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Environmental Impact Assessment Record of Determination

A78 B746 Slips

Contents

Project Details

Description

The works are being undertaken as structural defects on the A78 B746 Slips, both southbound and northbound, have been identified and need to be repaired to improve safety and quality of the road surface.

Various inlays will be undertaken with depths estimated to be 30mm-300mm. Construction activities will consist of the following:

- Implementation of traffic management (TM).
- Milling of existing bituminous material by road planer.
- Additional bituminous material removed by jack hammer/excavator, where not accessible by planer.
- Resurfacing of carriageway using TS2010 surface course.
- Road sweeper to collect any loose material.
- Heavy Goods Vehicles (HGVs) for removal and replacement of material.
- New bituminous material laid by a paver.
- Material compacted using a heavy roller.
- Reinstatement of thermoplastic road markings where required.
- Road studs replaced where necessary.
- Removal of TM.

A roller wagon and paver planer will be required.

A detailed programme of works is still to be confirmed, however, works are expected to be undertaken in August 2023 and comprise of night-works.

Traffic management will consist of total off and on slip closures as well as the nearside lane CL1 on the main carriageway section, on both SB and NB slips. A diversion route is yet to be confirmed.

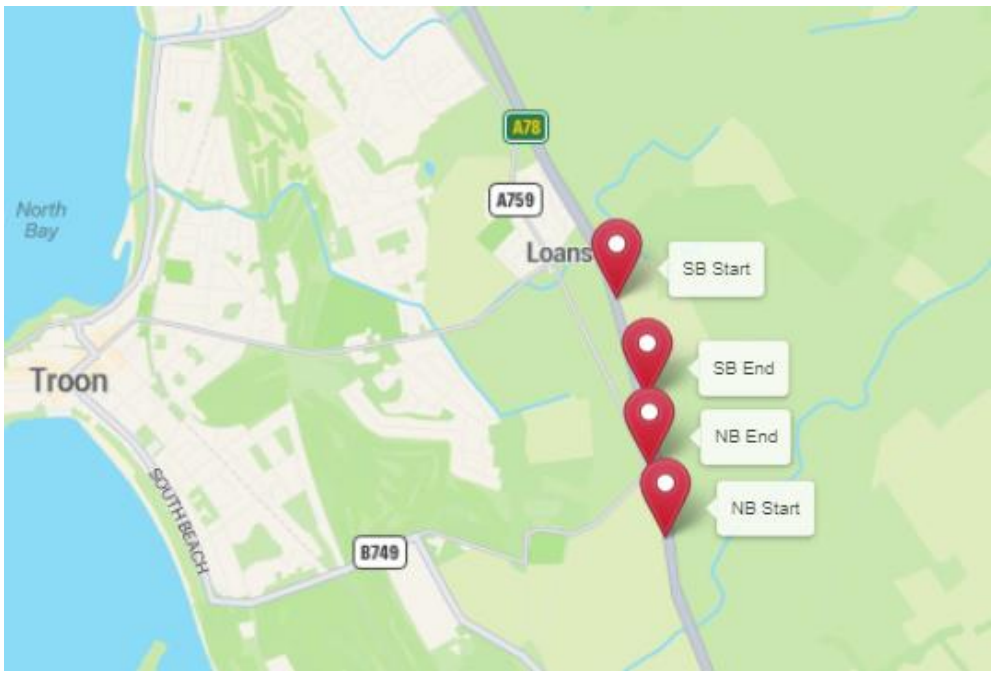
Location

The scheme is located on the A78 just east of Troon, South Ayrshire. The scheme is located at the following National Grid References (NGRs):

- SB Slip
  - Start: NS 34967 31324
  - End: NS 35102 30785
- NB Slip
  - Start: NS 35178 30036

- End: NS 35103 30412

Please see Figure 1: Scheme Location below.



Description of local environment

Air quality

The scheme is located on the A78 just east of Troon, South Ayrshire in a semi-rural area with large areas of farmland and woodland surrounding the scheme. The town of Troon is approximately 780m west of the scheme, there are less than 100 residential properties within 300m of the scheme, the closest being Southside Cottages (approximately 215m east). There are no other notable receptors within 300m of the scheme.

In 2021, the Annual Average Daily Flow (AADF) for all vehicles where works are to be undertaken (manual count point 40761) was 20,559, with 952 of those being HGVs.

South Ayrshire Council has not declared any Air Quality Management Areas (AQMAs).

Cultural heritage

A desk study was undertaken using Pastmap and there are several cultural heritage designations within 300m of the scheme, including:

- Fullarton Canmore (ID: 311930) and Historic Environment Record (HER) (ID: 90898) (approx. 140m west)
- Rumbling Bridge Canmore (ID: 311370) and HER (ID: 90772) (approx. 145m west)
- Crookside Canmore (ID: 16992) and HER (ID: 41939) (approx. 300m east)

However, there will be no impact as works will be like-for-like in nature and will require no excavation and will remain within the scheme extent. Therefore, cultural heritage has been scoped out for further assessment.

Landscape and visual effects

A desk study was undertaken using Pastmap and SiteLink and no landscape designations were identified within 500m of the scheme.

The HLA map notes that the land surrounding the scheme is made up of rectilinear fields and farms.

Scotland's Soils Map notes the land as being classed as:

- 4.2 – Land capable of producing a narrow range of crops, primarily on grassland with short arable breaks of forage crops.

The works are like-for-like in nature and while there will be temporary landscape and visual impacts during construction, there will be no permanent change or impact to the landscape and therefore has been scoped out for further assessment.

Biodiversity

The scheme is located on the A78 just east of Troon, South Ayrshire in a semi-rural area with large areas of farmland and undesignated woodland surrounding the scheme; there are no watercourses within 200m of the scheme. There are no European designated sites within 2km of the scheme.

Amey's Environmental Database does not note any protected species or Invasive Non-Native Species (INNS) within 500m of the scheme.

National Biodiversity Network (NBN) Atlas has no records of any protected species or INNS within 1km of the scheme.

Transport Scotland's Asset Management Performance System does not note any invasive non-native species (INNS) within 500m of the scheme.

Geology and soils

Scotland's Soils Map notes the soils within the scheme extent as being made up of Mineral Gleys.

The British Geology Viewer notes the geological features within the scheme extent as being:

- Bedrock Geology:
  - Scottish Upper Coal Measures Formation – Sedimentary rock cycles, coal measure type.
  - Scottish Middle Coal Measures Formation – Sedimentary rock cycles, coal measure type.

The works are like-for-like in nature and require no excavation and so therefore there will be no impact on geology and soils. Geology and soils has therefore been scoped out of further assessment.

Material assets and waste

Table 1: Key Materials Required for Activities

Activity	Material Required	Origin/ Content
Site Construction	• TS2010 surface course • AC20 bituminous binder	TS2010 Surface Course allows a wider array of aggregate sources to be considered when

Activity	Material Required	Origin/ Content
	• AC32 bituminous base • Road paint and studs • Lubricant • Vehicle fuel • Oil.	compared to typical SMA. As a result, the use of TS2010 will reduce the usage of imported aggregates and increase the use of a wider range of sustainable aggregate sources. 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.

Table 2: Key Waste Arising from Activities

Activity	Waste Arising	Disposal/ Regulation
Site Construction	• Asphalt planings • Possibility of coal tar (TBC)	Uncontaminated road planings generated as a result of the required works, will be fully recycled in accordance with the criteria stipulated within SEPA document 'Guidance on the Production of Fully Recoverable Asphalt Road Planings'. Upon completion of coring, should any tar bound materials be found on site, these materials will be disposed of as special waste and will be transported by a licenced contractor to a licenced waste facility.

Noise and vibration

The scheme is located on the A78 just east of Troon, South Ayrshire in a semi-rural area with large areas of farmland and woodland surrounding the scheme. The town of Troon is approximately 780m west of the scheme, there are less than 100 residential properties within 300m of the scheme, the closest being Southside Cottages (approximately 215m east) which has large areas of farmland and some woodland screening the properties from the road. There are no other notable receptors within 300m of the scheme.

Scotland's Noise Map notes that noise levels (Lden) on the A78 where works are to be undertaken range between 65-<75dB during daytime hours, and range between 55-<65dB during night time hours. The key noise source in the area is the A78 itself and vehicles.

The scheme is not located within a Candidate Noise Management Area (CNMA).

Population and human health

The scheme is located on the A78 just east of Troon, South Ayrshire in a semi-rural area with large areas of farmland and woodland surrounding the scheme. The town of Troon is approximately 780m west of the scheme, there are less than 100 residential properties within 300m of the scheme, the closest being Southside Cottages (approximately 215m east); no access points are located within the scheme extents. There are no other notable receptors within 300m of the scheme.

There are no core paths or National Cycling Network Routes within the scheme extent.

No land take is required for the construction of the scheme.

Road drainage and the water environment

There are no watercourses within 200m of the scheme. Scotland's Environment Protection Agency's (SEPA) Flood Risk Map notes there are two area of high-risk surface water flooding on the A78 within the scheme extents. High-risk surface water flooding is defined as the area having a 10% chance of flooding each year.

Drainage on the A78 is via gullies which runs along either side of the carriageway.

Climate

Carbon Goals

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).

The Scottish Government has since published its indicative Nationally Determined Contribution (NDC) to set out how it will instead reach net-zero by 2045, working to reduce emissions of all major greenhouse gases by at least 75% by 2030. By 2040, the Scottish Government is committed to reduce emissions by 90%, with the aim of reaching net-zero by 2045 at the latest.

Transport Scotland is committed to reducing carbon across Scotland's transport network, this commitment is being enacted through the Mission Zero for Transport. Transport is the largest contributor to harmful climate emissions in Scotland. In response to the climate emergency, TS are committed to reducing their emissions by 75% by 2030 and to a legally binding target of net-zero by 2045.

Amey's Company Wide Carbon Goal is to achieve Scope 1 and 2 net-zero carbon emissions, with a minimum of 80% absolute reduction on our emissions by 2035. Amey is aiming to be fully net-zero, including Scope 3 emissions, by 2040.

Amey are working towards a contractual commitment to have carbon neutral depots on the SW NMC network by 2028. Amey have set carbon goals for the SW NMC contract as a whole to be net-zero carbon by 2032.

Monitoring, Management and Opportunities

To support our journey towards carbon neutral and zero waste we include potential opportunities for enhancement utilising circular economy principals within assessment of material assets.

Amey (working on behalf of Transport Scotland) undertake carbon monitoring. Emissions from our activities are recorded using Transport Scotland's Carbon Management System.

Further information identifying how Amey will obtain the above Carbon Goals can be viewed within the Carbon Management and Sustainability Plan Roadmap to net-zero: STRNMC – South West.

Description of main environmental impacts and proposed mitigation

Air quality

Impacts

- During construction there is the potential for an increase in dust and emissions from plant and machinery as well as construction activities. This is likely to cause a slight deterioration in air quality within the local area. These impacts will last for the duration of the works only.
- An increase in congestion as a result of TM and travel delays will likely have a temporary impact on air quality within the local area.
- An increase in the use of HGVs during construction will likely have an impact on air quality within the local area.

Mitigation

Best Practicable Means and Best Practice Guidelines of reducing dust and emissions will be followed as outlined in the Guidance on the Assessment of Dust from Demolition and Construction (2014) published by the IAQM, which includes the following mitigation relevant to this scheme:

- Equipment will be readily available on site to clean any dry spillages as soon as reasonably practicable after the event using wet cleaning methods.
- Vehicles will switch off engines when stationary.
- All plant and fuel-requiring equipment utilised during construction will be well maintained in order to minimise emissions.
- Where relevant, operations should be wetted to reduce dust arising.
- Drop heights to haulage vehicles and onto conveyors should be minimised where practicable.
- Lorries should be sheeted when carrying dry materials.
- Surfaces should be swept where loose material remains following construction.

The residual effects are considered not significant and do not warrant any further assessment in accordance with DMRB Guidance document LA 105: Air Quality.

Biodiversity

Impacts

- Additional noise from construction activities could cause disturbance to any surrounding protected species.
- As night-time works are required, misdirected site lighting could cause disturbance to any surrounding nocturnal species.

Mitigation

- In the event that a protected species is noticed on site, works will temporarily be suspended until the animal has moved on. Any sightings will be reported to the E&S Team.
- Vehicles and materials will not be stored or parked on grass verges where possible. Where damage occurs, the reinstatement of the grass verge will be carried out.
- As night-works are required, where lighting is required, hoods will be used and lights directed at works and away from ecological receptors (e.g. woodland, structures etc) including any watercourses, to minimise disturbance to nocturnal species.

On the condition that the above mitigation measures and best practice are adhered to, the residual effect on local biodiversity is considered not significant.

Therefore, in accordance with DMRB Guidance document LA 108: Biodiversity, no further assessment is required.

Material assets and waste

Impacts

- The design life for the TS2010 surfacing proposed is estimated to be 20 years. This will reduce the requirement for maintenance to this section of road over the period.
- The works will result in contribution to resource depletion through use of virgin materials.
- Transportation and recovery of materials/waste will require energy deriving from fossil fuel, a non-renewable source.

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 and associated emissions.
- The contractor will adhere to waste management legislation and ensure they comply with waste management Duty of Care.

- Uncontaminated road planings arising from the works will be fully recycled under a SEPA Paragraph 13(a) Waste exemption in accordance with guidance on the Production for Fully Recovered Asphalt Road Planings.
- All waste leaving the site will be removed from site by a licenced waste carrier. All waste documentation will be provided when requested.
- Use of TS2010 will reduce the usage of imported aggregates and increase the use of a wider range of sustainable aggregate sources thus reducing GHG emissions.
- Where possible, materials will be obtained locally, and operatives deployed from the local depot to reduce haulage and scheme associated journeys, reducing impact of associated GHG emissions.
- Where possible all materials will be reused throughout the network, if not possible they will be recycled locally.
- The use of TS2010 Surface Course will prolong the period before future resurfacing is required, compared to other types of road surface. Future repairs can be able to be carried out easily via inlay.
- All special waste, such as tar bound materials, will be transport by suitable licenced contractor and will be accompanied by a correctly completed special waste consignment note (SWCN). The presence of coal tar within planings is unknown at present, however, cores will be tested ahead of works commencing.

It has been determined that the proposed project will not have direct or indirect significant effects on the consumption of material assets or creation of waste. Therefore, in accordance with DMRB Guidance document LA 110: Materials Assets and Waste, no further assessment is required.

Noise and vibration

Impacts

- Residential properties within 300m will likely experience adverse impacts as night-works are required.
- The works will improve the road surface which will therefore improve noise levels.

Mitigation

- Unnecessary revving of engines will be avoided and noise generating equipment will be switched off when not in use.
- Minimising drop height of materials will limit noise generated from this activity.
- Starting-up plant and vehicles sequentially rather than all together, will minimise noise generated form this activity.
- Due to night-time programming, the noisiest works will take place before 23:00 where possible.

- Due to night-time programming, operatives will be briefed before starting works that noise will be kept to a minimum.
- As night-time works are required, South Ayrshire Council have been notified of the works.
- Due to night-works, residential properties within 300m will be notified of the works which will include dates, times and duration as well as TM details.

With best practice mitigation measures in place, the residual construction effects associated with Noise and Vibration is considered not significant.

Therefore, in accordance with DMRB Guidance document LA 111: Noise and Vibration no further assessment is required.

Population and human health

Impacts

- TM is likely to cause travel delays for road users.

Mitigation

- TM restrictions/arrangements and any expected travel delays will be publicised within the local and wider area, in an effort to minimise disturbance to vehicular travellers.

With best practice mitigation measures in place, the residual construction effects associated with Population and Human Health is considered not significant.

Therefore, in accordance with DMRB Guidance document LA 112: Population and Human Health no further assessment is required.

Road drainage and the water environment

Impacts

- If not adequately controlled, debris and run off from the works could be suspended in the surface water. In the event of a flooding incident, this debris may be mobilised and could enter the road drainage having a detrimental effect on the surrounding local water environment.
- Potential for spills, leaks or seepage of fuels and oils associated with plant to escape and reach drainage systems and watercourses if not controlled, which may negatively affect the water environment.

Mitigation

- All debris which has the potential to be suspended in surface water and wash into the local water environment will be cleaned from the site following the works.

- Debris and dust generated as a result of the works will be prevented from entering the drainage system. This can be via the use of drain covers or similar.
- Appropriate measures will be implemented onsite to prevent any potential pollution to the natural water environment (e.g., debris, dust, and hazardous substances). This will include spill kits being present onsite at all times, and the use of funnels and drip trays when transferring fuel.
- The control room will be contacted if any pollution incidences occur.
- Visual pollution inspections of the working area will be conducted in frequency, especially during heavy rainfall and wind.
- Weather reports will be monitored prior and during all construction activities. In the event of adverse weather/flooding events, all activities will temporarily stop, and only reconvene when deemed safe to do so, and run-off/drainage can be adequately controlled to prevent pollution.

Providing all works operate in accordance with current best practice, as demonstrated by the Scottish Environmental Protection Agency's (SEPA's) GPPs, the residual effect on Road Drainage and the Water Environment is considered not significant.

Therefore, in accordance with DMRB Guidance document LA 113: Road drainage and the water environment no further assessment is required.

Climate

Impacts

- Greenhouse Gas (GHG) emissions will be emitted through the use of machinery, vehicles and materials used (containing recycled and virgin materials) and transporting to and from site.

Mitigation

- Local suppliers will be used as far as reasonably practicable to reduce travel time and GHG emitted as part of the works.
- Vehicles/plant will 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 the above Material assets and waste section.

It has been determined that the proposed project will not have direct or indirect significant effects to climate. Therefore, in accordance with DMRB Guidance document LA 114: Climate, no further assessment is required.

Vulnerability of the project to risks

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

It has been determined that the proposed project is not expected to alter the vulnerability of the existing trunk road infrastructure to risk of major accidents or disasters.

Assessment cumulative effects

The Scottish Road Works Commissioner's Interactive Map has not highlighted any ongoing works during the proposed timescale and at the location of the proposed works.

Amey's current programme of works has not highlighted any ongoing works during the proposed timescale and at the location of the proposed works.

South Ayrshire Council Planning Portal has not highlighted any ongoing works during the proposed timescale and at the location of the proposed works.

Any future schemes will be programmed to take into account already programmed works, and as such any effect (such as from TM arrangements and potential construction noise) will be limited.

Overall, it is unlikely the proposed works will have a significant cumulative effect with any other proposed works in the local area.

Assessments of the environmental effects

Following assessment as detailed within this Record of Determination, and provided that mitigation measures are in place and best practice is followed, the residual impact is deemed neutral and there will be no significant effects on the environment.

The following environmental surveys/reviews have been undertaken:

- An Initial Environmental Review of the scheme, undertaken by the Environment and Sustainability Team at Amey in June 2023.

Statement of case in support of a Determination that a statutory EIA is not required

This is a relevant project in terms of section 55A(16) of the Roads (Scotland) Act 1984 as it is a project for the improvement of a road and the completed works (together with any area occupied by apparatus, equipment, machinery, materials, plant, spoil heaps, or other such facilities or stores required during the period of construction) 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 by The Roads (Scotland) Act 1984 (Environmental Impact Assessment) Regulations 2017). Screening using Annex III criteria, reference to consultations undertaken and review of available information has not identified the need for a statutory EIA.

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

<u>Characteristics of the scheme:</u>

- Construction activities are restricted to the approximate 11,837m^2 area of existing carriageway.
- The works will be temporary and localised and completed during both daytime and night-time hours.
- As the works will be limited to the like-for-like replacement of the structural components, 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.
- The successful completion of the scheme will afford benefits to carriageway users and residential properties in proximity, due to improved condition and ride quality of the carriageway surface.
- No impacts on the environment are expected during the operational phase as a result of works. 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.

- No disturbance is anticipated to protected species within the wider area.
- The chosen material TS2010 Surface Course allows a wider array of aggregate sources to be considered when compared to typical SMA.
- The design option conveys sustainability benefits by significantly reducing the quantity of maintenance interventions required at the location.

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.
- The scheme is situated in whole or in part in a “sensitive area” as listed under regulation 2 (1) of the Environmental Impact Assessment (Scotland) Regulations 1999 (as amended).

Characteristics of potential impacts of the scheme:

- Containment measures of the working area will be in place to prevent debris or pollutants from entering the surrounding water environment.
- At end of life, components can be recycled, reducing waste to landfill.
- Any uncontaminated road planings will be recycled in accordance with Guidance on the Production for Fully Recovered Asphalt Road Planings.
- Materials will be derived from recycled, secondary or re-used origin as far as practicable within the design specifications.

Annex A

"sensitive area" means any of the following:

- land notified under sections 3(1) or 5(1) (sites of special scientific interest) of the Nature Conservation (Scotland) Act 2004
- land in respect of which an order has been made under section 23 (nature conservation orders) of the Nature Conservation (Scotland) Act 2004
- a European site within the meaning of regulation 10 of the Conservation (Natural Habitats, &c.) Regulations 1994
- a property appearing in the World Heritage List kept under article 11(2) of the 1972 UNESCO Convention for the Protection of the World Cultural and Natural Heritage
- a scheduled monument within the meaning of the Ancient Monuments and Archaeological Areas Act 1979
- a National Scenic Area as designated by a direction made by the Scottish Ministers under section 263A of the Town and Country Planning (Scotland) Act 1997
- an area designated as a National Park by a designation order made by the Scottish Ministers under section 6(1) of the National Parks (Scotland) Act 2000.

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