transport.gov.scot

TRANSPORT SCOTLAND
CÒMHDHAIL ALBA

Environmental Impact Assessment Record of Determination

A75 Old Military Road to Benfield

Contents

Project Details

Description

Works are required to maintain the safety and integrity of an approx. 1,145m stretch of the A75 carriageway west of Newton Stewart. Severe cracking and crazing can be found throughout the scheme extents which indicates possible structural failure, in additional to areas of alligator cracking, fretting and extensive chip loss.

Construction work will involve carriageway surface reconstruction across the full length of the scheme to address the surface defects. Areas of localised deep treatment/structural inlays are also expected, to resolve any issues extending into the lower layers of the pavement. The total works area is approximately 10,204m^2 (1.02ha).

The treatment will consist of a surface course replacement using TS2010 material with isolated deeper inlays being utilised should any structural defects be identified.

Surface reconstruction treatment will intercept polycyclic aromatic hydrocarbons (PAH) material, and as such coal tar containing material will be produced as a waste material. This hazardous waste will be removed off site to an appropriate facility for treatment.

Road marking renewal and siding out works will also be undertaken in conjunction with resurfacing, as well as any ironworks and cleaning/renewal of gullies.

The proposed construction activities will entail the following:

- Resurfacing:
  - 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.
- Road markings replaced using an extrusion tool.
- Siding out of carriageway edge using excavators/hand tools as required.

- Renewal of ironwork.
- Cleaning/renewal of gullies using jetting systems.

The works are programmed for June 2022, with exact dates and timings yet to be confirmed.

Traffic management (TM) for the works will involve single lane closures, facilitated by temporary traffic lights (TTLs) and a convoy system.

Location

The works are located in a semi-rural setting west of Newton Stewart, Dumfries and Galloway, and have the following National Grid References (NGR):

- Scheme Start: NX 37355 63791
- Scheme End: NX 38237 64391

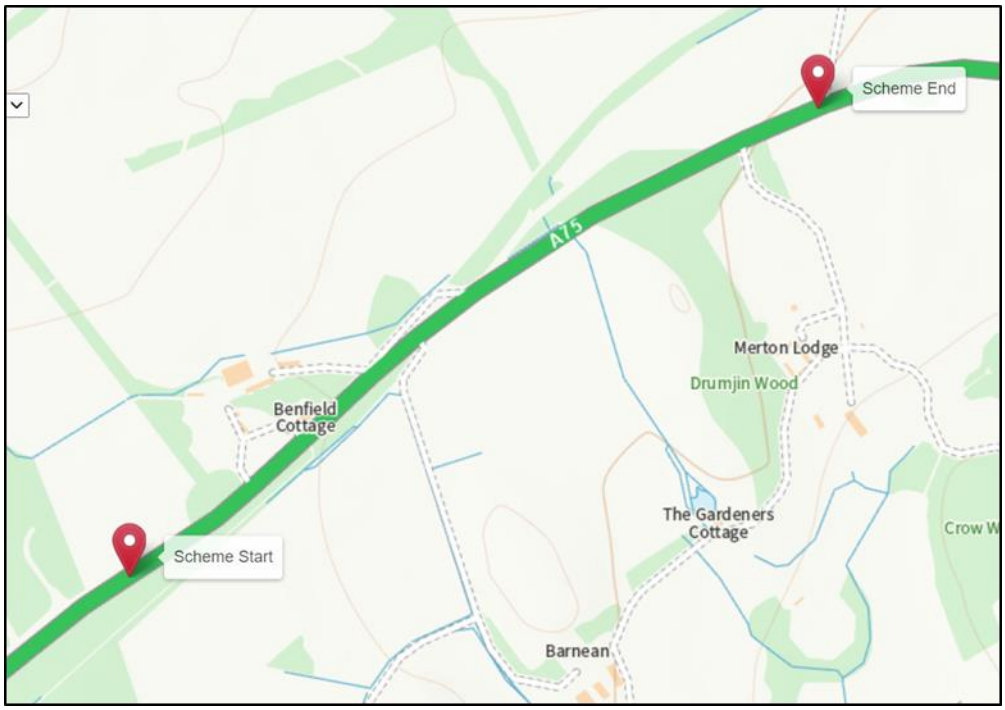

Figure 1 - Scheme Extents

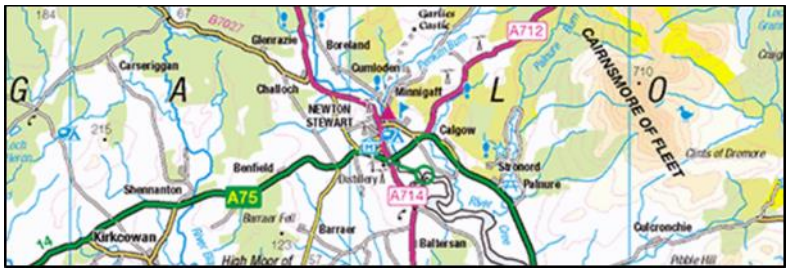

Figure 2 - Scheme Location

Description of local environment

Air quality

This stretch of the A75 carriageway falls within a semi-rural setting west of Newton Stewart, surrounded by farmland and woodland. Rural properties are located intermittently in the surrounding environment.

The A75 is a key route providing access between Gretna and Stranraer. Average Annual Daily Flow (AADF) in 2020 for the A75 carriageway west of the scheme extents is 3,227, with 15% heavy goods vehicles (HGV).

Dumfries & Galloway Council has not declared any Air Quality Management Areas (AQMA).

Cultural heritage

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

Works will be restricted to the already engineered existing carriageway boundary and will not impact upon the surrounding landscape or have potential to impact on any undiscovered features of cultural heritage.

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

Landscape and visual effects

This stretch of the A75 carriageway falls within a semi-rural setting within Dumfries and Galloway. Surrounding landscape consists of farmland and woodland, and rural properties are located intermittently in the surrounding environment.

Historic Environment Scotland's HLAMap has highlighted the surrounding landscape as a combination of rectilinear fields and farms, designed landscape, and plantation.

A desktop study using PastMap and Nature Scot Sitelink online interactive map has not highlighted any areas designated for landscape character within, or within proximity to, the works location.

Works will be restricted to the existing carriageway boundary and will not impact upon the surrounding landscape. Views of, and from, the road will be temporarily affected during construction due to the presence of works, traffic management and plant. As the works are operating on a like-for-like basis, no permanent changes to landscape features are predicted.

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

Biodiversity

The scheme is located on a semi-rural section of the A75 carriageway in Dumfries & Galloway. This section of the A75 carriageway is flanked on both sides by wooded strips with agricultural land dominant in the surrounded landscape. A large, wooded area is present west of the scheme.

A desktop study using Nature Scot's Sitelink online interactive map has not identified any locally designated areas within a 300m radius of the scheme, nor has it identified any International or European designated areas within a 2km radius.

Amey's Invasive Non-native Species (INNS) Database has identified Japanese knotweed *Fallopia japonica* growth within proximity to the scheme; located on the westbound verge at the western scheme extent (NGR: NX 37406 63801).

Amey's Animal Roadkill Database (2013-2022) has not highlighted any record of animal roadkill within the scheme extents.

Geology and soils

The National Soil Map of Scotland identifies the local soils to consist of brown earths.

A desktop study using the British Geological Survey Map identifies the local geology type as the following:

- Bedrock Geology: Gala Unit 1 - Wacke. Sedimentary bedrock formed approximately 441 to 444 million years ago in the Silurian Period. Local environment previously dominated by deep seas.

- Superficial Deposits: Till, Devensian - Diamicton. Superficial deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by ice age conditions (U).

All works will operate on a like-for-like basis and remain restricted within the existing carriageway footprint. No excavations beyond the existing engineered footprint will be required as part of the works, and as such no soils will be impacted.

It has been determined that the proposed project will not have direct or indirect significant effects to local soils or geomorphological features.

Material assets and waste

Key Materials Required for Activities

The following materials will be required for the works:

- AC32 Base
- AC20 binder
- TS2010 SMA Surface course
- Road paint
- Vehicle fuel
- Oil
- Road paint
- Road studs

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.

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

Key Waste Arising from Activities

The following waste materials will likely be produced from the works:

- Road planings
- Road studs

Following on-site investigations, it has been determined that the proposed treatment will intercept PAH material. Any tar-contaminated planings will require removal off site for treatment/disposal at a licenced waste facility.

Uncontaminated road planings generated as a result of the works will be fully recycled in accordance with the criteria stipulated within SEPA document 'Guidance on the Production of Fully Recoverable Asphalt Road Planings.'

Noise and vibration

The scheme is located along a semi-rural stretch of the A75 carriageway, which is a key route providing access between Gretna and Stranraer. Average Annual Daily Flow (AADF) in 2020 for the A75 carriageway west of the scheme extents is 3,227, with 15% heavy goods vehicles (HGV).

Several residential properties exist within proximity of the works, including:

- Benfield Cottage, which is located approx. 60m from the EB carriageway,
- Merton Lodge, which is located approx. 250m from the WB carriageway, and
- Heron Croft, which is located approx. 180m from the EB carriageway.

The ambient noise levels are likely to be influenced by vehicle traffic, in addition to various agricultural practices within the surrounding environment.

The works do not fall within a Candidate Noise Management Areas (CNMA) as defined by the Transportation Noise Action Plan, Road Maps.

Population and human health

Several accesses exist within the scheme extents, which lead to residential properties, field accesses, and the local road network.

There are no footpaths, Core Paths, bridleways or cycleways within the scheme extents.

Road drainage and the water environment

A desktop study using the Scottish Environment Protection Agency (SEPA) River Basin Management Plan Interactive Map has identified Bishop burn (ID: 10519), which flows below the A75 carriageway within the scheme extents. This watercourse has been given classified by SEPA to give an overall status of 'moderate', comprising an ecology status of 'poor'.

Merton Burn (unclassified by SEPA), and several field drains/issues flow directly adjacent to the A75 carriageway within the scheme extents.

The Indicative River & Coastal Flood Map by SEPA has not identified any risk of flooding within the scheme extents.

Climate

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

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.

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.

Description of main environmental impacts and proposed mitigation

Air quality

Impacts

- Traffic management (TM) for the works will involve single lane closures, facilitated by temporary traffic lights (TTLs) and a convoy system.
    - Presence of TM (specifically TTLs) will result in start/stop of vehicles on approach to and through the works location. This may result in a slight increase in associated vehicle emissions within the local areas.
    - Due to containment within the A75 carriageway, TM is not predicted to result in any increase of vehicle emissions on the surrounding road network.
- Onsite construction activities carry a potential to produce airborne particulate matter and generate emissions that may have a slight impact on local air quality levels.
- The use of vehicles, plant and generators emitting carbon emissions may temporarily affect air quality and will require the use of finite resources.

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 air is considered neutral.

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

Biodiversity

Impacts

- There is potential for protected species to be active within the local surrounding area.
- In the event of night-time programming, misdirected site lighting could cause disturbance to any surrounding nocturnal species.
    - Additional lighting required during the construction may adversely impact foraging habits of nocturnal species identified within proximity of the works.
    - Due to short duration of the works, impact is not considered to be of a significant nature.
- In the event of night-time programming, additional noise from construction activities could cause disturbance to any surrounding nocturnal species.
- Japanese knotweed is present on the westbound carriageway verge at the western scheme extent.
    - There is potential for Japanese knotweed to be disturbed during the works, and potential for the works to spread this invasive plant if not effectively managed.

Mitigation

- Onsite light sources shall be kept to a minimum, and only used as required.
- When in use, any artificial lighting will be directional and pointed away from sensitive ecological receptors, such as wooded areas, reducing any light spill into the wider surroundings and potentially sensitive habitat.
- When not in use, light sources should be switched off to reduce impact on nocturnal species.
- In the event of observing a protected species on the live working site, all works will temporarily stop until the animal has moved on.
    - The E&S team will be contacted for any guidance if required, and the control room will be contacted for environmental record.
- Noise mitigation measures as outlined in the *Noise and Vibration* section below will be adhered to during the works.
- Operatives shall be advised of the location of Japanese knotweed and will be briefed using the Invasive Plants briefing.
- Invasive plant species will be left undisturbed as far as reasonably practicable, and no operatives, plant, machinery or signage for the works will enter or be

stored on the boundaries of the carriageway verge in proximity to the identified areas of Japanese knotweed.

- Where avoidance isn't possible, the following measures shall be adhered to when working within proximity of INNS:
  - Any tools, plant or equipment used within the area of INNS shall be sufficiently cleared of any soils prior to being removed. All cleared material will be suitably collected and deposited back into the contaminated area.
  - Any soils or wash water that inadvertently exit the verge will be collected and deposited back within the confines of the contaminated section of verge.
  - Movements of operatives within areas of INNS will be kept to a minimum. Before leaving one of these areas, operatives will ensure that all PPE, tools and plant are sufficiently cleaned and free of soil. This will ensure that no soils contaminated with an invasive non-native species are inadvertently taken off site, causing their spread.
  - Care shall be taken to ensure that wash water and cleared materials from PPE/equipment is appropriately contained and placed back within the contaminated area.
  - Care shall be taken not to tread or track soils onto the carriageway surface, as this will increase the risk of invasive non-native species spread.
  - Where possible and where required, no signage shall be mounted within the area of INNS growth. Where this is not possible, any signage used within the verge will be appropriately cleared of all soil prior to removal.

On the condition that best practice is adhered to, residual impact to local biodiversity is considered neutral as a result of the works.

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

Material assets and waste

Impacts

- The works will result in contribution to resource depletion through use of virgin materials.
- Greenhouse gas (GHG) emissions will be generated by material production and transporting to and from site.
- Transportation and recovery of materials/waste will require energy deriving from fossil fuel, a non-renewable source.
- The works will result in the creation of hazardous waste (coal tar containing surfacing planings).

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.
- Waste will be treated at a licenced facility to separate useful materials as far as reasonably practicable, recovering this waste and diverting it from landfill.
- Any tar-contaminated planings will be removed off site for treatment/disposal at a licenced waste facility.
    - A SEPA consignment note will be obtained.
    - SEPA will be informed at least three days prior to the movement of special waste.
- Where possible, materials will be obtained locally, and operatives deployed from the local depot where possible to reduce haulage and scheme associated journeys, reducing impact of associated GHG emissions on climate change.

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

Noise and vibration

Impacts

- TS2010 road surfacing is shown to have superior durability and noise reducing features compared to standard road surfacing mixes. Vehicle travellers and nearby receptors will benefit from improved road surfacing as a result of the scheme.
- Works may be undertaken during night-time programming. As such, any residential properties in proximity may experience a level of disturbance, including potential disruption to sleep.

Mitigation

- In the event of night-time working hours, Dumfries and Galloway Council will be notified in advance of the works, undertaken by the E&S Team.
- Residential properties in proximity of the works shall be notified prior to commencement of the works.
- Effects from noise shall be kept to a minimum through the use of appropriate mufflers and silencers fitted to machinery. All exhaust silencers will be checked at regular intervals to ensure efficiency.
- Plant and machinery will be switched off when not in use to reduce noise disruptions to the surrounding environment.
- Engine exhaust and vent silencers shall be used where possible.

- The noisiest works will be scheduled for before 11:00pm where feasible.
- Operatives will avoid extraneous noise whilst onsite and will be briefed using Noise and Vibration environmental briefing.

Provided that best practice measures are followed, it is predicted that residual impact from noise will be neutral, with temporary slight adverse impact predicted during construction.

It has been determined that the proposed project will not have direct or indirect significant effects to local noise and vibration.

Population and human health

Impacts

- TM will likely involve single lane closures, facilitated by TTLs and a convoy system.
  - TM may obstruct local access dependent on layout.
  - TM arrangements may cause delays to road users, leading to driver frustration.
- TS2010 road surfacing will be utilised. TS2010 can improve the skid resistance of the road.
- The use of TS2010 is shown to have superior durability to standard road mixes as such this will extend the life span of the carriageway preventing the need for reoccurring routine maintenance and associated levels of disruption.

Mitigation

- Local access will be granted by operatives where required.
- Advance traffic signs will be placed prior to works in an effort to minimise disturbance to vehicular travellers, and will inform road users of expected duration, timings, and any temporary traffic management arrangements/restrictions.

Provided that best practice measures are followed, it is predicted that residual impact to population and human health will be neutral, with temporary slight adverse impact predicted during construction.

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

Road drainage and the water environment

Impacts

- 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 affect the water environment if not effectively controlled.
- If not appropriately controlled, debris, sediment and run off from the works has the potential to enter nearby drains and watercourses and could detrimentally impact water quality.

Mitigation

- Best practice, as detailed by SEPA Guidance for Pollution Prevention (GPPs), will always be followed onsite. This will ensure that any potential sediments/spills are not allowed to enter road drainage unchecked.
- Appropriate measures shall be implemented onsite to prevent any potential pollution to the natural water environment (e.g. debris, dust and hazardous substances). This will include, but will not be limited to, spill kits being present onsite at all times, and the use of funnels and drip trays when transferring fuel, and utilisation of drain covers/shielding boards.
- Any pollution incidences will be reported to the Amey control room.
- Operatives will conduct regular checks of the surrounding ground/drains for any spillages/leakage regularly, especially in periods of heavy wind and rainfall.
- All debris which has the potential to be suspended in surface water and wash into the local water environment shall be cleaned from the site following the works.
- Weather reports shall be monitored prior to 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 when run-off/drainage can be adequately controlled to prevent pollution.

Providing all works operate in accordance with site control measures and SEPA Guidance for Pollution Prevention (GPP) the residual impact for water is considered neutral.

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

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 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 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.

Vulnerability of the project to risks

As the works will be limited to the like-for-like replacement of the carriageway structure, 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

Amey's current programme of works does not feature any nearby schemes programmed within June 2022, and a review of Dumfries & Galloway Road Works and Closures and Road Works Scotland has not highlighted any upcoming or current works that may have a potential cumulative effect on the local population or users of the A75 carriageway.

Any future Amey 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.

Assessments of the environmental effects

Following assessment 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:

- A design Initial Environmental Review of the scheme, undertaken by the Environment and Sustainability Team at Amey in October 2021, and updated in April 2022.
- An ecological site walkover, conducted in February 2022.

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 approximate 10,204m^2 (1.02ha) area of existing carriageway.
- At end of life, components can be recycled, reducing waste to landfill.
- Materials will be derived from recycled, secondary or re-used origin as far as practicable within the design specifications.
- The chosen material TS2010 Surface Course allows a wider array of aggregate sources to be considered when compared to typical SMA.
- Uncontaminated road planings will be fully recycled in accordance with Guidance on the Production for Fully Recovered Asphalt Road Planings.

- 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 not located within, or within proximity to, 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:

- 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.
- No significant residual impacts are predicted. Disruption due to construction activities are not expected to be significant and will be mitigated as far as is reasonably practicable.
- The successful completion of the scheme will afford benefits to residential properties in proximity, due to improved condition and ride quality of the carriageway surface, and improved carriageway drainage.
- 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.

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.

TRANSPORT SCOTLAND
CÒMHDHAIL ALBA

Further copies of this document are available, on request, in audio and visual formats and in community languages. Any enquiries regarding this document / publication should be sent to us at info@transport.gov.scot

This document is also available on the Transport Scotland website: www.transport.gov.scot

Published by Transport Scotland, May 2022

Follow us:

transcotland

@transcotland

transport.gov.scot

Scottish Government
Riaghaltas na h-Alba
gov.scot