M20 Junction 10a

TR010006

Environmental Statement

Chapter 16 Conclusions and Summary Table

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Content

Chapter	Title	Page
16	Conclusions and Summary Table	2
16.1	Introduction	2
16.2	Significance of Effects	2
16.3	Mitigation	3
16.4	Residual Effects	3
16.5	Summary of Environmental Effects	3
16.6	Transboundary Effects	3
16.7	Conclusion	8

16 Conclusions and Summary Table

16.1 Introduction

16.1.1 This chapter summarises the findings of the impact assessments reported in this Environmental Statement (ES). Likely significant effects are tabulated in Table 16.1. Topic specific impact assessments are presented in detail in Chapters 5 to Chapter 14, Volume 6.1.

16.1.2 To assist in the understanding of the summary findings a number of assessment fundamentals are outlined below.

16.2 Significance of Effects

16.2.1 The significance of environmental effects is largely defined by reference to 2 key factors:

- The ‘value’ or ‘sensitivity’ of the receptor.
- The ‘magnitude’ or ‘scale’ of the impact.

16.2.2 All the environmental assessments are based on the application of published, topic-specific guidance found in Volume 11 of the Highways England Design Manual for Roads and Bridges (DMRB), Highways England Interim Advice Notes (IANs) or other appropriate guidance. In most cases, effects are defined according to the following broad descriptors:

- Adverse or Beneficial (i.e. they are undesirable effects, or they represent an improvement over the baseline situation).
- Construction or operational (i.e. caused by the construction of the Main or Alternative Scheme, or by the operation of the Schemes after opening).
- Short-term or long-term (i.e. they are felt for less than 15 years, or they would still be felt 15 years after construction and beyond).
- Temporary or permanent (i.e. they are felt for a limited period of time, or they would be felt indefinitely).
- Significant or not significant.

16.2.3 Chapter 4 Environmental Impact Assessment (EIA) Methodology, Volume 6.1, describes the general approach to the environmental assessment for each topic. For most topics the significance of an effect is defined in 5 categories (Neutral, Slight, Moderate, Large and Very Large). With the addition of the terms ‘Adverse’ or ‘Beneficial’, the categories can be applied as a balanced nine-point scale (Neutral; Slight Adverse; Moderate Adverse; Large Adverse; Very Large Adverse; Slight Beneficial; Moderate Beneficial, Large Beneficial and Very Large Beneficial).

16.2.4 In this assessment, all effects that are Moderate or above are deemed 'significant'.

16.2.5 Certain topics in this assessment have used a different approach to assessing the level of significance in accordance with discipline specific best practice guidance or based on professional judgement of the assessor. The specific approach applied to each environmental topic is fully described in the relevant assessment chapters (Chapters 5 to 14, Volume 6.1).

16.2.6 In all cases, the assessment is based on the worst case scenario principle noted in Chapter 2 The Proposed Scheme, Volume 6.1, and the individual topic chapters where relevant.

16.3 Mitigation

16.3.1 Measures to mitigate the effects of the Main and Alternative Schemes have been identified and included within the assessment chapters (Chapters 5 to 14, Volume 6.1). Mitigation measures have also been included in the Register of Environmental Actions and Commitments (REAC) which forms Appendix D of the Outline Construction Environmental management Plan (Outline CEMP), Appendix 17.1, Volume 3. These mitigation measures have been taken into account in the assessment of residual effects for each topic.

16.4 Residual Effects

16.4.1 Following implementation of mitigation, the environmental effects envisaged to remain are referred to as residual effects. These are described in each topic chapter.

16.4.2 Some design features and mitigation measures may result in an environmental improvement. In these instances, the residual effect is recorded as 'beneficial'.

16.5 Summary of Environmental Effects

16.5.1 Table 16.1 summarises the likely significant effects (i.e. residual effects with a significance of Moderate Adverse or Beneficial or greater). The required mitigation measures are also outlined.

16.6 Transboundary Effects

16.6.1 As noted in Chapter 4 EIA Methodology, Volume 6.1, transboundary effects have not been considered within this ES, as they were scoped out of the assessment in the 2015 Scoping Report as none of the proposed topic study areas reach other European Economic Area (EEA) members states.

Table 16.1 Summary of significant residual environmental effects

Description of effect	Main/ Alternative	Adverse/ beneficial	Construction/ operation	Temporary/Long term	Mitigation requirements	Significance of residual effect after mitigation
Chapter 5: Air Quality – No significant adverse or beneficial residual effects						
Chapter 6: Cultural Heritage						
Effect on Historic Buildings						
Adverse effects on the setting of Grade I Listed St Marys Church at Sevington. Effects from elements of the proposed link road and A2070 junction would be visible from the asset. The proposed link road would form a new visual barrier in the north and north east of the asset.	Main and Alternative.	Adverse.	Construction and Operation.	Temporary and long term.	Construction: • Acoustic barriers. • Screening planting. • The use of footbridge handrail lighting and bollard lighting on the slip road. • Landscape planting to reduce the visual impact on the setting of St Marys Church. Operation: • Screening planting to reduce visual intrusion on St Marys Church and Court Lodge. • Pedestrian and road links to St Marys Church to be retained.	Moderate/ Large Adverse (Construction) temporary. Slight/ Moderate Adverse (Operation) long term.
Associated core of Sevington comprising the Grade II Listed Court Lodge and barn. Effects from noise and light intrusion.	Main and Alternative.	Adverse.	Construction.	Temporary.	Construction and reinstatement mitigation measures would be applied, as detailed in the CEMP and design, including screening planting which would reduce the visual light intrusion from the current baseline by Year 15, and changes to noise levels due to the reduced speed limit on the A2070.	Slight to Moderate/ Large temporary.
Grade II Listed Ransley Cottage, Redbur and Redbur Barn. Effects from the partial removal of treeline opposite the cottage and visibility of the A2070 footbridge.	Main and Alternative.	Adverse.	Construction.	Temporary and Long term.	Construction: • Noise barriers. • Screening planting. • The use of footbridge handrail lighting and bollard lighting on the sliproad.	Moderate/ Large Adverse (Temporary). Slight significant Adverse (Longer term).
Effects on Archaeological Remains						
The removal of undated archaeological remains identified within the footprint of the Schemes as well as the potential to remove remains associated with the medieval occupation of Sevington and any other unknown remains.	Main and Alternative.	Adverse.	Construction.	Long term.	A programme of archaeological works would be implemented to investigate, analyse, report and record these assets.	Moderate/ Slight (Permanent effect) Adverse.
Chapter 7: Landscape						
Visual Impact						
During construction, associated construction infrastructure and vehicles would create adverse visual impacts. During operation, the introduction of a new link road and roundabout and associated gantries, noise barriers and environmental bunds, signage and lighting	Main and Alternative.	Adverse.	Construction and Operation.	Temporary/ Short term/ Long term.	Construction: • Keeping a well-managed and tidy site including compound areas. • Ensuring materials are delivered on an as and when basis to avoid unnecessary stockpiles, would also help to reduce construction impacts. • Night-time activities would be limited to beam erection and bridge demolition.	Construction (Temporary): • 10 receptors would experience a Large Adverse significant effect. • 6 receptors would experience a Moderate Adverse significant effect. Year 1 (Short term): • 2 receptors would experience a Large Adverse effect.

Description of effect	Main/ Alternative	Adverse/ beneficial	Construction/ operation	Temporary/Long term	Mitigation requirements	Significance of residual effect after mitigation
would result in adverse visual impacts.					• Temporary offices and welfare facilities within site compounds would be of a recessive colour to blend in with the local surroundings. • Lighting would be kept to a minimum with options for infrared lighting or timers explored for compounds where practicable. Operation: Establish mitigation planting so that by Year 15 the planting would have matured to aid the integration and screening of the Main or Alternative Schemes from the surrounding area.	• 10 receptors would experience a Moderate Adverse effect. Year 15 (Longer term): • 1 receptor would experience a Moderate Adverse effect (Visual Receptor No. 5)).
Landscape Character						
Of the 6 Landscape Character Areas (LCAs) identified, only 1 LCA (LCA 3 Mersham Farmlands) would experience significant adverse effects during construction and significant effects in Year 1 for both schemes.	Main and Alternative.	Adverse.	Construction and Operation.	Temporary (Short-term).	Construction: As outlined under 'Visual Impact'. Operation: Landscape mitigation measures would help integrate the A2070 link road within its surroundings and reduce its prominence within the LCA. These include: • A buffer of native trees and shrubs. • Standard trees and swathes of species rich grassland. • Ornamental planting along the south eastern edge of Ashford. Whilst the mitigation planting may have limited effect in Year 1, over time the planting would establish to soften its presence within the landscape resulting in a non-significant slight adverse effect.	Large Adverse effect (Temporary during construction). Moderate Adverse (Short-term).
Chapter 8: Nature Conservation – No significant adverse or beneficial residual effects.						
Chapter 9: Geology and Soils – No significant adverse or beneficial residual effects.						
Chapter 10: Materials – No significant adverse or beneficial residual effects.						
Chapter 11: Noise and Vibration – No significant adverse or beneficial residual effects.						
Chapter 12: Effects on All Travellers – No significant adverse or beneficial residual effects.						
Chapter 13: Community and Private Assets						
Private Assets						
Land take of Private land along A2070 Bad Munstereifel Road during the construction of the A2070 link road.	Main and Alternative.	Adverse.	Construction and Operation.	Temporary and Permanent.	Consultation with the landowners, tenants and occupiers of the properties affected and appropriate mitigation (which would potentially include appropriate compensation) would be adopted wherever necessary.	Significant.
Land take of private residential/ farmland on Highfield Lane as a result of the A2070 link road.	Main and Alternative.	Adverse.	Construction and Operation.	Permanent.		Significant.
The construction of the new M20 Junction 10a eastbound off slip would require the demolition of and land take from 2	Main and Alternative.	Adverse.	Construction and Operation.	Permanent.		Significant.

Description of effect	Main/ Alternative	Adverse/ beneficial	Construction/ operation	Temporary/Long term	Mitigation requirements	Significance of residual effect after mitigation
businesses - Willesborough Garden Centre and Sweatman Mowers.						
Community Land						
The reconstruction of the new Church Road footbridge would require land take of land designated as open space during construction.	Main and Alternative.	Adverse.	Construction.	Temporary.	None.	Significant.
Development Land						
The Scheme would unlock the designated development sites U19 Sevington and U14 Land at Willesborough Lees as detailed within the Urban Sites and Infrastructure Development Plan adopted in October 2012. The Scheme would also facilitate access to existing land uses such as the McArthur Glen Outlet and improve access to the south west of Ashford which may in turn unlock potential growth of the allocated development sites to the south of Ashford.	Main.	Beneficial.	Operation.	Long Term.	None.	Significant.
The Scheme would unlock the designated development sites U19 Sevington and U14 Land at Willesborough Lees as detailed within the Urban Sites and Infrastructure Development Plan adopted in October 2012. The Scheme would also facilitate access to existing land uses such as the McArthur Glen Outlet and improve access to the south west of Ashford which may in turn unlock potential growth of the allocated development sites to the south of Ashford.	Alternative.	Beneficial.	Operation.	Long term.	None.	Significant – Beneficial impact may be enhanced under the Alternative Scheme as a result of the further improved access arising from the proposed roundabout at the midpoint of the A2070 link road.
Agricultural Land						
The Scheme may potentially to render one farm unviable, with a 41% permanent loss of land from this farm	Main and Alternative.	Adverse.	Construction and Operation.	Permanent.	Financial mitigation would be made available for farms directly affected by the Scheme in accordance with the Compulsory Purchase Compensation Code, which would compensate for relevant permanent losses by each farm business once the Scheme is in operation.	Significant
Community Severance – No significant adverse or beneficial effects.						
Economic Development						
It is estimated that both the Main and Alternative Schemes would bring forward sufficient economic development to support 44,980 net additional job years over the 30 year appraisal period compared to the Do Minimum scenario. These jobs years are broadly equivalent in economic impact to 4,500 permanent jobs1 for the Kent economy. The people in these jobs would create an estimated	Main and Alternative.	Beneficial.	Operation.	Long term.	None.	Significant.

[1] BIS (2009), RDA Evaluation: Practical Guidance on Implementing the Impact Evaluation Framework – where an FTE job is expected to persist for 10 years.

Description of effect	Main/ Alternative	Adverse/ beneficial	Construction/ operation	Temporary/Long term	Mitigation requirements	Significance of residual effect after mitigation
additional £1.6 billion GVA, discounted at 3.5%2 back to 2016 values.						
Chapter 14: Road Drainage and the Water Environment						
Flood Risk and Drainage						
Increased fluvial flood risk to or from Scheme.	Main and Alternative.	Beneficial.	Operation.	Long term.	Runoff from new roads would be attenuated up to the 100 year plus 30% climate change storm event (where possible) at the agreed greenfield runoff rate of 4l/s/ha south of the M20 and 2l/s/ha north of the M20. A sensitivity test has been carried out for a 40% climate change allowance, which has demonstrated that these additional flows could also be accommodated within the proposed attenuation ponds.	Slight or Moderate beneficial.
Surface Water – hydromorphology – No significant adverse or beneficial residual effects.						
Surface Water Quality – No significant adverse or beneficial residual effects.						
Groundwater – No significant adverse or beneficial residual effects.						

[2] In-line with HM Treasury Green Book recommendations: HM Treasury (2011) The Green Book available online at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf, accessed 27/04/16

16.7 Conclusion

16.7.1 There would be no significant adverse or beneficial residual effects as a result of the Main and Alternative Schemes for the following topics; Air Quality, Nature Conservation, Geology and Soils, Materials, Noise and Vibration, and Effects on All Travellers.

16.7.2 It is anticipated that there would be significant adverse residual effects on some Cultural Heritage Assets as a result of the Main and Alternative Schemes. This includes, temporary and long term significant adverse residual effects predicted on the setting of the Grade I Listed St Marys Church Sevington, and on the Grade II Listed Ransley Cottage and Redbur Barn. In addition, temporary significant adverse residual effects are predicted on the Grade II Listed Court Lodge and Barn. The adverse residual effects on archaeological remains are anticipated to be long term and significant.

16.7.3 For both the Main and Alternative Schemes 16 visual receptors are anticipated to experience temporary significant adverse residual effects during construction, this is expected to reduce to 12 visual receptors experiencing significant adverse residual effects over the short term in Year 1, and 1 visual receptor experiencing significant adverse residual effects over the long term in Year 15. Temporary and short term (Year 1) significant adverse residual effects are predicted on 1 of the 6 Landscape Character Areas (Mersham Farmlands).

16.7.4 As assessed within Community and Private Assets, the Main and Alternative Scheme would require temporary and permanent land take of private land including demolition of a private residential dwelling and use of farm land which would result in significant adverse residual effects. In addition, the requirement to demolish Willesborough Garden Centre and Sweatman Mowers would also result in significant adverse residual effects.

16.7.5 The Main and Alternative Schemes would result in significant beneficial residual effects on development land due to the unlocking of development sites, economic development due to the indirect creation of additional jobs, and flood risk due to the increased capacity of attenuation ponds.