



**TRANSPORT
SCOTLAND**
CÒMHDHAIL ALBA

Environmental Impact Assessment Record of Determination

A1 Heugh Head

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Project Details

Description

BEAR Scotland has been commissioned by Transport Scotland to carry out resurfacing works on the A1 carriageway. The works will consist of carriageway resurfacing to depths between 10mm and 290mm along with the reinstatement of road markings for length of approx. 1484m (1.4ha).

The construction activities for the resurfacing procedure are as follows:

- Set up traffic management (TM) and mark out site.
- Milling of existing bituminous material by road planer.
- Jackhammer and compressor for breaking up surfaces not accessible by planer (e.g. around gullies).
- Loader/excavator used to collect and move excess material.
- Sweeper to collect loose material and provide clean laying surface.
- Milled out/excavated materials all taken off site.
- Tack/bond coat laid.
- Binder material laid and compressed by paver (where required).
- Material compacted using a heavy roller.
- New bituminous surface course material laid by paver.
- Material compacted using a heavy roller.
- Mechanical sweeper to collect loose material.
- HGV for removal and replacement of material.
- Road markings and studs applied where necessary (in accordance with Chapter 5).
- Remove TM and open road.

The works are currently programmed to be completed within the 2024/2025 financial year with works expected to begin on 21st October 2024. Works are programmed to be completed over 22 nights (19:30 – 06:00). Traffic management (TM) will involve night-time road closures of the southbound carriageway with a signed diversion in place via the A1107 between Tower Farm and Eyemouth. There are no pedestrian routes, or other community assets, with connectivity to the scheme extents.

Location

The scheme lies on the A1 carriageway, south west of Cairncross, with agricultural land predominantly surrounding the route (Figure 1).

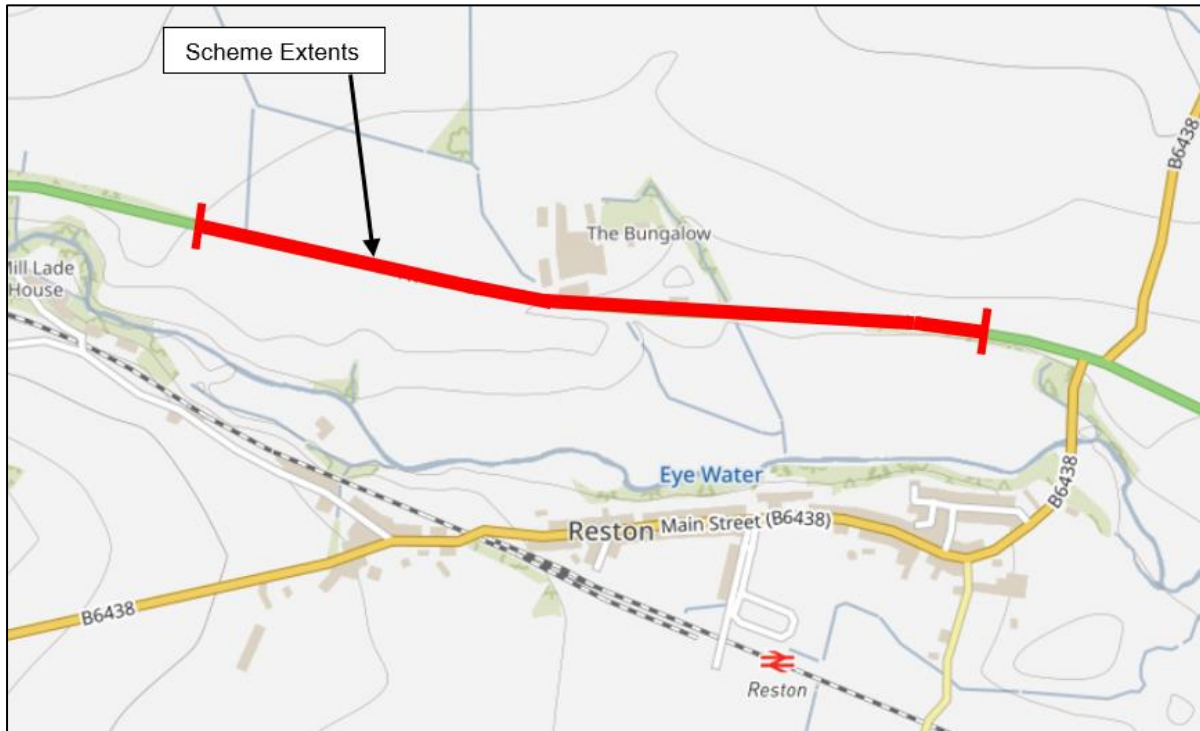


Figure 1. Extent of works. Source: Grid Reference Finder. Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and database right 2022.

Description of local environment

Air quality

Properties within 300m of the scheme – refer to ‘Population and Human Health’.

A search of the [Air Quality in Scotland](#) online mapping tool records that the air quality zones in the wider area record bandings in the ‘green zone’ (Low Index 1-3).

The scheme lies within the boundary of the Scottish Borders Council, which has no Air Quality Management Areas (AQMAs) within its administrative boundary. The nearest AQMA, ‘High Street, Musselburgh,’ lies within the boundary of East Lothian Council, approx. 53km north west of the scheme extents and has been declared for nitrogen dioxide (NO₂).

There are four sites registered on the Scottish Pollutant Release Inventory ([SPRI](#)) for pollutant releases to air within 10km of the scheme:

- Chirnside Plant, Chirnside, Duns – Paper and Wood Production and Processing, declared for ammonia, carbon disulphide and sulphur oxides, lies approx. 6.8km south of the scheme.
- Dalkia Utilities Services, Chirnside, Duns – Energy Sector, declared for carbon dioxide (CO₂) and particulate matter (PM₁₀), lies approx. 6.7km south of the scheme.
- MacLean Eggs, Hutton Hall Barns – Intensive Livestock Production and Aquaculture, declared for ammonia, lies approx. 8.2km south of the scheme.
- Penmanshiel Farm, Berwickshire – Intensive Livestock Production and Aquaculture, declared for ammonia and methane, lies approx. 7.6km north west of the scheme.

The baseline air quality within the scheme extents is primarily influenced by motor vehicles travelling along the A1 trunk road. Secondary sources are derived from vehicles travelling along the local road network and day-to-day agricultural land management activities.

Cultural heritage

The [PastMap](#) and [Historic Environment Scotland](#) (HES) online mapping tool records three designated cultural heritage sites within 300m of the scheme extents, the closest of which lies approx. 240m south west of the scheme, outwith the carriageway, Reston, Mill Lade House – Category C Listed Building (LB46652) and has no connectivity to the scheme.

Of lesser cultural heritage, approx. 31 undesignated cultural heritage assets (UCHAs) lie within 300m of the scheme extents, three of which lie within the scheme extents and therefore share connectivity:

- Heugh Head, Canmore (ID: 59884) and Historic Environment Record (HER) (ID: 59884), both relating to a tower house.
- Cairncross HER (ID: 158576) relating to a military airfield (first world war).

The remaining UCHA's share no connectivity with the scheme (i.e., lie >15m from the scheme extents).

Construction of the A1 carriageway is likely to have removed any archaeological remains that may have been present within the carriageway boundary. The potential for the presence of unknown archaeological remains in the study area has therefore been assessed to be low.

While there are Canmore and Historic Environment Records within the scheme extents the works consist of like-for-like replacement of the existing road boundary and depth. As such this factor has no constraints that are likely to be impacted by the proposed works and has therefore been scoped out of further environmental assessment.

Landscape and visual effects

The scheme is not situated within a [National Park](#) (NP) or [National Scenic Area](#) (NSA).

The Landscape Character Type (LCT) within the scheme extents is 'Rolling Lowland Margin' (no. 107) ([Scottish Landscape Character Types](#)). The key characteristics of which are:

- Smooth sloping and gently rolling landform.
- Open land cover of large arable and occasional pasture fields, divided by mature hawthorn hedgerows. Scarcity of tree cover.
- Medium density settlement pattern consisting of small stone-built towns, villages and farmsteads.
- Designed landscapes with associated estate buildings.
- A simple, uniform, organised landscape of gentle curves, open in character with distant and panoramic views.

The [national scale land capability for agriculture](#) classifies land surrounding the scheme as being:

- 'Class 3.1' – Land capable of producing consistently high yields of a narrow range of crops and/or moderate yields of a wider range. Short grass leys are common.

[Land use](#) within 300m of the scheme is categorised into the following:

- Managed woodland.
- Motorway and major roads.
- Rectilinear fields and farms.
- Medieval village.
- Urban area.

Two areas of woodland registered on the [Native Woodland Survey of Scotland](#) lie within 300m of the scheme extents:

- Lowland mixed deciduous woodland (approx. 1ha) lies approx. 225m south west.
- Nearly-native lowland mixed deciduous woodland (approx. 4ha) lies approx. 220m south.

In addition, approx. 1.4ha of broadleaved woodland borders the southbound carriageway in proximity to Heugh Head farmstead.

There are no areas of woodland registered on the [Ancient Woodland Inventory Scotland](#) or trees covered by a Tree Preservation Order (TPO) within 300m of the scheme extents.

The existing trunk road is a prominent linear landscape feature. The trunk road corridor, for example, has a distinct character shaped by fast-flowing traffic, road markings, safety barriers, signage, landscaping, etc. The scale of the trunk road detracts from the quality and character of the wider landscape.

Biodiversity

The [NatureScot Sitelink](#) online mapping tool identifies that the scheme is not situated within 2km of, and does not share connectivity with, a 'European Site' designated for biodiversity features e.g., SAC, SPA, Ramsar.

There are no Sites of Special Scientific Interest (SSSI), Local Nature Conservation Sites (LNCS) or Local Nature Reserves (LNRs) designated for biodiversity features within 300m of the scheme.

The [National Biodiversity Network](#) (NBN) records no mammal species of conservation importance within 2km of the scheme (in last 10-years). Only records with open-use attributions (OGL, CC0, CC-BY) were included in the search criteria.

A search of the NBN online mapping tool records invasive non-native species (INNS) Japanese knotweed approx. 0.2km south of the scheme extents (recorded in 2022). There are no records of injurious weeds (as listed under The Weeds Act 1959) or invasive native perennials (as listed in the Trunk Road Inventory Manual) within 2km of the scheme extents.

A search of the Asset Management Performance System (AMPS) online mapping tool records invasive native perennial rosebay willowherb (*Chamaenerion angustifolium*) (recorded in 2015, 2018) within the roadside verge of the scheme extents.

Habitat immediately bordering the trunk road tends to be of low intrinsic value because the existing road verge is subject to cyclic maintenance e.g., grass cutting, weed control, tree, and shrub cut-back etc. The roadside verges therefore comprise a homogenous species-poor semi-improved grassland. Roadside vegetation generally offers low ecological habitat value due to its limited scale, fragmented nature and high potential for disturbance owing to cyclic trunk road landscape maintenance, and the proximity of the trunk road (with its fast-flowing traffic). The presence of the trunk road and underpasses also restricts continuity of, and connectivity between, habitats either side of the trunk road boundary.

Outwith the trunk road boundary, agricultural land surrounding the scheme forms a pattern of open and exposed fields containing both pastoral and arable land. The result of this intensive agricultural land management is to restrict the occurrence of semi-natural and natural vegetation types. Most field boundaries are comprised of hedgerows with occasional tree lines. Linear features at field boundaries have wildlife value, both as corridors in an intensively managed landscape, and as habitats for birds and small animals.

Geology and soils

The A1 within the scheme extents is not located within a [Geological Conservation Review Site](#) (GCRS) and there are no [Local Geodiversity Sites](#) (LGS) with connectivity to the scheme extents.

The [National Soil Map of Scotland](#) online mapping tool records that the generalised soil type and major soil group within the scheme extents is Brown Soils.

The [British Geological Survey](#) online mapping tool records that the superficial deposits within the scheme extents are:

- Till, Devensian – Diamicton.
- Glaciofluvial Deposits – Gravel, Sand and Silt.
- Alluvium – Silt, Sand and Gravel.

The bedrock geology within the scheme extents is recorded as:

- Eyemouth Volcanic Formation – Andesite and Basalt.
- Auchencrow Burn Sandstone Formation – Sandstone.

There is no evidence of historical industrial processes or the storage of hazardous materials that could have given rise to significant land contamination within the scheme extents.

Factor has no constraints that are likely to be impacted by the proposed works and has therefore been scoped out of further environmental assessment.

Material assets and waste

The proposed works are required to resurface the worn carriageway and reinstate road markings. Materials used will consist of:

- TS2010 10mm Site Class 1 and 3.
- AC20 dense binder 40/60.
- AC32 dense base.
- Tack/bond coat.
- Paving grade bitumen.
- Eurolite thermoplastic road markings.
- Embedded road studs.

The value of the scheme is greater than £350,000 therefore, a Site Waste Management Plan (SWMP) is required.

The approx. 1.4km scheme involves removal of the surface course and localised areas of base and binder course. In total, approx. 10,600 tonnes of bituminous material (European Waste Catalogue Code: 17 03 02), none of which is contaminated with coal tar, will be removed from site and recycled by Tarmac.

Noise and vibration

Receptors – refer to ‘Population and Human Health.’

Works are not located within a [Candidate Noise Management Area](#) (CNMA) or [Candidate Quiet Areas](#) (CQA).

The night-time modelled noise level (L_{night}) within the scheme extents ranges between 65 and 70 decibels with levels dropping to between 45 and 50 decibels at the nearest noise sensitive receptor (NSR) (residential property) ([Scotland's Noise Map](#)).

Baseline noise and vibration in the study area is mainly influenced by vehicles traveling along the trunk road. Communication with the Design Engineer confirmed that the road surface is in a poor condition, with a series of defects, which have the potential to elevate ambient noise levels. Secondary sources are derived from vehicles travelling along the local road network and day-to-day agricultural land management activities.

Population and human health

A small number of residential properties and business premises lie within 300m of the scheme extents, the closest of which appears to be an unoccupied property with no screening, bordering the A1 within the scheme extents. The closest residential property lies approx. 50m north of the scheme and is not screened from the scheme. The remaining properties (both residential and business) are at least partially screened from the scheme by intervening properties, shrub and arable fields and those to the south being screened by the A1 mainline, woodland.

Street lighting is not present throughout the scheme.

There are no non-motorised user (NMU) or community facilities within the scheme extents however.

The A1, within the scheme extents is a single carriageway with the national speed limit applying. The Annual Average Daily Traffic (ADDT) flow is low (9,083 motor vehicles (ID: 92127, 2023)) ([Road Traffic Statistics](#)) and is comprised of:

- 0 pedal cycles.
- 37 two wheeled motor vehicles.
- 6269 cars and taxis.
- 42 buses and coaches.
- 1548 light goods vehicles.
- 1188 heavy goods vehicles.

Road drainage and the water environment

The [Scottish Environment Protection Agency \(SEPA\) River Basin Management Plan](#) online mapping tool records one classified surface waterbody within 300m of the scheme extents:

- Eye Water (Source to Ale Water Confluence) is a river in the Eye Water catchment of the Scotland river basin district (ID: 5011), which lies approx. 190m south of the scheme. The main stem is approximately 34km in length and it has been classified to be in 'Moderate' condition. The waterbody is separated from the scheme by arable land.

There are three unclassified waterbodies adjacent to the southbound carriageway of the A1 within the scheme extents:

- Drain1 is located at the western extents of the scheme and is separated from the southbound carriageway by approx. 5m of roadside verge.
- Drain2 is located to the west of the Heugh Head farmstead and is culverted below the A1 with the inlet found approx. 25m north of the southbound carriageway and the outlet found approx. 10m south of the northbound carriageway. Drain2 outfalls into Drain3 to the south of the A1.
- Drain 3 is located to the east of Heugh Head farmstead and is culverted below the A1 with the inlet found approx. 10m north of the southbound carriageway and the outlet found approx. 10m south of the northbound carriageway. Drain 3 is a tributary of Eyes Water connecting approx. 270m south of the A1.

These waterbodies are too small (in terms of catchment area) to be classified as main stem waterbodies by SEPA under the WFD.

A search of the [SEPA's Flood Map](#) online mapping tool records that one small area of the A1 mainline within the scheme extents is at a low risk of surface water flooding, where a small tributary of Eye Water is culverted beneath the scheme extents (i.e., each year this area has a 0.1% chance of surface water flooding).

A search of the [Scotland's Environment](#) (SE) online mapping tool determined that the trunk road, within the scheme extents, lies on the 'Eyemouth' groundwater, which has been classified as 'Good'.

A search of the [SE](#) online mapping tool determined that the trunk road, within the scheme extents is found within the Edinburgh, East Lothian and Borders Nitrate Vulnerable Zone (NVZ).

Climate

The Climate Change (Scotland) Act 2009 sets out the target and vision set by the Scottish Government for tackling and responding to climate change ([The Climate Change \(Scotland\) Act 2009](#)). The Act includes a target of reducing CO₂ emissions by 80% before 2050 (from the baseline year 1990). The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 amended the Climate Change (Scotland) Act 2009 to bring the target of reaching net-zero emissions in Scotland forward to 2045 ([Climate Change \(Emissions Reduction Targets\) \(Scotland\) Act 2019](#)).

The Scottish Government has since published its indicative Nationally Determined Contribution (iNDC) to set out how it will reach net-zero emissions by 2045, working to reduce emissions of all major greenhouse gases by at least 75% by 2030 ([Scotland's contribution to the Paris Agreement: indicative Nationally Determined Contribution - gov.scot \(www.gov.scot\)](#)). By 2040, the Scottish Government is committed to reducing 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 and this commitment is being enacted through the Mission Zero for Transport ([Mission Zero for transport | Transport Scotland](#)). Transport is the largest contributor to harmful climate emissions in Scotland. In response to the climate emergency, Transport Scotland are committed to reducing their emissions by 75% by 2030 and to a legally binding target of net-zero by 2045.

Policies and plans

This Record of Determination has been undertaken in accordance with all relevant regulations, guidance, policies and plans, notably including the Environment and Sustainability Discipline of the Design Manual for Roads and Bridges ([Design Manual for Roads and Bridges \(DMRB\)](#)) and Transport Scotland's Environmental Impact Assessment Guidance ([Guidance - Environmental Impact Assessments for road projects \(transport.gov.scot\)](#)).

Description of main environmental impacts and proposed mitigation

Air quality

During the construction phase, activities undertaken on site could potentially have some minor localised and short-term air quality impacts in proximity to the works. The construction phase will, for example, require a range of ancillary plant, vehicles, and non-road mobile machinery (NRMM) which will contribute to local dust and air pollutants. The main sources are likely to be dust generated by cold milling in preparation of carriageway resurfacing, as well as exhaust emissions from ancillary plant and vehicles. As a result, there is potential for impacts to local air quality.

However, considering the nature and duration of the scheme, along with implementation of mitigation detailed below, the proposed works impacts on local air quality levels during the construction period are assessed to be temporary, negligible adverse in magnitude.

Upon completion of the works, no residual air quality impacts are anticipated.

- A water-assisted dust sweeper will sweep the carriageway after dust-generating activities, and waste will be contained and removed from site as soon as is practicable.
- Materials that have a potential to produce dust will be removed from site as soon as possible, and vehicles that remove cold-milled material from site will have sheeted covers.
- Ancillary plant, vehicles and NRMM will have been regularly maintained, paying attention to the integrity of exhaust systems.
- Ancillary plant, vehicles and NRMM will be switched off when stationary to prevent exhaust emissions (e.g., there will be no idling vehicles).
- Cutting, grinding, and sawing equipment (if required) will be fitted or used in conjunction with suitable dust suppression techniques e.g., local exhaust ventilation system that fits directly onto tools.
- Regular monitoring (e.g., by engineer or Clerk of Works) will take place when activities that have the potential to impact local air quality are occurring. In the unlikely event that unacceptable dust or exhaust emissions are emanating from the site, the operation will, where practicable, be modified and re-checked to verify that the corrective action has been effective. Actions to be considered include: (a) minimizing cutting and grinding on-site, (b) reducing the operating hours, (c) changing the method.

Landscape and visual effects

There will be a short-term impact on the landscape character and visual amenity of the site as a result of the presence of construction plant, vehicles, and TM. However, people, ancillary plant, vehicles, NRMM and materials are restricted to areas of made/engineered ground on the A1, and construction works are programmed to be undertaken at night (22 nights). As such, the visual impact of the works will be somewhat reduced.

Considering the nature, duration, size, and scale of the scheme, and with implementation of mitigation detailed below, impacts on landscape and visual effects are assessed as temporary, negligible adverse in magnitude.

Upon completion of the works, no residual impacts on landscape and visual effects are anticipated e.g., when complete the visual appearance will remain largely unaffected, with a renewed road surface being the only discernible change.

Landscape and visual effects mitigation measures:

- The site will be monitored regularly for signs of litter and other potential contaminants, and litter will be removed before and after works take place.
- The site will be left clean and tidy following construction.
- Where possible, construction vehicles will not be left in places where soil or vegetation can be damaged. If damage to road verge occurs this will be lightly cultivated or graded (upon completion of the works) to allow natural recolonization by local species and promote integration with existing landscape character.

Biodiversity

A temporary short-term increase in noise levels may cause disturbance to local wildlife if present in the vicinity of the works. The works will, for example, require a range of ancillary plant, vehicles and NRMM which will emit noise and create potential disturbance. The works will also require delivery of materials and the presence of personnel to facilitate the improvements to the road surface. However, the number of construction vehicles and construction operatives required onsite is low given the scale and scope of works. In addition, any species in the area are likely to be accustomed to noise and visual disturbance pertaining to vehicle movements on the A1. The potential for significant species disturbance within the area of construction is therefore somewhat diminished.

Invasive native perennial rosebay willowherb has been identified along the verge within the scheme extents. However, all works are restricted to the existing made-

ground on the A1 carriageway surface, with only like-for-like replacement of carriageway road surface being undertaken. As such, there is limited potential for the spread or introduction of INNS, injurious flowering plants, or any other invasive native perennial species.

Considering the nature, duration, size, and scale of the scheme, and with implementation of mitigation detailed above, the proposed works impacts on biodiversity throughout the construction period is therefore assessed to be temporary, minor adverse in magnitude.

Upon completion of the works, no residual impacts are anticipated in relation to biodiversity.

Biodiversity mitigation measures:

- Where possible, artificial lighting used during night works will be sufficiently screened and aligned so to ensure that there is no direct illumination of neighbouring habitat (e.g., locations adjacent to tree shelterbelt, woodland etc.) to ensure minimal impact on nocturnal species.
- All site workers will have received adequate training relevant to their role prior to working on the site, including specific environmental inductions and 'toolbox talks' as required.
- Given that rosebay willowherb is recorded within the verge of the scheme extents, Toolbox Talk TTN-009 'Working with Injurious Weeds & Invasive Plants', will therefore be briefed to all staff prior to works commencing. Site personnel will remain vigilant for the presence of any potentially unrecorded instances of invasive or injurious weeds in road verges throughout the works period.
- Site personnel will remain vigilant for protected species and will not approach or touch any animals seen on site. Any sightings of protected species will be reported to BEAR Scotland's Environmental Team. Should a protected species be encountered or move within 50m of the active works (including compounds), works will be temporarily halted until the animal(s) move at least 50m away from the construction site, or until BEAR Scotland's Environmental Team can provide advice.
- The Contractor will employ 'soft start' techniques for all noisy activity to avoid sudden and unexpected disturbance during works. Each time the activity is started up after a period of inactivity, the noise levels will be gradually increased over a period of 30 minutes to permit animals (including birds) to move away from the disturbance.
- All equipment stored onsite, if necessary, will be checked at the start of each workday to ensure mammal species are not present. Any storage containers/plant within the compound will also be secured overnight to prevent exploration by mammal species. Any areas where an animal could become trapped (e.g., storage containers) will also be covered at the end of each working day.

- People, ancillary plant, vehicles, NRMM and materials will be restricted to areas of made/engineered ground (as much as is reasonably practicable). If during works unforeseen access to the surrounding environment is required, works will cease in this area and BEAR Scotland's Environmental Team will be contacted to allow consideration of potential environmental effects.
- BEAR Scotland's Environmental Team will be contacted to allow consideration of potential environmental effects if:
 - Unforeseen site clearance is required.
 - Unplanned works must be undertaken out with the carriageway boundary.
 - There is any deviation from the agreed plan, programme and/or method of working.
 - Nesting birds are found onsite.
- BEAR Scotland's Control Room will be contacted if there is a pollution incident.

Material assets and waste

Minimising impacts arising from construction materials are focussed upon making the most efficient use of materials onsite to reduce the need for imported primary materials and minimise the creation and disposal of waste through (i) reduction, (ii) re-use, and (iii) recycling. Potential impacts have been assessed for both the construction and operational phases of this scheme. It is anticipated that most material impacts are likely to arise during construction, though long-term residual impacts could occur post construction during the operational phase e.g., during the disposal of materials arising from routine maintenance operations.

However, the detailed design will reduce the requirements for primary materials e.g., the carriageway surfacing, and subbase will be carefully considered to minimise the requirements for importing primary material. Materials will also be derived from recycled, secondary, or re-used origin as far as practicable within the design specifications to reduce natural resource depletion. Specifying TS2010 surface course also 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. The design life for the TS2010 surfacing is also estimated to be 20 years. The enhanced durability of TS2010 therefore reduces reoccurring routine maintenance and associated levels of traffic disruption to this section of road over the period.

A SWMP will be partially completed by the Design Engineer and then will be issued to the Contractor with the SWMP to complete the contract delivery section. The SWMP will provide details of the following:

- The quantity and type of waste that will be produced.

- How waste will be minimised, reused, recycled, recovered, or otherwise diverted from landfill.
- How materials that cannot be reused, recycled, or recovered will be removed from site and consigned, transported and disposed of in full accordance with all relevant UK legislation.

Considering the nature, duration, size, and scale of the scheme, and with implementation of the mitigation detailed below, the proposed works impacts on material assets and waste throughout the construction period are therefore assessed to be temporary, negligible adverse in magnitude. Upon completion of the works, no residual impacts are anticipated on materials or waste.

Material assets and waste mitigation measures:

- A SWMP will be completed by the Designer and Contractor as required.
- Good materials management methods (e.g., 'just-in-time' delivery) will be implemented wherever possible.
- The Contractor will comply with all 'Duty of Care' requirements, ensuring that any surplus materials or waste are stored, transported, treated, used, and disposed of safely without endangering human health or harming the environment. Waste transfer notes and/or waste exemption certificates (if required) will also be completed and retained.
- The Contractor is responsible for the reuse / disposal of non-hazardous road planings, and this has been registered in accordance with a Paragraph 13(a) waste exemption issued by SEPA as described in Schedule 3 of the Waste Management Licensing Regulations 2011 (exemption number: WML/XS/2008117), the rules of which will be complied with.
- Designated areas will be identified within which all materials and personnel, including construction compounds, where necessary, will be contained to limit environmental disturbance during construction works. This will include a designated area (if required) for segregation and reuse of waste materials.
- The selection of areas for materials stockpiling will avoid sensitive locations such as road drainage. Stockpiled materials with leachate potential, for example, will be stored away from road drainage to prevent cross-contamination with other materials, wastes, or groundwater.
- Materials will be stored with the appropriate security to prevent loss, theft, or vandalism.
- All temporary road signs and traffic cones will be removed from site on completion of works.
- Wastewater from welfare facilities (if required) will be subject to effluent treatment followed by tanker removal.
- If hazardous substances are used onsite, each substance will be subject to assessment under the Control of Substances Hazardous to Health (COSHH)

Regulations 2002. Hazardous substances will also be clearly labelled, and disposed of, in line with their relevant waste regulations. Special waste will also not be mixed with general waste and/or other recyclables.

Noise and vibration

Activities undertaken on site could potentially have some localised and short-term noise impacts in proximity to the works. The road works will, for example, require a range of ancillary plant, vehicles and NRMM for cold milling in preparation for carriageway resurfacing. Noise will also be generated by using breakers (jackhammers), chipping hammers, use of rollers, etc. As a result, there is potential for noise and vibration effects to residential properties within the local area, the closest of which lies approx. 50m north of the scheme and are not screened from the scheme extents.

However, the works are not located within a CNMA or CQA, with the aim being to complete the noisiest works by 23:00. In addition, the proximity of road space suggests that residents have a degree of tolerance to noise and disturbance.

The road surface is in a poor condition, with a series of defects. Replacing the life-expired surface course with TS2010 road surfacing affords the benefits of a reduction in mid-to-high frequency traffic noise and a reduction in the ground vibrations. As a result, upon completion of the work, noise associated with the movement of vehicles on the trunk road should decrease post construction.

Considering the likely sources of noise and vibration, with the nature, duration, size, and scale of the scheme, and with implementation of the mitigation detailed below, it is unlikely that noise and vibration associated with the works will lead to significant impacts, disruption and/or complaints. The proposed scheme is therefore anticipated to result in temporary, minor adverse noise impacts.

Noise and vibration mitigation measures:

- The local authority environmental health department will be notified of nighttime working by BEAR Scotland's design engineer.
- Where possible, the noisiest work operations (e.g., cold milling, using breakers (jackhammers), chipping hammers, use of rollers, etc.) will be completed before 23:00.
- Wherever possible, careful consideration will be given to the siting and orientation of particularly noisy items of NRMM so that it is located away from surrounding properties. Activities which have the potential to produce excessive noise will be undertaken away from surrounding properties, if possible.
- If unacceptable noise is emanating from the site the operation will, where possible, be modified and re-checked to verify that the corrective action has been

effective. Actions to be considered include (a) minimizing cutting and grinding on-site, (b) reducing the operating hours, (c) repositioning equipment, (d) changing the method of working etc. Corrective actions will be actioned through the non-conformance reporting procedure, which ensures a root cause analysis is carried out on each incident. The non-conformance procedure also ensures that appropriate corrective and preventative action measures are agreed and implemented in a timely fashion with all parties, and are recorded and actioned through to closeout, and fully auditable and traceable.

- Ancillary plant, vehicles and NRMM with directional noise characteristics will (where practical) be shut down in intervening periods between site operations.
- The use of paving breakers (jackhammers), chipping hammers, etc. will be avoided (except where there is an overriding justification), and if used will be fitted with mufflers or silencers of the type recommended by the manufacturer.
- Drop heights from vehicles and NRMM will be kept to a minimum to minimise noise when unloading.
- All ancillary plant, vehicles and NRMM used onsite will have been regularly maintained, paying attention to the integrity of silencers and acoustic enclosures.
- All compressors will be 'sound-reduced' models fitted with properly lined and sealed acoustic covers which will be kept closed when in use.
- HGV, site vehicles and NRMM will be switched to the minimum setting required by HSE and, where possible, will utilise 'broadband non-tonal' or 'directional sound reversing' alarms. Speed limits will also be reduced through the works.

Population and human health

During construction, activities undertaken on site have the potential to have temporary adverse impacts on local residents and road users. However, TM will only be in place at night (when traffic flows will be at a minimum), and no congestion issues are noted during the proposed construction hours.

Considering the nature, duration, size, and scale of the scheme, and with implementation of the mitigation described above, impacts on population and human health are assessed as temporary, minor adverse in magnitude.

Upon completion of the works, there will be a positive impact in relation to population and human health due to the improvement of usability and safety provided by the new carriageway surface.

Population and human health mitigation measures:

- Where appropriate, a communication strategy (e.g., social media, consultation with local authority and other stakeholders etc. will be initiated to keep local residents and/or businesses informed of the proposed working schedule, particularly the times and durations of noisy construction activities. The

communication strategy will also provide a 24-hour contact number for the BEAR Scotland Control Room.

- Given the proximity of the residential properties to the scheme, Toolbox Talk TTN-042 'Being a Good Neighbour' will be briefed to all staff prior to works commencing.
- Advanced signage will be strategically placed on the trunk road seven days in advance to notify road users of the road closure and diversion.
- Construction lighting will consider the need to avoid illuminating surrounding properties to avoid a nuisance at night, and non-essential lighting will be switched off at night.
- A Traffic Management Plan (TMP), which includes measures to avoid or reduce disruption to road traffic, will be produced in accordance with the Traffic Signs Manual (Department of Transport 2009). The TMP will ensure that there is no severance of community assets, access routes or residential development.

Road drainage and the water environment

During resurfacing works, there is potential for temporary adverse impacts on the water environment. Potential changes in water quality e.g., from pollution events (either by accidental spillage of sediments, particulate matter, chemicals, fuels or by mobilisation of these in surface water caused by rain) during works have the potential to have a direct or indirect effect on surrounding waterbodies such as Drain1, Drain2, Drain3 and Eye Water.

However, the works will be restricted to the existing A1 carriageway and all land outwith the A1 boundary is considered out-of-bounds to all construction staff during the works (i.e., no 'in-water' works required), there is also no requirement for the abstraction or transfers of water from, or discharges to, a waterbody. Therefore, the potential for a direct pollution incident within a waterbody is considered unlikely e.g., experience gained from BEAR Scotland maintenance schemes elsewhere on the network has shown that where standard best working practice is adopted (e.g., adherence to SEPA GPPs or PPGs, appropriate spill procedures, utilisation of drain covers or similar, etc.), water quality is protected.

Considering the nature, duration, size, and scale of the scheme, and with implementation of the mitigation detailed below, the proposed works impacts on the road drainage and water environment are assessed as temporary, negligible adverse in magnitude.

Road drainage and the water environment mitigation measures:

- Site operatives will be made aware of the location of Eye Water, Drain1, Drain2 and Drain3.

- If any works are identified that would require entering a waterbody, BEAR Scotland's Environmental Team will be contacted (before works commence) to allow consideration of potential environmental effects.
- The abstraction or transfers of water from, discharges to, or the washing of tools in surface waterbodies identified will not be permitted.
- The Contractor will implement measures to minimise the risk of sediment or accidental spillages entering the road drainage system e.g., prior to works commencing any roadside gullies within 10m of work activities will be bunded (e.g., utilisation of drain covers or similar) to ensure full segregation of the works from the road drainage system. The Contractor will inspect bunds periodically to ensure that they have not been removed, damaged, or interfered with and they will be cleaned of silt and debris, as necessary. If it is identified that bunds are not up to standard, the works will not commence until they have been reinstated to the condition, they were originally in.
- On completion of resurfacing operations, any gullies present on site will be visually checked to ensure they have not become blocked as a result of the scheme.
- All site personnel will be made aware of site spillage response procedures and in the event of a spill, all works associated with the spill will stop, and the incident reported to the Site Supervisor. Small spills that did not leave the site boundary and are cleaned up without material environmental harm or residual environmental impact would most likely not be required to be notified to SEPA or other authorities. However, all such incidents will be recorded and reported to BEAR Scotland's Environmental Team. In the event of a 'serious incident', SEPA will be notified without delay. Such notification will include: (i) the time and duration of the incident, (ii) a description of the cause of the incident, (iii) any effect on the environment as a result of the incident, and (iv) any measures taken to minimise or mitigate the effect and prevent a recurrence.
- All waste, vehicles, ancillary plant, NRMM and fuels will be stored in the compound(s) or laydown area and will be secured and located, if space is available, at least 10m from drainage entry points, in order to comply with GPP 5 'works and maintenance in or near water'. Refuelling will only be undertaken at designated refuelling areas (e.g., on hardstanding, with spill kits available, and >10m from any waterbodies, and drainage entry points, where practicable). Spill kits will also be available within all site vehicles and spill kits will be replenished onsite when required. Only designated trained and competent operatives will be authorised to refuel plant. Generators, and other ancillary plant and NRMM, where there is a risk of leakage of oil or fuel, will have internal bunding or will have a secondary containment system placed beneath them that meets 110% capacity requirements. Containment systems will also be emptied regularly. All waste, vehicles, ancillary plant, NRMM and fuels will also be stored in a manner that ensures they are protected from damage by collision or extremes of weather.
- Regular visual pollution inspections of the designated laydown area and work site (particularly near road drainage entry points) will be conducted (e.g., site

walkover by engineer or Site Supervisor), especially during periods of heavy rain.

- All vehicles and NRMM onsite will have been regularly maintained, paying attention to the integrity of oil tanks, coolant systems, gaskets etc. A checklist will be present to make sure that the checks have been carried out.

Climate

BEAR Scotland, working on behalf of Transport Scotland, undertake carbon monitoring of major projects and operational activities. Emissions from activities are recorded using Transport Scotland's Carbon Management System. BEAR Scotland also undertakes resource efficiency activities to manage and reduce emissions contributing to climate change. The works will also extend the maintenance intervals required for future works. In doing so, the service life of the trunk road is also extended.

During works there is potential for impacts as a result of the emission of greenhouse gases through the use of equipment, vehicles, and NRMM, material use and production, and transportation of material/waste. However, considering the nature, duration, size and scale of the scheme, and the mitigation detailed below, the risk of significant impacts to climate are considered to be negligible and adverse in magnitude.

Upon completion of the proposed scheme no residual impacts are anticipated on the climate.

Climate mitigation measures:

- Local contractors and suppliers will be used as far as practicable to reduce fuel use and greenhouse gases emitted as part of the works.
- BEAR Scotland will adhere to its Carbon Management Policy.
- Where possible, waste will be removed to local waste management facilities.

Vulnerability of the project to risks

There will be no change to the likelihood of flooding on the A1 within the scheme extents upon completion of the works.

Works are restricted to areas of made ground on the A1 carriageway surface, with access to the scheme gained via the A1 mainline as per TM restraints. TM will employ night-time road closures of the southbound carriageway with a signed diversion in place via the A1107 between Tower Farm and Eyemouth. Furthermore, there are no community assets with connectivity to the scheme extents that have the

potential to be impacted. As such, the proposed works impacts on road traffic accidents are assessed to be of negligible magnitude.

A Site Environmental Management Plan (SEMP) will be produced by BEAR Scotland which sets out a framework to reduce the risk of adverse impacts from construction activities on sensitive environmental receptors. The Contractor will comply with all conditions of the SEMP during works and may be subject to audit throughout the contract.

Considering the above, the vulnerability of the project to of major accidents and disasters is considered to be low.

Assessment cumulative effects

The proposed works are not anticipated to result in significant environmental effects. Due to the nature of the proposed works, no cumulative effects are anticipated with any other developments in the vicinity.

A search of the Scottish Road Works Commissioner ([website](#)) has identified that no other road works are currently ongoing, or noted as being planned, on the A1 trunk road or surrounding roads in proximity to the scheme which will be undertaken at the same time.

A search using the [Scottish Borders Council 'Simple Search'](#) identified no planning applications within 300m of the scheme extents within the last two-years.

Considering the nature and scale of the minor resurfacing works being undertaken by BEAR Scotland, and the lack of other schemes in proximity, no in-combination effects are anticipated.

Assessments of the environmental effects

As detailed in the Description of Main Environmental Impacts and Proposed Mitigation section, there are no significant effects anticipated on any environmental receptors as a result of the proposed works.

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:

- Works are restricted to like-for-like replacement of worn/damaged road surface, with all works restricted to made ground on the A1 carriageway surface.
- Works are not expected to result in significant disturbance to protected species that may be present in the wider area.
- The risk of major accidents or disasters is considered to be low.
- By removing the carriageway defects, this will provide this section of the A1 carriageway with another life cycle, and significantly improve the road quality, which will result in safer road conditions for road users.
- Any potential impacts of the works are expected to be temporary, short-term, not significant, and limited to the construction phase.

Location of the scheme:

- The scheme is not situated within 2km of and does not share connectivity with any 'European Sites' designated for biodiversity features.

- The scheme does not lie within any sites of historical, cultural, or archaeological significance.
- The scheme is not located within any areas designated for landscape interests.
- Land use will not change as a result of the works.
- The works do not require any private land acquisition.
- The scheme does not lie within any sites designated for geology and soils.
- The scheme is not located in a densely populated area.

Characteristics of potential impacts of the scheme:

- The waste hierarchy will be followed to reduce waste to landfill.
- Works are programmed to take 22 nights to complete, with the aim being to complete the noisiest works by 23:00.
- With good practice pollution prevention measures implemented onsite, there is a negligible risk of a pollution event e.g., compliance with the SEMP.

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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