

M3 Junction 9 Improvement

Scheme Number: TR010055

6.3 Environmental Statement Appendix 4.1 - Major Events Screening Assessment

APFP Regulation 5(2)(a)

Planning Act 2008

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

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M3 Junction 9 Improvement
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6.3 ENVIRONMENTAL STATEMENT - APPENDIX 4.1: MAJOR EVENTS SCREENING ASSESSMENT
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Environmental Statement Appendix 4.1: Major Events Screening Assessment

1.1 Screening Assessment

1.1.1 **Table 1** outlines the major events screening assessment undertaken for the M3 Junction 9 Improvement (the Scheme).

Table 1: Major Events Screening Assessment

Disaster Type	Relevant to the Scheme	Source of disaster	Vulnerability to accident/disaster	Potential to cause accident/disaster	Potential Receptor	Consequence	Addressed in ES (Y/N and where)	Covered outside of ES (Y/N and where)	Embedded Mitigation	Additional Mitigation to Reduce Risk
Geological Accidents and Disasters										
Avalanches	No		Due location of the Scheme in Winchester, avalanche disasters are considered an unlikely risk to the Scheme.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Earthquake	No		The British Geological Survey and Institution of Civil Engineers have published national seismic hazard maps for the UK (2020 update). The maps indicate that in the area of Winchester (as much of the UK), the seismic hazard is relatively low.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Volcanic eruptions	No		The British Isles are not located close to a tectonic plate edge where volcanic eruptions may occur, and have no current active volcanoes. Therefore, volcanic eruptions	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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			are not considered to represent a risk.							
Sinkholes and/or ground dissolution	Yes	Ground conditions	The ground conditions beneath parts of the Scheme have the potential for the creation of natural cavities. A cavities occurrence assessment has identified a low to moderately high risk across the Scheme from natural cavities.	N/A	Road users, infrastructure and property, surrounding environment.	Casualties, damage to infrastructure and property, disruption to services.	Yes – Chapter 9 (Geology and Soils) of the ES (Document Reference 6.1)	N/A	N/A	N/A
Ground instability	Yes	Potential for ground instability due to natural geological hazards or Made Ground/fill, leading to collapsible ground, compressible ground, slope failure. No historical underground mining has been identified within the vicinity of the Scheme, although historical landfills and potentially infilled historical chalk pits have been identified.	The ground conditions across the Scheme have been investigated and the information used to inform design and reduce vulnerability to ground instability.	The potential has been reduced through ground investigation and appropriate design to accepted standards.	Road, road users and users of walking and cycling routes and infrastructure.	Casualties, damage to infrastructure.	Yes - Chapter 9 (Geology and Soils) of the ES (Document Reference 6.1)	Yes - Ground Investigation Report (Document Reference 7.11)	No – however, the Scheme detailed design will be informed by the Ground Investigation (GI). The risk can be reduced through design. Depending on the findings of the assessment of the final GI results, the Scheme design will be modified to reduce opportunity for significant effects.	No

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Hydrological Accidents and Disasters										
Floods	Yes		The Scheme has been designed to prevent the opportunity for vulnerability to flooding.	The Scheme drainage strategy has been designed to prevent the opportunity for floods to occur	Road users, surrounding land, property, human and ecological receptors	N/A	Yes - Chapter 2 (The Scheme and its Surroundings) and Chapter 13 (Road Drainage and Water Environment) of the ES (Document Reference 6.1) Appendix 13.1 (Drainage Strategy Report) of the ES (Document reference 6.3) .	Yes - Flood Risk Assessment (Document Reference 7.4) .	Yes – Appendix 13.1 (Drainage Strategy Report) of the ES (Document reference 6.3) .	No
Tsunami / storm surge	No		Not applicable as Scheme is not located in a coastal location.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Limnic eruptions	No		No lakes are located near the Scheme and as such limnic eruptions are not considered to be a risk or serious possibility.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Major change to groundwater levels	Yes		The Flood Risk Assessment (Document Reference 7.4) has concluded the Scheme would be at an acceptable level of groundwater flood risk.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Meteorological Accidents and Disasters										
Blizzards	Yes		Blizzard conditions could cause road users to be trapped on the	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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			road, however the risk is no different from other roads/road users in the UK, and as such is not considered further.							
Cold waves	Yes		A rapid fall in temperature within a defined time period can cause a cold wave, affecting road users if they become trapped due to bad weather. The Scheme is not considered to be at any greater risk of a cold wave than other roads/road users and is not considered further.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyclonic storms	Yes		Cyclonic storms could cause high winds and heavy rain causing damage to infrastructure and property. Although there is no greater risk of a cyclonic storm to the Scheme than for other roads. It is not considered further.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Droughts	Yes		Droughts have the potential to adversely impact the productivity, function and structure of ecosystem	N/A	Landscaping and planting	Damage to planting and landscaping	Yes - Chapter 14 (Climate) of the ES (Document Reference 6.1)	N/A	N/A	N/A

Disaster Type	Relevant to the Scheme	Source of disaster	Vulnerability to accident/disaster	Potential to cause accident/disaster	Potential Receptor	Consequence	Addressed in ES (Y/N and where)	Covered outside of ES (Y/N and where)	Embedded Mitigation	Additional Mitigation to Reduce Risk
			services by, for example, causing an increase in erosion as soils and substrates dry out.							
Thunderstorm	Yes		As there are raised elements to the junction, there is potential for lightning strikes. However, the risk is not considered to be any greater than any other road bridges.	N/A	N/A	N/A	N/A	N/A	No	No
Hailstorms	Yes		The risk of hailstorms is no different from other roads/road users in the UK and as such is not considered further.	N/A	N/A	N/A	No	No	N/A	N/A
Heat waves	Yes		The risk of heat waves is no different from other roads/road users in the UK and as such is not considered further.	N/A	N/A	N/A	N/A	No	N/A	N/A
Tornadoes	No		Although there are tornadoes in the UK, their destructive force tends to be much less than in other parts of the world therefore has not been considered further.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wildfires	Yes		There may be some potential for bush, scrub, grassland or heather fires,	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Disaster Type	Relevant to the Scheme	Source of disaster	Vulnerability to accident/disaster	Potential to cause accident/disaster	Potential Receptor	Consequence	Addressed in ES (Y/N and where)	Covered outside of ES (Y/N and where)	Embedded Mitigation	Additional Mitigation to Reduce Risk
			though the risk is no greater than the existing road and is not considered further.							
Poor air quality episodes	Yes		N/A	Although relevant, as vehicle emissions can contribute to poor air quality, it is not considered necessary to undertake any more assessment than is already being undertaken for the Air quality assessment of the EIA, in the Air quality chapter of the ES (Chapter 5).	Human and biodiversity receptors.	Affecting health and designated sites.	Yes – Chapter 5 (Air Quality) of the ES (Document Reference 6.1)	N/A	N/A	N/A
High wind events	Yes		High wind events are usually linked to storm events that have been considered above.	N/A	Road users, infrastructure	Damage to infrastructure, casualties.	Yes - Chapter 14 (Climate) of the ES (Document Reference 6.1)	No	N/A	N/A
Space Accidents and Disasters										
Geomagnetic storms	Yes		Solar wind shock waves can interact with the earth's magnetic field causing disruption to electrical systems, communications and GPS. The Scheme is considered to be no more vulnerable than any other development and is not considered	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Disaster Type	Relevant to the Scheme	Source of disaster	Vulnerability to accident/disaster	Potential to cause accident/disaster	Potential Receptor	Consequence	Addressed in ES (Y/N and where)	Covered outside of ES (Y/N and where)	Embedded Mitigation	Additional Mitigation to Reduce Risk
			further.							
Solar flare	Yes		Solar flares can interrupt radio and other electronic communications. The Scheme is considered to be no more vulnerable than any other development and is not considered further.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Astronomical object collision	Yes		An impact from an astronomical object can cause effects such as shock waves, heat radiation and craters. The Scheme is considered to be no more vulnerable than any other development and is not considered further.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Transport Accidents and Disasters										
Road accidents and Spillages	Yes		N/A	A major traffic accident leading to the closure of the road for a prolonged period. The risk posed by spillage from hazardous loads as a result of a road traffic accident e.g. fuel tankers. Mitigation included in the Scheme design ensures the	N/A	N/A	Yes – Chapter 2 (The Scheme and its Surroundings) and Chapter 13 (Road Drainage and Water Environment) and Chapter 9 (Geology and Soils) of the ES (Document Reference 6.1) Appendix 13.1 (Drainage Strategy Report)	No	N/A	N/A

Disaster Type	Relevant to the Scheme	Source of disaster	Vulnerability to accident/disaster	Potential to cause accident/disaster	Potential Receptor	Consequence	Addressed in ES (Y/N and where)	Covered outside of ES (Y/N and where)	Embedded Mitigation	Additional Mitigation to Reduce Risk
				risk is acceptable. Diverted traffic onto local roads following a road accident can cause a change in air quality emissions to the surrounding area.			of the ES (Document reference 6.3).			
Rail accidents	No		A railway line is located immediately adjacent to the north western extent of the Application Boundary, however the Scheme has no interaction with it. There is not considered to be any increased risk of rail accidents to the Scheme and road users than currently exists and is not considered further.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aircraft disasters	No		Southampton airport is located approximately 13km to the south of the Scheme. There is not considered to be any increased risk to the Scheme and road users than currently exists and is not considered further.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Maritime disasters	No		There is not considered to be any increased risk	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Disaster Type	Relevant to the Scheme	Source of disaster	Vulnerability to accident/disaster	Potential to cause accident/disaster	Potential Receptor	Consequence	Addressed in ES (Y/N and where)	Covered outside of ES (Y/N and where)	Embedded Mitigation	Additional Mitigation to Reduce Risk
			to the Scheme than currently exists and is not considered further.							
Engineering Accidents and Disasters										
Bridge collapse	Yes		N/A	There are existing and proposed bridges that form part of the Scheme design. There is not considered to be any increased risk to the Scheme as a result of the existing bridges than currently exists and the new bridges will be designed to National Highways standards and is therefore not considered further.	N/A	N/A	N/A	N/A	N/A	N/A
Underpass collapse	Yes		N/A	New underpasses have potential for structural failure resulting in a collapse. However, will be designed to National Highways standards and is therefore not considered further.	N/A	N/A	N/A	N/A	N/A	N/A
Flood defence failure/ reservoir failure	Yes		The Flood Risk Assessment (Document Reference 7.4) considers the risk from flooding from reservoir failure is negligible. It is therefore not considered further.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mast and	Yes		Existing masts and	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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tower collapse			towers could collapse on the road. There is not considered to be any increased risk to the Scheme than currently exists and is therefore not considered further							
Building failure or fire	No		No large buildings are located close by the Scheme to cause a risk greater than currently exists.	The Scheme does not introduce opportunity for new building failure or fire	N/A	N/A	N/A	N/A	N/A	N/A
Utilities failure (gas, electricity, water, sewage, oil, communications)	Yes		The required diversion of some utility routes due to the Scheme increases the risk of failure during diversion.		Road users, local residents, property, surrounding environment.	Potential for fire/explosion, pollution incident, injury.	No	No	No	All utilities companies have plans and arrangements in place to deal with supply disruptions and failures. In addition are governed by the regulators and covered by Health and Safety laws.
Industrial Accidents and Disasters										
Defence industry	No		No defence industries are located within 2 km of the Scheme.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Energy industry (fossil fuel)	No		No energy industries are located within 2 km of the Scheme.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nuclear power	No		No nuclear power plants are located within 2 km of the	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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			Scheme.							
Oils and gas refinery/storage	No		No large scale oil and gas refinery/storage facilities are located within 2km of the Scheme.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Food industry	No		No large scale food industries are located within 2km of the Scheme.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chemical industry	No		No large scale chemical industries are located within 2km of the Scheme.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Manufacturing industry	No		No large-scale manufacturing industries are located within 2km of the Scheme.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mining industry	No		No large-scale mining industries are located within 2km of the Scheme.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Terrorism/Crime/Civil unrest										
Bomb/vehicle attack on people	Yes		The Scheme is unlikely to be any more of a target for this attack than currently exists and is therefore not considered further.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bomb/vehicle attack on infrastructure	Yes		The Scheme is unlikely to be any more of a target for this attack than currently exists and is therefore not considered further.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mass	No		Unlikely to occur in		N/A	N/A	N/A	N/A	N/A	N/A

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shooting			the vicinity of the Scheme.							
Chemical/gas attack	Yes		Unlikely to be any more of a target for this attack than currently exists and is therefore not considered further.		N/A	N/A	N/A	N/A	N/A	N/A
Rioting	No		Unlikely to occur due to no target locations/businesses in the vicinity of the Scheme.		N/A	N/A	N/A	N/A	N/A	N/A
Cyber attack	Yes		The increased number of roadside technology and increasing reliance on this technology could render the Scheme more vulnerable to a cyber-attack.		Road users	Accidents due to information boards displaying incorrect information, fatalities.	No	No	The roadside technology is designed to Highways England security arrangements to mitigate the effects of cyber attacks.	No
War										
Conventional	No		No more vulnerable than any other infrastructure.		N/A	N/A	N/A	N/A	N/A	N/A
Chemical	No		No more vulnerable than any other infrastructure.		N/A	N/A	N/A	N/A	N/A	N/A
Nuclear	No		No more vulnerable than any other infrastructure.		N/A	N/A	N/A	N/A	N/A	N/A
Disease										
Human disease	No		No more vulnerable than any other infrastructure.		N/A	N/A	N/A	N/A	N/A	N/A
Animal disease	No		No more vulnerable than		N/A	N/A	N/A	N/A	N/A	N/A

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			any other infrastructure.							
Plant disease	No		No more vulnerable than any other infrastructure.		N/A	N/A	N/A	N/A	N/A	N/A
Animal infestation	No		An animal infestation event could impact the Scheme although this is no more likely to occur than currently exists and is not considered further.		N/A	N/A	N/A	N/A	N/A	N/A