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Environmental Impact Assessment Record of Determination

A82 Glen Falloch VRS

Contents

Project Details

Description

BEAR Scotland has been commissioned by Transport Scotland to carry out vehicle restraint system (VRS) upgrades to either side of the road, on both approaches to the A82 bridge over Dubh East. The works include installation and replacement of four sections of VRS.

The total length of the scheme is 200m with an approximate area of 0.05ha.

The works are currently programmed to be completed within the 2024/2025 financial year. Works are programmed to be completed over 21 days, by utilising daytime working pattern (07:00 – 19:00). Traffic Management (TM) will be in the form of lane closures with two-way traffic lights and a 30mph speed limit in place. Site compound will be positioned on the A82 carriageway within the TM. If the programme changes, this may result in amendments to the exact TM requirements

Pedestrians and non-motorised users (NMUs) will be accommodated within any traffic management if required.

Location

The scheme extent is located on the approaches to the A82 bridge over Dubh East, within Stirling Council (Figure 1). The scheme has the following National Grid References (NGRs):

- NGR at the southern scheme extent point: NN 31928 19696
- NGR at the northern scheme extent point: NN 32013 19869

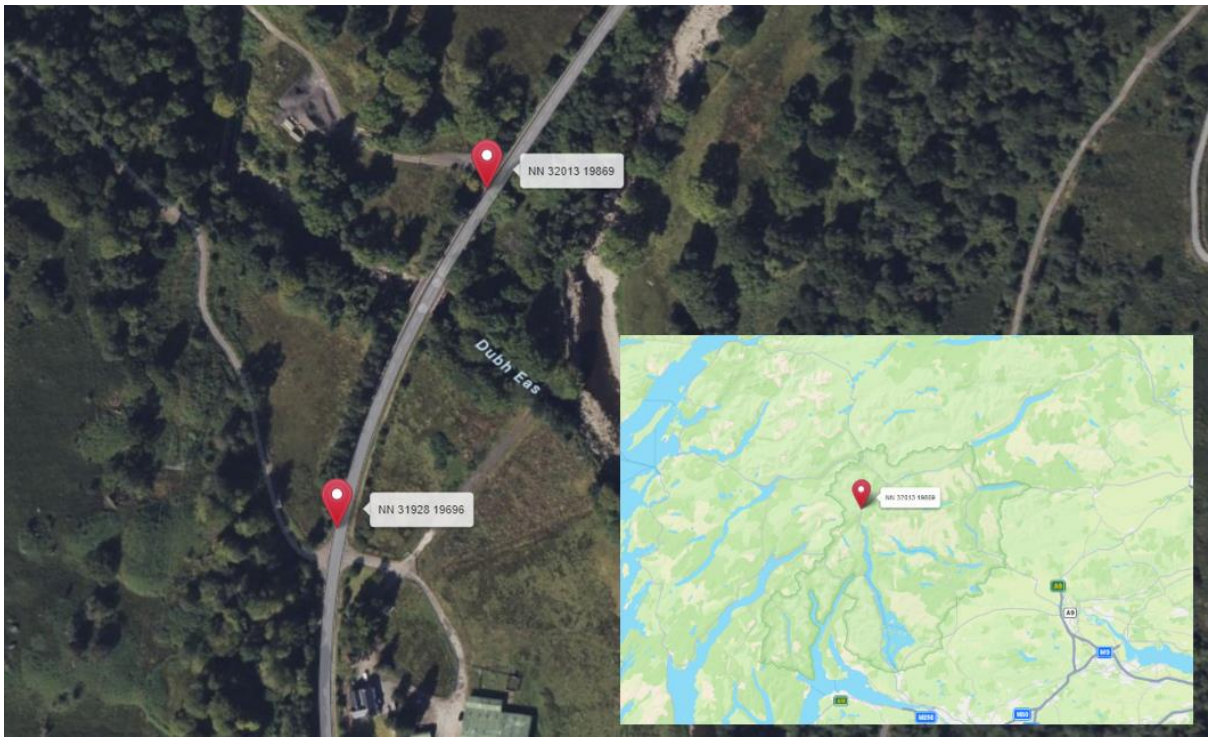

Figure 1. Scheme extents.

Description of local environment

Air quality

A search of the Air Quality in Scotland online mapping tool records that the scheme is not located within an Air Quality Management Area (AQMA). The scheme is located within the 'Stirling' council boundary area, which currently has no AQMA within its administrative boundary.

Sites monitoring air quality in the wider areas record bandings to be within the 'green zone' (Low Index 1-3).

There are no sites registered on the Scottish Pollutant Release Inventory (SPRI) for pollutant releases to air within 10km of the scheme extents.

The baseline air quality within the scheme extents is primarily influenced by motor vehicles travelling along the A82 trunk road. Secondary sources are most commonly derived from day-to-day agricultural land management activities.

Cultural heritage

According to the PastMap and Historic Environment Scotland (HES) online mapping tools, there are two category C Listed Buildings located within 300m of the scheme extents:

- Inverarnan, Glen Falloch Farm, Farmhouse including Gatepiers (LB50324) lies 120m southeast of the scheme.
- Inverarnan, Glen Falloch Farm, Campbell Burial Enclosure (LB50323) lies 95m southeast of the scheme.

Three Historic Environment Records (HERs) are located within 300m of the scheme, none of these lie within the scheme extents.

No Garden & Designed Landscapes, Scheduled Monuments, Conservation Areas, Battlefields, World Heritage sites or records on the Canmore database were identified within 300m of the scheme (PastMap).

There are no Cultural Heritage records within the scheme extents, with the works confined to the A82 verges directly adjacent to the carriageway. Furthermore, construction of the A82 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 is situated within Loch Lomond and The Trossachs National Park (LLTNP) (NatureScot Site Code: 8621). LLTNP is designated for the following general Special Qualities:

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

The scheme is not located within a National Scenic Area (NSA).

The Landscape Character Type (LCT) within the study area is 'Upland Glens – Loch Lomond & The Trossachs' (no. 252) (Scottish Landscape Character Types), which has the following Special General Qualities:

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

The land use surrounding the scheme extents is dominated by fields of pastoral land and woodland.

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

Biodiversity

According to the online mapping tool NatureScot SiteLink Glen Etive and Glen Fyne Special Protection Area (SPA) (NatureScot Site Code: 10113) and Loch Lomond Woods Special Area of Conservation (SAC) (NatureScot Site Code: 8298) lie within 2km of the scheme extents;

A Habitats Regulations Appraisal (HRA) has been undertaken to assess the potential effects of the works on these sites. Refer to the Biodiversity Impacts and Mitigation section below.

Loch Lomond Woods SAC is overlapped by Glen Falloch Woods Site of Special Scientific Interest (SSSI) (NatureScot Site Code: 707). The SSSI is designated for upland oak woodland.

No other nationally designated sites for nature conservation are located within 300m of the scheme extents.

The NBN atlas did not return records of invasive and/or injurious plants within 2km of the scheme.

A search using Transport Scotland's Asset Management Performance System (AMPS) did not identify records of invasive and/or injurious plants within the verges of the A82 at the scheme extents.

Habitats in the surrounding area include deciduous woodland, grassland, heathland, and freshwater.

Areas of woodland noted as 'ancient' (of semi-natural origin) and 'long-established' (of plantation origin) are listed on the Ancient Woodland Inventory Scotland within 300m of the scheme. The nearest of these lies 150m west (Scotland's Environment).

Site Surveys

The following surveys were carried out between July and August 2024 and included:

1. Preliminary Ecological Assessment (PEA) and Preliminary Roost Assessment (PRA) (July 2024);
2. Phase two aerial potential roost feature (PRF) survey (August 2024); and
3. Two bat activity surveys (July and August 2024).

Geology and soils

The A82 within the scheme extents is not located within a Geological Conservation Review Site (GCRS) or SSSI designated for geological features.

Superficial deposit within the scheme extents is comprised of Till and Morainic deposits (diamicton, sand and gravel), which is a sedimentary superficial deposit (BGS Geology Viewer).

Bedrock within the scheme extent is comprised of Ben Ledi Grit Formation – (psammite and semipelite) which is a metamorphic bedrock (BGS Geology Viewer).

The local soil type is recorded as mineral podzols (Scotland's Environment Map).

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 (Scotland's Environment Map).

Material assets and waste

The proposed works are required to improve road traffic safety approaching a bridge on the A82. The works will require the following materials:

- safety barrier 120m
- bike guard 120m

Excavation is required to install posts for VRS, excavated soil material will be spread along the road verges within the site extents.

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

Noise and vibration

For residential, community and commercial receptors refer to the 'Population and Human Health' section below.

Works are not located within a Candidate Noise Management Area (CNMA) or Candidate Quiet Areas (CQA).

Environmental Noise Directive (END) Round 4 Noise Mapping shows the average day, evening and night-time noise levels (LDEN) at the scheme to be between 60 and 70dB (SEPA).

The baseline noise and vibration in the scheme extents is primarily influenced by vehicles travelling along the A82 trunk road. Secondary sources are most commonly from day-to-day agricultural land management activities.

Population and human health

The scheme is located within a rural area with only one residential property located within 300m of the scheme. Residential property 'Glen Falloch' (with associated outbuildings) lies approximately 75m south of the scheme extent and is accessed from the A82 via junction immediately south of the scheme.

Junctions to local roads/farm roads lie either side of the scheme extents.

There are no National Cycle Network Routes (OS Maps) or core paths (SE Map) within 300m of the scheme.

Walking route 'Meall an Fhudair, near Inverarnan' as listed on WalkHighlands utilises the A82 trunk road within the scheme extents.

The A82, within the scheme extents, is a single carriageway with the national speed limit (60mph) applying throughout. The Annual Average Daily Traffic (AADT) flow is low (3,610 motor vehicles including 181 (5.1%) heavy goods vehicles (HGVs) (ID: 761, 2023 data)) (Road Traffic Statistics).

Road drainage and the water environment

The A82 within the scheme extents spans Dubh Eas/Allt nan Caorainn (ID: 10167). Dubh Eas/Allt nan Caorainn is classified waterbody by Scottish Environment Protection Agency (SEPA) and lies within the River Leven (Loch Lomond) catchment of the Scotland river basin district. Dubh Eas/Allt nan Caorainn has last been classified as having a 'bad ecological potential' (2022) (SEPA Water Classification Hub).

Dubh Eas/Allt nan Caorainn discharges into River Falloch (d/s Dubh Eas) (ID: 10165) 80m east of the scheme. River Falloch (d/s Dubh Eas) is a river in the River Leven (Loch Lomond) catchment of the Scotland river basin district. River Falloch (d/s Dubh Eas) has last been classified as having a 'good ecological potential' (2022) (SEPA Water Classification Hub).

The scheme is underlain by the 'Cowal and Lomond' groundwater body, which was classified by SEPA in 2022 as having an overall status of 'good' (SEPA Water Classification Hub). The groundwater body is also recorded as a Drinking Water Protected Area (DWPA) (Ground) (Scotland's Environment).

A search of SEPA Flood Map identified a high likelihood of fluvial flooding (10% chance of flooding each year) along the banks of Dubh Eas at the scheme extents (SEPA Flood Maps).

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 excavation and the presence of construction traffic and vehicles idling. 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).
- 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.
- Cement bags will remain closed when not in use to prevent cast off to the surrounding environment.

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 is potential for minor visual impacts to the local landscape during the construction phase as a result of obstructed views due to vehicles and machinery and residual impacts through installation and/or removal of VRS. Works will be restricted to the A82 carriageway boundary and will entail replacement of old VRS and installation of new VRS, which will not alter the visual character of the trunk road. The new VRS will be limited to the minimum necessary to comply with road safety standards and will be in keeping with existing road character on the A82. As such, no negative impact on the local landscape, LLTNP are expected. LLTNP will be notified of the proposed works in advance.

Land use will not change as a result of the works, and the works will not result in any significant residual change to the visual amenity of the local landscape. 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, minimising the landscape and visual effects.
- 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.
- The working area and site compound location will be appropriately reinstated following works.
- 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

Designated Sites

The scheme is located within proximity of European and locally/nationally designated biodiversity sites, as outlined above. Works will be restricted to the VRS upgrades along the A82 carriageway direct verge, thus preventing direct removal or damage to habitat features associated with these sites or associated with the qualifying features of these site (i.e. foraging habitat). A HRA was undertaken for the works; likely significant effects (LSE) from the works on designated features of the European sites could not be ruled out and as such an Appropriate Assessment (AA) was produced. The AA concluded that, although LSE on the Glen Etive and Glen Fyne SPA and

Loch Lomond SAC could not be ruled out, the proposed works will not result in an adverse effect on site integrity (AESI) with the specified mitigation in place. The AA was reviewed by NatureScot and Transport Scotland as the Competent Authority. All relevant good practice measures will be detailed in the Site Environmental Management Plan (SEMP) and adhered to during works. As such, no significant impacts on the European Sites are anticipated by virtue of the following factors:

Loch Lomond SAC

- The works do not require in-water works and are restricted to the previously engineered carriageway boundary and as such the works will not result in alteration or removal of habitat within the sites.
- The risk of pollution is considered to be low due to the good practice measures and required working methods (e.g., containment measures) which are adhered to as standard to protect the water environment.
- Standard working practices and good practice measures will be in place on site, therefore it is unlikely that the works will result in species mortality, significant disturbance, or degradation of their supporting habitat or food sources.
- Species within the vicinity of the trunk road are likely to be habituated to existing levels of noise and activity due to traffic, and the proposed maintenance activities are unlikely to result in significantly higher levels of noise than baseline levels.

Glen Etive and Glen Fyne SPA

- There will be no works within the boundary of the SPA; therefore, the works will not result in alteration or removal of habitat within the SPA.
- No signs of the qualifying species were noted during the site surveys and the A82 at the scheme extents is screened from a wider landscape with no suitable habitat present.
- The SPA is also located above the level of the scheme extents and as such there is no hydrological connectivity present which can have negative impact on the SPA.
- Standard working practices include robust containment measures to prevent pollution events for terrestrial works. With these in place, the works do not have the potential to impact the extent, distribution, structure, function or

supporting processes of habitat features, nor will they affect the viability of typical species reliant on these habitat types.

- The scheme extent is screened from the wider area by roadside tree belts and woodland. However, the works may result in minor, temporary, and highly localised disturbance to species that may forage or shelter in the vicinity of works. Although an increase in baseline noise level is expected, any increases in noise will be temporary, intermittent, and localised to the trunk road. It is also expected that the qualifying species will be habituated to the light and noise disturbance associated with the A82.

Terrestrial Ecology

No invasive or injurious weed species have been confirmed during the site survey. Furthermore, the vegetation along the trunk road corridor is a subject to routine maintenance and any invasive and/or injurious plant species are likely to be treated under the NW Landscape Maintenance plan.

Pollution controls and good practice measures to reduce impacts of works on the local environment will be detailed in the 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 drainage works. Unnecessary encroachment onto terrestrial or aquatic areas will not be tolerated.

- A pre-construction survey will be carried out no earlier than 4 weeks prior to the works commencing to confirm absence within the area. If species are identified within the works disturbance area, consent from NatureScot will be obtained prior to the works commencing.

- Relevant toolbox talks for working with protected species will be included in the SEMP.

- No in-water works will be permitted. Works will be strictly limited to areas required for access and the works. Unnecessary encroachment onto terrestrial or aquatic areas will not be tolerated.

- Site personnel will remain vigilant for the presence of any protected species throughout the works period. Should a protected species be noted during construction, works will temporarily halt until the species has sufficiently moved on. Any sightings of protected species shall be reported to the BEAR Scotland Environment Team.

- Artificial lighting, if required during low light levels, will be directed away from road verges, woodland, bridge and waterbodies as far as is safe and reasonably practicable.

- Pre-works check for nesting birds will be undertaken if the works are delayed by bird breeding season (March to August inclusive).

- If an active bird nest (e.g., eggs or young present, adult sitting on nest) is identified on site, all works within 30m of the nest will stop until the BEAR Scotland NW Environment Team can provide advice.

- 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.

- A 'soft start' will be implemented on site each day. This will involve switching on vehicles and checking under/around vehicles and the immediate work area for mammals prior to works commencing to ensure none are present and that there is a gradual increase in noise.

- If fencing is utilised at any point during the works, a gap of 200mm from ground level will be provided, allowing free passage for mammals and preventing entrapment.

Taking into account the nature and scale of the works and the good site practice mitigation measures which will be adopted during the works, it is anticipated that any biodiversity effects associated with the proposed works will not be significant. This receptor is not considered further in this RoD.

Geology and soils

The scheme is not located within a GCRS or geological SSSI. Although the works will entail minor excavation to install VRS posts, this will be on engineered ground (road verge). In addition, any excavations will be carried out with good practice measures detailed in the SEMP as follows:

- Excavated material will be redistributed within the scheme extents.
- Upon completion of the works, any damage to the local landscape will be reinstated as much as is practicable.
- Mitigation measures to prevent contamination of soils through loss of containment will be strictly adhered to.
- The parking of machinery/vehicles and storage of equipment on grass will be minimised as far as is reasonably practicable.

- 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 Dubh Eas and travelling downstream.
- 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

During construction, there will be a temporary impact as a result of material consumption and waste production. However, materials will be sourced locally where possible and the following mitigation measures will be put in place:

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

Provided the following mitigation measures are followed during works, impacts during construction are not anticipated to be significant:

- 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.
- 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 works have the potential to cause noise and vibration impacts through the use of equipment and construction vehicles for the proposed activities. Residual noise levels will remain unchanged. The works will employ a day-time working pattern. The proposed scheme is anticipated to result in temporary negligible to minor adverse noise impacts. The following mitigation measures will be put in place:

- The Best Practicable Means, as defined in Section 72 of the Control of Pollution Act 1974, will be employed at all times to reduce noise to a minimum. On-site construction tasks will be programmed to be as efficient as possible, with a view to limiting noise disruption to local sensitive receptors.
- All site personnel will be fully briefed in advance of works regarding the need to minimise noise during works and of the site-specific sensitivities.
- All plant, 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 should be utilised during construction.
- Where ancillary plant such as generators are required, they will be positioned so as to cause minimum noise disturbance. Where deemed necessary, acoustic screens will be utilised.

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

Population and human health

During construction, activities undertaken on site may have temporary adverse impacts on local residents, vehicle travellers, and non-motorised road users (NMUs) as a result of vehicle noise and delays due to traffic management measures. No local access is likely to be obstructed by presence of works/TM. Road users will be informed of works through a media release, which will provide details of construction dates and times. TM on the A82 will only be in place as required and will be localised to the works area. No full road closures are expected.

There are no pedestrian facilities within the scheme and access for non-motorised users (NMUs) and pedestrians wishing to use the A82 (also a walking route) will be in place. With the following mitigation measures in place, the risk of significant impacts on population and human health is considered to be low:

- Any changes of schedule will be communicated to local residents throughout the programme.
- 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

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

- The scheme will not entail any in-stream works.
- Standard working practices to comply with The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) for works in or near water

are detailed in the Site Environmental Management Plan (SEMP) and will be adhered to on site.

- No discharges directly into any watercourses or drainage systems will be permitted. Appropriate containment measures will be in place to prevent any loss of construction materials into the water environment.
- An incident response (contingency) plan will be put in place to reduce the risk from pollution incidents or accidental spillages. All necessary containment equipment, including suitable spill kits (for oil and chemicals) will be available on site, quickly accessible if needed, and staff trained in their use.
- All spills will be logged and reported. In the event of any spills into the water environment, all works will stop, and the incident 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 must 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 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%.

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

Climate

During the works there is potential for impacts as a result of the emission of greenhouse gases through the use of equipment, vehicles, material use and production and transportation of materials and wastes. However, considering the

nature, short-term duration, size and scale of the scheme, and the mitigation detailed below, the risk of significant impacts to climate are considered to be low.

Proposed climate mitigation measures:

- All mitigation measures detailed within 'Air Quality' and 'Material Assets and Waste' will be adhered to.
- BEAR Scotland will adhere to its Carbon Management Policy.
- Where possible, materials will be sourced locally to reduce greenhouse gas emissions associated with materials movement, and waste will be disposed at local landfill, where required.

Vulnerability of the project to risks

The course of the Dubh Eas, which is spanned by A82 carriageway within the scheme extents, is recorded as having high risk of (10% chance each year) of river water flooding. Works will be programmed as far as is reasonably practicable to avoid periods of adverse weather or heavy rainfall. Furthermore, the works do not require installation of impermeable surface areas and as such increased surface water floodings are not expected following the completion of the works.

Works are restricted to the engineered ground (verges) of the A82 trunk road and traffic management will be designed in line with existing guidance. Traffic management will consist of a lane closure with two-way temporary traffic lights and speed limit restrictions in place. Where required, alternative NMU provisions/routes will be included in the traffic management setup, to minimise impact of the works on NMUs.

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

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

Assessment 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) has not identified any planning applications submitted within the last two years, within 300m of the scheme.

A search of the Scottish Roads Works Commissioner's website (Map Search) has not identified any other upcoming roadworks programmed on the A82 carriageway within 300m of the works in the next six months.

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

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

Assessments of the environmental effects

As detailed in the Description of Main Environmental Impacts and Proposed Mitigation section within this Record of Determination, there are no significant effects anticipated on any environmental receptors as a result of the proposed works. A Habitats Regulations Appraisal has concluded that there will be no adverse effect on site integrity (AESI) for the qualifying features of the Loch Lomond Woods SAC or Glen Etive and Glen Fyne SPA.

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

The project has been subject to screening using the Annex III criteria to determine whether a formal Environmental Impact Assessment is required under the Roads (Scotland) Act 1984 (as amended by The Roads (Scotland) Act 1984 (Environmental Impact Assessment) Regulations 2017). Screening using Annex III criteria, reference

to consultations undertaken and review of available information has not identified the need for a statutory EIA.

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

Characteristics of the scheme:

- Works are restricted to upgrades to VRS, with all works restricted to engineered ground (verges) on the A82 carriageway. The works will improve the road safety standards for A82 users.
- The scheme proposes to upgrade VRS on both approaches to a A82 bridge over Dubh Eas, which is designed in line with the character of the A82 truck road corridor.
- Construction activities are restricted to an area of 0.05ha along a 200m stretch of A82.
- The works are not disruptive in nature and will be undertaken during daytime hours over up to 21 days by utilising daytime working pattern.
- 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 scheme extent is located within LLTNP. Consultation with LLTNP regarding the works has been undertaken.
- Loch Lomond Woods SAC and Glen Etive and Glen Fyne SPA lie within 2km of the scheme. HRA concluded no adverse effect on site integrity (AESI) for the qualifying features of the Loch Lomond Woods SAC or Glen Etive and Glen Fyne SPA.
- Falloch Woods SSSI lies 170m east of the scheme; however, there will be no impact on its features.
- The scheme will be confined within the existing carriageway boundary (A82 verges) and as a result will not require any land take or alter any local land uses or habitats.
- The site compound will be located on made ground.

Characteristics of potential impacts of the scheme:

- Any impacts on air quality or noise levels are minor, short-term and temporary during the construction period. With mitigation measures in place, the potential impacts on local receptors are minor and not significant.

- Any short-term impacts on pedestrians, cyclists or equestrians are considered negligible, particularly as works will be completed outside of the key tourist period.
- The works will not result in loss of habitat as all works will take place within the A82 carriageway (verges).
- Measures will be in place to ensure appropriate removal and disposal of waste.
- No impacts on the environment are expected during the operational phase as a result of works. The works are expected to result in positive impacts on road users and human receptors during the operational phase.
- Following the completion of the works, there will be no change to the vulnerability of the road to the risk or severity of major accidents/disasters that would impact on the environment.
- Mitigation measures detailed above (and in the SEMP) will be put in place with the objective to prevent and, if required, subsequently control any potential impacts on sensitive receptors.

No in-water works within a natural watercourse will be undertaken. However, there is a potential for an impact on water quality during construction as a result of potential spillage of fuels, oils and mobilisation of silt. However, with pollution prevention measures in place, this risk is considered to be negligible.

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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