



**TRANSPORT
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Record of Determination

A76 Garleffan Roundabout to Lochhill

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Project Details

The works are required to maintain the safety and integrity of the A76 carriageway within the scheme extents. The aim of the proposed works is to provide lasting prevention of crack propagation from the surface into the binder layer and maintain the pavement qualities required such as bonding of the layers, strength to avoid rutting and waterproofing to the pavement structure to ensure the design life is maintained.

Works will involve carriageway surface reconstruction utilising TS2010 treatment to depths of 30mm, 100mm and 260mm inlays. The total area of the works is approximately 11,816m².

Construction activities will likely include the following:

- Milling of existing bituminous material by road planer;
- Hand-held jackhammer and compressor for breaking up surfaces not accessible by planer;
- Loader/excavator used to collect and move excess material;
- Base/binder material laid and compressed (where required);
- New bituminous material laid by a paver;
- Material compacted using a heavy roller;
- Mechanical sweeper to collect loose material;
- HGV for removal and replacement of material; and,
- Road markings replaced.

Traffic management (TM) will consist of convoy and temporary traffic lights. The carriageway will remain open throughout the works.

The works have been programmed for November 2021 during five dayshifts.

Location

The works are located on the A76 carriageway west of New Cumnock, within East Ayrshire. The Works have the following National Grid References:

- Scheme Start: NS 61304 14581
- Scheme End: NS 60307 15338

Figure 1 – Scheme Location

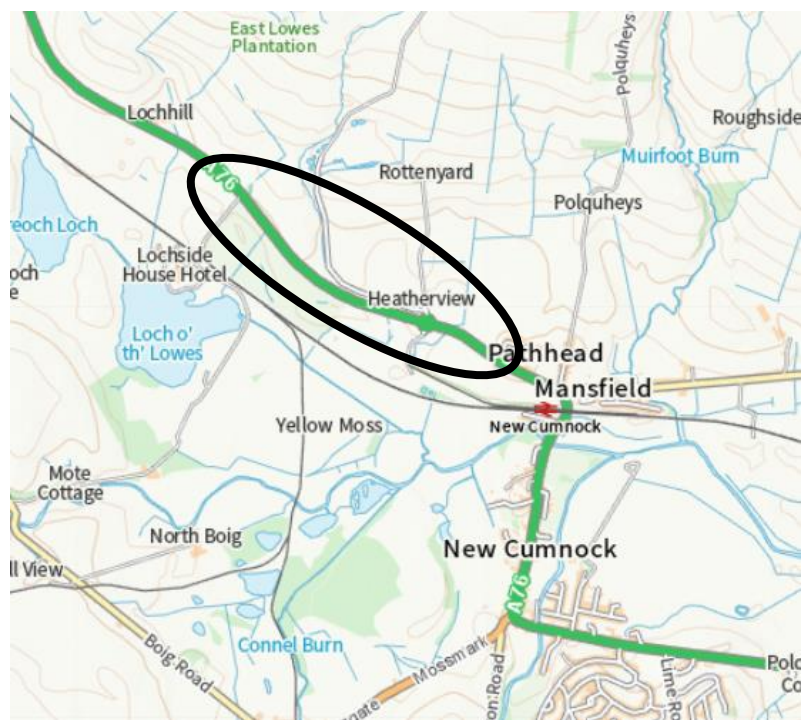
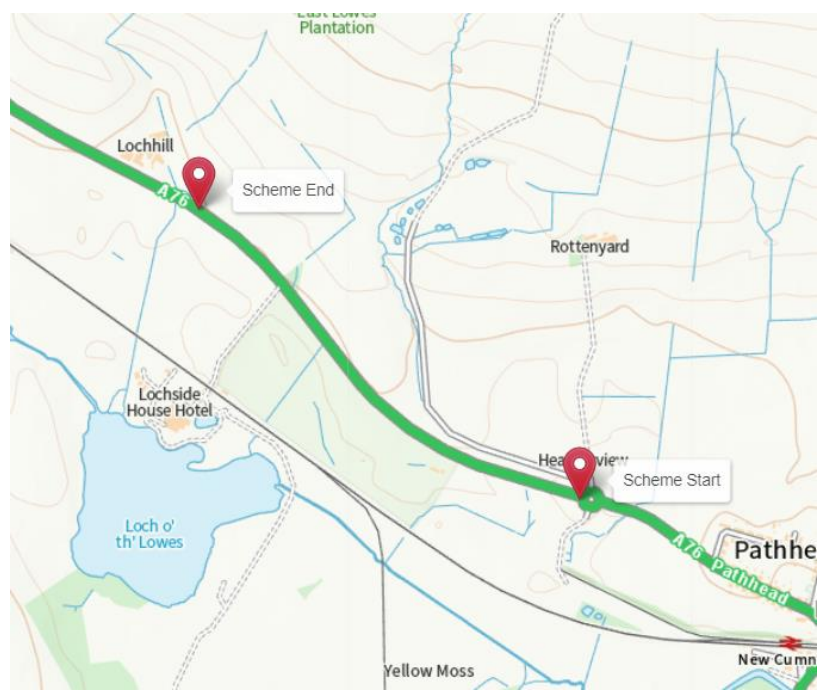


Figure 2 – Scheme Extents



Description of Local Environment

Population and Human Health

This section of the A76 is a rural single carriageway surrounded by agricultural land, west of New Cumnock. Two residential properties, Heatherview and Lochhill Farmstead, can be located 85m and 170m respectively from the carriageway.

Baseline noise levels are likely primarily influenced by vehicle traffic from the carriageway, with secondary sources from local rural activity.

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

The Annual Average Daily Traffic Flows (AADT, 2019) at this location is 2,974 approximately 15% of which consists of Heavy Goods Vehicles (HGVs).

Access to local fields and the New Cumnock Golf Club is located within the scheme extents.

A pedestrian footpath is located immediately adjacent to the eastbound carriageway throughout the scheme extents.

Biodiversity

The works are located on a rural stretch of the A76 carriageway with the surrounding habitat dominated by low-lying agricultural fields.

[NatureScot Sitelink](#) has not identified any European designated sites within 2km of the works. No locally designated sites are within 300m of the works.

Amey's Animal Roadkill Database (2000 – 2021) has not identified any protected species roadkill within the scheme extents.

Amey's Invasive Non-native Species Database has not identified any invasive plant species within the scheme extents.

Given the lack of suitable habitat in close proximity to the scheme, coupled with the lack of recent roadkill records, a site survey was deemed unnecessary for the works.

As a result of a lack of biodiversity features, no site-specific mitigation is required. It has been determined that the proposed project will not have direct or indirect significant effects to biodiversity.

Land

This section of the A76 is a single lane rural carriageway.

No designated landscape features have been identified within proximity to the works.

Historic Environment Scotland's [HLAMap](#) has highlighted the following surrounding landscapes:

- Rectilinear Fields and Farm
- Golf Course

- Managed Woodland

On site work activities will be confined within the A76 carriageway boundary and will not require access over any private or community land.

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

Soil

The [National Soil Map of Scotland](#) has identified the surrounding local soils to consist of non-calcareous mineral gleys.

A desktop study using the [British Geological Survey Map](#) has identified major local geology type as the following:

Bedrock

Scottish Lower Coal Measures Formation - Sedimentary Rock Cycles, Coal Measure Type. Sedimentary Bedrock formed approximately 318 to 319 million years ago in the Carboniferous Period. Local environment previously dominated by swamps, estuaries and deltas.

Superficial

Alluvium - Silt, sand and gravel. Superficial Deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by rivers (U).

The works will be limited to the existing man-made carriageway structure, and thus will not impact on surrounding local soils.

Water

The [Scottish Environment Protection Agency's Water Classification Hub](#) has highlighted several unnamed issues channelled directly under and within proximity to the carriageway.

The [Indicative River & Coastal Flood](#) Map by SEPA has highlighted areas of surface water flood risk within the scheme extents.

Drainage is provided by top entry gullies on both sides of carriageway and filter drain where the carriageway is in a cutting.

Air

The works are located on a rural stretch of the A76 carriageway surrounded primarily by agricultural land. Two residential properties can be located 85m and 170m respectively from the carriageway.

The Annual Average Daily Traffic Flows (AADT, 2019) at this location is 2,974 approximately 15% of which consists of Heavy Goods Vehicles (HGVs).

No [Air Quality Management Areas](#) (AQMA) have been declared by East Ayrshire Council.

The works are of a temporary nature and will not result in any permanent local changes to air quality levels.

Climate Change

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).

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

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

Material Assets

Table 1 – Key Materials Required for Activities

Activity	Material Required	Origin/ Content
Site Construction	<ul style="list-style-type: none"> • TS2010 surface course • AC32 Base • AC20 Binder • Bitumen • Road paint • Road studs 	<p>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.</p> <p>TS2010 Surface Course allows a wider array of aggregate sources to be considered when 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.</p>

Waste

Table 2 – Key Waste Arising from Activities

Activity	Waste Arising	Disposal/ Regulation
Site Construction	<ul style="list-style-type: none"> • Road planings • Old studs 	<p>No tar bound macadam was found within the tested cores.</p> <p>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.</p>

Cultural Heritage

[PastMap](#) has not identified any designated features of cultural heritage within proximity to the works.

Vulnerability of the Project to Risks

The works will take place on the existing man-made carriageway structure. Works will involve like-for-like resurfacing, with no major changes to the structure.

Currently, the A76 at this location is not vulnerable to any major specific risk.

SEPA's Flood Maps have highlighted areas of surface water flood risk within the scheme extents.

Description of Main Environmental Impacts and Proposed Mitigation

Population and Human Health

Impacts

- The pedestrian footpath may be temporarily restricted due to the works.
- Accesses may be temporarily blocked due to the works.
- Works will take place during the day and thus noise disturbance is considered negligible.
- Traffic management allows for the carriageway to remain open throughout the works.

Mitigation

- If required, site operative must ensure pedestrians of all abilities can safely bypass the works.
- Site operative must allow local access when required.
- Site operatives should be briefed on the Good Neighbour toolbox talk.

The residual impact for population and human health is considered neutral.

Water

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; and,
- Flooding/adverse weather may impact the scheme extents, resulting in delays.

Mitigation

- Spill kits will be readily available on site at all times;
- Visual pollution inspections of the working area will be conducted in frequency, especially during heavy rainfall and wind;
- Weather reports shall be monitored prior and during all construction activities. In the event of adverse weather / flooding events, all activities should 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 always be adhered to onsite. The residual impact for the water environment is considered neutral.

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

Air

Impacts

- The use of vehicles, plant and generators 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.

- Diversion route, if required, is likely to increase traffic levels and associated emissions within local road networks.

Mitigation

All works shall operate in accordance with current best practice 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:

- When not in use plant and vehicles will be switched off; there will be no idling vehicles.
- All plant and fuel-requiring equipment utilised during construction shall be well maintained in order to minimise emissions, as per manufacturing and legal requirements.
- Green driving techniques will be adopted, and effective route preparation and planning shall be undertaken prior to works.
- Planing operations will be wetted to reduce dust arising.
- Drop heights to haulage vehicles and onto conveyors will be minimised.
- Lorries will be sheeted when carrying dry materials.
- Surfaces will be swept where loose material remains following planing.

Providing all works operate in accordance with current best practice, the residual impact for local air quality is considered neutral.

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

Climate Change

Impacts

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

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 and Waste.

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

Material Assets

Impacts

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

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.

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

Waste

Impacts

- No special waste has been identified and as result all waste created from the works can be recycled, reducing the need for landfill.

Mitigation

- 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 TS2010 should reduce the usage of imported aggregates and increase the use of a wider range of sustainable aggregate sources.
- Filter stone will be removed and cleaned to allow for use in the future.
- Operatives will be briefed with the Basic Waste Rules briefing.

It has been determined that the proposed scheme will not have direct or indirect significant effects to waste disposal.

Vulnerability of the Project to Risks

As the works will be limited to the like-for-like replacement of the carriageway pavement and associated road furniture, 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.

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.

Assessments of the Environmental Effects

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:

Characteristics of the scheme:

- Construction activities are restricted to the 11,816m². (1.1ha) 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 stone mastic asphalt (SMA).
- Road planings will be 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.
- The scheme is not situated in whole or in part in a “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, filter stone and gullies, 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.

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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