



**TRANSPORT
SCOTLAND**
CÒMHDHAIL ALBA

Environmental Impact Assessment Record of Determination

**A82 480 Dubh Eas North -
Bridge Expansion Joint**

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Project Details

Description

BEAR Scotland has been commissioned by Transport Scotland to carry out a replacement of a bridge expansion joint at the A82 480 Dubh Eas North Bridge, located on the A82 south of Crianlarich. The works will consist of bridge deck resurfacing followed by removing the current bridge expansion joint and replacing it with a new expansion joint. This is required due to the failure of the existing joint.

The procedure is as follows:

- Set up traffic management (TM) and mark out site.
- Mill out old surface course.
- Lay out new surface course.
- Roll surface and allow it to go off.
- Remove existing expansion joint.
- Place new expansion joint.
- Remove TM and open road.

The works are currently programmed to be completed within the 2023/2024 financial year (April 2023 to March 2024 inclusive). The construction start date is yet to be confirmed, but is anticipated to be within September 2023, with works carried out over 5 days. The works are planned as day works, between 7:00 and 19:00. However, works may be delayed to a later date and changes in the programme may result in the need for night works.

TM is currently anticipated to consist of single lane closure with two-way temporary traffic light system. However, if the programme changes, this may result in amendments to the exact TM requirements. Where required, alternative pedestrian routes will be included in the TM setup.

Location

The scheme is located on the A82 trunk road in the Stirling Council area, approximately 5km southwest of Crianlarich and north of Loch Lomond (Figure 1). The A82 480 Dubh Eas North Bridge has the following National Grid Reference: NN 32685 20233.



Figure 1. Location of A82 480 Dubh Eas North Bridge.

Description of local environment

Air quality

The scheme is not located within any Air Quality Management Area (AQMA) and no air quality monitoring stations are located in the vicinity of works ([Air Quality Scotland](#)). The nearest air quality monitoring site to the scheme is located in Greenock, approximately 43km south of the scheme ([Air Quality Scotland](#)). Pollution levels in the general vicinity of works are anticipated to be lower than those at the monitoring station in Greenock due to the remote nature of the scheme location.

There are no sites registered on the Scottish Pollutant Release Inventory (SPRI) ([Scotland's Environment](#)) for air pollutant releases within 1km of the scheme.

Baseline air quality at the scheme location is likely to be primarily influenced by traffic along the A82 trunk road, with secondary sources likely to arise from the nearby railway 'West Highland Line', located approximately 190m north of the scheme.

The nearest traffic count point (ID 761) on the A82 is located approximately 600m west of the scheme ([Road traffic statistics](#)). Estimated vehicle count data for this point in 2021 shows an Average Annual Daily Traffic (AADT) count of 3,139 motor vehicles, of which 5.6% (178) were heavy goods vehicles (HGV) ([Road traffic statistics](#)).

Cultural heritage

According to Historic Environment Scotland's PastMap ([PastMap](#)), there are two Historic Environment Records (HERs) and one record from the Canmore database within 300m of the scheme extent. There is no connectivity between the scheme and the noted cultural heritage records. The nearest of these is a Shieling hut (HER Reference: 65204, CNR 126942) which lies outwith the trunk road boundary, approximately 130m south of the bridge.

All works are restricted to the A82 carriageway and are restricted to replacement of the expansion joint; therefore, the works do not include any alterations that would affect the historic and architectural character of any of these features.

There are no World Heritage Sites, Scheduled Monuments, Listed Buildings, Garden and Designed Landscapes, Conservation Areas or Inventory Battlefields identified within 300m of the scheme ([PastMap](#)).

As the works are restricted to the existing man-made footprint, it has been determined that the proposed project does not carry the potential to cause direct or indirect impact to features of cultural heritage importance. Construction of the A82 road corridor is likely to have removed any archaeological remains that may have been present.

As such, impact has been assessed as being 'no change' and has been scoped out of requiring further assessment.

Landscape and visual effects

The scheme is located within the Loch Lomond & The Trossachs National Park (NP) ([SiteLink \(nature.scot\)](#)) which is designated for the following general special qualities:

- A world-renowned landscape famed for its rural beauty,
- Wild and rugged highlands contrasting with pastoral lowlands,
- Water in its many forms,
- The rich variety of woodlands,
- Settlements nestled within a vast natural backdrop,
- Famous through-routes,
- Tranquillity,
- The easily accessible landscape splendour.

The scheme does not fall within a National Scenic Area (NSA) ([SiteLink](#)).

The Landscape Character Type (LCT) within the scheme extent is Upland Glens – Loch Lomond & the Trossachs (no. 252) ([Scottish Landscape Character Types](#)). The Upland Glens - Loch Lomond & the Trossachs LCT has the following key characteristics:

- Often narrow with little flat glen floor, strongly enclosed by steep hill slopes of the adjacent *Steep Ridges* and *Hills* and *Highland Summits*.
- Steep glen sides often patterned with rocky outcrops, boulders and screes but also extensively forested, particularly on lower slopes.
- Tributary burns and rivers cut deep gullies into slopes and many feature waterfalls and cascades, pools and rocky outcrops.
- Walled pastures sometimes occasionally occurring on lower (usually south facing) slopes. Heather covers better drained areas and bright green flushes appear at spring lines on hill slopes.
- Some glens covered with extensive coniferous forestry.
- Notable ancient and semi-ancient woodlands of oak and birch in some glens, Natural regeneration of scrub woodland where grazing has declined as in the Luss Glens.
- Relict wood pasture and Caledonian pine woodlands evident in some areas,
- Scattered trees and native woodland trace the edges of burns.
- Sparsely settled but with some isolated farms in lower reaches of glens, these often south-facing.
- Significant cultural features in more open glens, including shielings and abandoned field systems.
- Areas of crofting evident on some lower slopes.
- Some important historic strategic routes for communications and accommodate key road and rail links today for example.

- Classic views channelled up and down the Glens, with steep side slopes framing landscapes that lie beyond them.

The scheme is located in a rural area on the A82, approximately 5km southwest of the settlement of Crianlarich. Residential use is limited, with the closest property being located approximately 500m from the scheme. A railway line is located approximately 190m to the north of the scheme. Other forms of land use are limited, given its rural location. Within the wider area, the scheme extent is surrounded by mountain peaks. A campsite and cottages are located in Inverarnan, approximately 1.6km to the south. The land cover surrounding the bridge is dominated by broadleaved deciduous woodland, grassland and bracken. The landscape with its hills, mountains and waterfalls is likely to attract tourists and outdoor recreationists ([Scotland's Environment](#)).

Biodiversity

A desktop study using NatureScot Sitelink ([SiteLink](#)) has identified one Special Protection Area (SPA) and one Special Area of Conservation (SAC) as well as a Site of Special Scientific Interest (SSSI) located within 300m of the scheme extent.

Loch Lomond Woods SAC and Glen Falloch Woods SSSI overlap, and both sites lie approximately 140m north of the scheme at their closest.

Glen Etive and Glen Fyne Special Protection Area (SPA) is located to the north of the scheme, approximately 200m distant, separated from the scheme by areas of woodland and the railway line to the north.

Due to the location of the scheme, which has connectivity to the above designated sites, a Habitats Regulations Appraisal (HRA) was produced in line with NatureScot consultation to assess whether the proposed works could result in Likely Significant Effects (LSE) on the qualifying features of the above sites.

Ancient woodland (of semi-natural origin) recorded on the Ancient Woodland Inventory (AWI) Scotland is present to the north and south of the scheme, with its closest point approximately 25m to the northeast of the scheme ([Map | Scotland's environment web](#)).

The NBN Atlas does not hold any records of bird species within 2km over a 10-year period.

There are no records on NBN of invasive non-native species (INNS) of plants, as listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (WCA), and injurious weeds, as listed under the Weeds Act 1959, or an invasive native

perennial, as listed in the Trunk Road Inventory Manual, using the same search criteria ([NBN Atlas](#)).

Transport Scotland's Asset Management Performance System (AMPS) does not hold any records of INNS along the A82 throughout the scheme extent or within 300m uplink or downlink of the bridge. All works will be restricted to the A82 carriageway and working in the verges and surrounding habitat is not anticipated.

Habitat in the surrounding area is dominated by broadleaved woodland as well as areas of bracken and extensive grassland. The River Falloch falls within the scheme extent and provides freshwater habitats and associated bankside habitats such as riparian woodland ([Map | Scotland's environment web](#)).

The works are restricted to the A82 480 Dubh Eas North bridge. However, the bridge and the surrounding area provide suitable habitat for a range of protected species. The works have the potential to impact these species, should they be using the areas around the scheme. Therefore, a Preliminary Ecological Appraisal (PEA) for protected species and INNS were carried out by suitably qualified ecologists on 12 January 2023.

Geology and soils

The scheme does not lie within a Geological Conservation Review Site (GCRS) or geological SSSI, and no GCRS or geological SSSI is present within 300m ([SiteLink \(nature.scot\)](#)).

The bedrock within the scheme extents is comprised of Ben Ledi Grit Formation (Psammite and semipelite). Information for Superficial deposits within the scheme extent are not available ([BGS GeoIndex](#)).

The Generalised Soil Type beneath the scheme extent is recorded as mineral podzols ([Scotland's Soils](#)).

Material assets and waste

The proposed works are required to replace the current bridge expansion joint due to its failure alongside resurfacing of the bridge deck. Materials used will consist of:

- Bridge expansion joint.
- Expansion joint nosing material.
- Asphaltic material.

Wastes are anticipated to be the current expansion joint and planings from the carriageway surface course. Road planings will be fully recovered for re-use in line with BEAR Scotland's Procedure 126: The Production of Fully Recovered Asphalt Road Planings. The Contractor is responsible for the disposal of road planings and this will be 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. The deck carriageway surfacing type at the scheme location as recorded on AMPS is asphalt, and therefore it is not expected to encounter coal tar. A Site Waste Management Plan (SWMP) is not required for this scheme.

Noise and vibration

The works are located in a rural setting with no residential properties located in the immediate surrounding area. The roadsides in the vicinity of the works are flanked with a belt of trees and shrub. Vehicle traffic on the A82 is anticipated to be the dominant source of noise emissions, however, AADT is generally considered to be low. Other sources in the area likely include train movement on the railway line located to the north of the scheme.

The works do not fall within a Candidate Noise Management Area (CNMA) as defined by the Transportation Noise Action Plan ([TNAP](#)).

Noise modelled data is not available for the scheme extent ([Scotland's Noise Scotland's Environment](#)).

Population and human health

The scheme is located in a rural area and as such there are no residential receptors within 300m of the scheme. The closest property is located approximately 500m southwest of the scheme. The property is screened by woodland present between the scheme and the receptor, which will provide a visual barrier to the scheme.

There are no National Cycle Network (NCN) routes ([OS Maps](#)), walking routes listed on WalkHighlands ([WalkHighlands](#)), or Core Paths ([Scotland's Environment](#)) within the scheme extent. However, a section of the West Highland Way is located approximately 70m south of the scheme at its closest point. The path is screened by woodland along the scheme extent. There are no paved footpaths, bus stops or other pedestrian facilities identified along the A82 within the scheme extent.

The area is likely to attract a number of outdoor recreationists and tourists, especially during the summer months, given its location in the LLTNP. However, no parking areas or laybys have been identified near the scheme. TM is currently anticipated to

consist of single lane closure with two-way temporary traffic light system. Full road closure is not expected.

The A82 Trunk Road, within the North West Network Management Contract Unit, connects Alexandria with Crianlarich, Fort William and Inverness. It commences immediately north of Tullichewan Roundabout in Alexandria leading generally northwards for a distance of 243 kilometres to its junction with the A9 at (but excluding) Longman Roundabout in Inverness. The A82 is predominantly single carriageway along its length, with some lengths of '2+1' carriageway.

Road drainage and the water environment

The River Falloch (u/s Dubh Eas, ID: 10166) is spanned by the 480 Dubh Eas North bridge of the scheme and is approximately 13.3km long. The river is classified by the Scottish Environment Protection Agency (SEPA) under the Water Framework Directive 2000/60/EC (WFD) in 2020 as having an overall status of 'moderate' ([Water Classification Hub](#)).

No other classified surface waterbodies are located nearby, however multiple minor watercourses discharge into the River Falloch in the surrounding area of the scheme.

The scheme falls within the 'Cowal and Lomond' groundwater body (ID: 15089), which was classified by SEPA in 2020 as having an overall status of 'Good' ([Water Classification Hub](#)). The scheme is located within a groundwater Drinking Water Protected Area ([DWPA](#)).

The River Falloch, which is spanned by the A82 480 Dubh Eas North bridge within the scheme extent, has a high likelihood of river flooding. This means that each year, the riverbanks have a 10% chance (high risk) of flooding. No areas of surface water flooding are recorded within the scheme extent ([SEPA Flood Map](#)).

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

Construction activities associated with the proposed works have the potential to temporarily cause local air quality impacts. Activities undertaken on site may cause dust and particulate matter to be emitted to the atmosphere. However, taking into account the nature and scale of the works and the following mitigation measures, the risk of significant impacts to air are considered to be low.

- All plant, machinery and vehicles associated with the scheme will be maintained to the appropriate standards and will be switched off when not in use.
- Green driving techniques will be adopted, and effective route preparation and planning to be undertaken prior to works.
- All delivery vehicles carrying material with dust potential will be covered when travelling to or leaving site, preventing the spread of dust beyond the work area.
- Material stockpiles will be reduced as much as reasonably practicable by using a 'just in time' delivery system. All material will also be stored on made ground.
- Any stockpiled material on site will be monitored daily to ensure no risks of dust emissions exists.
- Materials will be removed from site as soon as is practicable.
- Good housekeeping will be employed throughout the work.

With the above mitigation measures in place, it is anticipated that any air quality effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this Record of Determination (RoD).

Landscape and visual effects

The proposed scheme lies within the LLTNP. Works will be limited to like-for-like expansion joint replacement and are restricted to the A82 carriage way. The works will be carried out over 5 days, and land use will not change as a result of the works. Therefore, the works will not create any significant change to the local landscape and no significant impacts to the National Park are expected. Consultation with the LLTNP Authority was initiated in February 2023 and followed up in March 2023, however, no response has been received to date. In addition, the following mitigation measures will be put in place during works:

- Throughout all stages of the works, the site will be kept clean and tidy, with materials, equipment, plant and wastes appropriately stored, reducing the landscape and visual effects as much as possible.

- The working area will be appropriately reinstated following works.
- Works will avoid encroaching on land and areas where work is not required or is not permitted. This includes general works, storage of equipment/containers and parking.
- Where applicable, upon completion of the works, any damage to the local landscape will be reinstated as much as is practicable.
- The site will be left clean and tidy following construction.

With the above mitigation measures in place, it is anticipated that any landscape and visual effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Biodiversity

Activities undertaken on site as part of the scheme could potentially have a temporary adverse impact on biodiversity in the area as a result of an increased vehicle presence and the potential for disturbance to protected species and pollution of habitats.

Designated sites

The scheme does not fall within any European sites (SPAs, SACs, Ramsar sites), National Nature Reserves (NNRs) or Local Nature Reserves (LNRs). However, Loch Lomond Woods SAC and Glen Falloch Woods SSSI are located within 140m of the scheme, and Glen Etive and Glen Fyne SPA is located within 200m of the scheme.

An HRA Proforma was completed to assess potential impacts of the proposed works on the above designated sites. The HRA Proforma concluded that the works have the potential for LSE on the qualifying feature of the Loch Lomond Woods SAC, and should works be delayed into the bird breeding season, that there is potential for LSE on the qualifying feature of the Glen Etive and Glen Fyne SPA. However, the works would not result in any adverse effects on site integrity (AESI) due to the following reasons.

Applicable to all qualifying features:

- There will be no works within the boundary of the SAC or SPA; therefore, the works will not result in direct impacts on any of the qualifying interests.
- No land take, vegetation clearance or modification of riparian habitat is associated with the scheme.
- No in-water works are required, with all works to be carried out from within the trunk road boundary.
- Hydrological connectivity between the River Falloch and watercourses located within the SAC is limited, as the SAC watercourses are located upstream of the River Falloch.

- Good practice measures and required working methods (e.g., containment measures) will be in place and are adhered to as standard to protect the water environment.
- Good practice measures will be adopted as a standard for proposed works that may result in increased noise levels on site.
- No significant dust, particulate matter, and exhaust emissions (DPMEE) sources will be introduced by the works.
- The works are of short duration and highly localised to the bridge.

NatureScot reviewed the HRA Proforma and agreed with the conclusions of the assessment.

Terrestrial Ecology

No INNS were recorded during the PEA survey and all works are restricted to made ground within the carriageway boundary. Works will entail like-for-like replacement of the expansion joint and will not include vegetation removal. The scheme does not require permanent or temporary land-take, accommodation works, site clearance, or locally gained resources, and there is no requirement to import topsoil. As such there is limited potential to spread or introduce INNS, invasive native perennials, or injurious weeds.

Pollution controls and good practice measures to reduce impacts of works on the local environment will be detailed in the Site Environmental Management Plan (SEMP) and adhered to on site. Any protected species in the area are likely to be accustomed to road noise on the A82 and the scheme is of short duration.

Therefore, with the following mitigation measures in place, the risk of significant impacts on biodiversity are considered to be low:

- Works will be strictly limited to areas required for access and works. Unnecessary encroachment onto terrestrial or aquatic areas will not be tolerated.
- No tree felling or in-stream works will be permitted.
- All construction operatives will be briefed through toolbox talks prior to works commencing. The toolbox talks will provide information on the legislation, general ecology, and best practice measures for relevant protected species.
- Site personnel will remain vigilant for the presence of any protected species throughout the works period. Should a protected species be noted during construction, works will temporarily halt until the species has sufficiently moved on. Any sightings of protected species will be reported to the BEAR Scotland Environmental Team and advice sought where required.
- Artificial lighting (if required) will be directed away from road verges, woodland, and waterbodies as far as is safe and reasonably practicable.
- A 'soft start' will be implemented on site each day. This will involve switching on vehicles and checking under/around vehicles and the immediate work area for

mammals prior to works commencing to ensure none are present and that there is a gradual increase in noise.

- Any excavations, exposed pipes/drains, or areas where an animal could become trapped (e.g. storage containers) will be covered over when not in use, at the end of each shift, and following completion of the works to avoid animals falling in and becoming trapped.
- If fencing is utilised at any point during the works, a gap of 200mm from ground level will be provided, allowing free passage for mammals and preventing entrapment.
- Site personnel will remain vigilant for the presence of INNS in road verges throughout the works period. Should any INNS be identified in working areas, no works may take place within 7m of these areas until the BEAR Scotland Environmental Team can provide further advice.

With the above mitigation measures in place, it is anticipated that any biodiversity effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Geology and soils

The scheme does not lie within a GCRS or a geological SSSI and construction activities are restricted to made ground within the carriageway boundary. Works are restricted to like-for-like replacement of the bridge expansion joints; therefore, the risk of damage to features of geological interest is negligible and the works are not anticipated to have an adverse impact on geology and soils.

With the following mitigation measures in place, the likelihood of significant impacts on geology and soils is negligible.

- The parking of machinery/personnel and storage of equipment on road verges will be minimised as far as is reasonably practicable.
- Upon completion of the works, any damage to the local landscape (i.e. damage to grass verges) should be reinstated as much as is practicable.
- Mitigation measures to prevent contamination of soils through loss of containment will be strictly adhered to.

With the above mitigation measures in place, it is anticipated that any geology and soils effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Material assets and waste

There is potential for impacts as a result of resource depletion through use and transportation of new materials. However, materials will be sourced locally where possible and the following mitigation measures will be put in place:

- Materials will be sourced from recycled origins as far as reasonably practicable within design specifications.
- Care will be taken to order the correct quantity of required materials to prevent the disposal of unused materials.
- Where possible, minimal packaging should be requested on required deliveries to reduce unnecessary waste and production of packaging materials.

There is potential for impacts during works as a result of the improper storage or disposal of waste. The following mitigation measures will be put in place:

- The waste hierarchy (Reduce, Reuse, Recycle and Dispose) will be employed throughout the construction works.
- The subcontractor will adhere to waste management legislation and ensure they comply with their Duty of Care.
- Containment measures will be in place to prevent debris or pollutants from entering the surrounding environment.
- Uncontaminated Road planings will be re-used or recycled under a SEPA Paragraph 13(a) waste exemption and in line with BEAR Scotland's Procedure 126: The Production of Fully Recovered Asphalt Road Planings, should there be any generated by the works.
- All wastes and unused materials will be removed from site in a safe and legal manner by a licensed waste carrier upon completion of the works. The appointed waste carrier will have a valid SEPA waste carrier registration, a copy of which will be provided to and retained by BEAR Scotland as early as possible.
- All appropriate waste documentation will be present on site and be available for inspection. A copy of the Duty of Care paperwork will be provided and filed appropriately in accordance with the Code of Practice (as made under Section 34 of Environmental Protection Act 1990 as amended).
- Re-use and recycling of waste will be encouraged and the subcontractor will be required to fully outline their plans and provide documentary evidence for waste arising from the works (e.g., waste carrier's licence, transfer notes, and waste exemption certificates).
- Staff will be informed that littering will not be tolerated. Staff will be encouraged to collect any litter seen on site.
- Where applicable, all temporary signage will be removed from site on completion of the works.

With the above mitigation measures in place, it is anticipated that any material assets and waste effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Noise and vibration

Construction activities associated with the proposed works have the potential to cause noise and vibration impacts through the use of equipment and construction vehicles. The works are not anticipated to take place overnight. The proposed scheme is anticipated to result in temporary minor adverse noise impacts. The following mitigation measures will be put in place:

- The Best Practice Means, as defined in Section 72 of the Control of Pollution Act 1974, will be employed at all times to reduce noise to a minimum.
- For any night works (if required), the Environmental Health Officer (EHO) and local residents will be notified of works and provided with a 24-hour contact number for the BEAR Scotland Control Room.
- All site personnel will be fully briefed in advance of works regarding the need to minimise noise during works and of the site-specific sensitivities.
- All plant, machinery and vehicles will be switched off when not in use.
- Where fitted, and where permitted under Health and Safety requirements, white noise reversing alarms should be utilised during construction.
- Where ancillary plant such as generators are required, they will be positioned so as to cause minimum noise disturbance. Where deemed necessary, acoustic screens will be utilised.

With the above mitigation measures in place, it is anticipated that any noise and vibration effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Population and human health

During construction, activities undertaken on site may have temporary adverse impacts on local residents, vehicle travellers, and non-motorised road users (NMUs) as a result of vehicle noise and delays due to TM measures. However, no residential properties were identified within 300m, works are of short duration and full lane closure is not anticipated. With the following mitigation measures in place, the risk of significant impacts on population and human health is considered to be low:

- Appropriate provisions / measures should be implemented within the TM to allow the safe passage of NMUs of all abilities through the site.
- Journey planning information will be available for drivers online at the [trafficscotland.org](https://www.trafficscotland.org) website. Journey planning information will also be available for drivers online through BEAR Scotland's social media platforms.

With the above mitigation measures in place, it is anticipated that any population and human health effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Road drainage and the water environment

During the joint replacement works, there is potential for temporary impacts on the water environment. Potential changes in water quality from pollution events (either by accidental spillage of sediments, particulate matter, chemicals, fuels or by mobilisation of these in surface water caused by rain or tidal movements) during works have the potential to have a direct or indirect effect on the surrounding waterbodies. The following mitigation measures will be put in place to reduce the risk of pollution incidents as a result of works:

- The scheme will not entail any in-stream works.
- Standard working practices to comply with The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) for works in or near water will be detailed in the SEMP and adhered to on site.
- No discharges into any watercourses or drainage systems will be permitted. Appropriate containment measures will be in place to prevent any loss of construction materials into the water environment.
- An incident response (contingency) plan will be put in place to reduce the risk from pollution incidents or accidental spillages. All necessary containment equipment, including suitable spill kits (for oil and chemicals) will be available on site, quickly accessible if needed, and staff trained in their use.
- All spills will be logged and reported. In the event of any spills into the water environment, all works will stop and the incident reported to the project manager and the BEAR Scotland Environmental Team. SEPA will be informed of any such incident as soon as possible using the SEPA Pollution Hotline.
- All plant and equipment will be regularly inspected for any signs of damage and leaks. A checklist will be present to make sure that the checks have been carried out.
- Storage of hazardous materials, oil and fuel containers will be distanced more than 10m away from any watercourses.
- If required, a designated refuelling area will be identified. Fuel bowsers should be stored on an impermeable area and be fully bunded. This will be distanced more than 10m from any watercourses.
- During refuelling of smaller mobile plant, a funnel will be used, and drip trays in place. Care will be taken to reduce the chance of spillages. Spill kits will be quickly accessible to capture any spills should they occur. The ground / stone around the site of a spill will be removed, double bagged and taken off site as special waste.

- Generators and static plant may have the potential to leak fuel and / or other hydrocarbons and must have bunding with a capacity of 110%. If these are not banded then drip trays will also be supplied beneath the equipment with a capacity of 110%.

With the above mitigation measures in place, it is anticipated that any road drainage and the water environment effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Climate

Construction activities associated with the proposed works have the potential to cause local air quality impacts as a result of the emission of greenhouse gases through the use of vehicles and machinery, material use and production, and transportation of materials to and from site. The following mitigation measures will be put in place:

- BEAR Scotland will adhere to their Carbon Management Policy.
- Where possible, the works will be undertaken utilising a daytime work pattern to reduce the requirement for additional lighting.
- Local contractors and suppliers will be used as far as practicable to reduce fuel use and greenhouse gas emitted as part of the works.
- Where possible, materials will be sourced locally to reduce greenhouse gas emissions associated with materials movement, and waste will be disposed at local landfill.

With the above mitigation measures in place, it is anticipated that any climate effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Major Accidents and Disasters

The River Falloch, spanned by the A82 480 Dubh Eas North bridge within the scheme extent, has a high risk of river flooding. However, no access into the watercourse is required and the works are restricted to the bridge above the watercourse.

Works are restricted to the made ground of the A82 carriageway and TM will be designed in line with existing guidance. The proposed works are anticipated to last 5 days. TM is currently anticipated to consist of one-lane road closure with temporary traffic lights. Where required, alternative pedestrian routes will be included in the TM setup, to minimise impact of the works on NMUs.

These measures, along with mitigation measures and standard working practices, will be detailed in the SEMP and adhered to on site. The vulnerability of the project to risks of major accidents and disasters is considered to be low.

Assessment of 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 Stirling Council Planning Portal ([Map Search \(stirling.gov.uk\)](http://stirling.gov.uk)) confirmed that there are no planning applications within 300m of the scheme. A search of the Scottish Roads Works Commissioner website ([Map Search](#)) has identified that no other roadworks are currently ongoing, or noted as being planned, on the trunk road within 3km at the same time as this scheme. There are also no local authority road networks in proximity to the scheme. Due to the nature of the proposed works, no cumulative effects are anticipated with any other developments in the vicinity.

BEAR Scotland programme all of their proposed works in line with appropriate guidance and contractual requirements. All schemes are programmed to take into account existing and future planned works, with a view of limiting any cumulative effects relating to TM. As a result of this exercise, where a potential for cumulative impacts is identified, BEAR will reprogramme schemes to avoid / limit any cumulative effects or will utilise existing TM to complete multiple schemes at once. This approach allows BEAR Scotland to effectively manage the potential cumulative effects as a result of TM, resulting in minimal disruption to users of the Scottish trunk road network. BEAR Scotland is proposing works at the A82 460 Dubh Eas Bridge, which are proposed to be undertaken after the completion of this scheme, with a start date to be confirmed for approximately mid-end of September. However, the works are highly localised, located approximately 850m away, separated by woodland, and are not considered to lead to in-combination effects with this scheme.

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

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. Although potential for LSE on the qualifying features of the Loch Lomond Woods SAC and Glen Etive and Glen Fyne SPA could not be ruled out, it was concluded that there will be no AESI. NatureScot agreed with this assessment.

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) are situated in whole in the LLTNP which is a sensitive area within the meaning of regulation 2(1) of the Environmental Impact Assessment (Scotland) Regulations 1999.

The project has been subject to screening using the Annex III criteria to determine whether a formal Environmental Impact Assessment (EIA) 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:

- The total working area is less than 1 ha.
- The works will be temporary, localised, and of minor scale.
- Any potential impacts of the works are expected to be temporary, short-term, non-significant, and limited to the construction phase.
- Works are not expected to result in significant disturbance to protected species that may be present in the wider area.
- No in-combination effects have been identified.
- The risk of major accidents or disasters is considered to be low.
- No impacts on the environment are expected during the operational phase as a result of works. The works are expected to result in positive impacts on road users during the operational phase.

Location of the scheme:

- Works will not have a significant impact on the LLTNP.

- Any impacts to the local landscape during the construction phase will be minor, temporary and not considered significant. In addition, no operational impacts are anticipated.
- The HRA Proforma concluded that the works would have the potential for LSE on the qualifying features of the designated sites located within 300m of the scheme, including Loch Lomond Woods SAC with accompanying Glen Falloch Woods SSSI as well as Glen Etive and Glen Fyne SPA. However, there will be no AESI as a result of works. NatureScot agreed with this conclusion.

Characteristics of potential impacts of the scheme:

- Containment measures of the working area will be in place to prevent debris or pollutants from entering the surrounding environment.
- Measures will be in place to ensure appropriate removal and disposal of waste.
- The SEMP will include plans to address environmental incidents.
- Mitigation measures detailed above and in the SEMP are put in place with the objective to prevent and, if required, subsequently control any potential impacts on sensitive receptors.
- In the event that INNS are found on site, measures to prevent potential INNS spread will be implemented.

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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