

Appendix 11: Table of comparative assessment between the EIA subject areas and the SDNP Special Qualities

A27 Arundel Bypass Scheme							
Environmental Statement subject comparison with South Downs National Park Special Qualities							
	South Downs National Park Special Qualities						
Environmental Impact Assessment Chapters	<i>Diverse and inspirational landscapes</i> 1	<i>Rich variety of wildlife and habitats</i> 2	<i>Tranquil and unspoiled places</i> 3	<i>Environment shaped by farming</i> 4	<i>Great recreational opportunities</i> 5	<i>Well conserved historic features</i> 6	<i>Distinctive towns and villages and communities</i> 7
<i>Air quality</i>							
<i>Cultural Heritage</i>							
<i>Landscape</i>							
<i>Nature Conservation</i>							
<i>Geology and Soils</i>							
<i>Materials</i>							
<i>Noise and Vibration</i>							
<i>People and communities</i>							
<i>Road Drainage & the water environment</i>							
<i>Cumulative impacts</i>							

A27 Arundel Bypass Scheme Assessment of Impacts of scheme on SDNP Option I			
EIA subject (SDNP special quality)	Negative impacts Low – Moderate - High Adverse	Positive impacts Low – Medium - High Beneficial	Potential mitigation measures/options
Air quality 7	Not assessed by SDNPA	Not assessed by SDNPA	Not assessed by SDNPA
Cultural Heritage 6	<p>High Adverse The proposed development is likely to have a major and extensive impact upon any undesignated archaeology located in the area of former park land to the west Park Farm in the setting of the SDNP.</p> <p>Significant evidence for unrecorded and undesignated archaeological features along the route (associated with internationally important Boxgrove Quarry finds)</p> <p>Fragments of both the medieval and post medieval landscape in the form of surviving field boundaries are also crossed by the route option in the setting of the SDNP.</p> <p>Substantial negative impact on the setting of Arundel Castle (within the SDNP) introducing modern infrastructure within otherwise undeveloped medieval landscape of river corridor & valley (in the setting of the SDNP).</p> <p>Low adverse impact on heritage setting of Arun valley water meadows (Innings) in the setting of the SDNP</p>	<p>Neutral The potential for any minor beneficial impact to the setting of Arundel castle from the relocation of the A27 to the south of the SDNP boundary within the valley floor is countered by the likely visual and landscape impacts from the proposed route option being visible as a new dual carriageway on a 8m raised embankment which would intrude in views and perception from and to the heritage asset.</p>	<p>A programme of archaeological fieldwork consisting of field walking, geophysical survey, geo-archaeological trial pitting and trial trench evaluation should be carried out to fully assess the potential of as yet unrecorded archaeology along the route 3</p> <p>Further investigation and excavation, leading to the academic publication and public dissemination of all results.</p> <p>Any archaeological work carried out within the SDNP should include public engagement as part of any mitigation strategy with any archives deposited in a publically accessible archive.</p>

EIA subject (SDNP special quality)	Negative impacts Low – Moderate - High Adverse	Positive impacts Low – Medium - High Beneficial	Potential mitigation measures/options
<p>Landscape 1, 3</p>	<p>Moderate adverse</p> <p>Significant adverse impact from loss of 5.5ha Ancient Woodland at Stewards Copse, Rewell Wood and Binsted Wood Local Wildlife Site.</p> <p>Landscape and visual effects caused by the loss of landscape and creation of new road alignment within Wooded Estate Downland south of existing A27</p> <p>Significant adverse landscape and visual impacts in the setting of the SDNP associated with the elevated highway section across the eastern valley side and associated embankments carriageway would be 8m above existing levels.</p> <p>Continued and increased severance of parts of the SDNP through widening of the existing A27.</p> <p>Moderate negative impacts on tranquillity from the elevation of the new road crossing (8m) which would increase the visibility, movement and noise of vehicles albeit at a greater distance. This would also result in two road corridors within the SDNP and it's setting where currently there is only one</p> <p>Duration, phasing and delivery of the construction works likely to lead to significant impacts on the SDNP detailed assessment not possible due to lack of information.</p>	<p>Neutral</p> <p>The potential for any minor beneficial landscape impact from the relocation of the A27 to the south of the SDNP boundary within the valley floor is countered by the likely visual and landscape impacts from the proposed route option being visible as a new dual carriageway on a 8m raised embankment which would intrude in views and perception from the surrounding PROW network and landscape.</p>	<p>No mitigation possible for loss of ancient woodland. Compensatory planting ratio tbc</p> <p>Green bridges / tunnels of sufficient width to provide meaningful habitat connectivity over the increased width of the A27</p> <p>Green bridges / tunnels of sufficient width to provide continuous landscape setting for PROW and access routes.</p> <p>Green bridges / tunnels of sufficient width to reduce the major adverse visual, aural and landscape impact of the road.</p> <p>Integrated ecosystem services/Landscape scale approach to the design, creation and management of landscape and ecological mitigation</p> <p>Preparation of an appropriate road lighting scheme across the entire scheme to minimise impacts on dark night skies in the SDNP</p> <p>SUDs to be sensitively designed in the landscape to reflect the local character of surface water bodies and drainage patterns</p> <p>A 'minimal signage' approach to take account of the rural character of the A27 and its location adjacent to the SDNP</p> <p>Detailed assessment and Construction and Environment Management Plan (CEMP)</p>

EIA subject (SDNP special quality)	Negative impacts Low – Moderate - High Adverse	Positive impacts Low – Medium - High Beneficial	Potential mitigation measures/options
<p>Nature Conservation 2</p>	<p>High Adverse</p> <p>Significant adverse impact/loss of 5.5ha Ancient Woodland at Stewards Copse Rewell Wood and Binsted Wood Local Wildlife Site alongside existing A27</p> <p>Adverse impact on priority habitats, deciduous woodland, wood pasture, hedgerows.</p> <p>HRA to assess for potential impacts on Amberley/Pulborough Brooks SPA/ Ramsar, in terms of the water environment and air pollution.</p>	<p>Neutral – no positive benefits identified</p>	<p>Integrated ecosystem services/Landscape scale approach to the design, creation and management of landscape and ecological mitigation</p> <p>No mitigation possible for loss of ancient woodland.</p> <p>Compensatory habitat provision would be required in agreement with Natural England and other stakeholders</p> <p>Significant Ecological mitigation would be required for for habitat loss, reduced connectivity of remaining habitats and impacts on protected species, TBC</p> <p>HRA for Amberley Wildbrooks could identify further mitigation measures TBC</p> <p>Green bridges / tunnels of sufficient width to provide meaningful habitat connectivity.</p>
<p>Geology and Soils 1, 2</p>	<p>High Adverse</p> <p>Loss of Ancient woodland soils</p> <p>Importation of material for embankment – volume of soil required , sourcing/importation, transportation, storage, handling and placing likely to be highly unsustainable</p> <p>Construction working area for soils storage and access to works leading to additional compaction, impacting soil and water quality.</p>	<p>Neutral – no positive benefits identified</p>	<p>Translocation of AW soils technically possible but known to be of little value due to fragility of soil structure.</p> <p>Construction environment management plan (CEMP) to include soils management plan & minimise temporary land take for construction purposes with the SDNP</p> <p>Balance the use of soils on site to minimise the need to import vast quantities of material to form embankments.</p>

EIA subject (SDNP special quality)	Negative impacts Low – Moderate - High Adverse	Positive impacts Low – Medium - High Beneficial	Potential mitigation measures/options
Materials	Not assessed by SDNPA	Not assessed by SDNPA	Not assessed by SDNPA
Noise and Vibration 3	Moderate Adverse Moderate negative impacts on tranquillity from the elevation of the new road crossing (8m) which would increase the visibility, movement and noise of vehicles albeit at a greater distance. This would also result in two road corridors within the SDNP and its setting where currently there is only one	Neutral The potential for any minor beneficial tranquillity impact from the relocation of the A27 to the south of the SDNP boundary within the valley floor is countered by the likely visual and audible impacts from the proposed route option being visible as a new dual carriageway on a 8m raised embankment which would intrude in views and perception from the surrounding PROW network and landscape.	Green bridges / tunnels of sufficient width to reduce the major adverse visual, aural and landscape impact of the road alignment Noise reduction road surfacing & screening measures which are appropriate to local character, this is likely to be problematic given the open and flat nature of the valley floor in particular.
People and communities 4, 5, 7	High Adverse Significant adverse impacts on the public rights of way (– a noted key feature of the area) along and adjacent to the SDNP boundary through severance, re-routing. Potential impacts on the upstream river valley due to the embankment across the river valley Potential for adverse impacts on drainage, habitats and agriculture Loss of agricultural land within route alignment	Low beneficial Potential wider benefit to communities further afield from traffic using the A27 in preference to diverting to northern route through the SDNP. Though implications for loss of passing trade, increased speeds where previously slow moving traffic etc to be factored in too	Further evidence needed to identify potential impacts on upstream riparian function and potential mitigation measures NMU strategy for severed PROW and access routes to provide crossing points and green bridges where desirable. Further evidence needed on traffic modelling through the SDNP
EIA subject	Negative impacts	Positive impacts	Potential mitigation measures/options

(SDNP special quality)	<i>Low – Moderate - High Adverse</i>	<i>Low – Medium - High Beneficial</i>	
<i>Road Drainage & the water environment 2</i>	<p>Potential impacts on the upstream river valley due to the embankment across the river valley affecting water flows</p> <p>Potential for adverse impacts on drainage, wetland habitats and agriculture</p> <p>Potential for adverse impacts on water quality through highway drainage to soakaways allowing pollutants to enter the ground water.</p>		<p>Further evidence needed to identify potential impacts on upstream riparian function and potential mitigation measures</p> <p>Ensure all drainage provides adequate filtration measures to protect water quality. Avoid drainage to soakaways</p> <p>SUDs to be sensitively designed in the landscape to reflect the local character of surface water bodies and drainage patterns</p>
<i>Cumulative impacts</i>			

A27 Arundel Bypass Scheme Assessment of Impacts of scheme on SDNP Option 3			
EIA subject (SDNP special quality)	Negative Impacts Low- Moderate- High Adverse	Positive Impacts Low-Medium-High Beneficial	Potential mitigation measures/options
Air quality 7	Not assessed by SDNPA	Not assessed by SDNPA	Not assessed by SDNPA
Cultural Heritage 6	<p>High Adverse The proposed development is likely to have a major and extensive impact upon any undesignated archaeology located along route option 3 (Tortington Common, Pinewoods and Paines Wood)</p> <p>Substantial impact on the setting of the castle due to the new road alignment within the previously still and undeveloped medieval landscape of the wider Arun valley</p> <p>Route crosses the line of the newly discovered Chichester to Arundel Roman Road in the SDNP – likely to have significant archaeology,</p> <p>Strong evidence for important Roman building near Tortington Priory (as yet undiscovered)</p> <p>Significant evidence for unrecorded archaeological features (similar in age to Boxgrove Quarry finds)</p> <p>Impact on setting of Arundel Castle within the SDNP introducing modern infrastructure within otherwise undeveloped medieval landscape of river corridor & valley in the setting of the SDNP.</p>	<p>Neutral - the minor benefit to the setting of Arundel castle through the relocation of the road further to the south is countered by the impacts of the route option through the largely undeveloped and medieval landscape of the Arun valley</p>	<p>A programme of archaeological fieldwork consisting of field walking, geophysical survey, geo-archaeological trial pitting and trial trench evaluation should be carried out to fully assess the potential of as yet unrecorded archaeology along the route 3</p> <p>Further investigation and excavation, leading to the academic publication and public dissemination of all results.</p> <p>Any archaeological work carried out within the SDNP should include public engagement as part of any mitigation strategy with any archives deposited in a publically accessible archive.</p>

	Low adverse impact on heritage setting of Arun valley water meadows (Innings)		
EIA subject (SDNP special quality)	Negative Impacts Low- Moderate- High Adverse	Positive Impacts Low-Medium-High Beneficial	Potential mitigation measures/options
Landscape 1, 3	<p>High adverse</p> <p>Significant landscape and visual effects caused by the loss of landscape and creation of new road alignment within Binsted Wood and Tortington Common</p> <p>Significant adverse landscape impacts associated with the loss of 24ha of ancient woodland, other more recent plantations, designed parkscape, field patterns and hedgerows along the boundary and within the SDNP.</p> <p>Significant adverse impact on landscape from changes to landform</p> <p>Significant landscape and visual effects in the Arun Valley and the Arun valley sides affecting the setting of the SDNP from the route option crossing the valley floor and a new river bridge.</p> <p>Continued and increased severance of parts of the SDNP due to the altered route alignment together with continued use of the existing route for through traffic from Ford/ A259.</p> <p>Significant adverse impacts on the amenity experienced from the public rights of way – a noted key feature of the area</p>	<p>Neutral</p> <p>Any minor local beneficial effect from the existing A27 east of the new junction to the west of Arundel being downgraded to a single carriageway road would be offset by the additional intrusion and associated landscape and visual impacts to the SDNP due the route option alignment and the combined impacts on tranquillity from traffic being spread onto two roads within the SDNP.</p> <p>Very minor beneficial impact to tranquillity along section of existing A27 due to the relocation of traffic along route option 3. Existing A27 would still be open to traffic from Arundel, Burpham and Ford for example.</p> <p>Very minor/negligible improvement in landscape and visual impacts from the existing route of the A27 being downgraded</p>	<p>No mitigation possible for loss of ancient woodland. Consideration of compensatory woodland planting should not be considered as part of the assessment process (NPPG ¹)</p> <p>Green bridges / tunnels of sufficient width to provide meaningful habitat connectivity</p> <p>Green bridges / tunnels of sufficient width to provide continuous landscape setting for PROW and access routes.</p> <p>Green bridges / tunnels of sufficient width to reduce the major adverse visual, aural and landscape impact of the road alignment through the woodland.</p> <p>Design of bridge/viaduct/embankment to reflect local character and the importance and status of the setting of Arundel and the SDNP and thereby integrating it within local landscape character</p> <p>Integrated ecosystem services/Landscape scale approach to the design, creation and management of landscape and ecological mitigation</p>

¹ <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

	<p>Significant adverse impact on tranquillity within the wooded areas to the south of the A27 within the SDNP from increased road noise and visual intrusion in otherwise undeveloped area.</p> <p>Duration, phasing and delivery of the construction works likely to lead to significant impacts on the SDNP detailed assessment not possible due to lack of information</p> <p>Significant adverse impact on tranquillity within the setting of the SDNP in the Arun Valley introducing noise and visual intrusion in otherwise undeveloped area.</p>		<p>Preparation of an appropriate road lighting scheme across the entire scheme to minimise impacts on dark night skies in the SDNP</p> <p>SUDs to be sensitively designed in the landscape to reflect the local character of surface water bodies and drainage patterns</p> <p>A 'minimal signage' approach to take account of the rural character of the A27 and its location adjacent to the SDNP</p> <p>Detailed assessment and Construction and Environment Management Plan (CEMP)</p>
<p>EIA subject (SDNP special quality)</p>	<p><i>Negative Impacts</i> <i>Low- Moderate- High Adverse</i></p>	<p><i>Positive Impacts</i> <i>Low-Medium-High Beneficial</i></p>	<p><i>Potential mitigation measures/options</i></p>

<p>Nature Conservation 2</p>	<p>High Adverse Significant adverse impact on biodiversity: protected sites, semi-natural habitat extent, quality and connectivity, and populations of European protected native species.</p> <p>Significant/substantial adverse impact from loss of 24ha Ancient woodland</p> <p>Significant adverse impact on priority habitats, deciduous woodland, wood pasture, hedgerows and floodplain grazing marsh.</p> <p>HRA to assess for potential impacts on Amberley/Pulborough Brooks SPA/ Ramsar</p>	<p>Neutral – no positive impacts identified</p>	<p>Integrated ecosystem services/Landscape scale approach to the design, creation and management of landscape and ecological mitigation</p> <p>No mitigation possible for loss of ancient woodland.</p> <p>Compensatory habitat provision would be required in agreement with Natural England and other stakeholders</p> <p>Significant Ecological mitigation would be required for for habitat loss, reduced connectivity of remaining habitats and impacts on protected species, TBC</p> <p>HRA for Amberley Wildbrooks to identify mitigation measures for this habitat TBC</p> <p>Green bridges / tunnels of sufficient width to provide meaningful habitat connectivity</p>
<p>Geology and Soils 1, 2</p>	<p>High Adverse Loss of Ancient woodland soils</p> <p>Importation of material for embankment – volume of soil required , sourcing/importation, transportation, storage, handling and placing likely to be highly unsustainable,</p> <p>Construction working area for soils storage and access to works leading to additional compaction, impacting soil and water quality.</p>	<p>Neutral – no positive impacts identified</p>	<p>Translocation of AW soils technically possible but known to be of little value due to fragility of soil structure.</p> <p>Construction environment management plan to include soils management plan & minimise temporary land take for construction purposes with the SDNP</p> <p>Balance the use of soils on site to minimise the need to import vast quantities of material to form embankments.</p>
<p>Materials</p>	<p>Not assessed by SDNPA</p>	<p>Not assessed by SDNPA</p>	<p>Not assessed by SDNPA</p>

EIA subject (SDNP special quality)	Negative Impacts <i>Low- Moderate- High Adverse</i>	Positive Impacts <i>Low-Medium-High Beneficial</i>	Potential mitigation measures/options
Noise and Vibration 3	<p>High Adverse Significant adverse impacts on tranquillity (audible and visible impacts) within Binsted and Tortington Woods within the SDNP due to the presence of the route alignment.</p> <p>Significant adverse impacts on tranquillity within the Arun Valley in the setting of the SDNP due to the presence of the road</p>	<p>Neutral Any minor local beneficial effect on tranquillity from the existing A27 east of the new junction to the west of Arundel being downgraded to a single carriageway road would be offset by the additional intrusion and associated landscape and visual impacts to the SDNP due the route option alignment and the combined impacts on tranquillity from traffic being spread onto two roads within the SDNP.</p>	<p>Green bridges / tunnels of sufficient width to reduce the major adverse visual, aural and landscape impact of the road alignment through the woodland.</p> <p>Noise reduction road surfacing & screening measures which are appropriate to local character, this is likely to be problematic given the open and flat nature of the valley floor.</p>
People and communities 4, 5, 7	<p>High Adverse Significant adverse impacts on the public rights of way through severance, blocking and re-routing – a noted key feature of the area</p> <p>Potential impacts on the upstream river valley due to the embankment across the river valley</p> <p>Potential for adverse impacts on drainage, habitats and agriculture</p> <p>Loss of agricultural land within route alignment</p>	<p>Low beneficial Creation of short NMU route along eastern section of downgraded existing road.</p> <p>Minor beneficial impact from traffic using the A27 in preference to diverting to northern routes through the SDNP Though implications for loss of passing trade, increased speeds where previously slow moving traffic to be factored in too.</p>	<p>Further evidence needed to identify potential impacts on upstream riparian function and potential mitigation measures</p> <p>Further evidence needed on traffic modelling through the SDNP</p> <p>NMU strategy for severed PROW and access routes to provide crossing points and green bridges where desirable.</p>
Road Drainage & the water environment 2	<p>Potential impacts on the upstream river valley due to the embankment across the river valley</p> <p>Potential for adverse impacts on drainage, habitats and agriculture</p> <p>Potential for adverse impacts on water quality through highway drainage to soakaways allowing pollutants to enter the ground water.</p>		<p>Further evidence needed to identify potential impacts on upstream riparian function and potential mitigation measures</p> <p>Ensure all drainage provides adequate filtration measures to protect water quality. Avoid drainage to soakaways</p>

Cumulative impacts			
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A27 Arundel Bypass Scheme Assessment of Impacts of scheme on SDNP Option 5A			
EIA subject (SDNP special quality)	Negative impacts Low – Moderate - High Adverse	Positive impacts Low - medium – High Beneficial	Potential mitigation measures/options
Air quality 7	Not assessed by SDNPA	Not assessed by SDNPA	Not assessed by SDNPA
Cultural Heritage 6	<p>High Adverse The proposed development is likely to have a major and extensive impact upon any undesignated archaeology located along route option 5A within the SDNPA and in its setting</p> <p>Route crosses the line of the newly discovered Chichester to Arundel Roman Road in the SDNP – likely to have significant archaeology,</p> <p>Strong evidence for important Roman building near Tortington Priory (as yet undiscovered)</p> <p>Significant evidence for unrecorded archaeological features (associated with internationally important Boxgrove Quarry finds)</p> <p>Significant detrimental impacts on Binsted Park (historic parkscape)</p> <p>Impact on setting of Arundel Castle within the SDNP introducing modern infrastructure within otherwise undeveloped medieval landscape of river corridor & valley in the setting of the SDNP.</p>	<p>Neutral – The minor benefit to the setting of Arundel castle through the relocation of the road further to the south is countered by the impacts of the route option through the largely undeveloped and medieval landscape of the Arun valley</p>	<p>A programme of archaeological fieldwork consisting of field walking, geophysical survey, geo-archaeological trial pitting and trial trench evaluation should be carried out to fully assess the potential of as yet unrecorded archaeology along the route 3</p> <p>Further investigation and excavation, leading to the academic publication and public dissemination of all results.</p> <p>Any archaeological work carried out within the SDNP should include public engagement as part of any mitigation strategy with any archives deposited in a publically accessible archive.</p>

	Low adverse impact on heritage setting of Arun valley water meadows (Innings)		
EIA subject (SDNP special quality)	Negative impacts Low – Moderate - High Adverse	Positive impacts Low - medium – High Beneficial	Potential mitigation measures/options
Landscape 1, 3	<p>High adverse</p> <p>Significant landscape and visual effects caused by the loss of landscape and creation of new road alignment within Wooded Estate Downland south of existing A27 within and in the setting of the SDNP.</p> <p>Significant adverse landscape impacts associated with the loss of ancient woodland, other more recent plantations, designed parkscapes, field patterns and hedgerows in the setting of, and within the SDNP.</p> <p>Significant adverse impact from changes to landform within the SDNP and its setting - carriageway would range from 10.8m above to 8m below existing levels</p> <p>Significant landscape and visual effects in the Arun Valley and the Arun valley sides affecting the setting of the SDNP from the route option crossing the valley floor and a new river bridge.</p> <p>Continued and increased severance of parts of the SDNP due to the altered route alignment together with continued use of the existing route for through traffic from Ford/ A259.</p>	<p>Low beneficial</p> <p>Minor Improvements to PROW connectivity within SDNP across existing A27 would reduce severance to area of the SDNP south of the existing A27 though this would itself be subsequently severed by the route option to the south</p> <p>Very minor beneficial impact to tranquillity along section of existing A27 due to the relocation of traffic along route option 5A. Existing A27 would still be open to traffic from Arundel, Burpham and Ford for example.</p> <p>Any minor local beneficial effect from the existing A27 east of the new junction to the west of Arundel being downgraded to a single carriageway road would be offset by the additional intrusion and associated landscape and visual impacts to the SDNP due to the route option alignment and the combined impacts on tranquillity from traffic being spread onto two roads within the SDNP.</p> <p>Very minor/negligible improvement in landscape and visual impacts from the existing route of the A27 being downgraded</p>	<p>No mitigation possible for loss of ancient woodland. Consideration of compensatory woodland planting should not be considered as part of the assessment process (NPPG ¹)</p> <p>Green bridges / tunnels of sufficient width to provide meaningful habitat connectivity</p> <p>Green bridges / tunnels of sufficient width to provide continuous landscape setting for PROW and access routes.</p> <p>Green bridges / tunnels of sufficient width to reduce the major adverse visual, aural and landscape impact of the road alignment through the woodland.</p> <p>Design of bridge to be of exceptional international quality to reflect the importance and status of the setting of Arundel and the SDNP and to create delight.</p> <p>Integrated ecosystem services/Landscape scale approach to the design, creation and management of landscape and ecological mitigation Preparation of an appropriate road lighting scheme across the entire scheme to minimise impacts on dark night skies in the SDNP</p>

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	<p>Impact on Dark night skies within the SDNP from creation of new grade separated junction at Paines Wood and other new crossing points within the SDNP which would be lit.</p> <p>Significant adverse impacts on the amenity experienced from the public rights of way along and within the boundary of the SDNP</p> <p>Significant adverse impact on tranquillity along the southern boundary of the SDNP from increased road noise and visual intrusion in otherwise undeveloped area.</p> <p>Duration, phasing and delivery of the construction works likely to lead to significant impacts on the SDNP detailed assessment not possible due to lack of information</p>		<p>SUDs to be sensitively designed in the landscape to reflect the local character of surface water bodies and drainage patterns</p> <p>A 'minimal signage' approach to take account of the rural character of the A27 and its location adjacent to the SDNP</p> <p>Detailed assessment and Construction and Environment Management Plan (CEMP)</p>
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EIA subject (SDNP special quality)	Negative impacts Low – Moderate - High Adverse	Positive impacts Low - medium – High Beneficial	Potential mitigation measures/options
Nature Conservation 2	<p>High Adverse Significant adverse impact on biodiversity: protected sites, semi-natural habitat extent, quality and connectivity, and populations of European protected native species</p> <p>Significant adverse impact from loss of 6ha Ancient woodland</p> <p>Significant adverse impact on priority habitats, deciduous woodland, wood pasture, hedgerows and floodplain grazing marsh.</p> <p>HRA to assess for potential impacts on Amberley/Pulborough Brooks SPA/ Ramsar</p>	Neutral – no positive impacts identified	<p>Integrated ecosystem services/Landscape scale approach to the design, creation and management of landscape and ecological mitigation</p> <p>No mitigation possible for loss of ancient woodland.</p> <p>Compensatory habitat provision would be required in agreement with Natural England and other stakeholders</p> <p>Significant Ecological mitigation would be required for for habitat loss, reduced connectivity of remaining habitats and impacts on protected species, TBC</p> <p>HRA for Amberley Wildbrooks to identify mitigation measures for this habitat TBC</p> <p>Green bridges / tunnels of sufficient width to provide meaningful habitat connectivity</p>
Geology and Soils 1, 2	<p>High Adverse Loss of Ancient woodland soils</p> <p>Loss of agricultural land</p> <p>Importation of material for embankment – volume of soil required , sourcing/importation, transportation, storage, handling and placing likely to be highly unsustainable,</p> <p>Construction working area for soils storage and access to works leading to additional compaction, impacting soil and water quality.</p>	Neutral – no positive impacts identified	<p>Translocation of AW soils possible but known to be of little value due to fragility of soil structure.</p> <p>Construction environment management plan to include soils management plan & minimise temporary land take for construction purposes with the SDNP</p> <p>Balance the use of soils on site to minimise the need to import vast quantities of material to form embankments.</p>

EIA subject (SDNP special quality)	Negative impacts Low – Moderate - High Adverse	Positive impacts Low - medium – High Beneficial	Potential mitigation measures/options
Materials	Not assessed by SDNPA	Not assessed by SDNPA	Not assessed by SDNPA
Noise and Vibration 3	<p>High Adverse Significant adverse impacts on tranquillity (audible and visible impacts) within Binsted and Tortington Woods within the SDNP due to the presence of the route alignment</p> <p>Significant adverse impacts on tranquillity within the Arun Valley in the setting of the SDNP due to the presence of the road</p>	<p>Neutral Any minor local beneficial effect on tranquillity from the existing A27 east of the new junction to the west of Arundel being downgraded to a single carriageway road would be offset by the additional intrusion and associated landscape and visual impacts to the SDNP due the route option alignment and the combined impacts on tranquillity from traffic being spread onto two roads within and in the setting of the SDNP.</p>	<p>Green bridges / tunnels of sufficient width to reduce the major adverse visual, aural and landscape impact of the road alignment through the woodland.</p> <p>Noise reduction road surfacing & screening measures which are appropriate to local character, this is likely to be problematic given the open and flat nature of the valley floor</p>
People and communities 4, 5, 7	<p>High adverse Significant adverse impacts on the public rights of way (– a noted key feature of the area)within and in the setting of the SDNP boundary through severance, blocking and re-routing</p> <p>Potential impacts on the upstream river valley within the SDNP due to the embankment across the river valley</p> <p>Potential for adverse impacts on drainage, habitats and agriculture within the SDNP</p> <p>Loss of agricultural land within route alignment within the SDNP</p> <p>Potential loss of passing trade and increased severance through diversion of traffic onto A27 and traffic speeds increasing due to freer moving traffic within the SDNP</p>	<p>Low beneficial</p> <p>Creation of short NMU route along eastern section of downgraded existing road within the SDNP.</p> <p>Minor beneficial impact within SDNP from traffic using the A27 in preference to diverting to northern routes through the SDNP Though implications for loss of passing trade, increased speeds where previously slow moving traffic to be factored in too.</p>	<p>Further evidence needed to identify potential impacts on upstream riparian function and potential mitigation measures</p> <p>Further evidence needed on traffic modelling through the SDNP</p> <p>NMU strategy for severed PROW and access routes to provide crossing points and green bridges where desirable.</p>

<p>Road Drainage & the water environment 2</p>	<p>Potential impacts on the upstream river valley due to the embankment across the river valley</p> <p>Potential for adverse impacts on drainage, habitats and agriculture</p> <p>Potential for adverse impacts on water quality through highway drainage to soakaways allowing pollutants to enter the ground water.</p>		<p>Further evidence needed to identify potential impacts on upstream riparian function and potential mitigation measures TBC</p> <p>Ensure all drainage provides adequate filtration measures to protect water quality. Avoid drainage to soakaways</p> <p>SUDs to be sensitively designed in the landscape to reflect the local character of surface water bodies and drainage patterns</p>
<p>Cumulative impacts</p>			