



**TRANSPORT
SCOTLAND**
CÒMHDHAIL ALBA

Environmental Impact Assessment Record of Determination

A84 Kilmahog Woollen Mill

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Project Details

Description

BEAR Scotland has been commissioned by Transport Scotland to carry out drainage works at the A84 Kilmahog Woollen Mill culvert approximately 0.5km northwest of Callander.

The proposed works include the construction of a new 3m long, 1m diameter culvert to extend the existing 450mm culvert. The construction of a new mass concrete headwall (using Type 2 ST4) at the outlet of the new culvert and the backfill of general fill material above the new culvert to the height of the existing kerb line. Kerbs will be replaced, and a new four rail fence will be constructed to replace the existing fence once the new culvert has been completed and backfilled.

The scheme is 70m in length with a total area of 0.015ha.

The works are currently programmed to be completed within the 2024/2025 financial year over 5 days by utilising a daytime working hours (08:00 – 16:00). If the programme changes, there may be a requirement for night-time working.

Traffic management (TM) is currently anticipated to consist of lane closures facilitated by temporary traffic lights and convoy working. Access to nearby commercial premises and pedestrian facilities will be maintained.

Location

A84 Killmahog Woollen Mill culvert is channelled below the A84 carriageway approximately 0.5km northwest of Callander in the Stirling Council area (Figure 1) (National Grid References: [NN 61271 08239](#) - [NN 61213 08232](#)).



Figure 1. Scheme location. Source: UK Grid Reference Finder. © OpenStreetMap. Copyright © 2012-2024 Apple Inc.

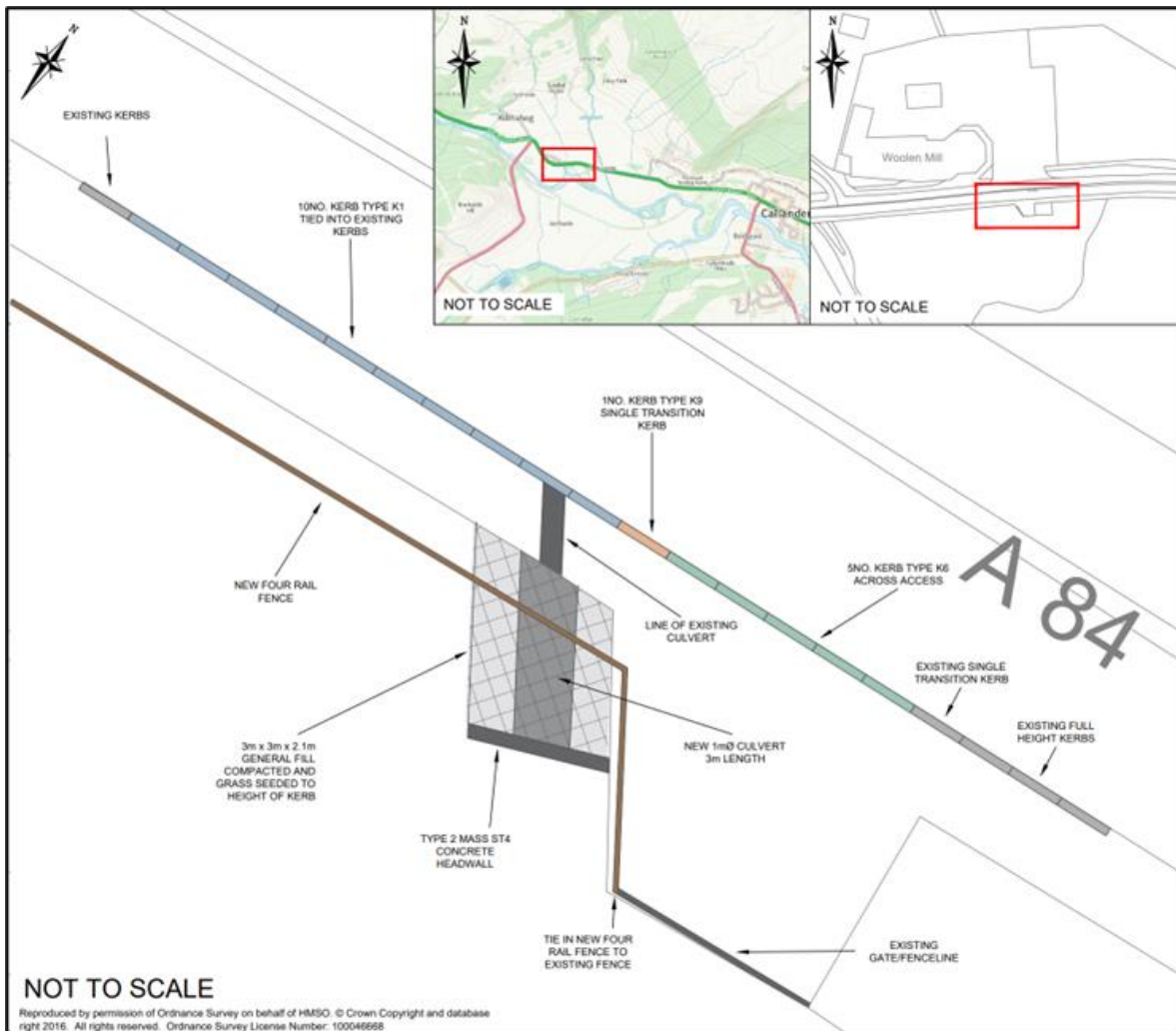


Figure 2. Scheme location showing area of works and design. Source: Asset Management Performance System (AMPS). © Europa Technologies Ltd. Contains Ordnance Survey data © Crown copyright and database right 2018.

Description of local environment

Air quality

There are no Air Quality Management Areas (AQMA) ([Air Quality Management Areas](#)) within 300m of this scheme. The nearest AQMA to the scheme '[Perth Nr 2 - Crieff AQMA](#)' lies 29km northeast of the scheme and is declared for nitrogen dioxide (NO₂) and particulate matter (PM₁₀).

There are no air quality monitoring sites located directly within the scheme. The closest monitoring site is located within the Crieff, 29km northeast of the scheme. ([Scottish Air Quality](#)).

There are no air pollutant releases listed on the Scottish Pollutant Release Inventory (SPRI) ([Scotland's Environment](#)) within 10km of the scheme extents.

Baseline air quality for this scheme is primarily influenced by traffic along the A84 trunk road. Secondary sources are likely derived from activities within nearby business premises and day-to-day land agricultural management activities.

Cultural heritage

A search of PastMap mapping tool ([PastMap](#)) identified the following cultural heritage features within 300m of the scheme:

- Listed Buildings:
 - Kilmahog, Woollen Mill LB4017 (category C) – lies 85m northwest of the scheme.
 - Kilmahog, Shildaig LB4019 (category C) – lies 8m north of the scheme.
- Scheduled Monuments:
 - Bochastle Roman Fort, Temporary Camp And Prehistoric Enclosures SM2389 – lies 110m south of the scheme.
- Numerous Historic Environment Records (HERs). The nearest of these is located 'Kilmahog, Shildaig' lies 8m north of the scheme. This feature is also noted as a Listed Building and Camore.
- Numerous Canmore features. The nearest of these is 'Kilmahog, Shildaig' and lies 8m north of the scheme.

There is no connectivity between the scheme extents and noted cultural heritage features. The nearest of these is the Listed Building 'Kilmahog, Shieldaig' (also a Canmore feature and HER), which lies 8m north of the scheme.

There are no records of other cultural heritage features such as World Heritage Sites, Conservation Areas, Garden and Designed Landscapes or Inventory Battlefields within 300m of the scheme extents ([PastMap](#)).

The works are confined to the A84 Kilmahog Woollen Mill culvert and the A84 carriageway. Furthermore, there are no cultural heritage features present within the scheme extents and construction of the A84 carriageway and the culvert 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 scheme extents is located within Loch Lomond and Trossachs National Park (LLTNP) ([SiteLink](#)), which has the following special qualities:

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

The scheme is not located within a National Scenic Area ([Sitelink](#)).

The scheme extent lies within landscape surrounded by pastoral and arable fields of agricultural land. Some woodland and rough grassland lies directly south of the scheme.

The [Landscape Character Type](#) (LCT) within the scheme extent is recorded as Straths and Glens (LCT No. 253), which has the following key characteristics:

- 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.

The A84 Trunk Road 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 a distance of 44.7 kilometres to its junction with the A85 in Lochearnhead. The A84 is a single carriageway along its length.

Biodiversity

The [River Teith Special Area of Conservation](#) (SAC) (SiteLink: NatureScot Site Code: 8367) lies 225m downstream of the scheme extents (70m south of the scheme if measured in direct line).

Connectivity exists due to the location of the scheme upstream of the River Teith SAC. As such, a Habitats Regulations Appraisal (HRA) was undertaken (supported by NatureScot consultation) to assess the potential effects of the proposed works on the qualifying features of the above site. Details of this are provided within the 'environmental impacts and proposed mitigation' section for Biodiversity below.

There are no other biodiversity sites of local or national significance located within 300m of the scheme ([SiteLink](#)).

Numerous records of bird species were returned within 2km of the works by using NBN search (within the last 10 years).

The NBN Atlas highlighted one record of American skunk-cabbage (*Lysichiton americanus*), which is an invasive non-native species (INNS) of plants as listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (WCA). There are no records of injurious weeds, as listed under the Weeds Act 1959, or invasive native perennials, as listed in the Trunk Road Inventory Manual by using NBN search within 2km (within the last 10 years).

Transport Scotland's Asset Management Performance System (AMPS) did not note any records of INNS, invasive native plant species or injurious weeds within 300m of the scheme.

The habitat directly south of the scheme is dominated by marshy grassland with considerable amount of broadleaved trees present. Freshwater is provided by Garbh Uisge/River Leny which lies beyond the marshy/wooded area approximately 70m downstream from the culvert. Habitat north of the scheme and further afield to south, east and west is restricted due to presence of agricultural fields.

There are no woodlands in proximity to the scheme which are listed on the Ancient Woodland Inventory (AWI) maps ([Scotland's Environment](#)).

There are no trees covered by the Tree Preservation Orders (TPOs) within 300m of the scheme ([Stirling Council](#)).

Ecological Surveys

Forth River Consulting Ltd, on behalf of BEAR Scotland, has undertaken a Preliminary Ecological Appraisal (PEA), including a Phase 1 Habitat Survey and Ecological Scoping Survey, on 19th March 2024 to facilitate the works at the A84 Kilmahog Woolen Mill culvert. One Bat Preliminary Roost Assessment (PRA) was undertaken by BEAR Scotland NW Environmental team also on 19th March 2024.

Geology and soils

The scheme does not lie within 300m of a Geological Conservation Review Site (GCRS), or a geologically designated Site of Special Scientific Interest (SSSI) ([NatureScot Sitelink](#)).

The bedrock geology for the scheme extents is part of the Craig of Monievreckie Conglomerate formation (conglomerate), which is a sedimentary bedrock ([BGS](#)).

Superficial deposit is recorded as sedimentary superficial deposits of River Terrace deposits (gravel, sand, silt and clay) ([BGS](#)).

The major soil group found within the scheme is alluvial soils ([Scotland's Soils](#)).

Soils within the scheme extent are recorded as being 'Class 0', as displayed on Scotland's Peat Map. Class 0 is considered to be mineral soil, and peatland habitats are not typically found on such soils.

Material assets and waste

The proposed works are required to improve existing drainage assets and reduce maintenance requirements for existing culvert and increase ease of access to culvert as current culvert has limited access. The works will require the following materials:

- 1m precast concrete/uPVC pipe,
- ST4 mass concrete headwall,
- 18.9m³ general fill
- 50m four rail timber fence
- 16no. precast concrete kerbs (various heights)

The value of the scheme does not exceed £350,000; therefore, a Site Waste Management Plan (SWMP) is not required.

Waste from dredging within the waterbody carried by the culvert will be side casted under SEPA Paragraph 25 exemption – [The Deposit of Dredging Wastes](#).

Noise and vibration

Properties within 300m of the scheme are described below under 'Population and Human Health'.

The scheme is not located within a Candidate Noise Management Area (CNMA) as defined by the Transportation Noise Action Plan ([TNAP](#)).

Scotland's strategic noise maps shows no data regarding the noise at the scheme extents ([Scotland's Noise Scotland's Environment](#)). However, due to the rural location of the scheme and low traffic vehicle count, it is expected that the noise levels at the scheme are relatively low.

Population and human health

The scheme extents are within a semi-rural area with five residential properties and two commercial premises located within the 300m of the scheme. The nearest of these is a clothing shop 'Trossachs Woollen Mill' which is located 8m north of the scheme. Properties further afield are afforded screening by tree belts.

A pedestrian footpath lies adjacent to the eastbound of the A84 at the scheme extents and an entrance to the 'Trossachs Woollen Mill' shop is located directly opposite the scheme extents.

There are no core paths ([Scotland's Environment](#)), walking routes as listed on WalkHighlands ([WalkHighlands](#)) or National Cycle Network (NCN) routes ([Sustrans](#)) within 300m of the scheme.

Road drainage and the water environment

The culvert, at the scheme extents, carries a small, minor and unnamed watercourse (unclassified, although visible on a 1:50,000 scale [Ordnance Survey \(OS\) map](#)) which flows for 70m downstream of the culvert before discharging into the Garbh Uisge/River Leny (ID: 4718). The Garbh Uisge/River Leny is a river in the River Forth catchment of the Scotland river basin district. The main stem is approximately 6.2 kilometres in length. The Garbh Uisge/River Leny has been assigned a Water Framework Directive 2000/60/EC (WFD) overall classification of 'Good' ([SEPA](#)).

A mill lade (unclassified) and a number of minor tributaries and drainage channels lie within 300m of the scheme.

The works lie on the 'Callander' and 'Teith and Forth Valleys' groundwaters, which have been classified by the SEPA as 'Good' and are also Drinking Water Protected Areas ([DWPA](#)) (ground).

The SEPA indicative water online [flood mapping](#) tool records that the culvert within the scheme extent is subjected to a medium likelihood of fluvial flooding; each year the culvert has 0.5% likelihood of flooding.

Climate

The Climate Change (Scotland) Act 2009 sets out the target and vision set by the Scottish Government for tackling and responding to climate change ([The Climate Change \(Scotland\) Act 2009](#)). The Act includes a target of reducing CO2 emissions

by 80% before 2050 (from the baseline year 1990). The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 amended the Climate Change (Scotland) Act 2009 to bring the target of reaching net-zero emissions in Scotland forward to 2045 ([Climate Change \(Emissions Reduction Targets\) \(Scotland\) Act 2019](#)).

The Scottish Government has since published its indicative Nationally Determined Contribution (iNDC) to set out how it will reach net-zero emissions by 2045, working to reduce emissions of all major greenhouse gases by at least 75% by 2030 ([Scotland's contribution to the Paris Agreement: indicative Nationally Determined Contribution - gov.scot \(www.gov.scot\)](#)). By 2040, the Scottish Government is committed to reducing emissions by 90%, with the aim of reaching net-zero by 2045 at the latest.

Transport Scotland is committed to reducing carbon across Scotland's transport network and this commitment is being enacted through the Mission Zero for Transport ([Mission Zero for transport | Transport Scotland](#)). Transport is the largest contributor to harmful climate emissions in Scotland. In response to the climate emergency, Transport Scotland are committed to reducing their emissions by 75% by 2030 and to a legally binding target of net-zero by 2045.

Policies and plans

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

Description of main environmental impacts and proposed mitigation

Air quality

Construction activities associated with the proposed works have the potential to temporarily cause local air quality impacts. The main sources are likely to be dust generated by dredging and breaking-out works 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 air are considered to be low.

- Ancillary plant, vehicles and non-road mobile machinery (NRMM) will have been regularly maintained, paying attention to the integrity of exhaust systems. These will also be switched off when stationary to prevent exhaust emissions (e.g., there will be no idling vehicles).
- Cutting, grinding, and sawing equipment (if required) will be fitted or used in conjunction with suitable dust suppression techniques e.g., local exhaust ventilation system that fits directly onto tools.
- Regular monitoring (e.g., by engineer or Clerk of Works) will take place when activities 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) minimizing cutting and grinding on-site, (b) reducing the 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 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. People, ancillary plant, vehicles, NRMM and materials are restricted to the boundary of A84 and the waterbody which carries a small, minor and unnamed watercourse under the A84, and construction works are of a short duration (5 days). As such, the temporary visual impact during the works will be somewhat reduced.

Following the completion of the works, the culvert will be extended, kerbs renewed, and fencing installed which will have a minor visual impact on the local landscape. However, the scheme design is in accordance with the visual character of the A84 trunk road corridor and therefore any changes will be minor and within the existing road infrastructure. LLTNP will be notified of the proposed works and advised of the design in advance of the works.

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.
- LLTNP advice, if received, will be complied with.
- 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

River Teith SAC, which is noted for a variety of fish species, is located 225m downstream from the scheme extents (70m south of the scheme if measured in direct line).

The works will involve activities which may risk disturbance/pollution to these features; concrete is toxic to aquatic life due to the pH changing abilities of lime (which is a major component of concrete). Silt and other surface water run-off, and accidental pollution incidents such as windblown litter and fuel and oil discharges can harm aquatic plants and animals, including fish. In addition, the works within the watercourse have potential to physically limit fish movement.

Working methods have been designed to limit potential pollution events and will utilise a number of mitigation measures such as silt fencing for any works within the waterbody. Additional mitigation measures are given below which will be in place during the works. Consultations with the Forth District Salmon Fishery Board have been undertaken and NatureScot will be consulted. Surveys to date also noted that the waterbody is unlikely to facilitate fish at the scheme extents; and the works are minor and unlikely to cause notable disturbance to fish species downstream of the culvert. Advice from the FDSFB, NatureScot and environmental sub-contractors will be complied with as far as is reasonably practicable. Any changes to the works scope or mitigation measures will be communicated with the FDSFB and NatureScot. Therefore, impact to the fish interests of the River Teith SAC have been fully assessed and are not likely, and have been considered within the associated HRA.

A HRA was carried out to assess the risk of potential effects on the SAC. The HRA concluded that although the works have the potential for LSE on the qualifying features of the River Teith SAC, the works would not result in any adverse effects on site integrity (AESI) due to the following reasons (applicable to all qualifying features):

- The works are undertaken on the culvert carrying a minor unnamed waterbody 225m upstream of the SAC, and as such any potential pollution incidents will have a high dilution factor before reaching the SAC which in turn will reduce negative impact on the environment.
- Given the minor and localised nature of the works and the distance from the SAC, and adherence to good practice measures for pollution prevention, no risk of significant pollution impacts were identified.

- The works will be undertaken out of the fish spawning season (October to May inclusive) and fish rescue will be undertaken (if identified necessary during the electrofishing survey).
- Silt fencing, silt matting, and silt wattles, or similar silt mitigation, will be used on site to prevent sedimentation travelling downstream of the scheme extents.

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 culvert, 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 and the scheme is of short duration (5 days) and will be undertaken on a daytime working pattern. The potential for significant species disturbance within the area of likely construction disturbance is therefore considered to be low.

Although the presence of American skunk cabbage, an INNS, was confirmed during the field survey being approximately 35m south of the scheme, the works will be restricted to the A84 culvert and will not encroach into potential disturbance area for the INNS. Therefore, it is unlikely that any injurious or invasive weeds will be encountered during 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 are considered to be low:

- Works will be strictly limited to areas required for access and to carry out the works. Unnecessary encroachment onto terrestrial or aquatic areas will not be tolerated.
- Toolbox talk for working with INNS will be briefed to the site personnel prior to the works starting.
- All construction operatives will be briefed through toolbox talks prior to works commencing, which will be included in the SEMP. The toolbox talks will provide information on the legislation, general ecology, and best practice measures for relevant protected species.
- 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.

- A 'soft start' will be implemented on site each day. This will involve switching on vehicles and checking under/around vehicles and the immediate work area for mammals prior to works commencing to ensure none are present and that there is a gradual increase in noise.
- Any excavations, exposed pipes/drains, or areas where an animal could become trapped (e.g. storage containers) will be covered over when not in use, at the end of each shift, and following completion of the works to avoid animals falling in and becoming trapped.
- If fencing is utilised at any point during the works, a gap of 200mm from ground level will be provided, allowing free passage for mammals and preventing entrapment.

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

Although the works include minor ditching within the watercourse in preparation of culvert extension, all excavated material will be side casted. Therefore, the works are not anticipated to have an adverse impact on geology and soils. With the following mitigation measures in place, the likelihood of significant impacts on the geology and soils is low.

- Excavated material will be kept to a minimum and spread evenly within the banks of the watercourse along the scheme extents.
- The parking of machinery/vehicles 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 the waterbodies banks) will be reinstated as much as is practicable.
- Mitigation measures to prevent contamination of soils through loss of containment will be strictly adhered to
- All relevant soil management toolbox talks will be included in the SEMP and sediment control measures will be in place to prevent soil eroding into the unnamed waterbody and travelling further down to Garbh Uisge/River Leny.
- Additional pollution prevention measures as outlined in Road drainage and the water environment will be adhered to during construction.

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 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.
- Dredged material will be side casted within the banks of the waterbody under a SEPA Paragraph 25 waste exemption and in line with BEAR Scotland's Procedure 112: SUDS Feature Maintenance Operations.
- All wastes and unused materials will be removed from site in a safe and legal manner by a licensed waste carrier upon completion of the works. The appointed waste carrier will have a valid SEPA waste carrier registration, a copy of which will be provided to and retained by BEAR Scotland as early as possible.
- All appropriate waste documentation will be present on site and be available for inspection. A copy of the Duty of Care paperwork will be provided and filed appropriately in accordance with the Code of Practice (as made under Section 34 of Environmental Protection Act 1990 as amended).

- Re-use and recycling of waste will be encouraged and the subcontractor will be required to fully outline their plans and provide documentary evidence for waste arising from the works (e.g., waste carrier's licence, transfer notes, and waste exemption certificates).
- Staff will be informed that littering will not be tolerated. Staff will be encouraged to collect any litter seen on site.
- Where applicable, all temporary signage will be removed from site on completion of the works.

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

Noise and vibration

Construction activities associated with the proposed scheme have the potential to cause noise and vibration impacts through the use of equipment and construction vehicles for the proposed activities. However, the works are not located within a CNMA or CQA and the proximity of road space suggests that residents and commercial premises within the local area will have a degree of tolerance to noise and disturbance. Works will also be completed over 5 days by utilising a daytime working pattern. Noise is not likely to be a defining feature of the works based on the proposed working activities and potential to induce worst-case scenario noise and vibration will also be intermittent, temporary and short-lived.

The following mitigation measures will be put in place:

- Local residents and commercial premises which are likely to be affected by the works will be notified in advance of the works, likely by a letter drop, which will contain details of the proposed timings and duration of the works, in addition to contact details for the Site Supervisor.
- 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. 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.
- 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.
- 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 have the potential to have temporary adverse impacts on local residents, commercial receptors, vehicle travellers, and NMUs. No full road closures on A84 are currently expected. 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. In the event of local access restrictions to residential properties or commercial premises access will be granted as requested. Access to NMU facilities which lie within 300m of the scheme, will be maintained.

Multiple residential properties and commercial premises are found within 300m of the scheme. The nearest receptor, 'Trossachs Woollen Mill', lies just 8m from the scheme with no screening present and given that the works are opposite the entrance route to the shop, there is potential for disturbance from noise and vibration.

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

- The works schedule and any changes to this will be communicated to local residents prior to and throughout the programme.
- Given the proximity of urban development to the scheme extents, the Toolbox Talk TTN-042 Being a Good Neighbour will be briefed prior to works commencing.

- Appropriate provisions / measures will 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

There is potential for temporary impacts on the water environment due to operation within the unnamed watercourse, 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).

Consultation with SEPA has been undertaken and it was confirmed that a 'simple licence' will be required under The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) ('CAR'). A simple licence will be obtained prior to commencement of the works.

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:

- Any conditions outlined in obtained authorisation from SEPA will be implemented on site during the works. A copy of the SEPA CAR 'simple licence' will be retained on site and made available for inspection as required.
- All conditions of SEPA's General Binding Rules (GBRs) 6 and 9 ([The CAR Practical Guide](#)) will be adhered to during works.
- All machinery will operate from the banks of the watercourse.
- Pollution control measures, including relevant SEPA Pollution Prevention Guidelines (PPGs) and Guidance for Pollution Prevention (GPPs), as well as other good practice measures for working in or near water, will be detailed in the SEMP and adhered to on site to prevent sediment or other materials entering the water environment.
- A toolbox talk on silt and sediment containment will be delivered to all site staff as part of the site induction.

- No discharges into any watercourses or drainage systems will be permitted. Appropriate containment measures will be in place to prevent any loss of construction materials into the water environment (e.g. dust, debris, wet concrete). Any dust, concrete debris, or other materials produced during works will be contained and removed from site to be disposed of appropriately.
- Concrete works will be carried out within a dry working area. Pollution prevention measures will be in place to manage concrete (including any wash water), and prevent escape to the watercourse.
- Concrete and other materials will not be stored within the boundary of the waterbody. Site staff will take only the minimum amount necessary to carry out works in the dry working area during each work period.
- 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 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 shall 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.

Vulnerability of the project to risks

It is not expected that there will be a change of fluvial flooding within the unnamed waterbody, however it is anticipated that the fluvial flooding on the A84 at the culvert will be reduced following the works.

Works will be programmed as far as is reasonably practicable to avoid periods of adverse weather or heavy rainfall, and will ideally be undertaken during periods of low water levels.

TM will employ lane closures facilitated by temporary traffic lights and convoy working. Local residents and nearby commercial premises will be notified of working hours and provided with appropriate contact information. It is not anticipated that TM will have an impact on pedestrian routes, however pedestrians or other NMUs will be accommodated within the traffic management setup if required.

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

During construction, activities associated with the works may create several types of minor temporary disturbances such as changes to noise and vibration and air quality. However, these impacts will be temporary in nature and are not anticipated to result in a significant cumulative effect.

A search of the Stirling Council Planning Portal ([Map Search](#)) did not highlight any planning applications within 300m of the scheme.

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

BEAR Scotland programme all of their proposed works in line with appropriate guidance and contractual requirements. All schemes are programmed to take into account existing and future planned works, with a view of limiting any cumulative effects relating to TM. As a result of this exercise, where a potential for cumulative impacts is identified, BEAR will reprogramme schemes to avoid / limit any cumulative effects or will utilise existing TM to complete multiple schemes at once. This approach allows BEAR Scotland to effectively manage the potential cumulative effects as a result of TM, resulting in minimal disruption to users of the Scottish trunk road network.

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 undertaken to determine whether the works could negatively impact designated features of the River Teith SAC. The HRA concluded that the project has potential for LSE, however there will be no adverse effects on a site's integrity (AESI). The HRA has been submitted to NatureScot and Transport Scotland for the authorisation.

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) is situated in whole within the 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 EIA is required under the Roads (Scotland) Act 1984 (as amended by The Roads (Scotland) Act 1984 (Environmental Impact Assessment) Regulations 2017). Screening using Annex III criteria, reference to consultations undertaken, and review of available information has not identified the need for a statutory EIA.

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

Characteristics of the scheme:

- Works are localised to a culvert extension (including associated kerbing and fencing works) within a minor waterbody under an 'A class road' which is visible on 1:50,000 scale OS map and as such the works require SEPA Simple licence.
- Construction activities are restricted to an area of 0.015ha along a 70m stretch of the A84.

- Residual impacts are considered to be beneficial for the travelling public which may use this stretch of carriageway. In addition, extended culvert will improve the road safety following the completion of the works.
- Works are not expected to result in significant disturbance to protected species that may be present in the wider area.
- The presence of American skunk cabbage, an INNS, has been confirmed 35m south of the works. The works will not encroach areas within buffers of the INNS.
- The risk of major accidents or disasters is considered to be low.
- Measures will be in place to ensure appropriate removal and disposal of waste.

Location of the scheme:

- The works are within a watercourse which outflows into the River Teith SAC. Due to the localised, minor nature of the works and mitigation measures, no AESI are predicted as concluded within the HRA.
- The scheme extent is located within LLTNP, which will be notified of the proposed works.
- There are no GCRS or a geologically designated SSSI within 300m of the scheme extents.
- The scheme does not lie within any sites of historical, cultural, or archaeological significance.
- The scheme lies within a semi-rural area with a number of sensitive receptors (residential and commercial properties) located within 300m of the works. The nearest of these, a commercial property, has no screening.
- The site compound (if required) will be located on made ground within TM.

Characteristics of potential impacts of the scheme:

- Containment measures of the working area will be in place to prevent debris or pollutants from entering the surrounding environment.
- Residual visual impacts will be localised to the existing A84 and the culvert, and are not considered significant.
- 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 traffic safety during the operational phase.

- 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.

References of supporting documentation

Habitats Regulations Appraisal (HRA) Proforma – A84 Kilmahog Woolen Mill (BEAR Scotland, 2024).

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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