EC DIRECTIVE 97/11 (as amended)  
ROADS (SCOTLAND) ACT 1984 (as amended)

RECORD OF DETERMINATION

**Name of Project:** A828 Creagan New Painting  
**Location:** A828 Creagan Bridge  
NM 97820 44344

**Description of Project:**
BEAR Scotland has been commissioned by Transport Scotland to undertake a package of maintenance works at A828 60 Creagan Bridge (centre point NM 97820 44344). The bridge spans Loch Creran on the west coast of Scotland, approximately halfway between Ballachulish and Connel (Figure A1 in Appendix A). Loch Creran is designated as Loch Creran Special Area of Conservation (SAC) and Loch Creran Nature Conservation Marine Protected Area (MPA(NC)).

Inspections have identified deterioration of the protective paint coating on the steel elements of the bridge, which requires repair. The lining of the expansion joint at the northern end of the bridge has also come loose and will be refurbished during works, along with the metal security grating on the northern abutment gallery. The proposed works will entail removal of the existing paint coating by grit-blasting, repainting of the main longitudinal and transverse girders on the underside of the bridge deck, refurbishment of the northern expansion joint, and replacement of the security grating on the northern abutment gallery. Access will be provided by a temporary underslung scaffold spanning over the water, which will be fully encapsulated during works. Access to the scaffold will either be from above via the the A828 trunk road or from below via an access tower/staircase below the southernmost span. No works will be carried out in the water.

The scheme is currently proposed to commence in September 2020 with the aim to be completed by March 2021 (approximate six-month duration). Expected site working hours are 08:00 to 17:00, but some overnight deliveries of materials may be required. In addition, during periods of grit-blasting, vacuum cleaning of the grit and old paint will be carried out from 16:00-00:00 while the dust is still dry and easily removed. The site compound will be located in a layby on a local road (the old A828) that passes under Creagan Bridge on the southern shore of Loch Creran. The layby is located approximately 25m southwest of the bridge and will be closed to road users during this time.

The subcontractor (Taziker) has not yet provided a specific method statement. However, the following general steps of the works are outlined below, as per similar grit-blasting and painting schemes on other trunk road bridges.

1. Set up site compound.  
2. Erect scaffolding tower and underslung scaffold platform beneath bridge (with traffic management as required).  
3. Install encapsulation to underslung scaffold platform and working areas.  
4. Grit-blast all exposed steelwork on the underside of the bridge.  
5. Paint all exposed steelwork on the underside of the bridge.  
6. Remove encapsulation.  
7. Dismantle all scaffolding.  
8. Remove site compound and all materials from site.

The works are necessary to repair deterioration to the steel elements that support the bridge structure and to prevent further deterioration in future. Alternatively, if repair works are not undertaken, the bridge structure would continue to deteriorate, which would endanger the stability of the structure and the safety of road users. No alternative options to repair have been identified.

The works do not fall within Annex I of the Environmental Impact Assessment (EIA) Directive 2011/92/EU as amended by 2014/52/EU. Transport Scotland has advised that, under the Roads (Scotland) Act 1984 as amended by the Roads (Scotland) Act 1984 (Environmental Impact Assessment) Regulations 2017, the works...
are considered to be a ‘relevant project’ falling within Annex II of the above EIA Directive due to having an improvement element. Therefore, the scheme has been screened against the criteria in Annex III of the EIA Directive and the conclusions recorded in this Record of Determination (RoD).

**Project Procurement:**

The scheme is executed by the operating company as site operations – ‘As of Right’ scheme

**Description of Local Environment:** The following baseline descriptions have been sequenced to follow the appropriate Design Manual for Roads and Bridges (DMRB) chapters for environmental assessment and do not reflect a ranking of sensitivity.

**AIR AND CLIMATE:**

Baseline data have been obtained from the Air Quality in Scotland (AQS) and Google Maps online mapping tools. A walkover survey was used to note any potential connectivity with properties/receptors identified during the desktop study.

There are a few residential properties within 1km of the scheme extents, including Dallachulish farm and caravan park to the southeast, and several properties in the small village of Creagan to the northwest. These include Creagan Inn, a farm, two houses, and Creagan Station caravan park. For a location of residential properties within 300m of the scheme. Distances of the properties from the works are detailed in Table 1.

<table>
<thead>
<tr>
<th>Name of property</th>
<th>Distance of property from the proposed works</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dallachulish Farm and caravan park</td>
<td>300m southeast</td>
</tr>
<tr>
<td>Creagan Inn</td>
<td>540m northwest</td>
</tr>
<tr>
<td>Oakcraig</td>
<td>540m northwest</td>
</tr>
<tr>
<td>Creagan Farm</td>
<td>610m northwest</td>
</tr>
<tr>
<td>Creaganlea</td>
<td>980m northwest</td>
</tr>
<tr>
<td>Creagan Station caravan park</td>
<td>980m northwest</td>
</tr>
</tbody>
</table>

The nearest property, Dallachulish Farm, contains a barn or outbuilding approximately 120m from the bridge. The inhabited buildings of the farm are located approximately 330m from the bridge, and the caravan park is located approximately 300m from the bridge.

The site does not lie within an AQMA\(^1\). No air quality monitoring stations are located in proximity to the scheme, with the closest located approximately 33km north in Fort William\(^2\). The pollution level was recorded as Low (2) on 5\(^{th}\) June 2020. Air pollution levels at the scheme location are likely to be lower than at this monitoring station, due to the scheme’s rural location versus a more urban location at the monitoring station in Fort William.

Air quality within the scheme extent is likely to be primarily influenced by trunk road traffic and agricultural activity at the nearby Dallachulish Farm.

A828 Creagan Bridge is located on a sea loch near a settlement called Barcaldine on the west coast of Scotland. The climate at Barcaldine is classified as warm and temperate with a significant amount of rainfall during the year\(^3\). This is true even for the driest month. This climate is considered to be temperate oceanic (Cfb) according to the Köppen-Geiger climate classification. The prevailing wind direction at Creagan is from the southwest and west-southwest, with 712 hours per year where wind speeds are at or above 12mph\(^4\), which is generally considered capable of mobilising and transporting dust\(^5\).

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\(^1\) [https://uk-air.defra.gov.uk/aqma/maps](https://uk-air.defra.gov.uk/aqma/maps) (Accessed 03/06/2020)


\(^3\) [https://en.climate-data.org/europe/united-kingdom/scotland/barcaldine-200165/](https://en.climate-data.org/europe/united-kingdom/scotland/barcaldine-200165/) (Accessed 03/06/2020)


\(^5\) [https://iaqm.co.uk/text/guidance/mineralsguidance_2016.pdf](https://iaqm.co.uk/text/guidance/mineralsguidance_2016.pdf) (Accessed 03/06/2020)
CULTURAL HERITAGE AND MATERIAL ASSETS:

Baseline data has been obtained from the Historic Environment Scotland (HES) online mapping tool. A walkover survey was used to note any potential connectivity between the scheme and noted features.

There are no Scheduled Monuments or Listed Buildings in proximity to A828 Creagan Bridge. The bridge itself is an old railway bridge that was upgraded to a road bridge, and is listed on the Canmore database and Historic Environment Record (HER). All sites of cultural heritage interest located within 300m of the proposed works are detailed in Table 2.

<table>
<thead>
<tr>
<th>Name and classification</th>
<th>Dataset and Dataset UID</th>
<th>Distance from the proposed works</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creagan, Railway Viaduct / Loch Creran / Creran Viaduct / Creagan Bridge / Creagan Viaduct (railway bridge)</td>
<td>HERWOSAS 1477 and Canmore 23312</td>
<td>0m</td>
</tr>
<tr>
<td>Cregan Ferry / Loch Creran / Creagan Ferry (landing places)</td>
<td>HERWOSAS 1478 and Canmore 23313</td>
<td>0m</td>
</tr>
</tbody>
</table>

BIODIVERSITY:

Baseline data have been obtained from the National Biodiversity Network (NBN) Atlas, Scottish Natural Heritage (SNH) Sitelink and Scotland’s Environment (SE) web online mapping tools.

A number of designated sites were identified on SNH Sitelink which are within or have connectivity to the proposed works. The A828 Creagan Bridge spans Loch Creran Special Area of Conservation (SAC) and Loch Creran Marine Protected Area (MPA(NC)). Glen Creran Woods SAC and Glen Creran Woods Site of Special Scientific Interest (SSSI) are located south of the scheme. Eileanan agus Sgeir an Lios mor SAC and Glen Etive and Glen Fyne Special Protected Area (SPA) are more distant from the scheme but are still considered further in this report.

Consultation with SNH was carried out to determine the potential risks to the qualifying features of these sites. SNH advised that the works could potentially impact the qualifying feature ‘reefs’ of Loch Creran SAC and the qualifying feature ‘flame shell beds’ of Loch Creran MPA(NC); therefore, a Habitats Regulations Appraisal (HRA) and Appropriate Assessment were required. Although MPA(NC)s are not technically subject to HRA requirements, BEAR Scotland included it in the HRA and produced a Statement to Inform Appropriate Assessment (SIAA) on the MPA(NC) and relevant Natura 2000 sites. The SIAA concluded that the works could have likely significant effects (LSE) on the qualifying features of Loch Creran SAC and MPA(NC); however, with appropriate mitigation measures in place to contain debris and pollution produced as part of the works, there would be no adverse effects on site integrity (AESI) on Loch Creran SAC or MPA(NC). The SIAA was approved by Transport Scotland as the Competent Authority and was included as part of the marine licence application, as Marine Scotland is also a Competent Authority.

There are two areas of woodland recorded on the Ancient Woodland Inventory (AWI) within 300m of the scheme. One AWI woodland (of semi-natural origin) is located approximately 30m east of the northern end of the bridge. The other (of semi-natural origin) is located 250m south of the bridge.

An ecological site survey was carried out by Jacobs on 13th and 14th January 2020 to assess the potential for ecological constraints. Surveyors carried out a preliminary roost assessment (PRA) of the bridge and trees within 50m for bat roost potential, an aquatic habitat assessment, and a walkover survey to 200m from the bridge. Overall, the bridge was assessed as having moderate summer bat roost potential and moderate hibernation roost potential. Four trees within 50m of the bridge were identified as having moderate summer and hibernation roost potential for bats. All four trees were located on the northern shore of Loch Creran. The aquatic habitat assessment was carried out during a low spring tide to maximise the visibility of the intertidal area. No live bivalves were observed in the intertidal area, but empty blue mussel (Mytilus edulis) shells were abundant. The qualifying features of Loch Creran SAC and MPA(NC) were not able to be inspected due to...
being subtidal. Otter spraints were abundant within the survey area, mostly to the northeast of the bridge. Three otter resting places were identified, although there is suitable structure for resting places within 200m of the bridge. No signs of protected or invasive non-native species were recorded. The Ecology Memo Report produced by Jacobs upon completion of this survey recommended that two winter hibernation inspections (WHIs) and two bat activity surveys be undertaken on the bridge prior to works. Two activity surveys and up to two climbed inspections were also recommended on three of the four trees identified with bat roost potential.

Due to the six-month timeframe required to complete works, the works programme will extend into the bat hibernation season (November to March inclusive). Consequently, two WHIs were carried out on the bridge by Jacobs in February 2020. The results and recommendations of the PRA were not available until January 2020; therefore it was not possible to carry out the WHIs in January and February, as recommended by the Bat Conservation Trust Good Practice Guidelines. However, both WHIs were carried out in February, which is within the core bat hibernation season, and were conducted two weeks apart to cover as long a span in February as was possible.

The first WHI was carried out on 13th February 2020 by an experienced but unlicensed bat ecologist. Traffic management and an underbridge mobile elevated working platform (MEWP) were used to give the surveyor access at height to potential roost features on the bridge. However, due to health and safety restrictions, the central part of the bridge was not accessible. One bat, likely a pipistrelle (Pipistrellus pipistrellus), was observed hibernating behind the fascia boards on the outside of the bridge deck. As the surveyor was non-licensed, the survey had to be terminated upon confirmation of the bat roost, as it is illegal to disturb a bat roost without a licence. The results of this WHI confirmed A828 Creagan Bridge to be a hibernation bat roost.

The second WHI was carried out on 27th February 2020 by a bat-licensed ecologist. Traffic management and the underbridge MEWP were again used to access as much of the bridge as possible within health and safety constraints. Five pipistrelle bats, likely common pipistrelle (Pipistrellus pipistrellus), were recorded in four separate locations during the second WHI, all located in similar features behind the fascia boards on both sides of the bridge deck. The report produced by Jacobs upon completion of both WHIs noted that, due to the access restrictions, it is likely that some bats (particularly in the central area of the bridge) may have gone unrecorded during the WHI and that more bats may use the bridge to hibernate than were recorded during the second WHI. Aside from the feature behind the fascia boards where bats were recorded hibernating, additional potential roost features were identified beneath the bridge deck, on the southern abutment, and in the northern abutment gallery.

Upon confirming Creagan Bridge to be a hibernation bat roost, Jacobs revised their initial recommendations from two to three summer bat activity surveys on the bridge. Due to Covid-19 restrictions, surveys could not be undertaken until July 2020; consequently, all three surveys were carried out during July and August 2020. Although this is a reduced survey window, all three surveys were completed during the core bat maternity period (May to August inclusive). Therefore, it is considered that the surveys were sufficient to characterise the roost appropriately. Each activity survey was carried out by four surveyors aided by infrared video cameras and passive bat detectors. In addition, Jacobs revised their original recommendation for the three trees identified with moderate bat roost potential; instead of carrying out two activity surveys for each tree, it was deemed appropriate to inspect the trees from ground level as a bat absence/presence survey. The tree assessments were carried out during the same site visits as the activity surveys on the bridge.

The first summer bat activity survey was carried out on the bridge at dusk by Jacobs on 8th July 2020. Two common pipistrelles were recorded emerging from one feature on the southwest side of the bridge at the same location as one of the recorded hibernation roost points. Moderate levels of foraging and commuting activity by bats were recorded around the northern abutment during the survey, whereas activity levels near the southern abutment were low. Bat species recorded during the survey included common pipistrelle, soprano pipistrelle (Pipistrellus pygmaeus), brown long-eared bat (Plecotus auritus), and Myotis sp. bats. Analysis of the infrared camera footage and passive bat detector data did not identify any additional roosting locations. In addition, the three bat trees were inspected via endoscope from ground level. No evidence of bats was observed in any of the trees.
The second summer bat activity survey was carried out on the bridge at dawn by Jacobs on 28th July 2020. Two common pipistrelles were observed re-entering the southwestern side of the bridge at the same location that bats were observed emerging during the previous survey. One suspected re-entry of a common pipistrelle was also recorded in a feature on the underside of the deck at the northeast corner of the bridge. Surveyors recorded low foraging activity overall, likely due to suboptimal weather conditions (intermittent showers and strong winds). Only common and soprano pipistrelles were recorded during this survey. Analysis of the infrared camera footage and passive bat detector data did not identify any additional roosting locations. The three trees were also inspected again from ground level and no evidence of bats was found.

The third summer bat activity survey was carried out on the bridge at dawn by Jacobs on 13th August 2020. No bats were observed re-entering the confirmed roost location on the southwest corner of the bridge, although some foraging and commuting activity was recorded in this area. One common pipistrelle was observed re-entering the roost feature behind the fascia boards on the northeast corner. Two additional bats (likely *Pipistrellus* sp.) were suspected to have re-entered at this same location. The roost feature in use during this survey appears to correspond to the area where three bats were recorded hibernating during the WHIs.

**LANDSCAPE:**

Baseline data have been obtained from SE web, Google Maps online mapping tools and observation made during the site visit.

The works do not lie within any sites designated for landscape interests. Views from A828 Creagan Bridge are expansive views down Loch Creran to the east/southeast and up Glen Creran to the west/northwest.

**LAND:**

Baseline data have been obtained from SE web and Google Maps online mapping tools.

Land cover in the surrounding area is dominated by woodland, grassland, marine habitats, and inland surface waters. A list of all habitat recorded within 300m are detailed below.

- Broadleaved deciduous woodland
- Non-riverine woodland with *Betula, Populus tremula* or *Sorbus aucuparia*
- Coniferous woodland
- Atlantic parkland
- Agriculturally improved, re-seeded and heavily fertilised grassland, including sports fields and grass lawns
- Temperate shrub heathland
- Littoral rock and other hard substrata
- Littoral sediments
- Inland surface waters
- Marine habitats
- A Road
- B Roads, local streets, and minor roads
- Buildings of cities, towns and villages / Low density buildings

**NOISE**

The scheme is in a rural location where noise and vibration levels will be primarily influenced by trunk road traffic, vehicles utilising the nearby caravan parks, and agricultural activities at the nearby Dallachulish Farm. Sensitive receptors are as detailed in the Air and Climate section. The A828 is a single carriageway trunk road that connects the A82 at Ballachulish with the A85 at Connel on the west coast of Scotland.

Consultation was carried out with the Environmental Health Officer (EHO) for Argyll and Bute Council to determine whether noise monitoring or a construction noise assessment would be required at Dallachulish Farm. The EHO advised that noise monitoring would not be required, but highlighted that discussion with Dallachulish Farm should be clear and should continue throughout works. This is particularly important for periods of noisy works and night deliveries. Working hours should be defined and communicated to the neighbouring property, night deliveries should be minimised, and reversing alarms should be limited to the minimum required for safety.

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13 https://map.environment.gov.scot/sewebmap/ [HabMos EUNIS] (Accessed 03/06/2020)
POPULATION AND HUMAN HEALTH:

Sensitive human receptors are as detailed in the Air and Climate section. The A828 is a single carriageway trunk road that connects the A82 at Ballachulish with the A85 at Connel on the west coast of Scotland.

There are no designated footpaths located within or within close proximity to the scheme extents. Footpaths are present on both the northbound and southbound lanes of the A828 across Creagan Bridge; however, along the southbound lane there is an absence of footpaths beyond Creagan Bridge.

The National Cycle Network (NCN) Route 78 crosses Creagan Bridge within the scheme extent. Equestrians are unlikely to use the A828 at this location, due to the high-speed nature of the traffic and the availability of more appropriate trails and bridleways in the surrounding countryside.

WATER:

The A828 Creagan Bridge spans Loch Creran, which is a coastal water body (200075) that was classified by SEPA in 2018 as having good overall status. Several small unclassified watercourses and/or drains are located within 300m of the scheme extent.

The Kinlochleven groundwater body is located immediately north and south of the bridge and was classified by SEPA in 2018 as having good overall condition. This groundwater body is also a Drinking Water Protected Area (Ground).

Marine Scotland were consulted and confirmed that a Marine Licence would be required to authorise the proposed works due to the bridge spanning parts of Loch Creran that fall seaward of Mean High Water Springs (MHWS). A licence application was submitted by BEAR Scotland in May 2020 and a response is expected from Marine Scotland by early September 2020.

SOILS AND GEOLOGY:

Baseline data have been obtained from the British Geological Survey (BGS) online mapping tool and Scotland’s Soils.

The works do not lie within any sites designated for geology or soils. Soils recorded within the immediate vicinity of the scheme are recorded as peaty gleys to the north and humus-iron podzols to the south.

Bedrock geology within the scheme extents is recorded as Creran Flags Formation – Quartzite, Tayvallich Volcanic Formation – Metabasaltic rock, and Creran Bridge Quartzite Formation - Quartzite. These are all metamorphic types of bedrock formed approximately 541 to 1000 million years ago. The local environment was previously dominated by shallow seas.

Superficial geology within the scheme extents is only recorded for the southern shore of Loch Creran, which consists of Raised Marine Deposits – Clay, Silt and Sand and Raised Marine Beach Deposits – Gravel, Sand and Silt. These superficial deposits formed up to 3 million years ago in the Quaternary Period. The local environment was previously dominated by shallow seas.

Soils are not recorded within the scheme extent, as the bridge spans a water body. However, soils north of the bridge are recorded as peaty gleys, and soils south of the bridge are recorded as humus-iron podzols.

WASTE, MATERIALS AND USE OF NATURAL RESOURCES:

14 https://www.walkhighlands.co.uk/sutherland/dornoch.shtml (Accessed 03/06/2020)
15 https://osmaps.ordnancesurvey.co.uk/58.01506, -4.13913, 10 (Accessed 03/06/2020)
17 https://map.environment.gov.scot/seeebmap/ [Groundwater Classification] (Accessed 03/06/2020)
18 https://map.environment.gov.scot/seeebmap/ [DWPA (Ground)] (Accessed 03/06/2020)
19 http://mapapps2.bgs.ac.uk/ukso/home.html [Soils of Scotland] (Accessed 03/06/2020)
20 http://mapapps.bgs.ac.uk/geologyofbritain/home.html [Bedrock] (Accessed 03/06/2020)
21 http://mapapps.bgs.ac.uk/geologyofbritain/home.html [Superficial] (Accessed 03/06/2020)
22 http://map.environment.gov.scot/Soil_maps/?layer=11# (Accessed 03/06/2020)
Waste materials will comprise old paint removed from the structure by grit-blasting and the grit utilised for grit-blasting. These materials will be disposed of to a licensed waste facility by a licensed waste carrier with the appropriate waste transfer notes in place.

Description of the main environmental impacts of the project and proposed mitigation:

As a result of a desktop study and site visit, issues requiring consideration have been identified and potential effects, their magnitude and overall significance (based on the sensitivity of receptor) have then been considered. Effects have been split into construction and operational effects and the magnitude of effect is based on consideration of mitigation measures noted in Table 4: Environmental Impacts and Proposed Mitigation Summary.

The following headings have been set out to follow DMRB chapters for environmental assessment and do not reflect a ranking of impact severity. ‘Disruption due to construction’ and impacts on ‘policies and plans’ are covered within each environmental topic heading, where applicable. Unless otherwise stated, the study area considered for the assessment of potential impacts extends 200m in each direction from the centre of the road.

AIR AND CLIMATE:

There is potential for short-term negative impacts on air quality during construction as a result of activities such as grit-blasting and the presence of construction traffic and vehicles idling on site. The layby on the local road below the southern end of the bridge will be used as a site compound with space for material storage. Materials may also be stored within the working area, which will be encapsulated. The working area will be fully and effectively encapsulated and will include extraction equipment with dust filters to create negative air pressure within the encapsulated area. Frequent checks (at least daily) of the containment system will be required and a permit must be completed and signed off by site management prior to each period of grit-blasting. Waste materials (e.g. old paint, grit) produced during grit-blasting will be removed from the working area by vacuum extractors and piped into an enclosed skip. Upon completion of the works, the working area must be cleaned and the encapsulation material (e.g. plastic sheeting) must be dismantled and folded in such a way as to contain any trace of remaining debris before removal from site.

Provided the following mitigation measures are adhered to during the works, impacts on air quality and climate during construction are not anticipated to be significant:

- The working area on the bridge must be fully and effectively encapsulated with frequent checks (at least daily) of the containment system and completion of a sign-off permit prior to each period of grit-blasting.
- Encapsulation must include installation of extraction equipment with dust filters to create negative air pressure within the encapsulated area and vacuum extractors to pipe out waste (e.g. grit and old paint) into an enclosed skip.
- Upon completion of the works, the working area must be cleaned and the encapsulation material (e.g. plastic sheeting) must be dismantled and folded in such a way as to contain any trace of remaining debris before removal from site.
- A designated laydown area will be established at the site compound location.
- Materials stored in the laydown area will only be moved to site when they are required.
- All delivery vehicles carrying material with dust potential will be covered when traveling 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. All material will also be stored on made ground and, where feasible, 10m away from potential pollution pathways such as drains and watercourses.
- Materials should be removed from site as soon as practical.
- All plant, machinery and vehicles associated with the scheme must be maintained to the appropriate standards and must switch their engines off when not in use.
- Construction operatives will be encouraged to car-share, use organised company transport, or public transport to reduce greenhouse gas emissions.
- Where possible, materials are to be sourced locally to reduce greenhouse gas emissions associated with
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 bowers.

Good housekeeping will be employed throughout the works.

The works are not anticipated to result in significant impacts on air quality or climate during the operational phase.

CULTURAL HERITAGE AND MATERIAL ASSETS:

The only records of cultural heritage interest within 300m of the scheme include Creagan Bridge itself and two old ferry landings on the shores of Loch Creran. These records are listed on Historic Environment Scotland’s Historic Environment Record and the Canmore database. Works will be confined to the bridge and the site compound in the layby below. The bridge is not a Listed Building and works will not damage, alter, or modify the character of the bridge.

Provided the following mitigation measures are adhered to during the works, potential impacts on cultural heritage during the construction phase are not anticipated to be significant:

- There shall be no parking of construction vehicles, placement of plant, or storage of materials adjacent to walls, buildings, or fences.
- People, plant, and materials should, 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 should be reduced as much as possible and ideally be limited to access on foot.
- Should any unexpected archaeological finds be discovered during works, works will stop temporarily in the immediate vicinity and the area of interest will be cordoned off until a competent archaeologist can survey the site.

The works are not anticipated to result in significant impacts on cultural heritage interests during the construction or operational phases. There will be a slight improvement in the condition of the A828 Creagan bridge as a result of the painting works.

BIODIVERSITY:

Designated sites

A Habitats Regulations Appraisal (HRA) in relation to regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994 as amended has been carried out to assess potential impacts of the works on nearby designated sites. Details of this can be found in the accompanying SIAA (A828 60 Creagan New Painting SIAA). Although MPA(NC)s are not technically subject to HRA requirements, Loch Creran MPA(NC) was included in the SIAA based on advice from SNH.

The SIAA concluded that the works could have LSE on the qualifying features of Loch Creran SAC and MPA(NC). There is potential for LSE on the qualifying feature ‘reefs’ of Loch Creran SAC and the qualifying feature ‘flame shell beds’ of Loch Creran MPA(NC) due to pollution produced during the works. However, with appropriate mitigation measures in place to contain debris and pollution (i.e. encapsulation of the bridge), there will be no AESI with regard to the qualifying features of these sites. The SIAA also concluded that there would be no LSE on Glen Crearan Woods SAC, Eleanan agus Sgeiran Lios mor SAC, or Glen Elvie and Glen Fyne SPA due to distance from the site and mobility of some qualifying features of these sites. Consultation was carried out with SNH Operations Officer Claire Masson. Copies of correspondence are included within the SIAA.

Provided the following mitigation measures are adhered to during the works, potential impacts on designated sites during construction are not anticipated to be significant.

23 Or, where relevant, under regulation 61 of The Conservation of Habitats and Species Regulations 2010 as amended, or regulation 25 of The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 as amended.
• Full encapsulation of the underslung scaffold and working area, consisting of or equivalent to:
  • Heat-sealed plastic sheeting sealed to the concrete deck at the top and to the toe boards/deck sheeting at the bottom of the scaffold;
  • Edges, joints, seams, and gaps of plastic sheeting sealed with heat welding, tape, and/or expanding foam;
  • Thorough daily checks of encapsulation and sign-off of permit to blast prior to each period of grit-blasting;
  • Installation of extraction equipment with dust filters to create negative air pressure within the encapsulated area (i.e. air flow is into, not out of, the encapsulated area);
  • Vacuum extractors to pipe out waste (e.g. grit and old paint) into an enclosed skip;
• Upon completion of works, cleaning of working area and dismantling of plastic sheeting in such a way as to contain any trace of remaining debris before removal from site.

It is not expected that there will be any impacts on the designated sites or their qualifying features during the operational phase.

Bats

The A828 Creagan Bridge has been confirmed as both a summer and hibernation bat roost for pipistrelle bats.

Overall, Jacobs concluded that the bridge functions as a roost of low conservation significance for summer and a roost of moderate conservation significance for hibernation for common and widespread species (common pipistrelle and Pipistrellus sp., respectively). As the proposed duration of works (6 months) will span both the active and hibernation seasons, advice from a bat-licensed ecologist and consultation with SNH has been sought to develop a mitigation strategy to reduce impacts of works on bats. An application for a derogation licence from SNH was submitted on 14th August 2020 in order to complete works that would otherwise result in an offence. The works will cause disturbance of some roost features and destruction of one roost feature.

There is potential for short-term negative impacts on bats as a result of works. Noise, vibration, and lighting during works may cause temporary disturbance to roosting bats during both the active and hibernation seasons. Encapsulation of the working area may cause temporary obstruction of roost features and there is a risk of increased mortality to bats due to entrapment within the encapsulation. Therefore, to reduce impacts of works on local bat populations and to maintain the conservation status of the species using the bridge as a roost, a suite of mitigation and compensation measures has been developed by bat-licensed ecologists at Jacobs. This strategy will allow the preferred roost features behind the fascia boards on the outside faces of the bridge deck to remain open and available for bats to use during works in both the active and hibernation seasons. However, the proposed mitigation will result in the loss (via exclusion) of suitable roost features on the underside of the bridge deck and the destruction of one confirmed roost feature (used during the active season).

The following mitigation measures will ensure no significant negative impacts on the favourable conservation status or long- or short-term welfare of local bat populations:

• All conditions of any bat derogation licence issued by SNH must be adhered to during works. Any breach of the licence conditions will result in an environmental offence and persons responsible may face fines and/or prosecution.
• A copy of the bat licence and supporting information will be held on site and be available for inspection as required.
• Three bat boxes will be installed on trees between 30-100m from the bridge as compensatory roosting habitat for bats.
• A toolbox talk will be delivered to all site staff at the start of works and will be included in the induction for any additional staff arriving on site for the duration of works.
• Erection of scaffolding and full encapsulation of the bridge is scheduled for the transitional period for bats and must be completed by 31st October 2020 (prior to hibernation season), or the first week of November 2020 at the latest (subject to agreement with SNH).

The main roost feature (behind the fascia boards on the exterior of the bridge deck) must remain open and available to bats for the duration of works (i.e. outside the encapsulated area).

- Exclusion of potential roost features within the encapsulated area must be carried out by a bat-licensed ECoW during September and October 2020 as the scaffolding is erected.
- Following exclusion, there will be a lag of at least seven (up to 14) days prior to encapsulation being completely sealed to allow bats to escape.
- Doors at each end of the bridge within the encapsulation will be available to be opened to allow bats to escape if there is a residual risk of entrapment within the encapsulated area.
- The bat-licensed ECoW will attend site as required to conduct exclusion of the encapsulated area and to monitor its effectiveness during September. The ECoW will also review and assess the encapsulation once it has been completed.
- Grit-blasting works should be completed as early as possible during the hibernation period (i.e. November-December).
- Site staff must remain vigilant for bats during works and should check the encapsulated area for bats at the start of each day. If bats are found, works will stop and the bat-licensed ECoW will be contacted immediately. Works will not recommence until advised by the ECoW.

Other Protected Species

Although evidence of otter was found within 200m of the bridge, no otter resting places were identified. Therefore, a derogation licence is not required at this time to allow works to proceed. Otter are likely to be active in the area, but, where possible and safe, lighting should be angled to avoid acting as a barrier for bats roosting, commuting, or foraging in the area, with particular care taken to avoid the confirmed roost feature behind the fascia boards.

With appropriate mitigation measures and licences in place, it is expected that there will be no significant negative impacts on the favourable conservation status or long- or short-term welfare of local bat populations as a result of works.

With the above measures in place, no significant negative impacts on otter are expected as a result of works.
There is suitable habitat for nesting birds on site. However, works are planned to commence in September 2020; therefore, most works will take place outside the breeding bird season (March to August inclusive). Completion of works would be expected around March 2021, which is very early in the breeding bird season. Furthermore, works would be ongoing at the beginning of the breeding season, so it is assumed that any birds choosing to nest in the area would not be disturbed by works. The following mitigation measures will be in place during works:

- A toolbox talk on breeding birds will be provided to all site staff prior to works commencing.
- If vegetation clearance is required, it should take place outside the breeding bird season.
- If vegetation clearance is required during the breeding bird season, a check for nesting birds should be carried out within 24 hours prior to clearance if appropriate (depending on the amount and nature of vegetation to be removed and timing within the breeding bird season).
- If a nesting bird is observed on site during works, all works within 30m must stop until the BEAR Scotland NW Environment Team can provide advice.

With the above mitigation measures in place, no significant negative impacts on breeding birds are expected as a result of works.

No signs of other protected or non-native invasive species were recorded on site, but there is limited suitable habitat for pine marten (Martes martes) and red squirrel. Toolbox talks on working with these species will be provided to all site staff prior to works. No significant negative impacts on these or other protected species are expected as a result of works.

**LANDSCAPE:**

During the construction phase, there will be a temporary visual impact as a result of scaffolding and encapsulation of the working area below the bridge deck. In addition, vehicles and plant in the vicinity of the works may result in a temporary visual impact to the landscape.

The following mitigation measures will reduce impacts of works on the landscape during the construction and operational phases:

- Throughout all stages of the works, the site must be kept clean and tidy, with materials, equipment, plant, and wastes appropriately stored, minimising the landscape and visual effects.
- Works are to avoid encroaching on land and areas where work is not required or does not have permission to do so. This includes general works, storage of equipment/containers and parking.
- The working area and site compound location are to be appropriately reinstated following works.
- The site is to be left clean and tidy following construction.

Painting works will be like-for-like and therefore no long-term landscape impacts are anticipated as a result of the proposed works.

**LAND:**

There will be no loss of land or change in land use as a result of the works. During construction, a layby on the local road (old A828) running under the southern end of A828 Creagan bridge will be used as a site compound; therefore, no encroachment on unmade ground is proposed.

**NOISE**

There is potential for temporary impacts on local residents during construction as a result of noisy activities such as grit-blasting. The working area will be encapsulated with acoustic screens installed on the eastern side of the bridge to direct noise away from Dallachulish Farm, located to the southeast of the bridge. The inhabited buildings of the farm and the caravan park on the farm are located approximately 300-330m from the bridge, which is just outside the standard distance recommended for noise assessments. The Environmental Health Officer (EHO) for Argyll and Bute Council was consulted and confirmed that a noise assessment would not be required, but clear and ongoing communication with the local residents must take place.
The following mitigation measures will reduce impacts of noise generated by the works on local residents during the construction phase:

- Prior to construction, consultation will be carried out with local residents and businesses to inform them of the proposals. Residents will be provided with a 24-hour contact number for the BEAR Scotland control room.
- All site staff will receive the ‘Being a Good Neighbour’ toolbox talk as part of the site induction.
- The EHO for Argyll and Bute Council confirmed that a construction noise assessment and noise monitoring will not be required, but clear lines of communication with the local residents must be maintained throughout works.
- Working hours, notice of night deliveries, and any changes of schedule or procedures must be communicated to local residents throughout the programme.
- The Best Practicable Means, as defined in Section 72 of the Control of Pollution Act 1974, will be employed at all times during works.
- Where possible, inherently quiet plant should be selected for construction works.
- All plant and vehicles will be switched off when not in use.
- All plant will be operated in a mode that minimises noise emissions and will have been maintained regularly to comply with relevant national or international standards.
- Where fitted and Health and Safety requirements allow, white noise reversing alarms will be used on plant.
- High noise generating activities must be restricted, wherever possible, to daytime only (08:00-17:00) with a preference for weekdays.
- Night deliveries should be limited to the minimum necessary. White noise reversing alarms should be used at night wherever possible.
- Acoustic screens will be installed on the eastern side of the bridge and the southern and/or eastern side of the site compound to reduce the amount of noise travelling towards Dallachulish Farm.
- The subcontractor must locate plant and generators away from sensitive receptors as far as reasonably practicable. Where deemed necessary, acoustic screens should be used.
- The site compound will be located in a layby on the local road passing beneath the A828 Creagan bridge on the southern bank of Loch Creran, approximately 250m from Dallachulish Farm.

With the above mitigation measures in place, noise impacts from works are not expected to be significant during the construction phase. No impacts from noise are expected during the operational phase.

**POPULATION AND HUMAN HEALTH:**

There is potential for temporary impacts on local residents, vehicle travellers, and non-motorised travellers during construction as a result of lane closures on A828 Creagan bridge.

The following mitigation measures will reduce impacts of works on people using the area during the construction phase:

- Local residents will be informed of works and provided with a 24-hour contact number for the BEAR Scotland control room.
- The works will be publicised prior to commencement to inform the public of works.
- A traffic management plan will be developed in accordance with Chapter 8 of the Traffic Signs Manual to reduce disruption to vehicle travellers. Traffic management is expected to consist of lane closures with temporary traffic lights.
- Traffic management will include appropriate provisions for non-motorised users of the road such as pedestrians and cyclists who may take longer than motorised vehicles to travel the length of the traffic management.

No impacts to residents, vehicle travellers, and non-motorised travellers are expected during the operational phase.

**WATER:**

Any construction work has an inherent risk to surface waters and groundwater. There is potential for impacts on the water environment during construction as a result of activities such as grit-blasting and the presence of
fuel and oils from mechanical plant on site. The location of the works on Creagan bridge, which spans Loch Creran, also represents a risk to the water environment. Loch Creran is a sea loch and the bridge spans an area of the loch seaward of MHWS. BEAR Scotland has applied to Marine Scotland for a marine licence to allow works to go ahead and a response is expected by early September 2020. All conditions of the marine licence must be adhered to during works. In addition, the working area will be fully and effectively encapsulated and will include extraction equipment with dust filters to create negative air pressure within the encapsulated area. Frequent checks (at least daily) of the containment system will be required and a permit must be completed and signed off by site management prior to each period of grit-blasting. Waste materials (e.g. old paint, grit) produced during grit-blasting will be removed from the working area by vacuum extractors and piped into an enclosed skip. Upon completion of the works, the working area must be cleaned and the encapsulation material (e.g. plastic sheeting) must be dismantled and folded in such a way as to contain any trace of remaining debris before removal from site.

Provided the following mitigation measures are adhered to during the works, impacts on the water environment during construction are not anticipated to be significant:

- No in-water working will be carried out for the duration of the scheme.
- No discharges into the water environment are permitted.
- The working area on the bridge must be fully and effectively encapsulated with frequent checks (at least daily) of the containment system and completion of a sign-off permit prior to each period of grit-blasting.
- Encapsulation must include installation of extraction equipment with dust filters to create negative air pressure within the encapsulated area and vacuum extractors to pipe out waste (e.g. grit and old paint) into an enclosed skip.
- Upon completion of the works, the working area must be cleaned and the encapsulated material (e.g. plastic sheeting) must be dismantled and folded in such a way as to contain any trace of remaining debris before removal from site.
- All conditions of the marine licence must be complied with during construction.
- Relevant SEPA Pollution Prevention Guidelines (PPGs) and Guidance for Pollution Prevention (GPPs) must be strictly adhered to.
- The subcontractor will be required to produce a contingency plan for dealing with spills or environmental incidents.
- An incident response (contingency) plan will be put in place to minimise the risk from pollution incidents or accidental spillages. All necessary containment equipment, including suitable spill kits (for oil and chemicals) and floating booms (designed to retain oil) will be available on site, quickly accessible if needed, and staff trained in their use.
- All spills must be logged and reported. In the event of any spills into the water environment, all works must stop and the incident must be reported to the project manager and the environmental manager. SEPA and Marine Scotland must be informed of any such incident as soon as possible.
- A covered container (skip) will be provided on site to collect and contain waste material (e.g. grit, old paint) created during grit-blasting of the bridge. The skip will be lined to ensure no leakage.
- The skip should be sited at least 10m from Loch Creran and any watercourse or surface water drain to minimise the risk of runoff entering a watercourse. The skip should be on an impervious base within a secondary containment system such as a bund.
- All storage of material on site will be on an impervious base within a secondary containment system such as a bund. The base and bund walls will be impermeable to the material stored and able to contain at least 110% of the volume stored. The storage area will be sited above any flood water level and away from high-risk locations (such as a minimum of 10m from surface waters where possible).
- Appropriate spill kits will be stored on site, close to the storage area, and staff will be trained in their use.
- All hazardous material used on site is required to undergo assessment under the Control of Substances Hazardous to Health (COSHH) Regulations 2002. These materials will be stored in line with COSHH safety data sheets within a designated area, on an impermeable base, and at least 10m away from surface waters or drains where possible.
- Where fuel is stored on site, appropriate double-skinned storage containers must be used and stored on an impermeable, bunded area at least 10m from surface waters or drains where possible.
- Refuelling of mobile plant will take place in a designated area, an impermeable base away from drains and watercourses. A bunded bowser will be used, valves and hoses will be checked regularly for signs of wear, and valves will be turned off and locked when not in use. Drip trays will be positioned under pumps to catch minor spills.
- Generators and static plant should have internal bunding where possible. A secondary containment
system should also be in place during use to catch leaks or spills. For example, plant nappies or drip trays with a capacity of 110% should be placed beneath the equipment.

- Waste will be stored in designated areas, isolated from surface water drains and any area that discharges into the water environment. All skips will be covered or enclosed.
- The ground/stone around the site of a spill must be removed, double-bagged, and taken off site as special contaminated waste.
- Where materials, fuel, waste, or other items cannot be stored at least 10m from all surface waters, additional mitigation measures to prevent runoff or leaks (e.g. bunding, plant nappies) may be required.

With the above measures in place, significant impacts on the water environment are not expected during the construction phase. No impacts on the water environment are expected during the operational phase.

SOILS AND GEOLOGY:

The will be no excavations during construction and the scheme is not located within a Geological Conservation Review Site. Loch Creran MPA(NC) is designated for Quaternary of Scotland, which is a geological feature; however, no works will take place within the boundary of the MPA(NC). Therefore, no impacts are expected on soils or geology during the construction or operational phases.

WASTE, MATERIALS AND USE OF NATURAL RESOURCES:

There is potential for temporary impacts on the environment during construction due to waste, materials, and use of natural resources. Waste materials (e.g. old paint, grit) produced during grit-blasting will be removed from the working area by vacuum extractors and piped into an enclosed skip. Upon completion of the works, the working area must be cleaned and the encapsulation material (e.g. plastic sheeting) must be dismantled and folded in such a way as to contain any trace of remaining debris before removal from site.

Provided the following mitigation measures are adhered to during the works, impacts on the environment from waste, materials, and use of natural resources during construction are not anticipated to be significant:

- The subcontractor will adhere to waste management legislation and ensure they comply with their Duty of Care.
- BEAR Scotland will produce a specific Site Waste Management Plan to be followed on site.
- The working area on the bridge must be fully and effectively encapsulated with frequent checks (at least daily) of the containment system and completion of a sign-off permit prior to each period of grit-blasting.
- Encapsulation must include installation of extraction equipment with dust filters to create negative air pressure within the encapsulated area and vacuum extractors to pipe out waste (e.g. grit and old paint) into an enclosed skip.
- Upon completion of the works, the working area must be cleaned and the encapsulated material (e.g. plastic sheeting) must be dismantled and folded in such a way as to contain any trace of remaining debris before removal from site.
- 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). The subcontractor must also complete the subcontractor’s waste return spreadsheet.
- Staff to be informed that littering will not be tolerated. Staff will be encouraged to collect any litter seen on site.
- Waste types and quantities must be recorded, including quantities recycled and re-used, and reported back to BEAR Scotland in order to populate BEAR Scotland’s Waste Management Systems.
- All wastes and unused materials must be removed from site in a safe and legal manner by a licensed waste carrier upon completion of the works. The appointed waste carrier must have a valid SEPA waste carrier registration, a copy of which will be provided to and retained by BEAR Scotland as early as practicably feasible.

With the above mitigation measures in place, impacts due to waste are not expected to be significant during the construction phase. No impacts due to waste are expected during the operational phase.

RISK OF MAJOR ACCIDENTS OR DISASTERS:
A Construction Environmental Management Plan (CEMP) has been produced by BEAR Scotland which sets out a framework to reduce the risk of adverse impacts from construction activities on sensitive environmental receptors. It describes a basis for recording environmental risks, commitments, and other environmental constraints and identifies the processes and measures that will be used to manage and control these aspects. In addition, it seeks to ensure compliance with relevant environmental legislation, government policy objectives, and scheme-specific environmental objectives. It also provides a mechanism for monitoring, reviewing, and auditing environmental performance and compliance. The subcontractor will comply with all conditions of the CEMP during works and may be subject to audit throughout the contract.

A Designer’s Risk Register has also been prepared by BEAR Scotland which addresses potential environmental risks. Activity-specific Method Statements will be produced by the subcontractor and will recognise and highlight the environmental risks and detail how these will be addressed, as well as the contingency plans to be in place to deal with environmental incidents. These must be approved by BEAR Scotland prior to works commencing.

With the above measures in place, the risk of major accidents or disasters as a result of the works is considered to be low.

CUMULATIVE EFFECTS:

Works are currently underway at Connel Bridge (south of Creagan Bridge) and works are planned at Ballachulish Bridge (north of Creagan Bridge). However, standard good practice measures will be in place at these bridges to avoid environmental impacts, and the schemes are both distant from Creagan Bridge: 12km (straight-line distance) to Connel and 16km (straight-line distance) to Ballachulish. Furthermore, shoreline distance (utilised by protected mammals) between these schemes is much greater due to coastal geography and therefore provides additional buffers to sound and disturbance between the working areas. Aside from these two schemes, there are no known projects currently planned or recently completed that have the potential to contribute to in-combination or cumulative effects on the nearby designated sites or protected species in the vicinity of Creagan Bridge.

The proposed painting works will improve the condition of the bridge and protect against future deterioration of the structure. Consequently, carrying out these maintenance works now will reduce the risk that additional major refurbishment works will be required in the future. This in turn will reduce the amount of work required at this location. Therefore, it is not expected that the works will contribute to long-term significant cumulative effects on the environment in the vicinity of Creagan Bridge.

Extent of EIA work undertaken and details of consultation:

The following environmental parameters have been considered within this Record of Determination:

- Air and Climate
- Cultural Heritage and Material Assets
- Biodiversity
- Landscape
- Land
- Population and Human Health
- Water
- Noise
- Soils and Geology
- Waste, Materials and Use of Natural Resources
- Risk of Major Accidents or Disasters
- Cumulative Effects

Consultation with statutory consultees was deemed necessary because the works may potentially impact the marine environment, biodiversity receptors including designated sites and protected species, and sensitive receptors in terms of noise.
Statement of case in support of a Determination that a formal EIA and EIA Report is not required:

This is a relevant project falling within Annex II that:

- Has connectivity with several sensitive areas.

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 (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 full 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 1ha;
- The works will be temporary and short-term (less than 1 year in duration);
- The works are like-for-like maintenance that will not damage, modify, or alter the character or footprint of A828 Creagan Bridge;
- Encapsulation of the working area will be in place to prevent debris or materials from entering the surrounding environment;

**Location of the scheme:**

- Land use will not change as a result of the works;
- The HRA and SIAA produced for this scheme concluded that there will be no AESI on Loch Creran SAC or Loch Creran MPA(NC) with appropriate mitigation measures in place;
- There will be no excavations or works taking place outwith the A828 carriageway or made ground at the site compound location;
- The scheme is not located within a densely populated area;
- The scheme is not located within any areas designated for landscape interests.

**Characteristics of potential impacts of the scheme:**

- Any potential impacts of the works are expected to be temporary, short-term, and limited to the construction phase;
- Mitigation measures and licences will be in place to ensure no short-term or long-term significant negative impacts on biodiversity;
- Measures will be in place to ensure no short-term or long-term significant negative impact on local residents and road users;
- Measures will be in place to ensure appropriate removal and disposal of waste;
- The CEMP, Designer’s Risk Register, and activity-specific method statements (produced by the subcontractor) will include plans to address environmental incidents;
- No impacts on the environment are expected during the operational phase as a result of works;
- Mitigation measures detailed above and in the CEMP will ensure no significant negative impacts on sensitive receptors.
APPENDIX A: SCHEME LOCATION AND SITE PHOTOGRAPHS

Figure A1. Location of scheme. Source: Google Maps

Figure A2. Scheme plan. Source: Grid Reference Finder