

**M42 Junction 6 Improvement
Scheme Number TR010027
Volume 6**

6.1 Environmental Statement
**Chapter 17 – Summary of Significant
Effects**

Regulation 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009

January 2019

Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

M42 Junction 6 Improvement Development Consent Order 202[x]

6.1 Environmental Statement Chapter 17 Summary of Significant Effects

Regulation Number	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	TR010027
Application Document Reference	6.1
Author	M42 Junction 6 Improvement Project Team and Highways England

Version	Date	Status of Version
1	January 2019	DCO Application

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17 Summary of significant environmental effects

17.1 Introduction

- 17.1.1 Chapters 6 to 16 of this Environmental Statement (ES) have considered the potential environmental impacts and effects of the Scheme. This chapter provides a summary of those adverse and beneficial environmental effects that are considered to be significant (*i.e.* moderate and major effects).

17.2 Significant environmental effects and proposed mitigation measures

- 17.2.1 **Table 17.1** summarises the significant environmental effects of the Scheme that have been identified, following implementation of the embedded mitigation or impact avoidance measures included in the design of the Scheme (as detailed in Chapters 6 to 16, where relevant). **Table 17.1** also summarises any additional mitigation measures that have been identified in the technical assessments contained in the ES. Cumulative and combined effects are included separately at the end of the table.
- 17.2.2 As outlined in Chapter 5 EIA methodology and consultation, for the purposes of this ES an effect is considered to be 'significant' if it is assessed to be moderate (adverse or beneficial) or major (adverse or beneficial). Minor and neutral effects are only referenced in this chapter where a 'significant' effect has been reduced to a 'not significant' effect following mitigation.

Table 17.1: Summary of significant environmental effects

Project activity	Potential impact	Description of impact	Mitigation (above embedded and standard measures)		Summary of effect
			Required (Y/N)	Description	
Chapter 6 Air Quality					
No significant effects identified during the construction or operation phases of the Scheme.					
Chapter 7 Cultural Heritage					
Construction	Bickenhill Conservation Area	Loss of western boundary of the conservation area resulting in the reduced ability to understand the CA in its setting.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Construction	Unknown Archaeology	In the absence of trial trenching undertaken, a worst case of archaeological findings of a medium value has been applied to the assessment.	N	The Written Scheme of Investigation (WSI) will be undertaken as part of the Scheme.	Large adverse
Chapter 8 Landscape					
Construction	Landscape character	Landscape Character Area (LCA) 1: Total loss or large scale damage to existing character or distinctive features and elements, and/or the addition of new but uncharacteristic conspicuous features and elements.	N	None considered practical above the measures outlined within the OEMP.	Large adverse
Construction	Potential impact to landscape character	LCA 2: Total loss or large scale damage to existing character or distinctive features and elements, and/or the addition of new but uncharacteristic conspicuous features and elements.	N	None considered practical above embedded and standard mitigation.	Large adverse

Project activity	Potential impact	Description of impact	Mitigation (above embedded and standard measures)		Summary of effect
			Required (Y/N)	Description	
Construction	Potential impact on visual amenity caused by construction of the Scheme.	Viewpoint C: Adverse visual effects to the local road users of East Way overbridge.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Construction	Potential impact on visual amenity caused by construction of the Scheme.	Viewpoint F: Adverse visual effects to the residential properties on Old Station Road.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Construction	Potential impact on visual amenity caused by construction of the Scheme.	Viewpoint I: Adverse visual effects to the residential properties of Bickenhill North in the Bickenhill Conservation Area.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Construction	Potential impact on visual amenity caused by construction of the Scheme.	Viewpoint J: Adverse visual effects to the residential properties of St Peters Lane in the Bickenhill Conservation Area.	N	None considered practical above embedded and standard mitigation.	Large adverse
Construction	Potential impact on visual amenity caused by construction of the Scheme.	Viewpoint K: Adverse visual effects to the recreational users of the Public Right of Way (PRoW) west of Bickenhill (M109).	N	None considered practical above embedded and standard mitigation.	Large adverse
Construction	Potential impact on visual amenity caused by construction of the Scheme.	Viewpoint L: Visual effects to the recreational users of the PRoW west of Bickenhill (M112).	N	None considered practical above embedded and standard mitigation.	Large adverse
Construction	Potential impact on visual amenity caused by construction of the Scheme.	Viewpoint M: Adverse visual effects to the recreational users of the PRoW near Castle Hills Farm (M112 and M113).	N	None considered practical above embedded and standard mitigation.	Moderate adverse

Project activity	Potential impact	Description of impact	Mitigation (above embedded and standard measures)		Summary of effect
			Required (Y/N)	Description	
Construction	Potential impact on visual amenity caused by construction of the Scheme.	Viewpoint Q: Adverse visual effects to the recreational users of the Warwickshire Gaelic Athletics Association.	N	None considered practical above embedded and standard mitigation.	Large adverse
Construction	Potential impact on visual amenity caused by construction of the Scheme.	Viewpoint R: Adverse visual effects to the local road users of B4438 Catherine-de-Barnes Lane.	N	None considered practical above embedded and standard mitigation.	Large adverse
Construction	Potential impact on visual amenity caused by construction of the Scheme.	Viewpoint S: Adverse visual effects to the local road users of Shadowbrook Lane.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Construction	Potential impact on visual amenity caused by construction of the Scheme.	Viewpoint T: Adverse visual effects to the recreational users of the PRow south of Shadowbrook Lane (M122 and M123).	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Construction	Potential impact on visual amenity caused by construction of the Scheme.	Viewpoint Z: Adverse visual effects to the recreational users of the overbridge above B4438 Catherine-de-Barnes Lane.	N	None considered practical above embedded and standard mitigation.	Large adverse
Construction	Potential impact on visual amenity caused by construction of the Scheme.	Viewpoint AA: Adverse visual effects to the recreational users of Rights of Way south of Shadowbrook Lane,	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Construction	Potential impact on visual amenity caused by construction of the Scheme.	Viewpoint BB: Adverse visual effects to the local road users of Solihull Road.	N	None considered practical above embedded and standard mitigation.	Moderate adverse

Project activity	Potential impact	Description of impact	Mitigation (above embedded and standard measures)		Summary of effect
			Required (Y/N)	Description	
Construction	Potential impact on visual amenity caused by construction of the Scheme.	Viewpoint EE: Adverse visual effects to the Four Winds residential property.	N	None considered practical above embedded and standard mitigation.	Large adverse
Construction	Potential impact on visual amenity caused by construction of the Scheme.	Viewpoint FF: Adverse visual effects to the residential properties of St Peters Lane and the Garden Centre.	N	None considered practical above embedded and standard mitigation.	Large adverse
Operation Year 1	Potential impact on landscape character caused by construction of the Scheme.	LCA 1: Partial loss or noticeable damage to existing character or distinctive features and elements and/or the addition of new but uncharacteristic noticeable features and elements.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Operation Year 1	Potential impact on landscape character caused by construction of the Scheme.	LCA 2: Total loss or large scale damage to existing character or distinctive features and elements, and/or the addition of new but uncharacteristic conspicuous features and elements.	N	None considered practical above embedded and standard mitigation.	Large adverse
Operation Year 1	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint I: The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Operation Year 1	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint J: The project, or a part of it, would become the dominant feature or focal point of the view.	N	None considered practical above embedded and standard mitigation.	Large adverse
Operation Year 1	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint K: The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.	N	None considered practical above embedded and standard mitigation.	Large adverse

Project activity	Potential impact	Description of impact	Mitigation (above embedded and standard measures)		Summary of effect
			Required (Y/N)	Description	
Operation Year 1	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint L: The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.	N	None considered practical above embedded and standard mitigation.	Large adverse
Operation Year 1	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint M: The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Operation Year 1	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint Q: The project, or a part of it, would become the dominant feature or focal point of the view.	N	None considered practical above embedded and standard mitigation.	Large adverse
Operation Year 1	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint R: The project, or a part of it, would become the dominant feature or focal point of the view.	N	None considered practical above embedded and standard mitigation.	Large adverse
Operation Year 1	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint S: The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Operation Year 1	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint T: The project, or a part of it, would become the dominant feature or focal point of the view.	N	None considered practical above embedded and standard mitigation.	Large adverse
Operation Year 1	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint X: The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.	N	None considered practical above embedded and standard mitigation.	Moderate adverse

Project activity	Potential impact	Description of impact	Mitigation (above embedded and standard measures)		Summary of effect
			Required (Y/N)	Description	
Operation Year 1	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint Z: The project, or a part of it, would become the dominant feature or focal point of the view.	N	None considered practical above embedded and standard mitigation.	Large adverse
Operation Year 1	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint AA: The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Operation Year 1	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint BB: The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Operation Year 1	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint CC: The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Operation Year 1	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint EE: The project, or a part of it, would become the dominant feature or focal point of the view.	N	None considered practical above embedded and standard mitigation.	Large adverse
Operation Year 1	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint FF: The project, or a part of it, would become the dominant feature or focal point of the view.	N	None considered practical above embedded and standard mitigation.	Large adverse
Operation Year 15	Potential impact on landscape character caused by operation of the Scheme.	LCA 1: Partial loss or noticeable damage to existing character or distinctive features and elements and/or the addition of new but uncharacteristic noticeable features and elements.	N	None considered practical above embedded and standard mitigation.	Moderate adverse

Project activity	Potential impact	Description of impact	Mitigation (above embedded and standard measures)		Summary of effect
			Required (Y/N)	Description	
Operation Year 15	Potential impact on landscape character caused by operation of the Scheme.	LCA 2: Partial loss or noticeable damage to existing character or distinctive features and elements and/or the addition of new but uncharacteristic noticeable features and elements.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Operation Year 15	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint I: The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Operation Year 15	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint J: The project, or a part of it, would become the dominant feature or focal point of the view.	N	None considered practical above embedded and standard mitigation.	Large adverse
Operation Year 15	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint K: The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Operation Year 15	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint L: The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Operation Year 15	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint M: The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Operation Year 15	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint Q: The project, or a part of it, would become the dominant feature or focal point of the view.	N	None considered practical above embedded and standard mitigation.	Large adverse

Project activity	Potential impact	Description of impact	Mitigation (above embedded and standard measures)		Summary of effect
			Required (Y/N)	Description	
Operation Year 15	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint R: The project, or a part of it, would become the dominant feature or focal point of the view.	N	None considered practical above embedded and standard mitigation.	Large adverse
Operation Year 15	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint T: The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Operation Year 15	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint X: The project, or a part of it, would form a noticeable feature or element of the view which is readily apparent to the receptor.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Operation Year 15	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint Z: The project, or a part of it, would become the dominant feature or focal point of the view.	N	None considered practical above embedded and standard mitigation.	Large adverse
Operation Year 15	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint EE: The project, or a part of it, would become the dominant feature or focal point of the view.	N	None considered practical above embedded and standard mitigation.	Large adverse
Operation Year 15	Potential impact on visual amenity caused by operation of the Scheme.	Viewpoint FF: The project, or a part of it, would become the dominant feature or focal point of the view.	N	None considered practical above embedded and standard mitigation.	Large adverse

Project activity	Potential impact	Description of impact	Mitigation (above embedded and standard measures)		Summary of effect
			Required (Y/N)	Description	
Chapter 9 Biodiversity					
Construction	Potential impact to ancient woodland at Aspbury's Copse potential local wildlife site (pLWS)	Unavoidable loss of 0.46ha of ancient woodland due to the construction of M42 Junction 5A and associated slip roads.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Chapter 10 Geology and Soils					
Construction	Potential impact to agricultural land.	The Construction of the Scheme would result in the loss of approximately 21.4ha of Grade 3a (best and most versatile) agricultural land.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Chapter 11 Material Assets and Waste					
No significant effects identified during the construction or operation phases of the Scheme.					

Project activity	Potential impact	Description of impact	Mitigation (above embedded and standard measures)		Summary of effect
			Required (Y/N)	Description	
Chapter 12 Noise and Vibration					
Construction noise	Potential impact to levels of construction noise caused by the realignment of Solihull Road.	Receptor C3 Woodside and neighbouring properties: Exceedances of the daytime Significant Observed Adverse Effect Level (SOAEL) by 1 or 2 dB for a period of 100 days. Exceedances of the night-time SOAEL by 17dB during the demolition of Solihull Road bridge for a period of 10 days.	N	None considered practical above embedded and standard mitigation.	Above the SOAEL and occurring for 10 or more days in 15, or more than 40-days in 6-months. Significant effect.
Construction noise	Potential impact due to construction noise caused by realignment of Solihull Road.	Receptor C4 Four Winds: exceedances of the daytime SOAEL are anticipated during earthworks (exceedance of 3dB) and surfacing works (exceedance of 1dB). These activities are associated with the works to realign Catherine de Barnes Lane, which would 60 days, followed by a break of approximately 10-months, and then for another 100 days.	N	None considered practical above embedded and standard mitigation.	Above the SOAEL and occurring for 10 or more days in 15, or more than 40-days in 6-months. Significant effect.
Construction noise	Potential impact due to levels of construction noise caused by the earthworks required to create the new mainline link road.	Receptor C5 The Dale: Exceedances of the daytime (2dB) and evening (4dB) SOAEL during the earthworks required to create the new mainline link road.	N	None considered practical above embedded and standard mitigation.	Above the SOAEL and occurring for 10 or more days in 15, or more than 40-days in 6-months. Significant effect.
Construction noise	Potential impact due to construction noise caused by the realignment of Catherine-de-Barnes Lane.	Receptor C6 Rose Cottage (representative of an additional 5 residential properties to the south of St Peter’s Lane in close proximity): Exceedances of the daytime SOAEL of up to 12dB during the realignment of Catherine-de-Barnes Lane.	N	None considered practical above embedded and standard mitigation.	Above the SOAEL and occurring for 10 or more days in 15, or more than 40-days in 6-months. Significant effect.

Project activity	Potential impact	Description of impact	Mitigation (above embedded and standard measures)		Summary of effect
			Required (Y/N)	Description	
Construction noise	Potential impact due to construction noise caused by the earthworks required to create the new mainline link road.	Receptor C8 Clock Cottage and neighbouring properties: Exceedance of the evening SOAEL by 5dB.	N	None considered practical above embedded and standard mitigation.	Above the SOAEL and occurring for 10 or more days in 15, or more than 40-days in 6-months. Significant effect.
Construction noise	Potential impact due to construction noise caused by the piling, pile capping and decking of the north west free flow link bridge.	Receptors C10 [REDACTED] and C11 [REDACTED] and neighbouring properties: Exceedances of the daytime SOAEL by 5dB at C10 and 9dB at C11.	N	None considered practical above embedded and standard mitigation.	Above the SOAEL and occurring for 10 or more days in 15, or more than 40-days in 6-months. Significant effect.
Construction noise	Potential impact due to construction noise caused by the realignment of Catherine-de-Barnes Lane	Receptor C16 [REDACTED]: Exceedances of the SOAEL of 1db to 9dB.	N	None considered practical above embedded and standard mitigation.	Above the SOAEL and occurring for 10 or more days in 15, or more than 40-days in 6-months. Significant effect.

Project activity	Potential impact	Description of impact	Mitigation (above embedded and standard measures)		Summary of effect
			Required (Y/N)	Description	
Chapter 13 Population and Health					
Construction	Potential impact to Grade 3a agricultural land.	The construction of the Scheme would result in the loss of approximately 21.4ha of Grade 3a (best and most versatile) agricultural land.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Construction	Temporary disruption to agricultural holding during construction.	Woodhouse Farm – A total area of 29.4ha (42% of the holding) would be required temporarily during construction of the Scheme, 11.7ha of this would be restored following completion of the Scheme.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Construction	Permanent land take of agricultural holdings required during construction of the Scheme.	Woodhouse Farm: A total area of 17.75ha (34.1% of the holding) would be required permanently during construction of the Scheme.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Construction	Permanent land take of agricultural holdings required during construction of the Scheme.	West of Catherine-de-Barnes Lane (A) and adjoining the Bickenhill Meadows NW SSSI unit: A total area of 7.22ha (100% of the holding) would be required permanently during construction of the Scheme.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Construction	Permanent land take of agricultural holdings required during construction of the Scheme.	West of Catherine-de-Barnes Lane (B) and immediately to the south of (A) above: A total area of 10.47ha (100% of the holding) would be required permanently during construction of the Scheme.	N	None considered practical above embedded and standard mitigation.	Moderate adverse

Project activity	Potential impact	Description of impact	Mitigation (above embedded and standard measures)		Summary of effect
			Required (Y/N)	Description	
Chapter 14 Road Drainage and the Water Environment					
No significant effects identified during the construction or operation phases of the Scheme.					
Chapter 15 Climate					
No significant effects identified during the construction or operation phases of the Scheme.					
Chapter 16. Assessment of Cumulative Effects					
Construction (in-combination effect)	In-combination visual, noise and cultural heritage impacts during construction of the Scheme.	St Peters Lane, Bickenhill conservation area (residential properties): Temporary visual and noise impacts to residential properties and the setting of the Bickenhill conservation area caused by construction plant.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Construction (in-combination effect)	In-combination visual and noise impacts during construction of the Scheme.	Users of Public Right of Way (M109): Temporary visual and noise impacts upon users of the PRoW.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Construction (in-combination effect)	In-combination visual and noise impacts during construction of the Scheme.	Users of Public Right of Way (M112): Temporary visual and noise impacts upon users of the PRoW.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Construction (in-combination effect)	In-combination visual and noise impacts during construction of the Scheme.	WGAA: Temporary visual and noise impacts upon recreational users of the WGAA.	N	None considered practical above embedded and standard mitigation.	Moderate adverse

Project activity	Potential impact	Description of impact	Mitigation (above embedded and standard measures)		Summary of effect
			Required (Y/N)	Description	
Construction (in-combination effect)	In-combination visual and noise impacts during construction of the Scheme.	Four Winds Farm and nearby residential properties: Temporary visual and noise impacts upon Four Winds Farm and neighbouring properties.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Construction (in-combination effect)	In-combination visual and noise impacts during construction of the Scheme.	Four Winds Farm and nearby residential properties: Temporary visual and noise impacts upon St Peters Lane, the garden centre and neighbouring properties.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Operation (in-combination effect)	In-combination visual and noise impacts during operation of the Scheme.	St Peters Lane, Bickenhill conservation area (residential properties): visual and noise impacts to residential properties during operation of the Scheme.	N	None considered practical above embedded and standard mitigation.	Large adverse
Operation (in-combination effect)	In-combination visual and noise impacts during operation of the Scheme.	WGAA: Visual and noise impacts upon recreational users of the WGAA.	N	None considered practical above embedded and standard mitigation.	Large adverse
Construction (cumulative effect)	Cumulative impact on landscape character and visual amenity caused by the construction of the Scheme and the proposed Motorway Service Area (MSA) (PL/2015/51409/PPOL).	LCA 2: In the unlikely worst case scenario that the southern extents of the Scheme and the MSA are constructed simultaneously, a temporary adverse effect would occur upon LCA 2 and viewpoint T due to the presence of construction plant.	N	None considered practical above embedded and standard mitigation.	Moderate adverse

Project activity	Potential impact	Description of impact	Mitigation (above embedded and standard measures)		Summary of effect
			Required (Y/N)	Description	
Construction (cumulative effect)	Potential cumulative loss of 0.51ha of ancient woodland at Aspbury's Copse pLWS (0.46ha from the Scheme and 0.05ha from the MSA).	Aspbury's Copse pLWS: Both the Scheme and the MSA have reported unavoidable losses of ancient woodland at the Aspbury's Copse site. If both the MSA and the Scheme are constructed this would result in a total loss of 0.51ha (22.5% of the total 2.27ha site).	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Construction (cumulative effect)	There is a possibility of direct, permanent, physical impact on archaeological deposits during construction of both the Scheme and HS2.	Unknown archaeological deposits: Due to the permanent duration of the effect and the maximum medium value assigned to unrecorded archaeological assets (Chapter 7 Cultural Heritage). There is potential for a cumulative effect of moderate adverse. This represents a potential worst case effect on unrecorded archaeological deposits and the significance of this effect shall be re-evaluated upon completion of the archaeological evaluation trenching.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Construction (cumulative effect)	Cumulative effect on landscape character and visual amenity caused by the Scheme and HS2.	Landscape and visual amenity: Based upon the worst case scenario of construction of the HS2 overlapping with the construction of the northern extent of the Scheme. The effects of the Scheme and HS2 would result in a cumulative landscape effect of moderate adverse and cumulative visual effect on the receptors affected by both developments of slight adverse.	N	None considered practical above embedded and standard mitigation.	Landscape – moderate adverse Visual amenity – slight adverse
Operation (cumulative effect)	Cumulative effect on visual amenity caused by the Scheme and the proposed Motorway Service Area (MSA) (PL/2015/51409/PPOL).	Adverse cumulative effect on visual amenity to receptors around the southern extent of the Scheme and the MSA (Viewpoints: BB, T, U).	N	None considered practical above embedded and standard mitigation.	Moderate adverse

Project activity	Potential impact	Description of impact	Mitigation (above embedded and standard measures)		Summary of effect
			Required (Y/N)	Description	
Operation (cumulative effect)	Cumulative effect on landscape character caused by the Scheme and HS2.	LCA 2: Adverse cumulative effect on the landscape character of LCA 2.	N	None considered practical above embedded and standard mitigation.	Moderate adverse
Operation (cumulative effect)	Cumulative effect on visual amenity caused by the Scheme and HS2.	Adverse cumulative effect on the viewpoints around Junction 6 to the north and east of the M42.	N	None considered practical above embedded and standard mitigation.	Moderate adverse