moderate	Moderate (negative)	Minor (negative)
	Local farms set back from the highway	Very Low		Minor	Moderate	Minor (negative)	Negligible
	None identified	-	Hazardous / large loads	No Change	No Change	-	-
Unnamed Road	None identified	-	Severance of communities	Negligible	Negligible	-	-

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
(Between A513 and Church Street)	Catton Hall	Low (Non-event days)	Road vehicle driver and passenger delay	Minor	Negligible	Minor (negative)	Negligible
		High (Event days)		Moderate	Minor	Moderate (negative	Minor (negative)
	Non identified	-	Non-motorised user delay	Negligible	Negligible	-	-
	None identified	-	Non-motorised amenity	Negligible	Negligible	-	-

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Catton Hall	Low (Non-event days)	Fear and intimidation on and by road users	Negligible	Negligible	Negligible	Negligible
		High (Event days)		Minor	Negligible	Minor (negative)	Negligible
	Collision clusters	Medium	Road user and pedestrian safety	Negligible	Negligible	Minor (negative)	Negligible
	Catton Hall	Low (Non-		Negligible	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
		event days)					
		High (Event days)		Minor	Negligible	Minor (negative)	Negligible
	None identified	-	Hazardous / large loads	No Change	No Change	-	-
Mill Street	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Severance of communities	Minor	Negligible	Minor (negative)	Minor (negative)

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Road vehicle driver and passenger delay	Negligible	Negligible	Minor (negative)	Negligible
	Parked vehicles on-street along Mill Street in Coton in the Elms	Low		Negligible	Negligible	Negligible	Negligible
	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Non-motorised user delay	Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Non-motorised amenity	Minor	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Fear and intimidation on and by road users	Negligible	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Road user and pedestrian safety	Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Collision Clusters	Medium		Negligible	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Hazardous / large loads.	No Change	No Change	-	-
	Parked vehicles on-street along Mill Street in Coton in the Elms	Low		No Change	No Change	-	-
Church Street	Residential dwellings fronting the carriageway	Medium	Severance of communities	Minor	Negligible	Minor (negative)	Minor (negative)

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	along Church Street in Coton in the Elms						
	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Road vehicle driver and passenger delay	Negligible	Negligible	Minor (negative)	Negligible
	Parked vehicles on-street along Church Street in Coton in the Elms	Low		Negligible	Negligible	Negligible	Negligible
	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Non-motorised user delay	Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Non-motorised amenity	Minor	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Fear and intimidation on and by road users	Negligible	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Road user and pedestrian safety	Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Collision Clusters	Medium		Negligible	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Hazardous / large loads.	No Change	No Change	Negligible	Negligible
	Parked vehicles on-street along Church Street in Coton in the Elms	Very Low		No Change	No Change	Negligible	Negligible
	Local farms set back from the highway	Very Low	Severance of communities	Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
Coton Road / Coalpit Lane	Local farms set back from the highway	Very Low	Road vehicle driver and passenger delay	Negligible	Negligible	Negligible	Negligible
	Local farms set back from the highway	Very Low	Non-motorised user delay	Negligible	Negligible	Negligible	Negligible
	Local farms set back from the highway	Very Low	Non-motorised amenity	Negligible	Negligible	Negligible	Negligible
	Local farms set back from the highway	Very Low	Fear and intimidation on and by road users	Negligible	Negligible	Negligible	Negligible
	Local farms set back from the highway	Very Low	Road user and pedestrian safety	Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Collision Clusters	Medium		Negligible	Negligible	Negligible (negative)	Negligible
	Local farms set back from the highway	Very Low	Hazardous / large loads.	No Change	No Change	Negligible	Negligible

Table 10.32: Scenario 2B Residual Significance of Effect

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
A513	Retail units and businesses at Ventura Retail Park, Tamworth	Medium	Severance of communities	Negligible	Negligible	Minor (negative)	Negligible
	Local farms set back from the highway	Very Low		Negligible	Negligible	Negligible	Negligible
	Retail units and businesses at Ventura Retail Park, Tamworth	Medium	Road vehicle driver and passenger delay	Minor	Negligible	Minor (negative)	Negligible
	National Memorial Arboretum	Low (Non-		Minor	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
		event days)					
		High (Event days)		Moderate	Minor	Moderate (negative)	Minor (negative)
	Local farms set back from the highway	Very Low		Minor	Negligible	Negligible	Negligible
	Retail units and businesses at Ventura Retail Park, Tamworth	Medium	Non-motorised user delay	Negligible	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Retail units and businesses at Ventura Retail Park, Tamworth	Medium	Non-motorised amenity	Negligible	Negligible	Minor (negative)	Negligible
	Retail units and businesses at Ventura Retail Park, Tamworth	Medium	Fear and intimidation on and by road users	Negligible	Negligible	Minor (negative)	Negligible
	Local farms set back from the highway	Very Low		Negligible	Negligible	Negligible	Negligible
	Collision Clusters	Medium	Road user and pedestrian safety	Minor	Negligible	Moderate (negative)	Minor (negative)

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Retail units and businesses at Ventura Retail Park, Tamworth	Medium		Minor	Negligible	Moderate (negative)	Minor (negative)
	Local farms set back from the highway	Very Low		Minor	Negligible	Negligible	Negligible
	None identified	-	Hazardous / large loads	No Change	No Change	-	-
Unnamed Road (Between A513 and	None identified	-	Severance of communities	Negligible	Negligible	-	-
	Catton Hall	Low (Non-	Road vehicle driver and passenger delay	Minor	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
Church Street)		event days)					
		High (Event days)		Moderate	Minor	Moderate (negative)	Minor (negative)
	Non identified	-	Non-motorised user delay	Negligible	Negligible	-	-
	None identified	-	Non-motorised amenity	Negligible	Negligible	-	-
	Catton Hall	Low (Non-		Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
		event days)	Fear and intimidation on and by road users				
		High (Event days)		Minor	Negligible	Minor (negative)	Negligible
	Collision clusters	Medium	Road user and pedestrian safety	Negligible	Negligible	Minor (negative)	Minor (negative)
	Catton Hall	Low (Non-event days)		Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
		High (Event days)		Negligible	Negligible	Minor (negative)	Negligible
	None identified	-	Hazardous / large loads	No Change	No Change	-	-
Mill Street	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Severance of communities	Moderate	Minor	Moderate (negative)	Minor (negative)
	Residential dwellings fronting the carriageway	Medium	Road vehicle driver and passenger delay	Minor	Negligible	Minor (negative)	Minor (negative)

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	along Mill Street in Coton in the Elms						
	Parked vehicles on-street along Mill Street in Coton in the Elms	Low		Minor	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Non-motorised user delay	Negligible	Negligible	Negligible	Negligible
	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Non-motorised amenity	Minor	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Fear and intimidation on and by road users	Minor	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Road user and pedestrian safety	Negligible	Negligible	Minor (negative)	Negligible
	Collision Clusters	Medium		Negligible	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway	Medium	Hazardous / large loads.	No Change	No Change	-	-

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	along Mill Street in Coton in the Elms						
	Parked vehicles on-street along Mill Street in Coton in the Elms	Low		No Change	No Change	-	-
Church Street	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Severance of communities	Moderate	Minor	Moderate (negative)	Minor (negative)
	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Road vehicle driver and passenger delay	Minor	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Parked vehicles on-street along Church Street in Coton in the Elms	Low		Minor	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Non-Motorised User delay	Negligible	Negligible	Negligible	Negligible
	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Non-motorised amenity	Minor	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Fear and intimidation on and by road users	Minor	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Road user and pedestrian safety	Negligible	Negligible	Negligible	Negligible
	Collision Clusters	Medium		Negligible	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway	Medium	Hazardous / large loads.	Negligible	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	along Church Street in Coton in the Elms						
	Parked vehicles on-street along Church Street in Coton in the Elms	Low		No Change	No Change	-	-
Coton Road / Coalpit Lane	Local farms set back from the highway	Very Low	Severance of communities	Negligible	Negligible	Negligible	Negligible
	Local farms set back from the highway	Very Low	Road vehicle driver and passenger delay	Minor	Negligible	Minor (negative)	Negligible
	Local farms set back from the highway	Very Low	Non-motorised user delay	Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Local farms set back from the highway	Very Low	Non-motorised amenity	Negligible	Negligible	Negligible	Negligible
	Local farms set back from the highway	Very Low	Fear and intimidation on and by road users	Negligible	Negligible	Negligible	Negligible
	Local farms set back from the highway	Very Low	Road user and pedestrian safety	Negligible	Negligible	Negligible	Negligible
	Collision Clusters	Medium		Negligible	Negligible	Minor (negative)	Negligible
	Local farms set back from the highway	Very Low	Hazardous / large loads.	No Change	No Change	-	-

Table 10.33: AIL Movements Residual Significance of Effects

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
Mill Street	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Severance of Communities	Minor	Negligible	Minor (negative)	Minor (negative)
	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Road vehicle driver and passenger delay	Minor	Negligible	Minor (negative)	Minor (negative)
	Parked vehicles on-street along Mill Street in Coton in the Elms	Low		Minor	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Non-motorised user delay	Minor	Negligible	Minor (negative)	Minor (negative)
	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Non-motorised amenity	Negligible	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Fear and intimidation on and by road users	Negligible	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Road user and pedestrian safety	Negligible	Negligible	Minor (negative)	Negligible
	Collision Clusters	Medium		Negligible	Negligible	Minor (negative)	Minor (negative)
	Residential dwellings fronting the carriageway along Mill Street in Coton in the Elms	Medium	Hazardous / large loads.	Negligible	Negligible	Minor (negative)	Minor (negative)

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Parked vehicles on-street along Mill Street in Coton in the Elms	Low		Negligible	Negligible	Negligible	Negligible
Church Street	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Severance of communities	Minor	Negligible	Minor (negative)	Minor (negative)
	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Road vehicle driver and passenger delay	Minor	Negligible	Minor (negative)	Minor (negative)

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Parked vehicles on-street along Church Street in Coton in the Elms	Low		Minor	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Non-motorised user delay	Minor	Negligible	Minor (negative)	Minor (negative)
	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Non-motorised amenity	Negligible	Negligible	Minor (negative)	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Fear and intimidation on and by road users	Negligible	Negligible	Minor (negative)	Negligible
	Residential dwellings fronting the carriageway along Church Street in Coton in the Elms	Medium	Road user and pedestrian safety	Negligible	Negligible	Minor (negative)	Negligible
	Collision Clusters	Medium		Negligible	Negligible	Minor (negative)	Minor (negative)
	Residential dwellings fronting the carriageway	Medium	Hazardous / large loads.	Negligible	Negligible	Minor (negative)	Minor (negative)

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	along Church Street in Coton in the Elms						
	Parked vehicles on-street along Church Street in Coton in the Elms	Very Low		Negligible	Negligible	Negligible	Negligible
Coton Road / Coalpit Lane	Local farms set back from the highway	Very Low	Severance of communities	Negligible	Negligible	Negligible	Minor (negative)
	Local farms set back from the highway	Very Low	Road vehicle driver and passenger delay	Minor	Minor	Negligible	Minor (negative)
	Local farms set back from the highway	Very Low	Non-motorised user delay	Negligible	Negligible	Negligible	Negligible

Highway Link	Receptor Identified	Receptor Sensitivity	Environmental Impact	Magnitude of Impact		Significance of Effect	
				Without Mitigation	With Mitigation	Without Mitigation	With Mitigation
	Local farms set back from the highway	Very Low	Non-motorised amenity	Negligible	Negligible	Negligible	Negligible
	Local farms set back from the highway	Very Low	Fear and intimidation on and by road users	Negligible	Negligible	Negligible	Negligible
	Local farms set back from the highway	Very Low	Road user and pedestrian safety	Negligible	Negligible	Negligible	Negligible
	Collision Clusters	Medium		Negligible	Negligible	Minor (negative)	Negligible
	Local farms set back from the highway	Very Low	Hazardous / large loads.	Negligible	Negligible	Negligible	Negligible

Summary of Residual Construction Effects

10.304 It can be seen that by incorporating the mitigation measures within each construction vehicle routing scenario, the significance of effects for those environmental effects that had a rating above 'Negligible' prior to mitigation, are reduced, resulting in minor (negative) to negligible residual effects (not significant).

Assessment of Operational Effects

10.305 The assessment of operational effects has been scoped out of the chapter, as described in paragraph **10.9**.

Assessment of Decommissioning Effects

10.306 The assessment of decommissioning effects has been scoped out of this chapter as described in paragraph **10.9**. Due to the modular nature of the Proposed Development the decommissioning phase will be similar or lesser in impact than the construction phase. Further detail has been provided within **Appendix 4.5: Decommissioning Environmental Management Plan**.

Assessment of Cumulative Effects

10.307 The assessment of cumulative effects has considered a number of developments within the vicinity of the Site of various scale and at different stages of the planning process. Each development's assessment of transport has been reviewed to determine its potential cumulative effect with the Proposed Development traffic at Oaklands.

Predicted Cumulative Effects during Construction

10.308 Proposed construction vehicle routes and assessed trip assignment and distribution within the transport assessments of identified local developments have been analysed to understand where cumulative development traffic will route. Should the development traffic use any of the highway links used as part of the Proposed Development construction vehicle routing scenarios, then these have been assessed further within this section. Cumulative developments

whose traffic does not use the highway links included within this chapter are scoped out of further assessment.

10.309 Where no trip information is included within the relevant transport assessment of a cumulative development, professional judgement has been used based on the scale and location of the cumulative development to determine the likely extent of construction impact.

10.310 A summary of the cumulative developments included within this assessment are detailed in **Table 10.34**.

Table 10.34: Identified Cumulative Developments

Address/Ref	Status/Description	Transport Assessment Available	Relevant Highway Links	Notes
Land at Barr Hall Farm, Drakelow, South Derbyshire DMOT/2023/0621	**Delegated Decision** - The proposed development is at the initial EIA screening stage. The proposed development seeks to develop an Energy Storage System with a total site area of approximately 11.5ha with supporting sub stations and a main substation. The site will connect to the National Grid at Drakelow power station, which sits 1km to the north-east of the Site. It is anticipated that a new access would be created off Main Street / Walton Road.	No	Unable to determine	The proposals are at the initial EIA screening stage. No further information has been provided in relation to construction vehicle movements or proposed construction vehicle routing.

Address/Ref	Status/Description	Transport Assessment Available	Relevant Highway Links	Notes
Breach Farm, Cadley Lane, Caldwell, Swadlincote, DE12 6RJ DMPA/2020/0542	**Consented** - The variation of condition 5 of permission ref. 9/2018/0223 (relating to the construction of a 40MW energy storage scheme with 1 no. building (sui-generis use) to provide backup electricity services to the grid for a period of 25 years from the date of commission of the battery storage scheme) at Breach Farm, Cadley Lane, Caldwell, Swadlincote, DE12 6RJ.	Yes	None	No cumulative impact with the Proposed Development.

Address/Ref	Status/Description	Transport Assessment Available	Relevant Highway Links	Notes
Land South of Main Road, Haunton, Tamworth, Staffordshire 20/01245/FULM	**Under construction -** Installation of a solar farm comprising ground mounted solar PV panels (143,000) with a generating capacity of up to 49.9MW, including mounting system, battery storage units, inverters, underground cabling, stock proof fence, CCTV, internal tracks and associated infrastructure, landscaping and environmental enhancements for a temporary period of 40 years and a permanent grid connection hub. Land South of Main Road, Haunton, Tamworth, Staffordshire	Yes	None	No cumulative impact with the Proposed Development.

Address/Ref	Status/Description	Transport Assessment Available	Relevant Highway Links	Notes
Land to the north of the Royle Farm Business Park, Caldwell Road, Burton-on-Trent DMPA/2021/1221	**Consented** – The installation of a Battery Storage Facility with associated infrastructure and access, grid connection consisting of the erection of a substations, control buildings, communications cabinets, battery transformers, proposed boundary treatment and installation of CCTV with associated works	Yes	Main Street (Stapenhill), Rosliston Road	Assessed in paragraph **10.316**.

Address/Ref	Status/Description	Transport Assessment Available	Relevant Highway Links	Notes
Drakelow C Power Station, Walton Road, Drakelow CW9/0420/7	**Under Construction -** Permission for the construction and operation of an 18MW Renewable Energy Centre and associated infrastructure on land at the former Drakelow C Power Station, Walton Road, Drakelow	Yes	A5121, A5189, Main Street (Stapenhill), Rosliston Road, Walton Road	Assessed in paragraph **10.319.**

Address/Ref	Status/Description	Transport Assessment Available	Relevant Highway Links	Notes
Banks House/Bretby View, Sabines Yard and Market Hall, Midland Road, Swadlincote, DE11 0AG DMPA/2022/0844	**Consented -** Demolition of buildings, and redevelopment of the site to provide additional car parking spaces and urban park. Alterations to Market Hall, including removal of existing roof; erection of painted metal canopy, brickwork, fencing and solar panels; installation of lighting; and associated landscaping; to create a multi-functional space for 42 car parking spaces and events space for specialist markets and cultural events.	Yes	None	No trip distribution provided. Traffic assumed to likely occur on weekends given it will function as an entertainment venue. Therefore, cumulative traffic is unlikely to impact on Proposed Development construction traffic.

Address/Ref	Status/Description	Transport Assessment Available	Relevant Highway Links	Notes
23 York Road, Church Gresley, DE11 9QG DMPA/2021/0715	**Pending -** Approval of reserved matters (layout, scale, appearance and landscaping) pursuant to outline permission ref.9/2017/0244 for the erection of 10 dwellings with access, parking and associated works	No	Unable to determine	No assessment provided. It is assumed that up to 10 dwellings will generate a negligible number of AM and PM peak trips. Measures in the CTMP will restrict construction traffic to outside peak local highway network periods and therefore will not come into contact with the cumulative development.

Land at SK1930 5342, Hawthorn Farm, Scropton Road, Scropton, DE65 5PR DMOT/2022/1030	**Consented -** The approval of detail reserved by condition nos. 8 (Heavy vehicle route survey), 10 (temporary access track details), 11 (root protection area no-dig methodology), and 12 (public rights of way management during construction), 14 (solar panels, module frames, fencing; gates, CCTV poles, CCTV equipment, customer cabin, transformers, inverters and substation DNO details), 15 (equipment details), 17 (levels), 19 (lighting), 20 (CCTV active monitoring), 21 (archaeology), 22 (archaeology compliance), 23 (archaeology results analysis, publication and dissemination), 24 (tree protection), 26 (landscaping plan), 27	Yes	None	No cumulative impact with the Proposed Development.

Address/Ref	Status/Description	Transport Assessment Available	Relevant Highway Links	Notes
	(Landscaping Management Plan), 28 (surface water drainage), 29 (surface water hierarchy), and 30 (construction surface water management) of permission ref. DMPA/2021/0315 (for the installation of up to 10MWp of solar photovoltaic panels and associated works, including substations, inverters, access tracks, security fencing and cameras)			

Address/Ref	Status/Description	Transport Assessment Available	Relevant Highway Links	Notes
Land off Church Street, Church Gresley, Swadlincote 9/2013/0946	**Outline Permission Granted -** Outline application (all matters except for principle means of vehicular access to be reserved) for the residential development up to 306 dwellings, access, parking, public open space, landscaping and associated infrastructure.	Yes	None	No cumulative impact with the Proposed Development.
Land Off Horner Avenue Fradley Lichfield Staffordshire 22/00106/FULM	**Pending -** Full planning application for a residential development (109 units) with associated works and public open space, and access from Horner Avenue and Ward Close	Yes	None	No cumulative impact with the Proposed Development.

Address/Ref	Status/Description	Transport Assessment Available	Relevant Highway Links	Notes
Model Farm Peggs Lane Elford Tamworth Staffordshire B79 9DR 22/01016/COUM	**Pending -** Change of use from agriculture to holiday lodge including no25 holiday lodges and glamping pods and erection of reception / café / shop and storage with parking, EV charging/ cycle, equine provision, external play areas and associated landscaping, drainage and ecological enhancements | Model Farm Peggs Lane Elford Tamworth Staffordshire B79 9DR	No	Unable to determine	No assessment or further details on trip distribution provided. Given its proposed use, it is only likely to generate trips at certain times of the year during the weekend periods and therefore is not expected to come into contact with the Proposed Development construction traffic.

Land adjacent to Willshee's Waste And Recycling Limited, Keith Willshee Way, Swadlincote, DE11 9EN CW9/1022/22	**Application** - The proposed construction and operation of the Swadlincote Resource Recovery Park (SRRP) comprising an Energy Recovery Facility (ERF) and Aggregate Recovery Facility (ARF) together with ancillary infrastructure including grid connection cable and works, private electrical wire provision, substation, CHP off-take provision, internal vehicular circulation and yard areas, weighbridges, car parking, new access road, temporary construction compound and laydown area, security fencing and gates, drainage, landscaping and off-site habitat compensation.	Yes	No	No cumulative impact with the Proposed Development.

Address/Ref	Status/Description	Transport Assessment Available	Relevant Highway Links	Notes
Land at Barn Farm, Cauldwell Road, Drakelow, Burton on Trent, DE15 9TX 2022/0629	**Screening** - Screening request under The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 relating to a Battery Energy Storage System (BESS)	No	Unable to determine	Currently at screening stage. No assessment or further details on trip generation or distribution provided.
Land off Mount Road Castle Gresley, South Derbyshire 2021/1698	**Permitted** - An energy storage facility, together with associated equipment, infrastructure and ancillary works.	Yes	No	No cumulative impact with the Proposed Development.

Address/Ref	Status/Description	Transport Assessment Available	Relevant Highway Links	Notes
Curborough North Site Watery Lane Curborough Lichfield Staffordshire 23/00763/SCOPE	**Pending Consideration -** Proposed development to create up to 2,350 residential units, either an all through school or a separate 2 form-entry primary school and an 8 form-entry secondary school, green infrastructure, sustainable urban drainage, a spine road and associated access.	No	Unable to determine	Currently at scoping stage. No assessment or further details on trip generation or distribution provided.

Address/Ref	Status/Description	Transport Assessment Available	Relevant Highway Links	Notes
Land North Of Hay End Lane Fradley Burton Upon Trent Staffordshire 22/01518/OUFMEI	**Pending Consideration -** Hybrid Planning Application comprising full application for the development of 500 dwellings, new accesses onto Hay End Lane and internal access, new sports provision consisting of playing fields, sports pavilion and associated parking, new open space, sustainable drainage, new ecology areas and woodland, landscaping and associated works; and an outline application for the development of a new primary school and associated works	Yes	No	No cumulative impact with the Proposed Development.

Address/Ref	Status/Description	Transport Assessment Available	Relevant Highway Links	Notes
Land At Harrier Centre And North Off Wood End Lane Fradley Lichfield Staffordshire WS13 8NG 23/00684/FULM	**Pending Consideration -** Erection of an industrial building, split into two units with employment uses E(g), B2 & B8, together with ancillary offices, associated car parking, service areas and soft landscaping, the building having the provision to be built for single occupation without the ancillary offices to the second unit	Yes	No	No cumulative impact with the Proposed Development.

Address/Ref	Status/Description	Transport Assessment Available	Relevant Highway Links	Notes
The National Memorial Arboretum Croxall Road Alrewas Burton Upon Trent Staffordshire DE13 7AR 22/01612/FULM	**Pending Consideration -** Creation of Memorial Woodland to include reworking ground levels, reshaping of the existing pond, food/drinks outlet, a multi use building, multi-user pathways, water features with associated landscaping and utilities.	Yes	A513	Assessed in paragraph **10.323.**
Land Off Horner Avenue Fradley Lichfield Staffordshire 22/00106/FULM	**Pending Consideration -** Full planning application for a residential development (109 units) with associated works and public open space, and access from Horner Avenue and Ward Close	Yes	No	No cumulative impact with the Proposed Development.

Address/Ref	Status/Description	Transport Assessment Available	Relevant Highway Links	Notes
Land Lying South Of Hay End Lane Fradley Lichfield Staffordshire 23/00154/OUTM	**Pending Consideration -** Outline application with all matters reserved, except for access, for residential development of up to 43 dwellings	Yes	No	No cumulative impact with the Proposed Development.
Land Off Wellington Crescent Fradley Park Lichfield Staffordshire 22/00532/OUTM	**Pending Consideration -** Outline application with all matters reserved for industrial units with B2, B8 and ancillary offices	Yes	No	No cumulative impact with the Proposed Development.

Address/Ref	Status/Description	Transport Assessment Available	Relevant Highway Links	Notes
Midland Pig Producers Ltd Hay End Lane Fradley Lichfield Staffordshire WS13 8NW 20/01031/OUTM	**Appeal Lodged** - Outline application with all matters reserved except for access for a Residential-led Mixed Use Development comprising, C2 Care and Assisted Living, C3 residential including self-build and bespoke. Neighbourhood Centre including Community Facilities, Open Space and Landscaping (Resubmission of application 18/00078/OUTMEI)	Yes	No	No cumulative impact with the Proposed Development.

Additional Detail on Significant Cumulative Development

Land at Barr Hall Farm, Drakelow, South Derbyshire (SDDC Planning Ref: DMOT/2023/0621)

10.311 The proposed development is at the initial EIA screening stage. The proposals seek to develop an Energy Storage System with a total site area of approximately 11.5ha with supporting sub stations and a main substation. The site will connect to the National Grid at Drakelow power station, which sits 1km to the north-east of the site.

10.312 The proposals border the Proposed Development Site on land immediately to the west which is currently accessible from Fairfield Farm off Rosliston Road. It is understood that a new access would be created off Main Street / Walton Road.

10.313 The screening opinion document does not provide any detailed assessment of construction vehicle movements or outline any proposed construction vehicle routes. However, it does acknowledge the potential cumulative effects with the Proposed Development, stating '*It is anticipated that developments would be designed and implemented with best practice mitigation measures ensuring potential cumulative effects are unlikely to be significant*'.

10.314 Both the development of Land at Barr Hall Farm and the Proposed Development have a similar trip generation profile, with relatively intensive construction periods, followed by negligible trip generation on operation. The potential for any significant impact is temporary in both cases and can therefore be coordinated so as to not overlap. It may be reasonably assumed that the Proposed Development may be completed prior to the start of construction work at Land at Barr Hall Farm, or vice versa.

10.315 On this basis, the potential cumulative effects are considered in the context of the Site being operational which would result in a Negligible cumulative impact. Should the construction phases overlap one another, the CTMP for both developments will be coordinated so as to mitigate and limit any potential environmental effects.

Land to the north of the Royle Farm Business Park (SDDC Planning Ref: DMPA/2021/1221)

10.316 A Battery Storage Facility has been consented which will see the installation of battery storage along with associated infrastructure and access. The application is accompanied by a

Transport Statement which assesses the proposals and details its level of impact on the local highway network.

10.317 The Transport Statement highlights that the construction phase will last up to 26 weeks and the average peak Heavy vehicle trip generation will be 16 per day (32 two-way movements) over the six-month construction phase**.** It goes on to state that development traffic will be routed through Stapenhill via Main Street and Rosliston Road coming from Burton upon Trent which will be part of the same construction vehicle routing strategy as proposed within Scenario 2A.

10.318 Planning permission was consented on 3rd March 2022 and must be implemented within 3 years (by March 2025), it is therefore highly likely that the construction phases will not overlap. Once operational, the facility will be fully automated with only up to one operative site visit per month. On this basis, the cumulative effect during construction will be Negligible.

Drakelow C Power Station (DCC Planning Ref: CW9/0420/7)

10.319 A 'Waste to Energy' centre is currently under construction on land at the former Drakelow Power Station. The plant will see the operation of an 18MW Renewable Energy Centre and associated infrastructure to create Biomass Rich Fuel (BRF) that is converted into heat and power. The site will be accessible from Walton Road and will therefore need to be considered in the context of the proposed construction vehicle routing within Scenario 1 and Scenario 2B.

10.320 The accompanying Transport Statement highlights that there will be a maximum of 60 two-way Heavy vehicle movements per day once operational. During the construction phase it is anticipated that the majority of materials will be brought to site from the early stages and will therefore not result in regular Heavy vehicle movements, however there will be up to 100 two-way traffic movements per day associated with cars, vans and other Light vehicles. Once the development is operational, it is predicted to generate 60 daily two way trips. The Transport Statement assumes that until the new Bypass is built, development traffic will use the same route as the construction route.

10.321 Given the proposals are already under construction and is anticipated to finish in 2024, the Proposed Development will likely start construction once the 'Waste to Energy' centre is operational. Therefore, the trips generated once the centre is operational should be considered in the context of the Proposed Development, rather than the construction movements.

10.322 The Transport Statement assumes that all Heavy vehicles will avoid the peak time periods and will only be operational for 8 hours per day and can therefore be coordinated with the final Outline CTMP. On this basis, the cumulative effect during construction would be Negligible

The National Memorial Arboretum (Lichfield District Council Planning Ref: 22/01612/FULM)

10.323 The Transport Assessment submitted with planning application 22/01612/FULM has undertaken a bespoke trip generation exercise based on the existing trip generation at the site, proportional to the new development floor area. The junction assessment at the site access / A513 has been assessed based on the busiest day of the year, within the traditional highway peak hours during the AM (08:00-09:00) and PM (17:00-18:00) for an assessment year of 2023 A junction assessment of the A513 / Barley Green Lane junction (National Memorial Arboretum access junction) was carried out for the 2023 assessment year which showed that the impact of the development trips would result in a very minor impact on the junction. Specifically, the Transport Assessment states '*The small changes in queues and delay would be barely perceptible and would be less than that which could be attributable to daily variations in background traffic'*.

10.324 As the Transport Assessment demonstrated, the development trips would be barely noticeable to background traffic on the local highway network during the traditional highway peak hours. Considering the Proposed Development traffic will use the A513 for Light vehicle for construction workers, of whom would be required to arrive at the Site prior to the traditional highway peak hours, it is unlikely that the Proposed Development trips would overlap with development trips at the National Memorial Arboretum. On this basis, the cumulative impact is expected to be Negligible.

Residual Cumulative Effects During Construction

Scenario 1 – Preferred: Cumulative Effects

10.325 None of the cumulative developments use any of the highway links within Scenario 1. Walton Road is used to access the 'Waste to Energy' plant, however this is coming from

Rosliston, rather than from Walton (which is the section that Scenario 1 uses). Therefore, there will be no residual cumulative effects on highway links in Scenario 1.

Scenario 2A – Likely: Cumulative Effects

10.326 The main cumulative effect in Scenario 2A will be due to the combination of Proposed Development trips as well as the operational phase trips from the Drakelow 'Waste to Energy' site. These affect a number of highway links across the study area to varying degrees.

Scenario 2B – Back-up: Cumulative Effects

10.327 The main cumulative effect in Scenario 2B will be due to the combination of Proposed Development trips as well as the operational phase trips from the Drakelow 'Waste to Energy' site. These affect a number of highway links across the study area to varying degrees.

AIL Movements

10.328 The AIL movements will take place during a limited period of a single day throughout the construction period. It will also use highway links not associated with cumulative developments. On this basis, it is not anticipated that there will be a residual cumulative effect during the AIL movements.

Proposed Mitigation

10.329 No additional mitigation, beyond that already set out to support the Proposed Development itself, is proposed given that the Outline CTMP is set out in a way that requires coordination with the relevant Highway Authorities, which will include a mechanism to avoid clashes of network availability and alignment of CTMP measures. This will already be subject to a DCO requirement and can therefore be effectively secured and enforced.

10.330 On this basis the predicted cumulative effects during construction will be Negligible in all scenarios.

Combined Effects

10.331 The combined effects of Transport and Access over the construction phase have considered factors that potentially overlap with other ES chapters. These have been referenced through this chapter, where relevant and are summarised as:

- **Chapter 11: Noise**
- **Chapter 12: Socio-Economics, Tourism and Recreation**
- **Chapter 16: Other Issues** (**Appendix 16.1: Air Quality Assessment**)

10.332 The Proposed Development construction traffic will have a temporary impact on Noise and Air Quality which is assessed further within **Chapter 11: Noise** and **Chapter 16: Other Issues**, respectively. During the construction phase, there will be some effect on the PRoW Route 9 as discussed in this assessment and detailed further in **Chapter 12: Socio-Economics, Tourism and Recreation**.

Further Survey Requirements and Monitoring

10.333 No further surveys have been identified as required to complete this chapter and to accurately present the assessed effects.

10.334 There will be continued consultation with DCC and SCC to understand the evolving programme for delivery of the Walton-on-Trent Bypass but with multiple scenarios assessed, this does not affect the accuracy of the information presented at this stage.

10.335 Monitoring of the CTMP will be secured by DCO requirement. Arrangements for further consultation, liaison and monitoring are included in the Outline CTMP, contained in **Appendix 10.1: Outline Construction Traffic Management Plan**.

10.336 The AIL movements will be subject to a separate application and permitting scheme, currently administered by NH. This process will be supported by additional route assessment and validation, including additional surveys as required. This does not affect the accuracy of the information presented at this stage.

Summary of Effects

10.337 As set out within the Scope of Assessment section, the effects assessed have been based on those experienced during the construction phase. **Table 10.35** summarises the overall significance of effect, accounting for residual construction effects following proposed mitigation, and cumulative effects following consideration given to local development traffic.

Table 10.35: Summary of Effects

Predicted Effect	Significance	Mitigation	Significance of Residual Effect
Construction			
Severance of communities	Negligible - Moderate	Outline CTMP: Temporary signage and traffic control. Haul road to contain internal trips within the Site. Limited operational hours. Core working hours between 07:00 and 19:00 on weekdays and between 08:00 and 13:00 on Saturday. Staggered timing of inbound and outbound construction traffic movements. Designated 'routing staff' to enforce construction vehicle routes. Traffic Management Group to enforce and update all measures as and if necessary	Negligible – Minor
Road vehicle driver and passenger delay	Negligible - Moderate		Negligible – Minor
Non-motorised user delay	Negligible - Moderate		Negligible – Minor
Non-motorised amenity	Negligible - Moderate		Negligible – Minor
Fear and intimidation on and by road users	Negligible – Minor		Negligible – Minor
Road user and pedestrian safety	Negligible – Moderate		Negligible – Minor

Predicted Effect	Significance	Mitigation	Significance of Residual Effect
Hazardous / large loads	Negligible		Negligible
Cumulative Construction			
Severance of communities	Negligible - Minor	No further additional mitigation provided beyond that already set out within the Outline CTMP, which is set out in a way that requires coordination with the relevant Highway Authorities, which includes a mechanism to avoid clashes of network availability and alignment of CTMP measures.	Negligible
Road vehicle driver and passenger delay	Negligible - Minor		Negligible
Non-motorised user delay	Negligible - Minor		Negligible
Non-motorised amenity	Negligible - Minor		Negligible
Fear and intimidation on and by road users	Negligible - Minor		Negligible
Road user and pedestrian safety	Negligible - Minor		Negligible

Predicted Effect	Significance	Mitigation	Significance of Residual Effect
Hazardous / large loads	Negligible - Minor		Negligible