



**TRANSPORT
SCOTLAND**
CÒMHDHAIL ALBA

Environmental Impact Assessment Record of Determination

A84 North End of Callander -
Resurfacing

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Project Details

Description

BEAR Scotland has been commissioned by Transport Scotland to carry out resurfacing works on the A84 carriageway, within Callander. The construction work will involve replacement of surface course over an approximate 475m length. The scheme covers an approximate area of 0.4ha.

The resurfacing procedure is as follows:

- Set up traffic management (TM) and mark out site
- Mill out old surface course
- Lay new surface course
- Roll surface and allow it to go off
- Mark out lining schedule on site
- Remove TM and open road
- Lining/studding may be carried out at a later date under mobile TM or lane closures.

The works are currently programmed to be completed within the 2023/2024 financial year (April 2023 to March 2024 inclusive). Works are expected to be completed over 5-nights (18:00 – 02:00); however, changes in the programme may result in the need for day works.

Traffic management (TM) will consist of lane closures, facilitated by temporary traffic lights and a convoy working. 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 works are located on the A84 carriageway within Callander, Stirling Council (Figure 1). The scheme has the following National Grid References (NGRs):

- Scheme Start: NN 62242 08041
- Scheme End: NN 62634 08009



Figure 1. Location and scheme extent of the proposed resurfacing works at A84 North End of Callander. Source: BEAR Scotland. F108 – Environmental Assessment Request (Scheme ref: 23-NW-0103-52).

Description of local environment

Air quality

The scheme does not fall within any Air Quality Management Areas (AQMA) ([Air Quality Scotland](#)) and no Air Quality Monitoring Stations are located in the vicinity of works ([Air Quality Scotland](#)); the nearest air quality monitoring station is located in Stirling, approximately 22km southeast of the scheme ([Air Quality Scotland](#)). Pollution levels in the general vicinity of works are likely to be lower than those at the monitoring station in Stirling due to the more 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.

Average Annual Daily Flow (AADF) for the A84 carriageway 0.5km west of the scheme extents in 2021 accounted for 5,625 vehicles, of which 3.2% were heavy goods vehicles (HGV) ([Road Traffic Statistics](#)).

Baseline air quality at the scheme location is likely to be primarily influenced by traffic along the A84 trunk road and urban activities associated with Callander.

Cultural heritage

A desktop study using PastMap ([PastMap](#)) identified twenty-nine Listed Buildings, one Scheduled Monument, one Conservation Area and numerous Historic Environment Records (HERs) and Canmore features within 300m of the scheme extents.

The nearest Listed Building (Category B 'Leny Road, St Andrew's Episcopal Church Including Hall, Boundary Wall, Railings, Gatepiers And Gates' (LB22895)) lies adjacent to the trunk road within the scheme extents with only 1m wide pedestrian footway separating it from the carriageway surface. There is no connectivity between the scheme and other Listed Buildings, e.g., the second nearest lies 20m east of the scheme.

Scheduled Monument 'Tom Ma Chisaig, Motte' lies 60m south of the scheme and is separated by residential buildings.

'Callander' Conservation Area encompasses the scheme extents.

Of lesser cultural heritage value, numerous HERs and Canmore features lie within and in proximity to the scheme. Many of these referencing the listed buildings noted above.

There are no World Heritage Sites, Garden and Designed Landscapes or Inventory Battlefields identified within 300m of the scheme.

Landscape and visual effects

The scheme lies within the Loch Lomond & The Trossachs National Park (LLTNP) ([Sitelink](#)). The Special General Qualities of the LLTNP are:

- 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 Landscape Character Type (LCT) within the scheme extent is categorized as 'Straths and Glens' (no. 253) ([Scottish Landscape Character Types](#)), which is characterised by:

- Broad u-shaped glens and straths with wide flat floodplains.
- Lower side slopes often rolling and complex with hummocky moraine and rocky outcrops.
- Many glen and strath sides are forested, predominantly with spruce, on upper slopes. Some of these forests occasionally extend across strath and glen floors. Scattered trees and remnants of native woodland are found along the edges of burns.
- Rivers are prominent in open floodplains, often contained by flood barriers and levees. Less modified stretches of river feature pools, gravel beds and waterfalls.
- Riparian woodlands trace the course of rivers and their tributaries.
- Better drained strath and glen floors are farmed with improved pastures. Occasional small regular-shaped plantations and shelter belts pattern hill slopes and valley floors.
- Mixed policy woodlands and avenues of trees line access tracks in places.
- Settlements and farms are located on lower side slopes, raised above the floodplain, and often tucked between knolls. Settlements tend to be sited at bridging points or at the junction with side glens.

- Road and rail transport corridors follow the edges of strath and glen floors.
- Pylons and low voltage overhead power lines are highly visible features across open glen floors.
- Open strath and glen floors allow views along and across the traditional farmed landscapes, attractive river landscapes and lochs, as well as the dramatic Highland setting of the surrounding rugged slopes and mountain summits.

Historic Environment Scotland's HLAMap ([HLAMap](#)) has highlighted the surrounding landscape to consist of a combination of urban development, woodland and farmland.

Biodiversity

A desktop study using Nature Scot SiteLink ([SiteLink](#)) has noted that the scheme extents is not situated within a European site (Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Ramsar sites), biological Site of Special Scientific Interest (SSSI), National Nature Reserves (NNR) or Local Nature Reserve (LNR) ([SiteLink](#)).

A desktop study using Nature Scot SiteLink ([SiteLink](#)) has identified that the River Teith Special Area of Conservation (SAC) lies 70m south of the scheme.

The NBN Atlas ([NBN Atlas](#)) has also recorded numerous bird species within 2km over a 10-year period.

The NBN Atlas ([NBN Atlas](#)) has one record of Japanese knotweed (*Fallopia japonica*), an invasive non-native plant species (INNS), as listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (WCA), within 2km of the scheme (1.8km southeast of the scheme).

A search with Transport Scotland's Asset Management Performance System (AMPS) did not identify any invasive or injurious plant species within the scheme extents.

Approximately 50ha of large woodland recorded on the Ancient Woodland Inventory (AWI) as long-established (of plantation origin) lies 120m north of the scheme ([Scotland's Environment](#)). The works are confined to the A84 carriageway and do not require vegetation management, therefore any impact on the woodland is not anticipated.

The scheme lies within Callander, with urban development bordering the carriageway across the scheme extents. As such, the habitat value of the surrounding area directly along the A84 is extremely limited. In the wider area, habitat is provided by expanses of broadleaved woodland, the River Teith, Garbh Uisge/River Leny and rough grassland areas.

Due to the surrounding urban environment, there is a lack of suitable habitat for permanent shelter or temporary resting places within proximity of the scheme. A desktop study has been deemed sufficient for this assessment, and no ecological surveys have been carried out.

Geology and soils

The scheme does not lie within a Geological Conservation Review Site (GCRS) ([SiteLink](#)) or geological Site of Special Scientific Interest (SSSI) ([SiteLink](#)).

Bedrock within the scheme extents is comprised of Ruchill Flagstone Formation (sandstone and siltstone, interbedded), which is a sedimentary bedrock ([BGS GeolIndex](#)).

Superficial deposits within the scheme extent are comprised of: (i) River Terrace Deposits (gravel, sand, silt and clay) and (ii) Glaciofluvial Sheet Deposits (gravel, sand and silt). Both are sedimentary superficial deposits ([BGS GeolIndex](#)).

There are no data regarding the soils within the scheme extent, the nearest soils to the scheme extents are recorded as alluvial soils and brown soils ([Scotland's Soils](#)).

As a result of the works taking place strictly within 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 geology or soils.

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

Material assets and waste

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

- Asphaltic material
- Bituminous emulsion bond coat
- Milled in road studs
- Thermoplastic road marking paint

Wastes are anticipated to be planings from the carriageway surface course. Previous testing of the road surface at the scheme extents confirmed no presence of coal tar. Planings will be 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 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.

A site waste management plan (SWMP) is not required for this scheme.

Noise and vibration

The works are located within the town of Callander, and as such numerous properties, including commercial premises and community facilities, (e.g., a church and a museum) and several greenspaces lie within 300 m of the scheme. Properties closest to the trunk road face directly onto the A84 and have no screening from the trunk road. Properties further afield are screened from the trunk road by intervening properties.

Baseline noise level at the scheme location is likely to be primarily influenced by traffic along the A84 trunk road and urban activities associated with Callander.

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

There is no noise modelled data available for the scheme extent ([Scotland's Noise Scotland's Environment](#)).

Population and human health

Numerous properties, including commercial premises and community facilities, (e.g., a church and a museum) and several greenspaces lie within 300 m of the scheme. Properties closest to the trunk road face directly onto the A84 and have no screening from the trunk road. Properties further afield are screened from the trunk road by intervening properties.

The A84 Trunk Road, within the North West NMC, connects Stirling with Doune, Calendar and Lochearnhead. It commences from its junction with the M9 at and including the eastern most roundabout at Craigforth Stirling (M9 Junction 10) leading generally north-westwards for a distance of 44.7 kilometres to its junction with the A85 in Lochearnhead. The A84 is a single carriageway along its length.

Numerous core paths ([Scotland's Environment](#)) lie in proximity to the scheme and cross the trunk road within the scheme extents. National Cycle Network (NCN) route

Nr. 7 lies 3m (at its nearest point) ([OS Maps](#)) from the A84 southbound carriageway within the scheme. Walking route 'Rob Roy Way: Callander to Strathyre' as listed on WalkHighlands ([WalkHighlands](#)) lies within the scheme extents. Local footpaths are located parallel and adjacent to the A84 across the scheme extents. One traffic light controlled pedestrian crossing lies within the scheme extents, and two bus stops are also located within the scheme extents (northbound and southbound).

Numerous local and private roads diverge from the A84 within the scheme extents.

Road drainage and the water environment

There are no classified waterbodies by the Scottish Environment Protection Agency (SEPA) under the Water Framework Directive 2000/60/EC (WFD) which are spanned or culverted beneath the A84 within the scheme extent.

The River Teith (ID: 6834) lies parallel to the trunk road, 70m south of the scheme (at its nearest point). The River Teith has been classified by SEPA as having an overall status of 'Moderate' (in 2020) ([SEPA water classification hub](#)). River Teith is a river in the River Forth catchment of the Scotland river basin district. The main stem is approximately 22.6km in length.

Garbh Uisge/River Leny (ID: 4718) lies 120m south of the scheme. Garbh Uisge/River Leny has been classified by SEPA as having an overall status of 'Good' (in 2020) ([SEPA water classification hub](#)). Garbh Uisge/River Leny is a river in the River Forth catchment of the Scotland river basin district. The main stem is approximately 6.2km in length.

Garbh Uisge/River Leny confluences with the River Teith 380m south of the scheme.

Numerous waterbodies, considered to be minor tributaries and/or drainage ditches, lie in proximity to the scheme.

The scheme falls within the 'Callander' groundwater body, which was classified by SEPA in 2020 as having 'Good' overall condition ([SEPA water environmental hub](#)).

The SEPA indicative surface water online flood mapping tool ([SEPA Flood Map](#)) records that an approx. 50m stretch of the trunk road, within the scheme extents, is at a high risk of surface water flooding (10% Annual Exceedance Probability (AEP), 1-in-10-year flood event).

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 (RoD) 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 and fuel-requiring equipment utilised during construction shall be well maintained in order to minimise emissions, as per manufacturing and legal requirements, and will be switched off when not in use.
- Green driving techniques will be adopted, and effective route preparation and planning shall 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 far as is reasonably practicable by using a 'just in time' delivery system. All material will also be stored on made ground, and will be monitored daily to ensure no risks of dust emissions exists.
- Materials shall be removed from site as soon as is practicable.
- Good housekeeping will be employed throughout the work.
- Drop heights to haulage vehicles and onto conveyors will be minimised.
- Surfaces will be swept where loose material remains following planing.

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 RoD.

Cultural heritage

Although there are features of cultural heritage interest within the scheme extent and within 300m of the scheme, construction of the A84 road corridor is likely to have removed any archaeological remains that may have been present. Therefore, the potential for the presence of unknown archaeological remains in the study area has been assessed to be low. Moreover, all works are restricted to the trunk road, with only 'like-for-like' replacement of road surface material, and no works will include any alterations that would affect the historic and architectural character of the area for which the Conservation Area designation has been granted. The following good practice measures will be in place to reduce the risk of impacts to undiscovered features of cultural heritage interest:

- Site personnel will be made aware of the category B Listed Building 'Leny Road, St Andrew's Episcopal Church Including Hall, Boundary Wall, Railings, Gatepiers And Gates' (LB22895) which lies adjacent to the trunk road within the scheme extents with only 1m wide pedestrian footway separating it from the carriageway surface.

- There will be no storage of vehicles, plant, or materials against any buildings, walls or fences.
- Should any unexpected archaeological evidence be discovered, works will stop temporarily in the vicinity and the BEAR Scotland Environment Team contacted for advice.
- People, non-road mobile machinery (NRMM) and materials shall, as much as is reasonably practicable, only be present on areas of made / engineered ground. Where access outwith these areas is required for the safe and effective completion of the scheme, it shall be reduced as far as is reasonably practicable and will ideally be limited to access on foot.

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

Landscape and visual effects

Proposed works will be restricted to A84 carriageway and will include replacement of existing surface course. The works will be like-for-like in nature and will remain within the existing trunk road boundary. Therefore, the works will not create any significant change to the local landscape, and no change to the special qualities of the LLTNP or Callander Conservation Area are expected. No consultation with Stirling Council, NatureScot or the LLTNP is required.

There is potential for minor, temporary adverse visual impacts to the local landscape during the construction phase due to presence of vehicles and machinery, littering, or obstructed views. Due to the temporary and localised nature of the works, any adverse impacts are considered negligible.

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 does not have permission to do so. This includes general works, storage of equipment/containers and parking.
- Where applicable, upon completion of the works, any damage to the local landscape shall 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

During road resurfacing, activities undertaken on site 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.

The scheme is not situated within a 'sensitive area' designated for biodiversity features e.g., SAC, SPA, Ramsar, SSSI.

Although the scheme is located within 300m of the River Teith SAC, the high-level HRA assessment concluded that the works would not result in the potential for any likely significant effects (LSE) upon the qualifying features of these by virtue of the following factors:

- The SAC lies beyond the dense urban development, approximately 70m south of the scheme extents. No works are required within any part of the SAC, and there is no requirement for land take or site clearance from within the SAC. There is also no hydrological connectivity between the scheme and the SAC, and no 'in-water' works are required, therefore there will also be no-change in the hydrological regime or water quality within the SAC.
- There are no records of qualifying species within the area of likely construction disturbance. The trunk road within the scheme extents also has no available habitat for qualifying species. The scheme lies at least 70m from the SAC, and all works are confined to a 475m stretch of made-ground on the A84 carriageway surface, with only 'like-for-like' replacement of road surface being undertaken.
- Noise and vibration are also not considered to be defining features of the works e.g., the works will be undertaken over 5-nights (18:00 – 02:00) on a rolling programme, and the overall level of risk is judged to be similar, or lower than that arising from current road traffic travelling on the A84. Moreover, works are confined to the trunk road and with urban development surrounding the scheme, therefore any added artificial lighting will be obstructed and not visible from the SAC. Furthermore, artificial lighting used during night works will be sufficiently screened and aligned so as 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.

- No significant dust, particulate matter, and exhaust emissions (DPMEE) sources will be introduced by the works, and standard pollution prevention measures will be in place during works.

There are no records of INNS, invasive native perennials, or injurious weeds within the verges of A84 within the scheme extents. Furthermore, the A84 within the scheme extents has no grassed verges and all works will be restricted to the carriageway surface therefore, it is unlikely that any INNS, invasive native perennials, or injurious weeds will be encountered. There are also no earthworks associated with the scheme, 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 flowering plant species.

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 A84 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:

- Site personnel will be briefed with the Toolbox talk 'Working with Injurious Weeds & Invasive Plants' prior to works commencing.
- Site personnel will remain vigilant for the presence of potentially unrecorded instances of INNS or injurious weeds 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 on additional mitigation measures.
- Works will be strictly limited to areas required for access and resurfacing works. Unnecessary encroachment onto terrestrial or aquatic areas will not be tolerated.
- No tree felling or in-stream works are permitted.
- Site personnel shall remain vigilant for the presence of any protected species throughout the works period. Should a protected species be noted during construction, works shall temporarily halt until the species has sufficiently moved on. Any sightings of protected species shall be reported to the BEAR Scotland Environmental Team.

- Where possible, artificial lighting used during night works will be sufficiently screened and aligned so as to ensure that there is no direct illumination of neighbouring habitat (e.g., locations adjacent to riparian habitat, woodland, river etc.) to ensure minimal impact on nocturnal species.
- 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 species in the area are likely to be accustomed to road noise on the A84. Relevant toolbox talks will be included in the SEMP. The potential for significant species disturbance within the area of likely construction disturbance is therefore somewhat diminished.
- 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.

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.

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 shall 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.
- 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 will be available for inspection. A copy of the Duty of Care paperwork shall 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 shall 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 scheme works have the potential to cause noise and vibration impacts through the use of equipment and construction vehicles for the proposed activities. Even though the works are programmed to take place during nighttime working hours (18:00 – 02:00), the works will be of short duration and move progressively along the trunk road. 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, 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.
- On-site construction tasks shall be programmed to be as efficient as possible, with a view to limiting noise disruption to local sensitive receptors.
- Works with the potential to induce worst-case scenario noise and vibration (cold milling in preparation for carriageway resurfacing, using breakers (jackhammers), chipping hammers, use of rollers, steel cutters, etc.) will be intermittent, temporary, transient and short-lived, and the aim will be to complete the noisiest works by 23:00.
- All construction operatives will be briefed through toolbox talks prior to works commencing using the 'Being a Good Neighbour' toolbox talk template.
- 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.
- All plant will be operated in such a way that minimises noise emissions and will have been maintained regularly to the appropriate standards.
- Where fitted, and where permitted under Health and Safety requirements, white noise reversing alarms will 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 traffic management measures. The identified affected human receptors will be notified of works via letter drop. Although there are pedestrian facilities within the scheme extents, TM will only be in place for 5-nights (when footfall will be at a minimum). Road users will be informed of works through a media release, which will provide details of construction dates and times. The works will be of short duration and will move progressively along the full scheme extent. With the following mitigation measures in place, the risk of significant impacts on population and human health is considered to be low:

- Where appropriate, a communication strategy (e.g., social media, consultation with local authority and other stakeholders, letter drop (for night-time works), 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.
- Construction lighting will take into account the need to avoid illuminating surrounding properties to avoid a nuisance at night, and non-essential lighting will be switched off at night.
- Appropriate provisions / measures shall be implemented within the traffic management 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 website. Journey planning information will also be available for drivers online through BEAR'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 resurfacing 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 are detailed in the SEMP and will be adhered to on site.
- No discharges into any watercourses or drainage systems are 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 shall be logged and reported. In the event of any spills into the water environment, all works will stop and the incident will be 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 material, oil and fuel containers shall be distanced more than 10m away from any watercourses.
- If required, a designated refuelling area shall be identified. Fuel bowsers shall be stored on an impermeable area and will be fully bunded. This shall be distanced more than 10m from any watercourses.
- During refuelling of smaller mobile plant, a funnel shall be used, and drip trays will be 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 contaminated waste.
- Generators and static plant may have the potential to leak fuel and / or other hydrocarbons and will have bunding with a capacity of 110%. If these are not bunded then drip trays shall 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 scheme 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.
- 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

Parts of the A84 carriageway within scheme extents are at high risk of surface water flooding (10% chance of flooding each year).

Works are restricted to the made ground of the A84 carriageway surface and traffic management will be designed in line with existing guidance. The proposed works are anticipated to last only 5-nights. Traffic management will consist of lane closures, which will be facilitated by temporary traffic lights and a convoy system. Where required, alternative pedestrian routes will be included in the traffic management 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 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](#)) did not identify any planning applications within 300m of the scheme.

A search of the Scottish Roads Works Commissioner's website ([Map Search](#)) has identified that no other roadworks are currently ongoing, or noted as being planned, on the trunk road at the same time as this scheme. Due to the nature of the proposed works, and absence of other developments in the vicinity or the works, there are no cumulative effects are anticipated.

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 traffic management. 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 traffic management to complete multiple schemes at once. This approach allows BEAR Scotland to effectively manage the potential cumulative effects as a result of traffic management, resulting in minimal disruption to users of the Scottish trunk road network.

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 within this Record of Determination, 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 safety and it is located within Loch Lomond and Trossachs National Park, 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 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 0.4ha area of existing carriageway boundary.
- Works are restricted to like-for-like replacement of worn road surface, with all works restricted to made-ground on the A84 carriageway surface.
- The works will be temporary, localised, and completed during night-time hours, when the traffic count is at its lowest levels.
- Containment measures of the working area will be in place to prevent debris or pollutants from entering the surrounding environment.
- Works are not expected to result in significant disturbance to protected species that may be present in the wider area.
- In the event that INNS are found on site, measures to prevent potential INNS spread will be implemented.
- No in-combination effects have been identified.
- The risk of major accidents or disasters is considered to be low.
- By removing the carriageway defects this will provide this part of the A84 carriageway with another life cycle, and significantly improve the ride quality, which will result in safer conditions for road users.

Location of the scheme:

- Although the works are located within 300m of the River Teith SAC, the high-level HRA concluded that the works would not result in the potential for any LSE on the qualifying features.

- Works will not result in any residual visual change, and as such will have no change to the special qualities for which the Loch Lomond and Trossachs National Park or Callander Conservation Area is designated.
- The scheme does not lie within any sites designated for geology or soils.
- 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.
- 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 site compound will be located on made ground.

Characteristics of potential impacts of the scheme:

- Any potential impacts of the works are expected to be temporary, short-term, non-significant, and limited to the construction phase.
- Measures will be in place to ensure appropriate removal and disposal of waste.
- The SEMP will include plans to address environmental incidents.
- 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.
- Mitigation measures detailed above and in the SEMP will be put in place with the objective to prevent and, if required, subsequently control any potential impacts on sensitive receptors.

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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Published by Transport Scotland, April 2023

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