

**A66 Northern Trans-Pennine Project
TR010062**

**3.4 Environmental Statement
Appendix 15.3 In-Combination Effects
Table**

APFP Regulations 5(2)(a)

Planning Act 2008

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

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Infrastructure Planning

Planning Act 2008

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

Development Consent Order 202x

**3.4 ENVIRONMENTAL STATEMENT
15.3 IN-COMBINATION EFFECTS TABLE**

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15.3 In-Combination Effects Tables

Table 1: Assessment of Combined Effects between topics

Sensitive Receptors	Air Quality	Biodiversity	Cultural Heritage	Geology and Soils	Landscape and Visual Effects	Noise and Vibration	Population and Human Health	Road Drainage and Water Environment	Combined effects and mitigation proposed
Human receptors in proximity to the works - Construction	Potential changes to air quality through impacts of construction traffic and dust emissions may impact on human health and use of amenity features in the area	No interactions or combined effects identified	No interactions or combined effects identified	No interactions or combined effects identified	Construction works will result in temporary changes to landscape, lighting and views for local people, residences, businesses and amenity features	Increased noise and vibration effects within proximity to compound locations and works areas may affect human health and activity	Effects of increased traffic on local road network, journey times and nuisance. Effects of Walkers, Cyclists and Horse riders (WCH) severance. Increased demand for local services and amenities. Direct loss of property and land as a result of working area.	Potential change to flood risk through construction affecting local receptors.	There is potential for combined effects to human health as a result of changes to noise levels, air quality, visual amenity and impacts to WCH in the local area through the construction phase. In operation, the combined effect is anticipated to be beneficial for local communities and settlements, however there is potential for combined effects of changes to noise, visual amenity and air quality in receptors close to new road.
Human receptors in proximity to the works – Operation	Beneficial and adverse effects across the Project to air quality through changing traffic flows across may impact on human health and use of amenity features in the area.	No interactions or combined effects identified	No interactions or combined effects identified	No interactions or combined effects identified	Permanent changes to landscape and views as a result of the new road and its associated infrastructure	Changes to noise and vibration as a result of changed traffic flows. Beneficial and adverse effects across the Project	Improved traffic flow across the Project. Enhanced WCH. Loss of operational land affecting business potential	No interactions or combined effects identified	Detailed assessment ES Chapter 13: Population and Human with mitigation for any adverse effects is set out in Section 13.9 and likely residual significant effects set out in Section 13.10. No additional mitigation identified here.
Ecological Designated Sites – SACs, SPAs, SSSI and county level designations and priority habitats - Construction	Potential changes to air quality through changes of vehicle emissions altering nitrate concentrations and dust settlement may affect the qualifying features and habitats of designated areas	Construction in close proximity to the designation itself and/or within its floodplain may result in direct or indirect habitat loss. Construction in close proximity to designated and non-designated tributaries or connective habitat may contribute to direct or indirect designated habitat loss.	No interactions or combined effects identified	No interactions or combined effects identified	Changes to lighting as a result of works in proximity may disturb associated protected species	Increased noise and vibration effects on protected species within designations through disturbance or injury	No interactions or combined effects identified	Road drainage and water runoff during construction has the potential to affect water quality.	There is potential for combined effects from multiple topics on the ecological designations in both the construction and operational phase as a result of temporary and permanent changes to noise, air quality, lighting, and hydrological regimes. Detailed assessment ES Chapter 6: Biodiversity and required mitigation are set out in Section 6.10, and the Habitats Regulations Assessment (Application Document Number 3.5). No additional mitigation identified here.
Ecological Designated Sites – SACs, SPAs, SSSI and county level designations and	Changes to air quality on the road network as a result of traffic flow changes in proximity	Establishment of replacement and mitigation habitat sites contribute to	No interactions or combined effects identified	No interactions or combined effects identified	No interactions or combined effects identified	Potential fragmentation of commuting species as a result of permanent changes	No interactions or combined effects identified	Permanent alterations to flood plains may affect local watercourses.	No additional mitigation identified here.

Sensitive Receptors	Air Quality	Biodiversity	Cultural Heritage	Geology and Soils	Landscape and Visual Effects	Noise and Vibration	Population and Human Health	Road Drainage and Water Environment	Combined effects and mitigation proposed
priority habitats – Operation	to the designations may affect the integrity of the designation	the value of the designations.				to traffic flow and associated noise impacts			
North Pennines AONB - Construction	No interactions or combined effects identified	Loss of habitats and existing flora will alter the landscape within and in proximity to the AONB designation	No interactions or combined effects identified	No interactions or combined effects identified	Construction activity will alter the local landscape both temporarily through the establishment of compounds and working areas, and permanently in the construction of the Project itself	No interactions or combined effects identified	No interactions or combined effects identified	No interactions or combined effects identified	There is potential for combined effects from biodiversity and landscape on the North Pennines AONB in both construction and operation. However, it is considered that in the long term, this combined effect will be for the benefit of the AONB. Detailed assessment of the potential impacts on the North Pennines AONB can be found in ES Chapter 10: Landscape and required mitigation are set out in Section 10.9. No additional mitigation identified here.
North Pennines AONB - Operation	No interactions or combined effects identified	Establishment of landscape and ecology planting will develop, mitigating and potentially enhancing the local landscape in the vicinity of the AONB	No interactions or combined effects identified	No interactions or combined effects identified	The new road and associated changes to traffic flows will permanently alter the landscape and visual amenity of the area.	No interactions or combined effects identified	No interactions or combined effects identified	No interactions or combined effects identified	
Agricultural Land – Construction	Air quality changes as a result of dust and construction related vehicle emissions have the potential to impact on the quality of soil	Mitigation for habitat loss will require additional land to be used for replacement habitat planting	No interactions or combined effects identified	Topsoil within the Order Limits will be stripped and stored, however some soil resource quality may be affected through the construction phase of the project	No interactions or combined effects identified	No interactions or combined effects identified	Working areas through the construction phase will result in areas of operational agricultural land will be unavailable during the construction phase	Construction activities will require a water resource which may impact on the water availability for agricultural activities	There is potential for combined effects on agricultural land as a result of changes to air quality, impacts to biodiversity, landtake for construction, and competition for water resource through the construction phase. In operation there may be combined effects arising from operational changes in air quality and noise resulting from changes to traffic flow.
Agricultural Land - Operational	Air quality changes resulting from changes to traffic flows in the Project's operation may alter the productivity of agricultural land in some locations	The requirement for ecological mitigation to be in place for a long term will result in less land being available for agricultural use	No interactions or combined effects identified	No interactions or combined effects identified	No interactions or combined effects identified	Operational noise changes as result of changes in traffic flow may result in changes to the viability of some agricultural land for sensitive livestock	There will be a permanent loss of agricultural land as a result of the Project and its associated infrastructure such as drainage ponds and ecological mitigation	Measures to manage flood risk such as flood attenuation areas may alter the viability of some areas of agricultural in their operation	Permanent reduction in available agricultural land from the Project and any ecological mitigation areas may have impacts on agricultural viability. Detailed assessment of agricultural land can be found in ES Chapter 13: Population and Human Health, Section 13.8 for Potential Impacts, and Section 13.9 for Essential mitigation. No additional mitigation identified here.

Sensitive Receptors	Air Quality	Biodiversity	Cultural Heritage	Geology and Soils	Landscape and Visual Effects	Noise and Vibration	Population and Human Health	Road Drainage and Water Environment	Combined effects and mitigation proposed
Designated Heritage Features - Construction	No interactions or combined effects identified	No interactions or combined effects identified	Works within designated areas and in proximity to designated areas have the potential to result in direct loss of the designated areas. There is potential for excavations within or in proximity to designated features may harm as undiscovered archaeology	Soil management and top soil stripping has the potential to uncover archaeological assets or geological features with heritage value	Construction activities will alter the local landscape and visual amenity, impacting on the setting of built heritage features and known archaeological designations	Noise and vibration arising from construction works have the potential to impact on the setting of heritage assets. Vibration has the potential to direct damage heritage assets	No interactions or combined effects identified	No interactions or combined effects identified	There is potential for combined effects on designated heritage features as a result of cultural heritage, geology and soils, landscape, and noise effects in construction. There is potential combined effects in operation as a result of cultural heritage, landscape and noise. Detailed assessment of impacts on designated cultural heritage features can be found in ES Chapter 8: Cultural Heritage, Section 8.7 for Potential Impacts, and Section 8.8 for Essential mitigation. No additional mitigation identified here.
Designated Heritage Features – Operation	No interactions or combined effects identified	No interactions or combined effects identified	Improved accessibility to heritage features will have a benefit on the cultural heritage value of heritage features along the route of the Project	No interactions or combined effects identified	Changes to landscape and visual amenity through operational changes in traffic flow will have an impact on the setting of cultural heritage assets along the route of the Project	Changes to noise through operational changes in traffic flow will have an impact on the setting of cultural heritage assets along the route of the Project	No interactions or combined effects identified	No interactions or combined effects identified	
Protected Species - Construction	Changes to air quality as result of construction related emissions and dust has the potential to affect habitats which would support protected species	Direct habitat loss as a result of construction activity and any resultant fragmentation has the potential to impact on protected species those habitats supported	No interactions or combined effects identified	Topsoil stripping and storage has the potential to impact on protected species that might be resting or hibernating within it. This soil will no longer be an available resource to any protected species through the construction phase	No interactions or combined effects identified	Construction related noise and vibration has the potential to disturb protected species, disrupting their natural behaviour.	No interactions or combined effects identified	Construction works may impact on watercourses throughout the Project, affecting hydrological regimes and flows. This may impact on any protected species within watercourses	There is potential for combined effects from multiple topics on the ecological designations in both the construction and operational phase as a result of temporary and permanent changes to noise, air quality, lighting, and hydrological regimes. Detailed assessment ES Chapter 6: Biodiversity and required mitigation is set out in Section 6.10, and the Habitats Regulations Assessment (Application Document Number 3.5). No additional mitigation identified here.
Protected Species - Operation	Changes to air quality as result of operational changes to traffic flow has the potential to affect habitats which would support protected species	Incidental mortality and disturbance as a result of the road in operation has the potential to impact on protected species throughout the Project	No interactions or combined effects identified	No interactions or combined effects identified	No interactions or combined effects identified	Changes to noise as result of operational changes to traffic flow has the potential to disturb protected species in the vicinity of the Project	No interactions or combined effects identified	Flood management infrastructure has the potential to impact on protected species through permanent changes to flow regimes and possible fragmentation of surrounding habitats.	