

EC DIRECTIVE 2011/92/EU (as amended)

**ROADS (SCOTLAND) ACT 1984 (Environmental Impact Assessment)
Regulations 2017 (as amended)**

RECORD OF DETERMINATION

Name of Project:

A701 North of Amisfield to Moorfield House.

Location:

The scheme travels through the village of Amisfield, Dumfries and Galloway. National Grid References for the scheme are:

- Start of Scheme: NY 00646 84003
- End of Scheme: NY 00015 82333

The length of the scheme is approximately 1.8km with an area of approximately 11,600m².

Description of Project:

Full resurfacing and relining of the A701 within Amisfield is required to assist maintenance and improvement of the north and southbound carriageways. The carriageway is currently exhibiting signs of fretting, localised/longitudinal cracking and potholes.

The longitudinal cracking in the wheel paths is the result of fatigue loading which, together with the poorly bound lower layers, has resulted in high levels of deflection being recorded. The localised areas of cracking is caused by ageing of the hot rolled asphalt (HRA) surface course, which leads to oxidation of the bituminous binder.

The existing carriageway surface will be replaced with an inlay treatment using TS2010 to a depths of 40mm throughout the length of the scheme to repair the defective road surface. This will prevent accelerating pavement deterioration caused by water ingress to the lower layers, and will improve the overall ride quality of the A701 carriageway within the scheme extents.

The package of works is set to take place in summer 2020 for the duration of seven working days. Operating hours will be predominantly day time, with requirement for one night time programming for the milling of the road surface. Dumfries and Galloway Council's Environmental Health Team were contacted in May 2020 regarding the night time construction activity, however provided no comment.

Traffic management (TM) will include alternating single lane closures facilitated with stop and go boards or temporary traffic lights.

Please see Appendix 1 for a Location Plan and Scheme Extents drawing.

Description of Local Environment:

The following baseline descriptions have been numbered to follow the appropriate DMRB chapters for environmental assessment and do not reflect a ranking of sensitivity.

1. Population and Human Health

The works will be undertaken on a section of the A701 which passes through Amisfield, Dumfries and Galloway. The average annual daily flow (AADF) in 2018 for the A701 at this location was 7,783 with a 13% heavy good vehicle traffic count.

Multiple accesses are present within the scheme extents which give access to farmland, residential properties and the local road network. Some residential properties throughout the scheme extents can only be accessed from the A701 carriageway.

Several residential properties are located within close proximity to the A701 carriageway within the scheme extents. The closest property, is located less than 5m from the carriageway.

Areas of woodland and farmland flank the carriageway intermittently throughout the scheme extent, with farmland dominating the wider landscape. Ambient noise levels at this location are primarily influenced by vehicle traffic from the A701 carriageway, with secondary sources including agricultural practices from adjacent farmland and urban activity from nearby Amisfield.

The scheme does not fall within a Candidate Noise Management Area (CNMA) as defined by the Transportation Noise Action Plan, Road Maps¹.

2. Biodiversity

The works are located within a semi-rural section of the A701, east of Amisfield, Dumfries and Galloway. The carriageway within the scheme extent is flanked intermittently by farmland and woodland. Amisfield burn flows adjacent to and passes beneath the A701 carriageway within the scheme extent.

A desktop study using Nature Scot Sitelink² has not identified any designated natural heritage sites within proximity to the works location.

Scotland TranServ's Invasive Non-native Species Database (INNS) has no record of any INNS within close proximity to the scheme extents.

Field Survey

A protected mammal species survey was undertaken by the Environmental and Sustainability Team on 12/09/2019 to determine the requirement for protected mammal species licensing, prior to construction, under the Wildlife and Countryside Act 1981, the Nature Conservation (Scotland) Act 2004, the Conservation (Natural Habitats, &c.) Regulations 1994, Wildlife and Natural Environment (Scotland) Act 2011 and Protection of Badgers Act 1992.

Woodland areas border the north and southbound carriageway for a section of the scheme extents, with areas of farmland present adjacent to the north and southbound carriageway at the northern extent of the scheme. Woodland areas were surveyed for signs of badger and any Invasive Non-native Species (INNS) growth. The woodland area was deemed suitable for badger due to dense

¹ <https://noise.environment.gov.scot/pdf/Major%20Road%20Maps.pdf> (Accessed 21/05/2020)

² <https://gateway.snh.gov.uk/sitelink/searchmap.jsp> (Accessed 21/05/2020)

Description of Local Environment:

vegetation coverage, however no signs of activity (latrines, snuffle holes, etc.) or setts were identified within close proximity to the scheme extents.

Amisfield Burn flows adjacent to the carriageway for the full extent of the scheme, and passes below the A701 carriageway within the scheme extent. Amisfield Burn at this location is surrounded by areas of woodland, and features high bank walls, with no visible rock features. No sheltered locations, potential holts or potential resting places were determined within proximity to the watercourse, and as such the watercourse at this location was deemed unfavourable for otter.

No statutory consultation will be required.

3. Land

The trunk road footprint consists of a single southbound and northbound lane. Road verges are vegetated with low lying grass, which expands west and south of the scheme. Two laybys exist adjacent to both south and northbound carriageways within the scheme extents.

On site work activities will be confined within the A701 carriageway boundary, and will not require access over any private or community land.

4. Soil

The scheme is not located within, or within proximity to, any Local Geodiversity Sites (formerly known as RIGS)³ or geologically designated SSSIs⁴.

A desktop study using the British Geological Survey Map⁵ has identified local geology types as the following:

- Bedrock Geology
 - Carghidown Formation - Wacke and Mudstone. Sedimentary Bedrock formed approximately 433 to 444 million years ago in the Silurian Period. Local environment previously dominated by deep seas. Deep seas. These sedimentary rocks are marine in origin. They are detrital and comprise coarse- to fine-grained slurries of debris from the continental shelf flowing into a deep-sea environment, forming distinctively graded beds.
- Superficial Deposits
 - Alluvium - Sand, Silt and Clay. Superficial Deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by rivers. These sedimentary deposits are fluvial in origin. They are detrital, ranging from coarse- to fine-grained and form beds and lenses of deposits reflecting the channels, floodplains and levees of a river or estuary (if in a coastal setting)

The National Soil Map of Scotland⁶ has identified the soils within the scheme extent to consist of brown earths.

³ <https://www.google.com/maps/d/viewer?mid=1HfclRWclTRxXUZWNARManI-PUhE&ll=57.74680670722851%2C-5.313263556249922&z=6> (Accessed on 21/05/2020)

⁴ <https://gateway.snh.gov.uk/sitelink/searchmap.jsp> (Accessed on 21/05/2020)

⁵ <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> (Accessed on 21/05/2020)

⁶ http://map.environment.gov.scot/Soil_maps/ (Accessed on 22/05/2020)

Description of Local Environment:

5. Water

A desktop study using SEPA’s Water Classification Hub Map⁷ identified Amisfield Burn, which flows approx. 10m east of the carriageway at its closest point, and passes below the carriageway within the scheme extent. Amisfield Burn has been given the following classification by SEPA:

- Overall status: Moderate
- Overall ecology: Moderate

Blairhall Burn (unclassified by SEPA) flows adjacent to the carriageway west of the works location, and outflows into Amisfield Burn at a distance of approx. 100m.

The Indicative River & Coastal Flood Map⁸ by SEPA highlights small areas of the carriageway to be at risk of surface and river water flooding.

Flooding is managed by top entry gullies which are found at various points throughout the scheme extents.

6. Air

The A701 is a main route connecting towns and villages in Dumfries and Galloway, and providing main access from Dumfries to the M74 carriageway. Areas of farmland dominate the scheme location. The village of Amisfield is located west of the proposed works. Air quality is likely to be impacted by road traffic and adjacent agricultural activities.

The length of the scheme has no provision of on-street lighting.

Dumfries and Galloway Council have yet to declare any Air Quality Management Areas⁹.

7. Climate

The Climate Change (Scotland) Act sets out the target and vision set by the Scottish Government for tackling and responding to climate change. The Act includes a target of reducing CO2 emissions by 80% before 2050 (from the baseline year 1990).

Scotland TranServ, working on behalf of Transport Scotland, undertake carbon monitoring. Emissions from our activities are recorded using Transport Scotland’s Carbon Management System.

In addition, Scotland TranServ undertakes resource efficiency activities to manage and reduce emissions contributing to climate change. Actions and considerations for this scheme are detailed in section 8 Material Assets.

8. Material Assets

Activity	Material Required	Origin/ Content
Site Construction	<ul style="list-style-type: none"> • AC Base • AC Binder • TS2010 Surface 	A proportion of reclaimed asphalt pavement (RAP) is used in asphalt production. Typical RAP values for base and binder are 10% - 15% with up to 10% in surface course.

⁷ <https://www.sepa.org.uk/data-visualisation/water-classification-hub/> (Accessed 22/05/2020)

⁸ <http://map.sepa.org.uk/floodmap/map.htm> (Accessed 22/05/2020)

⁹ <http://www.scottishairquality.scot/laqm/aqma?id=375> (Accessed on 22/05/2020)

Description of Local Environment:

	<ul style="list-style-type: none"> • Road Paint • Road studs 	<p>TS2010 Surface Course allows a wider array of aggregate sources to be considered when compared to typical stone mastic asphalt (SMA). As a result the use of TS2010 should reduce the usage of imported aggregates, and increase the use of a wider range of sustainable aggregate sources¹⁰.</p>
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All materials will be procured in accordance with Balfour Beatty Sustainable Procurement Policy.

Key Waste Arising from Activities

Activity	Waste Arising	Disposal/ Regulation
Site Construction	<ul style="list-style-type: none"> • Road Planings 	<p>Road planings generated as a result of the works will be fully recycled in accordance with the criteria stipulated within SEPA document 'Guidance on the Production for Fully Recovered Asphalt Road Planings'¹¹.</p>

9. Cultural Heritage

A desktop study using PastMap¹² has not identified any features of cultural heritage within proximity of the works.

10. Landscape

The stretch of the A701 carriageway does not fall within any designation for landscape quality or character.

Areas of grassland and minor woodland exist north of the carriageway.

11. Vulnerability of the Project to Risks

As the works will be limited to the like-for-like replacement of the carriageway surface, the works have been assessed as not being likely to increase the vulnerability of the road to major accidents / disasters.

Description of the main environmental impacts of the project and proposed mitigation:

The following environmental impacts have been numbered to follow the appropriate DMRB chapters for environmental assessment and do not reflect a ranking of impact severity. Construction and operational impacts, including impact on Policies and Plans, are covered within each environmental topic heading where applicable.

¹⁰ Transport Scotland TS2010 Surface Course Specification and Guidance Issue 04, 2018 (as amended)

¹¹ SEPA Guidance on the Production of Fully Recovered Asphalt Road Planings

¹² <https://pastmap.org.uk/> (Accessed on 22/05/2020)

Description of the main environmental impacts of the project and proposed mitigation:

1. Population and Human Health

1.1 Impacts

- Properties within close proximity of the scheme may experience a level of disruption due to the works;
- Access to residential properties may be temporarily impacted during the works;
- Laybys adjacent to the carriageways may be inaccessible during the works.
- TS2010 will be utilised for resurfacing purposes, which is shown to have superior durability compared to standard road mixes;
- Reduced reoccurring routine maintenance and associated levels of disruption due to TS2010 durability;
- TS2010 will afford benefits of a reduction in mid to high frequencies of traffic noise and a reduction in ground vibrations. As a result ambient noise levels may decrease post construction¹³.

1.2 Mitigation

- Residential properties within close proximity will be pre-notified, detailing the nature, timings and traffic management restrictions of the works.
- Operatives will ensure that all plant and vehicles are switched off when not in use to reduce noise pollution to properties within close proximity.
- Operatives will grant entry to and from accesses when required.

With best practice mitigation measures in place, the residual impact to population and human health is considered neutral.

It has been determined that the proposed project will not have direct or indirect significant effects to population and human health.

2. Biodiversity

2.1 Impacts

There is for potential protected species to be active within the local area.

2.2 Mitigation

- It is an offence to intentionally kill, injure or take (capture) a protected species. The following will be adhered to at all times during construction:
 - If a protected species is identified within or within proximity to the works area, operatives will not approach it and will isolate the area temporarily until the animal has moved on. The Environmental and Sustainability will be contacted with such findings.
 - Oil, fuels and other potential pollutants or poisonous materials will be stored safely on site.
 - Any trenches or excavations shall be ramped to avoid entrapment of protected species.
- It is an offence to intentionally or recklessly disturb, obstruct, destroy or damage protected species shelter. The following measures will be taken if a burrow is observed within 30m of the live site:
 - If a protected species burrow is suspected then the area around the entrance shall be isolated to 30m. The Environmental and Sustainability will be contacted with such findings.

¹³ Transport Scotland TS2010 Specification and Guidance Issue 03, October 2015 (as amended)

<p>Description of the main environmental impacts of the project and proposed mitigation:</p>	
<ul style="list-style-type: none"> - Construction activities should temporarily stop. If required, Nature Scot will be contacted to determine the requirement for licencing. <p>Residual impact to biodiversity is considered neutral.</p> <p>It has been determined that the proposed project will not have direct or indirect significant effects to biodiversity.</p>	
<p>3. Land</p>	<p>The works will be kept to the existing A701 carriageway boundary and will not require or prevent access to private or community land out.</p>
<p>4. Soil</p>	<p>The works will be kept to the existing carriageway and soils shall not be impacted.</p>
<p>5. Water</p> <p>5.1 Impacts</p> <ul style="list-style-type: none"> • Debris and dust created through construction activities, may impact water quality, if allowed to enter the drainage system. • Potential for spills, leaks or seepage of fuels and oils associated with plant to escape and reach drainage systems and watercourses, if not controlled. Spillages, leaks or seepages of fuel or oils from plant can be hazardous to waterbodies in proximity to the scheme. • Surface water flooding may impact the scheme extent delaying the works. <p>5.2 Mitigation</p> <ul style="list-style-type: none"> • Spill kits will be available and replenished on site at all times. • Debris and dust generated through the works will be prevented from entering top entry gullies; • Visual pollution inspections of the working site (particularly areas near drainage) shall be conducted in frequency, especially during periods of heavy rain or wind; • Oil, fuels and other potential pollutants or poisonous materials will be stored safely on site; • Best practice will include, but not be limited to, the placement of spill dip trays and use of funnels when refuelling plant/equipment; • Weather reports shall be monitored prior and during all construction activities. In the event of adverse weather / flooding events, all activities shall temporarily stop, and only reconvene when deemed safe to do so, and run-off / drainage can be adequately controlled to prevent pollution. • Best practice, as detailed by SEPA's Guidance for Pollution Prevention (GPPs), will be followed onsite at all times. This will ensure that any potential sediments / spills are not allowed to enter road drainage unchecked. <p>The residual impact for water is considered negligible.</p> <p>It has been determined that the proposed project will not have direct or indirect significant effects to water.</p>	
<p>6. Air</p> <p>6.1 Impacts</p>	

Description of the main environmental impacts of the project and proposed mitigation:

- The use of vehicles and plants emitting carbon emissions may temporarily affect air quality and will require the use of finite resources.
- On site construction activities carry a potential to produce airborne particulate matter that may have a slight impact on local air quality levels.
- Power generated tower lights will likely be utilised as a source of light along the stretch of the scheme.

6.2 Mitigation

- Best practice measures will to be adopted for the duration of the scheme. Best practices measures can include but not limited to:
 - Vehicle and plant servicing/checks as per manufacturing and legal requirements;
 - Adoption of drive green techniques;
 - Route preparation and planning.
 - When not in use plant and vehicle will be switched off.

No likely significant residual effects are predicted to air quality.

It has been determined that the proposed project will not have direct or indirect significant effects to air quality.

7. Climate

7.1 Impacts

- Greenhouse gas emissions will be emitted through the use of machinery, vehicles and materials used (containing recycled and virgin materials).

7.2 Mitigation

- Where possible local suppliers will be used as far as practicable to reduce travel time and greenhouse gas emitted as part of the works;
- Vehicles / plant shall not be left on when not in use to minimise and prevent unnecessary emissions being emitted.
- Further actions and considerations for this scheme are detailed in section 8 Material Assets.

It has been determined that the proposed project will not have direct or indirect significant effects to climate.

8. Material Assets

8.1 Impacts

- Contribution to resource depletion through use of virgin materials.
- Greenhouse gas emissions generated by material production and transporting to and from site.

8.2 Mitigation

- Materials will be derived from recycled, secondary or re-used origin as far as practicable within the design specifications to reduce natural resource depletion.
- Road planings generated will be recovered by a licenced contractor for reuse and / or recycling in accordance with the criteria stipulated within SEPA document 'Guidance on the Production of Fully Recoverable Asphalt Road Planings'.
- The chosen material TS2010 Surface Course allows a wider array of aggregate sources to be considered when compared to typical stone mastic asphalt (SMA). As a result the use of

Description of the main environmental impacts of the project and proposed mitigation:

TS2010 should reduce the usage of imported aggregates, and increase the use of a wider range of sustainable aggregate sources.

Circular Economy

The design life for the TS2010 SMA surfacing is considered to be around 20 years. This will reduce the requirement for maintenance to this section of road over the next 20 years.

It has been determined that the proposed project will not have direct or indirect significant effects to production of material assets.

9. Cultural Heritage

There are no features of cultural heritage with proximity of the working location. No impact is predicted.

It has been determined that the proposed project will not have direct or indirect significant effects to features of undiscovered cultural heritage.

10. Landscape

The A701 within the scheme extents does not fall within any designation for landscape quality or character.

Views of, and from, the road will be temporarily affected during construction due to the presence of works, traffic management and plant. As the works are operating on a like-for-like basis, no permanent changes to landscape features are predicted.

It has been determined that the proposed project will not have direct or indirect significant effects to landscape.

11. Vulnerability of the Project to Risks

As the works will be limited to the like-for-like replacement of the carriageway pavement, there is no change to the vulnerability of the road to the risk or severity of major accidents / disasters that would impact on the environment.

Extent of EIA work undertaken and details of consultation:

The following environmental parameters have been considered within this Record of Determination:

- Population and Human Health
- Biodiversity
- Land
- Soil
- Water
- Air
- Climate
- Material Assets
- Cultural Heritage
- Landscape

Extent of EIA work undertaken and details of consultation:

The following statutory organisations have been consulted:

- Dumfries and Galloway Council Environmental Noise Team have been notified of the proposed works.

The following environmental surveys / reviews have been undertaken:

- A design Initial Environmental Review of the scheme, undertaken by the Environmental and Sustainability Team at Scotland TranServ issued in September 2019.
 - The site was surveyed for the presence of any protected species or invasive non-native species, under the Wildlife and Countryside Act 1981, the Nature Conservation (Scotland) Act 2004, the Conservation (Natural Habitats, &c.) Regulations 1994, Wildlife and Natural Environment (Scotland) Act 2011 and Protection of Badgers Act 1992. Undertaken on 12th September 2019.

Statement of case in support of a Determination that a formal EIA and Environmental Impact Assessment Report is not required:

The works are considered to constitute a relevant project falling within Annex II as referred to in the Environmental Impact Assessment (Scotland) Regulations 1999 (as amended), since they exceed 1 hectare in area.

The project has been subject to screening using the Annex III criteria to determine whether a formal Environmental Impact Assessment is required under the Roads (Scotland) Act 1984 (as amended). Screening using Annex III criteria, reference to consultations undertaken and review of available information has identified there is no need for a full EIA.

The project will not have significant effects on the environment by virtue of factors such as:

Characteristics of the scheme:

- Construction activities are restricted to the 11,600m² / 1.16 ha area of existing carriageway.
- Materials will be derived from recycled, secondary or re-used origin as far as practicable within the design specifications.
- The chosen material TS2010 Surface Course allows a wider array of aggregate sources to be considered when compared to typical SMA.
- Road planings will fully recycled in accordance with Guidance on the Production for Fully Recovered Asphalt Road Planings.
- The design option (replacing the defective surfacing) conveys sustainability benefits by significantly reducing the quantity of maintenance interventions required at the location over approximately 20 years.

Location of the scheme:

- The scheme will be confined within the existing carriageway boundaries and as a result will not require any land take and will not alter any local land uses.

- A slight adverse impact is predicted with regards to noise and vibrations due to the close proximity to residential properties, this will be mitigated as far as is reasonably practicable on site and residents informed of upcoming works.
- The scheme does not share any connectivity with any “sensitive areas” as listed under regulation 2 (1) of the Environmental Impact Assessment (Scotland) Regulations 1999 (as amended).

Characteristics of potential impacts of the scheme:

- As the works will be limited to the like-for-like replacement of the carriageway pavement, there is no change to the vulnerability of the road to the risk or severity of major accidents / disasters that would impact on the environment.
- No significant residual impacts are predicted. Disruption due to construction activities are not expected to be significant and will be mitigated as far as is reasonably practicable.
- The successful completion of the scheme will afford benefits to road users.
- The use of TS2010 road surfacing affords the benefits of a reduction in mid to high frequencies of traffic noise and a reduction in ground vibrations. As a result, ambient noise levels should decrease post construction.

APPENDIX 1: SCHEME LOCATION AND EXTENTS

