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Environmental Impact Assessment Record of Determination

A84 Callander South End & A84 South of Keltie Bridge Resurfacing

Contents

Project Details

Description

BEAR Scotland has been commissioned by Transport Scotland to undertake resurfacing works on two sections of the A84 trunk road with a combined length of 1,467m (A84 Callander South End: 470m; A84 South of Keltie Bridge: 997m). Carriageway resurfacing will involve the milling out and replacement of bituminous material to mixed depths. Following the resurfacing works, road markings and studs will be reinstated.

Main plant will include pavers, planers, excavators, and rollers. Heavy goods vehicles (HGVs) will be required for transport of materials and wastes.

The package of works will include:

- 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.
- Renew filter drains and reset gullies.
- Install road markings and studs.
- Remove TM and open road.

The works comprise two schemes – A84 Callander South End and A84 South of Keltie Bridge – separated by a distance of 570m on the A84. Both schemes are currently programmed for delivery within the 2026/2027 financial year. The works at A84 Callander South End are scheduled to commence on 05/07/2026 and are expected to last for six nights utilising a night-time working pattern (19:00 to 06:00). Works at A84 South of Keltie Bridge will begin later on 22/07/2026 for a duration of eight nights utilising the same working pattern. Changes in the programme may result in a change to the proposed working hours/commencement dates.

Traffic Management (TM) will include single lane closures with temporary traffic lights and a convoy system. The TM strategy will be in line with recommendations and guidance in The Traffic Signs Manual Chapter 8. Access to any junctions and private roads will be maintained where practicable. Site access and plant storage will be located within TM. If the programme changes, this may result in amendment to the exact TM requirements.

Location

The schemes are located on a stretch of the A84 trunk road within and around the town of Callander, within the Stirling Council area. The schemes have the following National Grid References (NGRs):

- A84 Callander South End (Figure 1):
    - Start point: NN 64387 07083
    - End point: NN 63965 07300
- A84 South of Keltie Bridge (Figure 2):
    - Start point: NN 65413 05944
    - End point: NN 64881 06827

Figure 1 - A84 Callander South End location

Figure 2 - A84 South of Keltie Bridge location

Description of local environment

Air quality

There are no Air Quality Management Areas (AQMA) within 300m of the schemes.

There are no air quality monitoring sites located within 10km of the schemes (Scottish Air Quality).

There are no air pollutant release sites listed on the Scottish Pollution Release Inventory (SPRI) within 10km of the schemes

Baseline air quality is likely to be primarily influenced by traffic along the A84 with secondary sources generated by activities related to activities from agricultural and forestry operations.

Cultural heritage

The following cultural heritage features are recorded on PastMap within 300m of the schemes:

- Four Listed Buildings, the nearest of which, *Cambusmore Lodge & Gates*, is located directly adjacent to the A84 trunk road within the scheme extents at A84 South of Keltie Bridge.
- Eighteen Historic Environment Records (HERs) and National Records of the Historic Environment (NHREs), five of which lie directly adjacent to the proposed works boundary.

There are no Scheduled Monuments, Garden & Designed Landscapes, Conservation Areas, Battlefields, or World Heritage sites within 300m of the works.

The works are confined to the trunk road boundary. As such, construction of the A84 is likely to have removed any archaeological remains that may have been present within the area and as such ‘cultural heritage’ is scoped out and is not discussed further within this RoD.

Landscape and visual effects

The schemes do not fall within a National Scenic Area (NSA) (SiteLink). However, both fall fully or partially within the Loch Lomond and the Trossachs National Park (NatureScot Site code: 8621) which is designated for the following special general 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

Landscape Character Type throughout the schemes fall within 'Lowland River Valleys' (LCT 152) which is noted for the following key characteristics:

- Well-defined river corridors, most with flat valley floor enclosed by often commanding hills.
- Strong topographic and visual identity, with varying scale and character.
- Glacial terrain and deposits located on valley margins, often subject to mineral extraction.
- Relatively high proportion of tree cover, with roadside and hedgerow trees and seminatural woodland.
- Dense areas of coniferous forest cover the slopes surrounding the reservoir in the Upper Carron Valley.
- Road corridors often running parallel to river corridor form key linear features.
- Settlement often closely linked to the river corridor and parallel road corridors.
- Intensive settlement and urban development on margins of valleys south and north of Firth of Forth.
- Predominance of traditionally managed estate, policy and designed landscapes.
- Nature conservation importance of river and associated habitats.
- Frequently enclosed and focussed views along the river valley.
- Visibility of remnant derelict land, motorway and road corridors, power lines, wind farms and industrial sites from the urban fringe of Falkirk/Denny

Land use (HLA Map) within 300m of the works extent is classified as:

- Urban area (Callander)
- Recreation area (Caravan Park)
- Cemetery
- Plantation woodland
- Managed woodland
- Rough grazing
- Rectilinear Fields and Farms
- Industrial-scale farming

- Opencast site
- Designed landscape

The A84 Trunk Road, within the North West, connects Stirling with Doune, Callander 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 44.7 kilometres to its junction with the A85 in Lochearnhead. The A84 is a single carriageway along its length.

Biodiversity

The A84 within the scheme extent at A84 South of Keltie Bridge passes directly over the River Teith Special Area of Conservation (NatureScot site code: 8367).

A Habitats Regulations Appraisal (HRA) has been undertaken to assess the potential effects of the works on the qualifying features of the site. Refer to the Biodiversity Impacts and Mitigation section below for conclusion of the HRA.

There are no locally or nationally designated sites for biodiversity such as Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) or Local Nature Reserves (LNRs) within 300m of the schemes (SiteLink).

The NBN Atlas also holds records of numerous bird species within 2km over a ten-year period using the same search criteria. Under the Wildlife and Countryside Act 1981, all wild birds and their active nests are protected.

The NBN Atlas holds no records of invasive non-native species (INNS) or injurious weeds (as listed in the NMC Contract) using the same search criteria.

There are two Tree Preservation Orders (TPOs) present within 300m of the schemes (LLTNP TPO). The first is for a woodland (TPO ref|: 2024/0005/TPO) which lies approximately 60m southeast from the A84 Callander South End scheme extent. The second is for a single monkey puzzle tree (TPO ref: 2024/0005/TPO) which lies approximately 100m southeast from this scheme extent.

Transport Scotland's Asset Management Performance System (AMPS) holds one record of rosebay willowherb (*Chamaenerion angustifolium*) within the works extents as well as one additional record 50m north of the scheme at A84 South of Keltie Bridge.

A number of areas within 300m of the works are listed on the Ancient Woodland Inventory. The nearest of these is located adjacent to the A84 trunk road boundary within the works and is classed as "Long-established (of plantation origin)".

Habitats surrounding the A84 carriageway consists of residential areas and gardens as well as coniferous plantation woodlands, managed woodlands consisting of broad-leaved tree species and native pine species, and agricultural land.

Geology and soils

Bedrock geology within the schemes consists of sandstone of the Teith Sandstone Formation, and sandstone and siltstone of the Dalmary Sandstone Member. Superficial deposits consist of the following (BGS Geology Viewer):

- River terrace deposits of gravel, sand, silt, and clay.
- Alluvium of clay, sand, silt, and gravel .
- Hummocky glacial deposits of diamicton, sand, and gravel.

Soils within the schemes are recorded as a mixture of brown earths and mineral alluvial soils with peaty alluvial soils (Scotland's Soils). Soils within the schemes are recorded as being of Carbon and Peatland 'Class 0', class is associated with mineral soil where peatland habitats are not typically found on such soils (Carbon and Peatland Map).

Geological Conservation Review Site (GCRSs) 'Callander Moraine' (Site Code: 10566) lies just north of the A84 South of Keltie Bridge scheme extents. There is no geology based Site of Special Scientific Interest within 300m of the schemes (SiteLink).

Material assets and waste

The proposed works are necessary to resurface worn-out carriageways, requiring binder inlay, and reinstatement of road markings and studs. Materials used will consist of:

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

Wastes are anticipated to be primarily planings from the carriageway surface course. All road planings will be treated in line with the Scottish Environmental Protection Agency (SEPA) Low Risk Waste Activity (LRWA) 3 and will be recycled in line with SEPA's Guidance for End-of-Waste for Recycled Aggregates (WAS-G-DEF-05).

Coal tar has not been highlighted as being present within the schemes.

The values of the individual schemes do not exceed £350,000; therefore, a Site Waste Management Plan (SWMP) is not required.

Noise and vibration

A search of Scotland's Noise Map returned records for noise levels during the night (LNGT) within the A84 and its verges between 50 and 70dB.

The schemes do not fall within a Candidate Noise Management Area (CNMA) as defined by the Transportation Noise Action Plan (TNAP) 2024-2028.

Due to the generally rural location of the schemes, it is considered likely that the baseline noise levels will be low, with noise mainly influenced by vehicles travelling along the A84.

Population and human health

The works are located within and adjacent to the settlement of Callander. As such, several residential and commercial properties are located within 300m of the schemes. A number of residential properties are located directly adjacent to the A84 trunk road boundary within the schemes' extents. Limited visual and acoustic screening is present at this location.

There are a number of local road junctions and property entrances located on the A84 within the schemes' extents. Footpaths are located adjacent to the carriageway on both sides of the schemes, and two sets of bus stops lies within the schemes.

There are no National Cycle Network (NCN) routes (OS Maps) or walking routes listed on WalkHighlands within 300m of the scheme.

One walking route is listed on LLTNP Core Paths Plan 2023 (path ref: S0949), which lies approximately 200m north from the schemes' extents and one Core Path (ID: NCN76) is located approximately 100m north of the schemes' extents. No core paths lie within either scheme.

Transport Scotland's manual data counter (site name: ATC06006) located approximately 4.5km southeast from the scheme, recorded an annual daily total (ADT) of 7,625 motor vehicles in 2025, of which 16% were Heavy Goods Vehicles (HGVs).

Road drainage and the water environment

'Callander' (ID 150674) and 'Teith and Forth Valleys' (ID: 150809) are groundwater bodies, in the Scotland River basin district, which underlie the schemes. Both were given an overall status of 'good' in 2024 by Scottish Environmental Protection Agency (SEPA) under the Water Framework Directive 2000/60/EC (WFD) (Water Classification Hub).

The 'River Teith' (ID: 6834), is a river, in the River Forth catchment of the Scotland river basin district. It lies approximately 160m southwest from the works. It was awarded an overall status of 'moderate' in 2024 by SEPA (Water Classification Hub).

The Lower Keltie Water (ID: 4715) is channelled under the A84 at A84 South of Keltie Bridge and was classified by SEPA in 2024 as being in 'High' condition (Water Classification Hub). There are no other SEPA-classified waterbodies within 300m of the scheme.

The schemes fall within small areas which are noted as having a medium to high risk of surface water flooding. This indicates a chance of between 0.5% and 10% of flooding happening in any one year (SEPA Flood Map).

A number of minor drains and ditches are present within 300m of the scheme.

Road drainage within the schemes is provided by a mixture of beany block kerbs, cut grips and top-entry gullies.

Climate

The Climate Change (Scotland) Act 2009 ('The Act'), and its subsequent amendment under the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019, sets the framework for the Scottish Government to address climate change. The Act has an ambitious target to reach Net Zero greenhouse gas emissions by 2045, with any residual emissions balanced by removing carbon dioxide from the atmosphere. This is five years earlier than the rest of the UK due to the greater potential for carbon sequestration in Scotland.

The Act was amended to replace interim targets with carbon budgets. Carbon budgets are legally binding caps on greenhouse gas emissions in Scotland over five-year periods. In line with the Act, the Climate Change Committee (CCC) published advice on the level of Scotland's four carbon budgets, covering the period 2026 to 2045, recommending what the Scottish Government sets its carbon budgets at for annual average levels of emissions. These recommendations are based on an ambitious but credible route to Net Zero for Scotland by 2045.

Emissions reductions from surface transport are the largest contribution to meeting the first two carbon budgets. The pathway for surface transport emission reduction is primarily driven by the uptake of electric vehicles, in addition to measures to enable a shift from car use to public transport and active travel, which all play a role in reducing emissions from fossil fuel cars. Ensuring efficiency of existing transport infrastructure and improving/providing new active travel facilities is therefore important to support these carbon reduction budgets.

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 the above noted legally binding target of net-zero by 2045. 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.

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. The main sources are likely to be dust generated by cold milling in preparation of carriageway resurfacing, as well as exhaust emissions from ancillary plant and vehicles. As a result, there is potential for dust, particulate matter, and exhaust emissions 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 the air are considered to be low.

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

There will be a short-term impact on the landscape character and visual amenity of the site as a result of the presence of construction plant, vehicles, and TM. However, works will be restricted to the A84 carriageway boundary and will be limited to the like-for-like replacement of the carriageway surface, and will be carried out during night-time hours.

No change to land use, or to the designation features of the NSA, will occur as a result of the works, and the works will not result in any obvious residual change to the visual amenity of the local landscape.

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.
- Works will avoid encroaching on land and areas where work is not required or 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

The works are confined entirely within the existing A84 trunk road carriageway, however, due to the proximity of the River Teith SAC ecological connectivity is present between the features of the SAC and proposed works. As such, an HRA was completed and concluded that the proposed works will not result in any Likely Significant Effects (LSE) on the qualifying features of the SAC due to the following factors:

- All works are restricted to made-ground within the footprint of the A84 trunk roads, with only ‘like-for-like’ replacement of road surface being undertaken which will not involve any change of the natural landscape or its processes.
- No groundworks will take place within the boundary of the SAC and no in-water works in natural watercourses are required; as such, no direct impacts (e.g.,

habitat loss) will occur. Works within the SAC boundary will be restricted to the A84 bridge deck.

- Given the minor and localised nature of the works, the lack of requirement for in-water works, and adherence to good practice measures for pollution prevention, no risk of significant pollution impacts was identified.

As such, no further assessment or consultation with NatureScot was required.

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. However, works are restricted to the A84 carriageway and the number of construction vehicles and construction operatives required onsite is low given the scale and scope of works. In addition, any species in the area are likely to be accustomed to noise and visual disturbance pertaining to vehicle movements on the A84 carriageway and works will be undertaken on a rolling programme. The potential for significant species disturbance within the area of likely construction disturbance is therefore considered to be low.

All works will be restricted to the A84 carriageway surface and will not entail any in-stream works or vegetation clearance. There are no significant earthworks associated with the schemes, and the schemes do 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 INNS, invasive native perennials, or injurious flowering plant species, should these be present in adjacent verges.

Some areas of ancient woodland are located adjacent to the trunk road boundary within the scheme; however, no tree felling is planned for the works.

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. Therefore, with the following mitigation measures in place, the risk of significant impacts on biodiversity is 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.
- 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 and INNS.
- No tree-felling or in-stream works will be permitted.
- Site personnel shall remain vigilant for the presence of any protected species throughout the works period. Should 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. Consultation will be undertaken with NatureScot as required.
- Artificial lighting 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.
- 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 will 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

No excavation of rock or soil is required as part of carriageway resurfacing and as such works will not result in any change to local soil make-up, and standard working practices will highly limit any potential pollution to soils. To mitigate any adverse impacts on geology and soils, the following measures will be in place:

- 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) will 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 will 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.
- Planings will be re-used or recycled in line with SEPA's LWRA3 and be recycled in line with SEPA's WAS-G-DEF-05 Guidance for End-of-Waste for Recycled Aggregates.
- 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 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 undertaken where possible, 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 adverse noise and vibration impacts for local receptors through the use of equipment and construction vehicles for the proposed activities. However, the works are not located within a CNMA, and the proximity of existing road space suggests that residents within the local area will have a degree of tolerance to noise and

disturbance. The works will employ a night-time working pattern with the noisiest works (e.g. planing) completed by 23:00 where practicable. Due to the relatively short duration and localised nature of the works, the proposed schemes are anticipated to result in temporary minor noise impacts during the construction programme.

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

The following mitigation measures will be put in place:

- The Best Practicable 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.
- Affected local residents and the Environmental Health Officer (EHO) for the Stirling Council will be notified of works.
- All site staff will receive the 'Being a Good Neighbour' toolbox talk.
- The noisiest works (e.g. planing) will be programmed to be completed by 23:00 where possible.
- Drop heights from vehicles and NRMM will be kept to a minimum to minimise noise when unloading.
- All plant, machinery and vehicles will be switched off when not in use.
- On-site construction tasks will be programmed to be as efficient as possible, with a view to limiting noise disruption to local sensitive receptors.
- 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 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 vehicle travellers, and non-motorised road users (NMUs) as a result of construction presence, and associated delays due to traffic management measures.

Road users will be informed of works through a media release, which will provide details of construction dates and times.

No significant congestion issues are noted during the proposed construction hours; however increased journey times may occur, but these are considered insignificant considering the relatively low traffic counts and operation during night-time hours.

With the following mitigation measures in place, the risk of significant impacts on population and human health is considered to be low:

- Notification will be issued to local residents and local public transport operators prior to commencement of the works, advising of any proposed works and expected restrictions.
- Construction lighting will consider the need to avoid illuminating surrounding environment and properties to avoid a nuisance at night, and non-essential lighting will be switched off at night.
- Local access will be granted as required.
- Any changes of schedule (e.g. change from nighttime works to daytime works) will be communicated to travelling public throughout the programme.
- Appropriate provisions / measures will be implemented within the TM to allow the safe passage of NMUs of all abilities through the site (if required).
- 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

There is potential for temporary impacts on the water environment due to operation of plant within and within proximity to watercourses and/or drainage systems, which may lead to 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).

No in-water works will take place and there is no requirement for the abstraction or transfers of water from, or discharges to, a waterbody. As such, the potential for a direct pollution incident within a waterbody is unlikely. Experience gained from BEAR maintenance schemes elsewhere on the network has shown that where standard good working practice is adopted (e.g., adherence to SEPA good practice guidance, utilisation of drain covers or similar, etc.), water quality is protected.

The works may result in potential direct or indirect effects on surrounding waterbodies. The following mitigation measures will be put in place to reduce the risk of pollution incidents as a result of works:

- The schemes will not entail any in-stream works.
- Standard working practices to comply with The Water Activities Environmental Authorisations (Scotland) Regulations (EASR) 2018 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.
- Appropriate measures will be implemented during resurfacing operations to limit the potential for wastes (i.e. road planings) and materials (i.e. new asphalt) to enter any gullies present on site. On completion of resurfacing operations, any gullies present on site will be visually checked to ensure they have not become blocked as a result of the scheme.
- 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 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 will be distanced more than 10m away from any watercourses.
- If required, a designated refuelling area will be identified. Fuel bowsers will be stored on an impermeable area and will 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 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 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

During the works there is potential for impacts such as a result of the emission of greenhouse gases through the use of equipment, vehicles, material use, and production and transportation of materials and wastes. However, considering the nature, short-term duration, size and scale of the scheme, and the mitigation detailed below, the risk of significant impacts to climate are considered to be low.

Proposed climate mitigation measures:

- 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 and any waste which cannot be re-used or remain on-site will be disposed at local landfill, to reduce greenhouse gas emissions associated with materials movement.

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.

Vulnerability of the project to risks

Small areas of the A84 carriageway within schemes are recorded as being medium to high risk (0.5 to 10% chance each year) of surface water flooding. Works will be programmed to avoid periods of adverse weather or heavy rainfall as far as is reasonably practicable.

Works are restricted to the made ground of the A84 trunk road boundary and TM will be designed in line with existing guidance. TM will consist of single lane closures with temporary traffic lights and a convoy system. Where required, alternative NMU provisions/routes will be included in the traffic management setup, to minimise impact of the works on NMUs.

A Traffic Management Plan (TMP), which includes measures to avoid or reduce disruption to road traffic, will be produced in accordance with the Traffic Signs Manual (Department of Transport, 2009). The TMP will ensure that there is no severance of community assets, access routes or residential development.

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 identified no approved planning applications within 300m of the scheme, in the last 6 months.

A search of the Scottish Roads Works Commissioner website (Map Search) has identified that no other roadworks are noted as being planned on this area of the A84 trunk road at the same time as this scheme. Due to the timing and 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. 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.

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.

An HRA was completed and concluded that no likely significant effects (LSE) would occur on the qualifying features of the River Teith SAC due to the lack of in-water works and standard pollution prevention measures which will be employed. As such, no further assessment or consultation with NatureScot was required.

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 partially within the Loch Lomond & The Trossachs National Park and partially within the River Teith Special Area of Conservation which are sensitive areas 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 is required under the Roads (Scotland) Act 1984 (as amended by The Roads (Scotland) Act 1984 (Environmental Impact Assessment) Regulations 2017). Screening using Annex III criteria, reference to consultations undertaken and review of available information has not identified the need for a statutory EIA.

The project will not have significant effects on the environment by virtue of factors such as:

Characteristics of the scheme:

- Works are restricted to like-for-like resurfacing of the worn road surface followed by reinstatement of road markings and studs.
- Construction activities are restricted to a total length of 1,467m stretch of the A84 between the two schemes.
- The works will be temporary, transient, localised, and completed during nighttime hours on a rolling programme, with the aim being to complete the noisiest works by 23:00.
- Works are not expected to result in significant disturbance to protected species that may be present in the wider area.
- The risk of major accidents or disasters is considered to be low.
- By removing the carriageway defects this will provide this 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:

- The works will be located within the existing A84 trunk road boundary and as such, no land take will be required.

- The works are located partially within the River Teith SAC. Due to the proximity of the works and potential ecological connectivity, an HRA was produced which concluded no LSE would occur on the designated features of the SAC as a result of proposed works and no further assessment or consultation with NatureScot was required.
- The works are located within the Loch Lomond & The Trossachs National Park, however, works are restricted to like-for-like resurfacing of the carriageway and as such no change to the visual landscape or adverse impacts are expected.

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.
- 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, ecological and human receptors during the operational phase.
- As the works will be limited to the like-for-like replacement 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.
- 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.
- In the event that INNS are found on site, measures to prevent potential INNS spread will be implemented.

References of supporting documentation

F565 Habitats Regulations Appraisal (HRA): A84 Callander South End & A84 South of Keltie Bridge (Combined).

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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