



TRANSPORT
SCOTLAND
CÒMHDHAIL ALBA

Environmental Impact Assessment Record of Determination

A82 Allt Coire Chailein
Scour Repairs

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Project Details

Description

BEAR Scotland has been commissioned by Transport Scotland to undertake a package of scour repair works at A82 Allt Coire Chailein culvert. Repairs are required to rectify scour damage and deterioration to the culvert and wing walls. The package of works will include:

- Scour repairs to concrete invert and downstream apron;
- Filling of scour holes under existing downstream wing wall footings;
- Extension of existing concrete footing of downstream wing wall to end of the wing wall to lessen effects of scour damage;
- Concrete repairs to existing wing walls to reinstate them to original thickness;
- Repair and cleaning of various joints throughout the interior of the culvert;
- Repair and/or unblocking of all drainage pipes within the culvert;
- Removal of rocky debris in watercourse on upstream end to northern bank to widen existing flow channel and reduce the velocity of water;
- Re-use of boulders removed from watercourse where possible and set in place on concrete bed with all gaps to be infilled. Rip-rap rock armour may be required;
- Installation of rock filter units or equivalent on the right-hand bank upstream of the culvert;
- Installation of rock filter units or equivalent across the width of the watercourse just below the downstream apron;
- Removal of vegetation from faces of structure and cut back from top on both sides of the culvert by a minimum of 2.5m;
- Cleaning of concrete faces of culvert and wing walls;
- Installation of three-rail timber fencing around headwall at upstream and downstream ends of culvert.

In-stream works will be required to complete scour repairs, which are currently scheduled to commence in between 1st June 2023 and 30th September 2023 for a duration of three weeks. Works will be carried out in a dry working area created by damming the watercourse upstream of the culvert and over-pumping the water through the area of works. The dam will be installed just downstream of a natural pool, which will act as a sump for stored water. Where concrete works are required, measures to ensure full containment will be adhered to in order to prevent loss of material into surface water bodies.

The site compound will be located in a large layby on the southbound carriageway of the A82 approximately 900m south of the culvert. Site access will be taken from the south along the downstream end of the culvert due to steep terrain on the upstream side of the culvert. There is a gate in the fence on this side of the A82 just south of the culvert; however, part of the fence will need to be removed to allow access for a 20-tonne excavator, which will remain on the downstream end of the culvert and will be used to move plant and materials into the working area. This 20-tonne excavator will be situated on the bank, and will not enter the natural riverbed. Access to the upstream end of the culvert will be taken by foot through the culvert and with a small 4-tonne excavator capable of passing through the culvert. Traffic management will be required to allow machines and site staff to safely access the site. Traffic management will consist of a single lane closure and will be removed/reinstated at the end/start of each work shift.

The works are necessary to rectify scour damage and deterioration of the culvert and wing walls. This will ensure that the culvert remains structurally sound and that road users remain safe. Alternatively, if repair works are not undertaken, scour damage and deterioration would continue to worsen, likely requiring far more intensive repairs in future. No alternative options to repair have been identified.

Location

The A82 Allt Coire Chailein culvert is located on the A82 trunk road north of Tyndrum in Argyll and Bute (centre point NN 32229 33778).

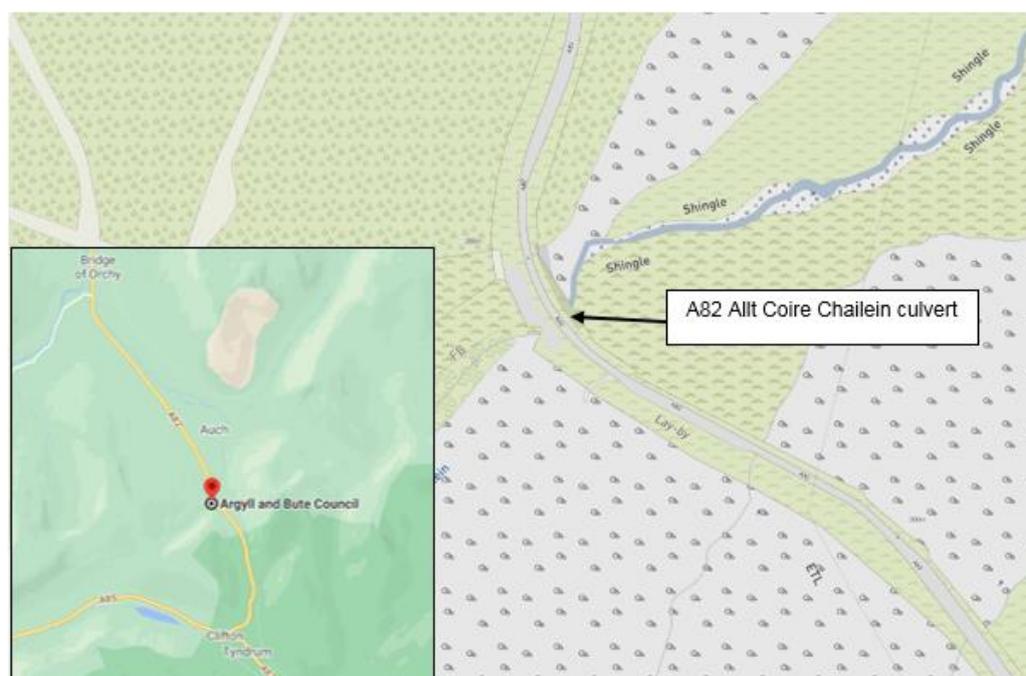


Figure 1. Location of A82 Allt Coire Chailein culvert. Source: Google Maps and Historic Environment Scotland Pastmap

Description of local environment

Air quality

The scheme is not located within any Air Quality Management Areas (AQMA). The nearest air quality monitoring site to the scheme is located in Crieff, approximately 55km east of the scheme (Air Quality Scotland). Pollution levels in the general vicinity of works are anticipated to be lower than those at the monitoring station in Crieff due to the more rural nature of the works site.

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

Baseline air quality at the scheme location is likely to be primarily influenced by traffic along the A82 trunk road.

Cultural heritage

According to Historic Environment Scotland's PastMap ([PastMap](#)), one feature listed as a Historic Environment Record (HER) is located within 300m of the scheme. The feature is a record of a 'Desk-based assessment and walkover survey: Auch Estate (Areas 2, 3 and 4), Bridge of Orchy, Argyll', which was undertaken by West Coast Archaeological Services (WoSAS) in the area adjacent to the watercourse to the south and southwest ([PastMap](#)). New sites of archaeological interest were identified by WoSAS within this walkover area (including houses, shielings, enclosures and boundary walls), however no new designations have been assigned to these features of interest.

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

Landscape and visual effects

The scheme does not lie within any area of land designated as a National Park or National Scenic Area ([SiteLink](#)). The site compound lies approximately 100m north of Loch Lomond and The Trossachs National Park (NP), however there is no connectivity with the national park.

The Landscape Character Type (LCT) within the scheme extent is Rugged Mountains (no. 35) ([Scottish Landscape Character Types](#)). The Rugged Mountains LCT is characterised by:

- Rugged, steep sided mountain ranges with a massive scale.

- Diverse landform with gullies, scarp slopes and rocky screes.
- Striking exposed rock faces, with scrubby birch-oak woodland in gullies.
- Relatively wide glens between mountain ranges.
- Fast-flowing burns, waterfalls and small upland lochs are distinctive features.
- Extensive conifer forests on some lower slopes.
- Inaccessible and relatively uninhabited, with strong wildness qualities.
- Dramatic mountain scenery.

The scheme lies within a rural area, approximately 3.5km north of Tyndrum. The culvert is surrounded by alpine and subalpine grassland to the east, west, and south, and coniferous woodland to the north. Heathland is present further west ([Scotland's Environment](#)).

Commercial forestry plantation is located to the northwest of the culvert. Recreation such as hill-walking also takes place in the area (e.g. along the West Highland Way).

Biodiversity

No sensitive areas relating to biodiversity were noted within 300m of the proposed works area or site compounds (excluding Loch Lomond and The Trossachs NP, see Landscape and visual effects above).

The NBN Atlas holds records of numerous bird species within 2km over a 10-year period. Under the Wildlife and Countryside Act 1981, all wild birds and their active nests are protected ([NBN Atlas](#)).

The NBN Atlas holds no records of invasive non-native species (INNS) of plant, using the same search criteria ([NBN Atlas](#)). The following injurious weeds, as listed under the Weeds Act 1959, and invasive native perennials, as listed in the Trunk Road Inventory Manual were recorded ([NBN Atlas](#)) under the same search criteria:

- Creeping thistle (*Cirsium vulgare*)
- Common ragwort (*Jacobaea vulgaris*)
- Broad-leaved dock (*Rumex obtusifolius*)
- Curled dock (*Rumex crispus*)
- Rosebay willowherb (*Chamerion angustifolium*)

The nearest of these records lies approximately 400m from the proposed works. Transport Scotland's Asset Management Performance System (AMPS) holds no records of INNS or injurious weeds along the A82 within 300m the scheme extent. Habitats surrounding the A82 610 Allt Coire Chailein bridge are dominated by grassland/heathland. Narrow bands of woodland border the A82 for approximately

50m on either side of the bridge. There is also riparian habitat which follows the course of the Allt Coire Chailein watercourse. Further afield, there is approximately 220ha of coniferous woodland plantation which lies 100m northwest of the bridge (at its nearest point).

Habitats surrounding the site compound are dominated by grassland/heathland. There is also riparian habitat which follows the course of the Allt Slochd An T-seipine watercourse.

Field Surveys

A site visit was carried out by the BEAR NW Environment Team on 4th March 2020 and an updated site visit was carried out on 15th of June 2022. Results from the most recent survey are as follows:

- The culvert was assessed as having negligible bat roost potential for both summer and winter due to lack of potential roost features.
- No trees with bat roost potential were identified within 50m of the culvert. While the culvert is surrounded by woodland these are limited to semi-mature willows and birches which show no suitable roosting features.
- No protected species signs or resting places were recorded during the visit and the habitat surrounding the culvert did not contain suitable structure for resting places.
- The watercourse again appeared unsuitable for fish passage due to extensive bedrock channels and small waterfalls.
- The scrub and woodland surrounding the scheme provide ample space for potential nesting birds both upstream and downstream of the culvert.
- The culvert, within which two bird nests were previously recorded, could not be examined internally to check for bird nests due to high water levels at the time of survey. .
- No INNS or injurious weeds were noted during the survey.

Geology and soils

The scheme lies wholly within Allt Coire Chailein SSSI which is designated for fluvial geomorphology of Scotland ([SiteLink](#)). This site is also designated as a Geological Conservation Review Site (GCRS) ([SiteLink](#)).

Bedrock within the scheme extents is comprised of Auch Gleann Psammite Formation - Psammite, which is a metamorphic bedrock of sedimentary origin ([BGS GeolIndex](#)). Superficial deposits within the scheme extent are comprised of Till and Morainic Deposits (undifferentiated) – Diamicton, Sand, and Gravel, which are sedimentary deposits ([BGS GeolIndex](#)).

Soils within the scheme extent are recorded as peaty podzols ([Scotland's Soils](#)).

Material assets and waste

The following materials will be used to complete scour repair works:

- 1.2m-high three-rail fencing with timber posts (18 posts in total)
- In situ concrete mix for repairs on culvert apron (21m³)
- Normal flow concrete for repairs to wing walls (3m³)
- Sprayed concrete for repairs to wing walls (3m³)
- Straight and curved formwork for concrete repairs (30m²)
- Fabric structural reinforcement mesh for wing walls (30m²)
- Polysulphide joint sealant (42m)
- Filter unit rock bags or equivalent (20m³)
- Rip-rap rock armour (7m³)

Waste materials will comprise old concrete and vegetation removed from the culvert. Expected waste is categorised below along with estimated amounts to be reused or removed from site to licensed facilities.

Site clearance

- Undergrowth/vegetation – 78m² area to be cleared of undergrowth from steep inclines around structure; waste removed from site.
- Moss/vegetation – 104m² surface area of culvert faces and wing walls to be cleaned of moss and vegetation; waste removed from site.
- Existing fence (x1) and associated debris overhanging the culvert to be removed from site.
- Excavated soil – 1m³ removed from site during installation of new timber fence posts.

Culvert repairs

- Excavated Class U1A or U1B unacceptable material – removal of 10m³ broken concrete from the existing structure; waste removed from site.
- Excavated Class 5A material – 10m³ removed from site.
- Excavated boulders and rocky debris in watercourse – 5m³ to be reused as scour protection along wing walls.
- Existing joint sealant – 42m to be removed from site.

A Site Waste Management Plan (SWMP) is not required for the scheme.

Noise and vibration

Works are not located within a Candidate Noise Management Area (CNMA) ([Transportation Noise Action Plan](#)).

Baseline noise data is unavailable for the scheme location ([Scotland's Noise Scotland's Environment](#)). Baseline noise levels at the scheme location are likely to be primarily influenced by traffic along the A82 trunk road.

Population and human health

There are no residential or commercial receptors within 300m of the scheme.

The West Highland Way walking route and core path passes the scheme along the Old Military Road approximately 490m east of the scheme ([Scotland's Environment](#)).

There are no routes listed on the National Cycle Network (NCN) ([OS Maps](#)), or [WalkHighlands](#), and no local footpaths or other community facilities within the scheme extent.

The nearest traffic count point (ID 40764) on the A82 is located approximately 2.7km south of the scheme ([Road traffic statistics](#)). Vehicle count data taken from this point in 2021 shows an Average Annual Daily Traffic (AADT) count of 5,181 motor vehicles, of which 182 (4%) were heavy goods vehicles ([Road traffic statistics](#)).

Road drainage and the water environment

There are no classified surface waterbodies culverted beneath or which lie within 300m of the scheme extents or site compound ([SEPA water environment hub](#)). The Allt Coire Chailein watercourse that flows under the A82 at the bridge is unclassified by SEPA but is shown on the [1:50,000 OS map](#). Allt Coire Chailein outflows into the Allt Kinglas watercourse approximately 2km north of the scheme. The Allt Slochd an t-Seipine watercourse is spanned by the A82 approximately 10m north of the site compound.

Allt Kinglas was classified by SEPA in 2018 as having 'moderate ecological potential'. It has been designated as a heavily modified water body on account of physical alterations that cannot be addressed without significant impact on water storage for hydroelectricity generation.

The scheme falls within the 'Upper Glen Coe' groundwater body which has been classified as 'Good' and is also a Drinking Water Protected Area (Ground) ([SEPA water classification hub](#)).

The trunk road, within the scheme extents, is not at risk of surface water flooding ([SEPA Flood Map](#)).

Climate

The Climate Change (Scotland) Act 2009 sets out the target and vision set by the Scottish Government for tackling and responding to climate change ([The Climate Change \(Scotland\) Act 2009](#)). The Act includes a target of reducing CO2 emissions by 80% before 2050 (from the baseline year 1990). The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 amended the Climate Change (Scotland) Act 2009 to bring the target of reaching net-zero emissions in Scotland forward to 2045 ([Climate Change \(Emissions Reduction Targets\) \(Scotland\) Act 2019](#)).

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

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

Policies and plans

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

Description of main environmental impacts and proposed mitigation

Air quality

During scour repair works, there is potential for short-term negative impacts on air quality. Activities undertaken on site may cause dust and particulate matter to be emitted to the atmosphere. However, considering the nature and small scale of the works as well as the following mitigation measures, the risk of significant impacts to air quality are considered to be low.

- Prior to works commencing a containment system will be put in place to prevent the loss of any materials (e.g. dust, debris, wet concrete and water) from activities such as concrete pouring and repairs. The integrity of the containment system shall be checked frequently (at least daily) and should containment fail, operations will cease immediately, and necessary repairs undertaken.
- All plant, machinery and vehicles associated with the scheme will be maintained to the appropriate standards and will be switched off when not in use.
- The movement of dusty material will be minimised by appropriately planning material movements.
- All delivery vehicles carrying material with dust potential will be covered when travelling to or leaving site, preventing the spread of dust beyond the work area.
- Material stockpiles will be reduced as much as reasonably practicable by using a 'just in time' delivery system.
- Materials required within the area of works will be transported only as required. No stockpiling will occur within the dry working area within the watercourse boundary.
- Any materials transported into the area of works will be temporarily situated on or within appropriate containment systems until ready for use.
- Any stockpiled material on site will be monitored daily to ensure no risks of dust emissions exists. Where a risk of dust emissions exists from stockpiles, these are to be dampened down. This is likely to require the use of mobile water bowsers.
- Cement bags will remain closed when not in use to prevent cast-off to the surrounding environment.
- Materials shall be removed from site as soon as is practicable.
- Good housekeeping will be employed throughout the work.
- A designated laydown area will be established at the site compound location.

- All construction activities will operate in line with good practice measures for construction as outlined in the SEMP associated with the proposed works are unlikely to be significant. This receptor is not considered further in this Record of Determination (RoD).

Cultural heritage

Scour repair works are not expected to have an adverse impact on cultural heritage. Only one feature of cultural heritage interest is recorded within 300m of the scheme, and it is a record of a walkover survey area. Although the feature is adjacent to the scheme on the southwest end of the working area, the risk of significant impacts to cultural heritage is considered to be low provided that the following mitigation measures are in place. A further 7 historical environment records (HERs) and two records listed on the Canmore database are located within 300m of the site compound. None of these features have connectivity with the proposed site compound.

- Any excavations will be localised around the culvert and associated watercourse and banks. As such, excavations are not likely to encounter or expose any undesignated features associated with the WoSAS walkover survey (including houses, shielings, enclosures and boundary walls).
- People, plant, and materials shall, as much as is reasonably practicable, only be present on areas of made / engineered ground. Where access outwith these areas is required for the safe and effective completion of the scheme, it shall be reduced as much as is reasonably practicable and will ideally be limited to access on foot. Where plant/equipment is required outwith areas of made ground (i.e. during transport of materials into the works area), this will be undertaken only as required, and using the minimum amount of access routes.
- There shall be no storage of vehicles, plant, or materials against any buildings, walls or fences.
- All site personnel are to be briefed on the importance of archaeological finds and are instructed, as part of the site induction, to inform the site supervisor where potential finds are made.
- Should any unexpected archaeological evidence be discovered, works will stop temporarily in the vicinity and the BEAR Scotland Environment Team contacted for advice.

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

Landscape and visual effects

No land take is required for the completion of works however the field to the east of the bridge will be used for access and a section of fence bordering this field will be removed. As such, there is potential for minor, temporary adverse impacts during scour repair works as a result of damage to roadside verges/the adjacent field, littering, removal of the fence or obstructed views due to vehicles and machinery. Considering the nature and small scale of works and with the following mitigation measures in place, the risk of significant impacts to land are considered to be low:

- 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 is not permitted. This includes general works, storage of equipment/containers and parking.
- Where applicable, upon completion of the works, any damage to the local landscape (i.e. damage to grass verges of the A82 or adjacent field used for access) shall be reinstated as much as is practicable.
- The removed section of fencing will be re-instated.

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

Biodiversity

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

The scheme is located within Allt Coire Chailein SSSI and associated GCRS, both designated for fluvial geomorphology (see Geology and Soils below).

The scheme is not situated within or immediately adjacent to any other Statutory Designated Sites e.g. SAC, SPA, Ramsar, NNR, etc.

Terrestrial Ecology

The culvert was assessed as having negligible bat roost potential for both summer and winter and no trees with bat roost potential were identified in the survey area. Although evidence of protected species was recorded on site, no resting places were identified within 200m of the works. No evidence of other protected mammals or

invasive non-native plants was recorded. Previous evidence of nesting birds was recorded on site.

Pollution controls and good practice measures to reduce impacts of works on the local environment will be detailed in the Site Environmental Management Plan (SEMP) and adhered to on site. Any protected species in the area are likely to be accustomed to road noise on the A82 and the nearby railway line, and the scheme is of short duration. Therefore, with the following mitigation measures in place, the risk of significant impacts on biodiversity are considered to be low:

- Works will be strictly limited to areas required for access and works. Unnecessary encroachment onto terrestrial or aquatic areas will not be tolerated.
- If works will take place during the breeding bird season (March to August inclusive), nesting bird checks will be undertaken two weeks prior and within 48 hours of works commencing.
- 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.
- Site personnel shall remain vigilant for the presence of any protected species throughout the works period. Should a protected species be noted during construction, works shall temporarily halt until the species has sufficiently moved on. Any sightings of protected species shall be reported to the BEAR Scotland Environmental Team.
- Where possible, works shall be carried out during daylight hours. If artificial lighting is required, it shall be directed away from road verges, woodland, and waterbodies as far as is safe and reasonably practicable.
- A 'soft start' will be implemented on site each day. This will involve switching on vehicles and checking under/around vehicles and the immediate work area for mammals prior to works commencing to ensure none are present and that there is a gradual increase in noise.
- Any excavations, exposed pipes/drains, or areas where an animal could become trapped (e.g. storage containers) will be covered over when not in use, at the end of each shift, and following completion of the works to avoid animals falling in and becoming trapped.
- If fencing is utilised at any point during the works, a gap of 200mm from ground level will be provided, allowing free passage for mammals and preventing entrapment.
- Site personnel shall remain vigilant for the presence of INNS in proximity to the works throughout the works period. Should any INNS be identified in working areas, no works are permitted to take place within 7m of these areas until the BEAR Scotland Environmental Team have provided further advice.

- Suitable passage for semi-aquatic species under the bridge (both upstream and downstream) will be maintained for the duration of works.

Aquatic Habitat & Fish Populations

Due to the requirement for in-stream works to complete scour repairs, there is potential for works to impact aquatic habitat and fish populations. Consequently, advice was sought from the Argyll District Salmon Fishery Board (DSFB) and Argyll Fisheries Trust. Works will be carried out outwith the sensitive period for salmonids. In addition, the following mitigation measures will be in place during works to reduce the risk of impacts on aquatic habitat and fish populations:

- In-stream works will be completed between 1st June 2023 and 30th September 2023.
- All conditions of SEPA's General Binding Rules (GBRs) 6,9, and 13 ([The CAR Practical Guide](#)) will be adhered to during works.
- Relevant SEPA Pollution Prevention Guidelines (PPGs) and Guidance for Pollution Prevention (GPPs) will be strictly adhered to.
- Works will take place within a dry working area.
- Argyll DSFB and Argyll Fisheries Trust have stated they have "no specific concerns over the site itself in terms of fish spawning habitat". As such fish rescue is not required to establish the dry working area.
- Works (once completed) shall not impede the passage of substrates from upstream of the culvert to downstream.
- No discharges into the water environment are permitted and containment measures will be in place to ensure this, particularly in regard to wet cement.
- All mitigation measures listed under the 'Water' heading below will be followed to reduce the risk of pollution and other impacts to the water environment.
- Good practice measures will be detailed in the SEMP and adhered to on site.

Due to the requirement for in-stream works and consultation with Argyll DSFB and Argyll Fisheries Trust, this receptor is considered further in the 'Assessments of the Environmental Effects' section below.

Geology and soils

There is potential for scour repair works to impact the protected geological features in Allt Coire Chailein SSSI; consequently, consent from NatureScot was determined to be required to allow works to proceed within the SSSI and was granted by NatureScot on 10th June 2021. This SSSI consent does not have an expiry date

provided the scope of works remains unchanged. In addition, the following mitigation measures will be in place during works to reduce the risk of impacts to the SSSI:

- Works will be strictly limited to areas required for access and repair works. Unnecessary encroachment onto terrestrial or aquatic areas will not be tolerated.
- Machinery required for works will only enter the SSSI as needed and will be stored outwith the SSSI when not in use.
- Ground works in the SSSI will be limited to works on the concrete culvert structure and minor excavation of soil to install new fencing above the culvert. These activities will not affect the sensitive geological features in the SSSI associated with the watercourse.
- The site compound and designated storage areas will be located outwith the boundary of Allt Coire Chailein SSSI.

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:

- Boulders removed from the watercourse will be appropriately stored for reuse on site (as rock armour).
- 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.

- Concrete washout will not be discharged on to the ground, drains or watercourses. After concrete works, any residual concrete wash water will be collected and removed from site as contaminated water. All waste will be removed from site to a licenced facility.
- All wastes and unused materials will be removed from site 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 shall be provided and filed appropriately in accordance with the Code of Practice (as made under Section 34 of Environmental Protection Act 1990 as amended).
- Re-use and recycling of waste 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.
- Special waste will not be mixed with general waste and/or other recyclables. Any contaminated ground as a result of the works will be removed and transferred off site as special waste.

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

Noise and vibration

Construction activities associated with the proposed scheme works have the potential to cause noise and vibration impacts through the use of equipment and construction vehicles for the proposed activities. There are no residential properties within 300m of the scheme, however there is potential for members of the public and protected species to be present in the surrounding environment. The proposed scheme is anticipated to result in temporary minor adverse noise impacts. The following mitigation measures will be put in place:

- The Best Practice Means, as defined in Section 72 of the Control of Pollution Act 1974, will be employed at all times to reduce noise to a minimum.

- On-site construction tasks shall be programmed to be as efficient as possible, with a view to limiting noise disruption.
- All site personnel will be fully briefed in advance of works regarding the need to minimise noise during works and of the site-specific sensitivities.
- All plant, machinery and vehicles will be switched off when not in use.
- All plant will be operated in such a way that minimises noise emissions and will have been maintained regularly to the appropriate standards.
- Where fitted, and where permitted under Health and Safety requirements, white noise reversing alarms shall 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 delays due to traffic management measures. There are no residential or commercial receptors within 300m of the scheme. Road users will be informed of works through a media release, which will provide details of construction dates and times. The works will be of short duration. With the following mitigation measures in place, the risk of significant impacts on population and human health is considered to be low:

- Where possible, works shall be carried out during daylight hours.
- Layby closure (required for placement of site compound) will be sign-posted on approach.
- Appropriate provisions / measures shall be implemented within the traffic management to allow the safe passage of NMUs of all abilities through the site.
- Journey planning information will be available for drivers online at the trafficscotland.org website. Journey planning information will also be available for drivers online through BEAR's social media platforms.
- The landlord of the field adjacent the bridge, through which the site will be accessed, will be notified prior to works commencing and kept up to date with the works progression.

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

Road drainage and the water environment

During scour repairs works, there is potential for temporary adverse impacts on the water environment due to the requirement for in-stream works and the risk of pollution incidents. Potential contaminants include fuel and oils from mechanical plant and dirty water run-off from the construction site. Consultation carried out with SEPA confirmed that a CAR Registration was required to allow in-stream works to proceed. The CAR Registration CAR/R/SEPA2021-415 was issued by SEPA on 22nd July 2021. Standard working practices to comply with The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) for works in or near water will be detailed in the Site Environmental Management Plan (SEMP) and adhered to on site. These measures include the following:

- All in-stream works will be completed between 1st June 2023 and 30th September 2023.
- All conditions of the CAR Registration (CAR/R/SEPA2021-415) issued by SEPA will be complied with. A copy of the CAR Registration will be retained on site and made available for inspection as required.
- All conditions of SEPA's General Binding Rules (GBRs) 6,9, 10b, and 13 ([The CAR Practical Guide](#)) will be adhered to during works.
- 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 are permitted and appropriate containment measures must 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 must be contained and removed from site to be disposed of appropriately.
- In-stream works will be carried out within a dry working area created by damming the watercourse and over-pumping through the site. The contractor is responsible for designing and implementing the dry working area and will provide a method statement for review prior to works commencing.

- Works will not result in the impediment of substrate movement from upstream of the culvert to downstream.
- Concrete batching will be carried out on an impermeable surface at least 10m away from drains and water bodies.
- Concrete and other materials will not be stored within the dry working area. Site staff will take only the minimum amount necessary to carry out works in the dry working area during each work period.
- Rip-rap rock armour will be washed off site prior to installation to remove fine sediments.
- 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 shall stop and the incident will be reported to the project manager and the BEAR Scotland Environmental Team. SEPA will be informed of any such incident as soon as possible using the SEPA Pollution Hotline.
- All plant and equipment will be regularly inspected for any signs of damage and leaks. A checklist will be present to make sure that the checks have been carried out.
- Storage of hazardous material, oil and fuel containers shall be distanced more than 10m away from any watercourses.
- If required, a designated refuelling area will be identified. Fuel bowsers shall be stored on an impermeable area and be fully bunded. This shall 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 shall also be supplied beneath the equipment with a capacity of 110%.
- All material within the compound area and works area will be stored on made ground and, where feasible, 10m away from potential pollution pathways such as drains and watercourses.

- Materials required within the area of works will be transported only as required. No stockpiling will occur within the dry working area or within 10m of the watercourse boundary.
- Any materials transported into the area of works will be temporarily situated on or within appropriate containment systems until ready for use.

Due to the requirement for in-stream works to carry out scour repairs, CAR authorisation from SEPA was determined to be necessary to allow works to proceed. This receptor is considered further in the 'Assessments of the Environmental Effects' section below.

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

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

Major Accidents and Disasters

There is potential for minor impacts on the project as a result of environmental risks such as the discovery of a protected species on-site, high-water levels, pollution incidents, or complaints from road users on the A82. However, ecological surveys have been carried out prior to works to identify potential risks to protected species and licences and mitigation measures will be adhered to during works. The dry working area will be created by damming the watercourse upstream of the culvert in front of a natural pool which will act as a sump for stored water. Damming the watercourse at this point will provide better capacity to store higher flows of water and ensure that the working area remains dry and contained. The majority of works

will be undertaken from outwith the A82 carriageway boundary, and any traffic management required for site access will be designed in line with existing guidance.

No flood risk has been recorded within the scheme extent, and works will not operate during periods of predicted adverse weather/high rainfall.

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

A search of the Argyll and Bute Council Planning Portal ([Map Search](#)) showed a proposal to replace two antennas on a telecommunications mast located approximately 380m southeast of the scheme and a proposal to extend an existing forest track to facilitate timber haulage located approximately 100m northwest of the scheme. As this work will be undertaken in the adjacent coniferous plantation (approximately 100m northwest) it is not expected to interact with proposed work. Although there is no indication of a start date or duration for these works, the works are relatively minor and will not change the height or footprint of the existing structures. In addition, the works are located outwith Allt Coire Chailein SSSI, and will not entail any in-stream works. Therefore, the risk of in-combination or cumulative impacts on environmental receptors is low.

A search of the Scottish Roads Works Commissioner's website ([Map Search](#)) has not highlighted any other works (or associated traffic restrictions / roadworks) within proximity of the scheme which are due to occur at the same time.

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

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

Assessments of the environmental effects

This assessment has identified potential effects on the following environmental receptors as a result of the proposed work: biodiversity, road drainage and the water

environment, and geology and soils. These receptors are considered in further detail below.

Biodiversity

The Biodiversity receptor is considered further in this section due to the potential for impacts on freshwater fish, aquatic habitats, and terrestrial mammals as well as the requirement for consultation with the Argyll DSFB and Argyll Fisheries Trust. The Argyll Fisheries Trust provided advice on the potential impacts of works but no response was received from the Argyll DSFB. Further consideration of potential impacts on the geological features of Allt Coire Chailein SSSI and GCRS, including consultation with NatureScot, is included in the assessment of the Soil receptor below.

Aquatic Habitat & Fish Populations

Although in-stream works are required to complete scour repairs, the aquatic habitat in the area of works at the culvert is considered to be unsuitable for fish and does not support spawning salmonids. Consultation with the Argyll Fisheries Trust and Argyll DSFB confirmed that the area of works at the culvert is located upstream of known spawning areas for Atlantic salmon (*Salmo salar*) and brown trout (*Salmo trutta*). Therefore, scour works will not result in direct habitat loss for salmonids.

The Argyll Fisheries Trust advised that there is suitable habitat for salmonids downstream of the culvert and the transfer of substrate through the culvert should be maintained to support spawning areas downstream. The works are designed to strengthen the culvert structure and banks upstream of the culvert to better handle high water flows, but will not impede the movement of substrates through the culvert. Therefore, the works will not result in impacts to salmonid spawning areas downstream of the culvert.

There is potential for salmonids downstream of the culvert to be indirectly affected by works due to pollution caused by loss of containment. The Argyll Fisheries Trust highlighted the importance of maintaining good water quality through sediment management and pollution prevention measures during works. The scheme is scheduled to be completed by the end of September 2023, which is outwith the sensitive period for salmonids. In-stream works will be carried out within a dry working area created by damming the watercourse upstream of the culvert and over-pumping through the site. Robust containment measures will be in place to ensure that debris or pollutants do not enter the watercourse. Containment measures will be detailed in the SEMP and adhered to during works. With these measures in place, the risk of indirect impacts on salmonids as a result of scour works is considered to be low.

As in-stream works will not directly impact any fish spawning habitat, and provided that transfer of substrates is maintained, containment measures are in place, and

good practice measures detailed in the SEMP are adhered to during works, the risk of significant impacts on fish populations and aquatic habitat as a result of works is considered to be low.

Road drainage and the water environment

As scour works will include in-stream activities, consultation with SEPA was carried out by BEAR Scotland to determine the level of CAR authorisation required to allow works to proceed. SEPA confirmed that a CAR Registration was required and granted Registration CAR/R/1192248 in 2020. However, works were delayed in 2020 due to the Covid-19 pandemic and the scope of works was subsequently expanded, necessitating a new Registration application to include additional in-stream activities. An updated application was submitted to SEPA in June 2021 and the Registration (CAR/R/SEPA2021-415) was granted to BEAR Scotland on 22nd July 2021. This registration does not have an expiry date, however SEPA will be reconsulted prior to the works commencing.

There is potential for scour works to result in impacts to the water environment. Works will be carried out within a dry working area with robust pollution prevention measures in place. Standard working practices, including appropriate containment measures, to comply with The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) for works in or near water will be detailed in the SEMP and adhered to during works, along with all conditions of the CAR Registration. With these measures in place, the risk of significant impacts to the water environment as a result of scour repair works is considered to be low.

Geology and soils

As the scheme is located within Allt Coire Chailein SSSI and GCRS, there is potential for scour works to result in impacts to the qualifying geological features of these sites. Consultation with NatureScot was carried out to determine the potential risks to the SSSI and GCRS. NatureScot advised that some of the proposed works may affect the movement of rocky substrate downstream, which is a key process of the local geology. Therefore, NatureScot confirmed that consent was required to allow works in the SSSI/GCRS. An application was submitted on 28th April 2021 and consent was granted on 10th June 2021 and does not have an expiry date provided the scope of works remains unchanged.

The proposed working methods include the use of a 4-tonne excavator and a 20-tonne excavator within the SSSI. The larger machine will be required to move plant and materials into place and will only be used when necessary. It will be positioned on the downstream right-hand bank of the watercourse, avoiding a sensitive feature of cobbled pavement which is located further downstream on the left-hand bank. The smaller machine will be used in the area of works as required. Both machines will be

removed from the SSSI when not in use. NatureScot has confirmed that these proposed methods are acceptable.

Aside from the advice to avoid the sensitive cobbled pavement feature downstream of works, NatureScot did not specify any conditions to reduce the potential impacts of works on the SSSI and GCRS in the SSSI consent. However, a range of good practice measures have been identified that will reduce the risk of significant impacts on the SSSI and GCRS as a result of works. These will be detailed in the SEMP. Provided that these and other good practice measures (e.g. pollution prevention) are followed, the risk of significant impacts to the geological features of Allt Coire Chailein SSSI and GCRS as a result of scour repair works is considered to be low.

Statement of case in support of a Determination that a statutory EIA is not required

This is a relevant project in terms of section 55A(16) of the Roads (Scotland) Act 1984 as it is a project for the improvement of a road and the completed works (together with any area occupied by apparatus, equipment, machinery, materials, plant, spoil heaps, or other such facilities or stores required during the period of construction) are situated in whole or part in the Allt Coire Chailein Site of Special Scientific Interest (SSSI) and Allt Coire Chailein Geological Conservation Review Site (GCRS) which are sensitive areas as defined in regulation 2(1) of the Environmental Impact Assessment (Scotland) Regulations 1999.

The project has been subject to screening using the Annex III criteria to determine whether a formal Environmental Impact Assessment (EIA) is required under the Roads (Scotland) Act 1984 (as amended by The Roads (Scotland) Act 1984 (Environmental Impact Assessment) Regulations 2017). Screening using Annex III criteria, reference to consultations undertaken, and review of available information has not identified the need for a statutory EIA.

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

Characteristics of the scheme:

- The total working area is less than 1 ha.
- The works will be temporary, localised, and completed during daytime working hours.
- Containment measures of the working area will be in place to prevent debris or pollutants from entering the surrounding environment.

- Works are not expected to result in significant disturbance to protected species that may be present in the wider area.
- Field surveys to date have not identified any additional protected species shelters roosts and no protected species licences have been required.
- No in-combination effects have been identified.
- The risk of major accidents or disasters is considered to be low.

Location of the scheme:

- Works will take place outwith the carriageway boundary (i.e. access via field adjacent the bridge and instream works) however there will be residual impacts to land use following reinstatement of any damage caused during the works.
- Works will take place within the Allt Coire Chailein SSSI, considering good practice measures detailed in the SEMP and avoidance of the sensitive cobbled pavement feature downstream of works, no residual impacts are expected.
- Any impacts to the local landscape during the construction phase will be minor, temporary and not considered significant. In addition, no operational impacts are anticipated.
- The site compound will be located on made ground.

Characteristics of potential impacts of the scheme:

- Any potential impacts of the works are expected to be temporary, short-term, non-significant, and limited to the construction phase.
- Measures will be in place to ensure appropriate removal and disposal of waste.
- The SEMP will include plans to address environmental incidents.
- No impacts on the environment are expected during the operational phase as a result of works. The works are expected to result in positive impacts on road users during the operational phase.
- Mitigation measures detailed above and in the SEMP are put in place with the objective to prevent and, if required, subsequently control any potential impacts on sensitive receptors.

Annex A

“sensitive area” means any of the following:

- land notified under sections 3(1) or 5(1) (sites of special scientific interest) of the Nature Conservation (Scotland) Act 2004
- land in respect of which an order has been made under section 23 (nature conservation orders) of the Nature Conservation (Scotland) Act 2004
- a European site within the meaning of regulation 10 of the Conservation (Natural Habitats, &c.) Regulations 1994
- a property appearing in the World Heritage List kept under article 11(2) of the 1972 UNESCO Convention for the Protection of the World Cultural and Natural Heritage
- a scheduled monument within the meaning of the Ancient Monuments and Archaeological Areas Act 1979
- a National Scenic Area as designated by a direction made by the Scottish Ministers under section 263A of the Town and Country Planning (Scotland) Act 1997
- an area designated as a National Park by a designation order made by the Scottish Ministers under section 6(1) of the National Parks (Scotland) Act 2000.



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