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A9 Kessock Bridge 5 year Maintenance Programme

Record of Determination

	Name	Organisation	Signature	Date
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EC DIRECTIVE 97/11 (as amended)
ROADS (SCOTLAND) ACT 1984 (as amended)

RECORD OF DETERMINATION

Name of Project:

A9 Kessock Bridge 5 year Maintenance
Programme Marine Licence Application

Location:

A9 Kessock Bridge, Inverness

Structures:

A9 Kessock Bridge

Description of Project:

BEAR Scotland are applying for a marine licence to cover a 5-year programme of maintenance works on the A9 Kessock Bridge, Inverness. The maintenance activities are broken down into 'scheme' and 'cyclic maintenance'. 'Scheme' represents those works that will be required over the next 5 years, whilst 'cyclic maintenance' represents those works which may be required over the same timeframe. Inspections will also be carried out to identify the degree of maintenance activity required.

Following review of detailed bathymetric data obtained in August 2018, BEAR Scotland now anticipate that scour repairs at Kessock Bridge are unlikely to be required within the next 5 five years; hence, this activity is considered cyclic maintenance.

The activities encompass the following:

Schemes

- Fender replacement;
- Superstructure painting and
- Cable stay painting.

Cyclic maintenance

- Scour repairs;
- Drainage cleaning;
- Bird guano removal;
- Structural bolt and weld renewal;
- Mass damper re-tuning;
- Pendel bearing inspection;
- Cleaning and pressure washing superstructure
- Cable stay re-tensioning;
- Minor bridge maintenance.

All activities are highly localised and will take place within the immediate vicinity of the bridge. In most cases activity duration will be less than three months and, in several activities less than a few weeks. The exception is painting of the superstructure which will take approximately four years to complete, and cleaning and pressure washing of superstructure (maximum of 6 months to complete). There will be an overlap of painting with other maintenance activities, most notably structural bolt and weld removal which will be facilitated, as and when required, from the painting platform; however, all other maintenance activities are unlikely to be carried out simultaneously with any other activity, except painting of the superstructure.

Some of the schemes and cyclic maintenance activities will only take place from the bridge deck, including pendel bearing investigation, drainage cleaning, cable stay re-tensioning and painting. Other activities will require a degree of access beneath the bridge deck; including pressure washing, bird guano removal, structural bold and weld removal, mass damper re-tuning, minor bridge maintenance and inspections via the gantry.

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With the exception of scour repairs and fender replacement, all maintenance activities will take place above mean high water spring. Fender replacement will be carried out in the intertidal areas of the bridge piers (between mean high water and mean low water spring) and be facilitated by boat access. Scour repairs will take place within the subtidal environment.

No hydrodemolition work is required for any of the maintenance activities at Kessock Bridge.

Further detail for each of the maintenance activities is contained below. A range of good practice and management measures will be adopted by the successful contractor. These are detailed for each activity; however, the following good practice and management measures will also be adopted throughout the maintenance programme irrespective of the activity:

- The site supervisor will give toolbox talks prior to work commencing. These talks will highlight any sensitive features, including the designated sites.
- In line with good practice, the contractor will follow the updated and relevant Guidance for Pollution Prevention (GPPs) including GPP 5 (Works and maintenance in or near water). Pollution Prevention Guidance (PPGs) will be followed if no corresponding GPP is available.
- Oils, fuels and chemicals will be stored in fully bunded areas.
- Spill kits will be available on site and workers trained in their use.
- The contractor will produce a contingency plan for dealing with spills or environmental incidents.
- Any waste generated will be removed from site and either recycled or disposed of in compliance with Waste Management Regulations.

Fender Replacement

Fender replacement will involve replacing the original fenders like-for-like. Ensuring continual protection to the bridge from potential vessel strikes. It is now anticipated that these works will be completed within two months from commencement. Works will be carried out from a barge, using a crane to remove the old fenders and re-position and attach new fenders.

Drilling into the piers will be carried out at low tidal states. Fender replacement will not overlap with scour repair, should scour repair be required within the 5-year licence period.

Summary methodology

- Establish barge adjacent to piers.
- Barge will be fixed by anchors or spud-legs as opposed to thrusters.
- Old fenders removed with cranes and placed onto barge.
- Install new fenders.
- Demobilise from site.

In addition to the good practice and management measures already listed the following will be adopted:

- Production and implementation of a Biosecurity Management Plan (appended to the Site Environmental Management Plan (SEMP)) during the construction phase.
- Prior and during the construction phase, appropriate staff will be informed of relevant marine Invasive Non Native Species (INNS). These staff will receive a copy of the Biosecurity Management Plan and understand how to implement the management measures. These staff will also be cognisant of guidance produced by SNH for the prevention of introduction of non-native species (Payne *et al.*, 2014).
- The Contractor will produce a Ballast Water Management Plan¹ (if relevant) to prevent the risk of introducing invasive non-native species into the Moray Firth.

¹ <http://www.imo.org/en/OurWork/Environment/BallastWaterManagement/Pages/Default.aspx>

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- Prior to installation and immersion, all equipment will be washed and cleaned to ensure that no contaminants are brought into contact with the marine environment.
- New fenders will be cleaned prior to installation and immersion.

Superstructure Painting

Highly localised and sequential painting of the superstructure will take place for approximately four years. The majority of the work will be carried out from the deck of the bridge; however, some areas will require access from a platform beneath the bridge. Structural bolt and weld renewal (if required) will be coincident with the painting works (see below).

Due to the duration of the painting it is assumed that this activity will occur simultaneously with fender replacement and has the potential to be simultaneous with each of the proposed cyclic maintenance activities over its duration.

Summary methodology

- Install temporary access platform underneath the bridge.
- Install containment on the platform.
- Grit blast the superstructure.
- Paint superstructure.
- Move access platform and repeat steps 2, 3 and 4.
- The superstructure above deck will also be complete and fixed scaffolds will be used for access.

The following good practice and management measures will be adopted:

- All painting/grit blasting will be carried out within protective shelters (above and below the bridge deck), ensuring that all overspray is enclosed.
- All grit will be recycled and either re-used or disposed of off-site by licenced waste carriers.

Cable Stay Painting

Periodic cable stay painting is required to prevent corrosion. This will take place entirely from the deck and will take approximately three months to complete.

Summary methodology

- Establish traffic management as required.
- Use rope access to access the cable stays.
- Establish containment.
- Clean cable stay.
- Paint cable stay section.
- Repeat steps 1-5.

The following good practice measure will be adopted:

- All painting will be carried out within approved containment systems, ensuring that all overspray is enclosed.

Scour Repairs

The existing scour protection has partially eroded at some of the pile caps. Scour repairs will therefore be required at these pile caps. Should work be required over the next five years, bathymetric data suggests that it would be relatively minor repairs requiring, at most, three months of scour repair activity.

The substrata around the piers largely comprises coarse sandy. It is the intention to side-cast the excavated material, therefore the material will be redistributed in a similar location on the seabed during the activity. Following excavation, geotextile will be installed around the given pile cap. Rock armour will then be placed around the pier pile caps with backfill of voids between armour achieved by infilling of granular material (sand and gravel).

The scour repair activity will take place at sequential piers along the bridge; therefore, the activity of scour repair will be limited to the immediate area around each pier at any one time. As noted above, recent data suggests only minimal scour impacts at a limited number of piers. During the scour repair the material will be removed by

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an excavator mounted on a jack-up barge. Around the base of the piers (pile caps) the area affected by the excavation and then rock placement would be unlikely to exceed beyond a 5m radius. The area of each foot of the jack-up barge will be less than 2m².

Should scour repairs be required during the 5-year Marine Licence, they will not overlap with fender replacement.

Summary methodology of scour repairs:

- Install jack up barge to required pier location.
- Excavate around pier(s).
- Side-cast of material.
- Install geotextile.
- Place rock armour around piers.
- Demobilise from site

In addition to the good practice and management measures already listed the following will be adopted:

- Production and implementation of a Biosecurity Management Plan (appended to the SEMP) during the construction phase.
- Prior and during the construction phase, appropriate staff will be informed of relevant marine Invasive Non Native Species (INNS). These staff will receive a copy of the Biosecurity Management Plan and understand how to implement the management measures. These staff will also be cognisant of guidance produced by SNH for the prevention of introduction of non-native species (Payne *et al.*, 2014).
- The Contractor will produce a Ballast Water Management Plan (if relevant) to prevent the risk of introducing invasive non-native species into the Moray Firth.
- All rock armour will be washed and cleaned prior to immersion to ensure that no contaminants are brought into contact with the marine environment.
- All equipment to be washed down and cleaned prior to immersion

Drainage Cleaning

The drainage gullies and pipes on the bridge require periodic maintenance to ensure they are effective for draining water from the carriageway. This activity will take up to two days to complete. These works will be carried out on the surface of the bridge.

Summary methodology

- Establish traffic management as required.
- Open kerb gully.
- Clean debris from gulley using vacuum truck or hand tools.

The following good practice measure will be adopted:

- Vacuum trucks will be emptied at licensed facilities.

Bird Guano Removal

Bird guano on the crosshead beams requires periodic cleaning and removal to prevent build up. This activity will be carried out below the bridge deck. This activity will take several days to complete.

Summary methodology

- Establish traffic management as required.
- Establish underbridge access unit (lorry mounted or fixed).
- Clean crosshead beams using hand tools.

The following good practice measure will be adopted:

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- Bird guano will need to be double-bagged to prevent spillage.
- Guano will be taken to a licensed facility for disposal.

Structural Bolt and Weld Renewal

There are a large number of structural bolted and welded connections that require periodic renewal on the bridge due to corrosion or damage. During the painting works, as bolts and/or connections are identified that require maintenance, this work will be carried out. It is not expected that the work would take any more than one day each time it is required.

Summary methodology

- Establish safe system of work. This may be facilitated from the gantry, underbridge unit or lorry mounted underbridge unit.
- Traffic management to be established if required.
- Renew required bolts to design torque.
- Grind out defective weld, test and measure, restore weld and test.
- Demobilise from site.

The following good practice measure will be adopted:

- Install protective barrier around working area to prevent loss of materials (bolts).

Mass Damper Re-Tuning

Tuned mass dampers are devices mounted in bridge structures that reduce the amplitude of mechanical vibrations. In the case of Kessock this deals with traffic and seismic vibrations, preventing discomfort, damage or structural failure. This work would take up to two weeks to complete.

Summary methodology

- Access mass dampers via temporary access platform/gantry.
- Adjust counterweight/springs on dampers.
- Remove access platform/gantry from over the sea.

The following good practice measure will be adopted:

- Install protective barrier around working area to prevent loss of materials.

Pendel Bearing Inspection

These works will be carried out within the concrete box on the bridge deck that contains the pendel bearings, which need to be inspected for periodic wear and tear.

Summary methodology

- Enter pendel chamber.
- Check levels at various location of the pendel bearings.
- Exit chamber.

As this is purely an enclosed inspection, there are no materials which could enter the marine environment.

Cleaning and Pressure Washing Superstructure

The soffit of the bridge deck is periodically cleaned by hand or with a pressure washer to remove atmospheric pollution, marine salts and minor bird guano from the soffit and guide rails of the gantry. Access beneath the deck will be required. This work will take approximately six months to complete, with up to three months of this duration being required to clean under the bridge.

Summary methodology

- Establish safe system of work on the gantry.
- Clean as required by hand or using pressure washer.
- Demobilise from site.

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The following good practice measures will be adopted:

- Bird guano will be double-bagged to prevent spillage.
- Guano will be taken to a licensed facility for disposal.
- Clean potable water will be used for pressure washing.
- Testing of the steelwork will be carried out to confirm whether any pollutants are present in the marine salts.
- If pollutants are present in the marine salts then advice will be taken from SEPA if this is the case and before any pressure washing takes place.

Cable Stay Re-tensioning

Cable stays are re-tensioned to maintain structure strength. All works will be carried out from the deck and will take approximately one month to complete.

Summary methodology

- Install safe system of work as required.
- Install cable stay stressing kit.
- Re-tension cable stays.
- Move to another cable stay location.
- Repeat steps 1-4.
- Demobilise from site.

As this is purely re-tensioning works, there are no materials which could enter the marine environment.

Minor Bridge Maintenance

This entails greasing bridge components, refilling tuned mass dampers with nitrogen and cleaning the structure. These activities will all take place at or beneath the bridge deck, with duration of such works unlikely to exceed one week at any given time.

Summary methodology

- Establish safe system of work.
- Complete maintenance task.
- Demobilise from site.

The following good practice measure will be adopted:

- Containment of any working platform needed to access the underbridge area using debris netting and flooring layers.

Project Procurement:

The maintenance programme is executed by the operating company as site operations – ‘**As of Right**’ scheme with some activities being executed under **works contract**.

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:

Local air quality will be predominantly influenced by traffic travelling on the A9 and anthropogenic sources in the neighbouring settlements of Inverness, Craigton and North Kessock. The nearest air quality monitoring site is within the city of Inverness itself. At the time of writing (08/08/2018), air pollution was measured to be Low

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(1). There are numerous sensitive receptors within 500m of the bridge, including the North Kessock RNLI lifeboat station, residential properties and businesses.

Inverness's climate is classified as warm and temperate with prevailing winds mainly travelling in a south-westerly direction up the Great Glen.

CULTURAL HERITAGE AND MATERIAL ASSETS:

The Historic Environment Scotland (HES) PastMap website shows that the Kessock Bridge is recorded as a Canmore site and a Historic Environment Record (HER) site (built 1978-1982). There are no Scheduled Monuments or Listed Buildings within 300m of the proposed maintenance works.

BIODIVERSITY:

Designated Sites

Advice was received from SNH (Redacted 4th April 2018). During initial consultation regarding the proposed maintenance activities at Kessock Bridge (Appendix E) SNH advised that the proposal could lead to a potential Likely Significant Effect (LSE) on a number of qualifying features of the designated conservation sites (see Appendix E and Table 1). Accordingly a Statement to Inform Appropriate Assessment for the proposed works at Kessock Bridge, hereafter referred to as the 'SIAA', has been produced. The SIAA accompanies this document.

The sites identified as having one or more qualifying features that could potentially be affected by the proposal are:

- River Moriston SAC
- Moray Firth SAC
- Moray Firth pSPA
- Inner Moray Firth SPA
- Inner Moray Firth Ramsar
- Dornoch Firth and Morrich More SAC

The qualifying features of these designated sites include:

- Atlantic salmon
- Freshwater pearl mussels
- Bottlenose dolphin
- Wintering birds
- Harbour seal

Further detail on these sites, their features and their conservation objectives is provided within the accompanying SIAA.

Since the initial consultation, a review of the proposal has confirmed that piling works are no longer required as part of the 5-year maintenance programme. Given that no piling is required then the likelihood of a significant effect from disturbance on marine mammals or fish is significantly reduced.

The Beauly Firth Site of Special Scientific Interest (SSSI) extends 13 km from the mouth of the River Beauly in the west to Inverness and is noted primarily for its extensive saltmarsh habitats, much of which are un-grazed. Longman and Castle Stuart Bays SSSI is located to the east of the Kessock Bridge and extends approximately 8 km north eastwards from Inverness to Fisherton. The site's habitats include extensive areas of sandflats, mudflats and saltmarsh, with dense beds of eelgrass and intertidal plants such as glasswort and beaked tasselweed. Munlochy Bay SSSI, to the north-east of the Kessock Bridge, is also noted for its extensive areas of intertidal mudflats, saltmarsh and eelgrass.

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Habitats

The Inner Moray Firth has an important mosaic of habitats which include mudflats, sandflats, dense eelgrass (*Zostera spp.*) beds and extensive saltmarsh habitats, all of which support a diverse range of wintering wildfowl and waders.

Birds

The Inner Moray Firth is a nationally and internationally important area for both wintering and breeding birds. The Beaully Firth is the most important feeding and wintering area for wildfowl and waders in the whole of the Inner Moray Firth. The site regularly supports over 20,000 waterfowl and is also home to high numbers of common tern, bar-tailed godwit, greylag goose, red-breasted merganser, redshank and scaup. It also provides foraging grounds for osprey and during survey in summer 2016 an osprey was sighted feeding in the Firth, 200m east of the Kessock Bridge.

Otters

Previous surveys in 2015 and 2016 have shown that otters regularly use the firth for feeding and breeding and there is anecdotal evidence of otters being sighted beneath the Kessock Bridge (K. McCallum, Pers. Comm. 2018). There are no known otter resting places within 100m at the northern side of the bridge. A breeding holt is known to be present in rock over 500m east of the northern side of the bridge. A holt consisting of tunnels and chambers and marked with fresh spraint was discovered during a previous survey in August 2015 on the south-eastern shoreline approximately 20m east of the bridge.

Surveys in April 2018, which included camera-trapping under SNH licence 104735, revealed that otters are using the south-eastern shoreline east of the bridge for commuting purposes only. Further pre-construction/maintenance surveys will be carried out for individual schemes as they are programmed over the next 5 years.

Marine mammals

Harbour (*Phoca vitulina*) and grey (*Halichoerus grypus*) seals have been observed during previous surveys in 2015 and 2016, hauled out on a sandbank approximately 400m south-west of the bridge.

The Moray Firth supports the only known resident population of bottlenose dolphins (*Tursiops truncatus*) in the North Sea (Wilson *et al.*, 1997) estimated to be around 130 individuals. Studies on bottlenose dolphin habitat use within the Moray Firth showed that dolphin sightings were concentrated in three main regions, Kessock, Chanonry and the Sutors. The first two sites are located in the Moray Firth and the Sutors site is located at the mouth of the Cromarty Firth.

Fish

Three diadromous fish species are known to be present in the area: Atlantic salmon (*Salmo salar*), anadromous brown trout (sea trout) (*Salmo trutta*) and European eel (*Anguila anguila*). The Inner Moray Firth is an important migration route for Atlantic salmon (*Salmo salar*) and sea trout (*Salmo trutta*), both for smolts as they head out to sea, and for adult fish returning to their natal rivers to spawn. The river lamprey (*Lampetra fluviatilis*) and sea lamprey (*Petromyzon marinus*) may also be present in the wider area. All five species are listed as PMFs and are on the Scottish Biodiversity List (SBL). Atlantic salmon and lamprey are also listed on Annex II of the Habitats Directive, whilst European eel are considered Critically Endangered and are on the International Union for Conservation of Nature (IUCN) Red List.

LANDSCAPE:

The landscape surrounding the Kessock Bridge is characterised by open views across the Firth to Inverness, east to Chanonry Point and Fort George and west to views of the hills surrounding the Beaully Firth. The planned maintenance works do not lie within or in close proximity to any areas designated for landscape interest.

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LAND:

Land use is predominantly urban residential on the northern side of the Firth, with mixed woodland and coniferous forestry surrounding the residences. The city of Inverness lies to the south and west of the works, with industrial, urban and transport being the primary land uses.

NOISE:

Noise and vibration levels in the surrounding area are primarily influenced by the A9 trunk road, local roads serving nearby industrial estates and anthropogenic activities in the wider environs. Scottish noise mapping indicates that typical noise levels for day, evening and night (Lden²) range between <55 dB -75 dB and for night (Lnight³) range between 50 – 65 dB.

Sensitive receptors to noise and vibration disturbance are mainly located in North Kessock and Craigton to the north of the bridge. Other sensitive receptors are as described in the 'Air and Climate' and 'Biodiversity' sections.

POPULATION AND HUMAN HEALTH:

A pedestrian footway/cycleway lines both sides of the Kessock Bridge with the north-bound cycleway being part of National Cycle Route 1, which connects Dover and the north of Scotland. Cyclists are known to also use the A9 rather than the cycleways. Equestrians are unlikely to use the Kessock Bridge due to the high speed and volume of traffic. There is a bus-stop on the south-bound carriageway at the northern approach to the bridge.

WATER:

The Inner Moray Firth is located to the north of Inverness and is one of the major arms of the Moray Firth. It comprises the Beaully Firth and Inverness Firth, including Munlochy Bay, to form the estuarine component of the Moray Basin. It receives freshwater from a number of rivers, including its principal rivers Beaully and Ness to the west of the Kessock Bridge.

Two coastal water bodies meet beneath the Kessock Bridge; the Moray Firth and the Beaully Firth, both classified by SEPA as being at good status in 2016.

The River Beaully (Beaully Firth to Cannich) is designated by SEPA as a heavily modified water body (HMWB) on account of physical alterations that cannot be addressed without a significant impact on water storage for hydroelectricity generation. SEPA classified this water body as being at good ecological potential in 2016.

The River Ness (Inverness Firth to Loch Ness) was classified by SEPA in 2016 as being at moderate status because of impacts on its physical condition and water quality. The pressures on its physical condition are due to modifications to its beds, banks and shores as a result of urban and rural land uses. The pressures on water quality are currently unknown and more investigations into the causes are being taken forward by SEPA.

SOILS AND GEOLOGY:

The Kessock Bridge does not sit within or in close proximity to any site statutorily designated for geological interests.

Bedrock geology at the north and southern sides of the bridge is recorded as Middle Old Red Sandstone, comprising conglomerate, sandstone, siltstone and mudstone. This is sedimentary bedrock formed approximately 385 to 398 million years ago in the Devonian Period. It indicates a local environment that was previously dominated by rivers and alluvial fans.

Superficial geology is not recorded at this location.

WASTE, MATERIALS AND USE OF NATURAL RESOURCES:

Waste generated as a result of each activity will range from grit to bird guano and is described below.

² The Environmental Noise Directive requires noise levels to be assessed in terms of Lden and Lnight. Lden is the equivalent continuous noise level over a whole 24-hour period, but with noise in the evening (19:00 to 23:00) increased by 5 dB(A) and noise at night (23:00 to 07:00) increased by 10 dB(A) to reflect the greater noise-sensitivity of people at those times. Lnight is the equivalent continuous noise level over the night-time period (23:00 to 07:00). Lnight does not contain any night-time noise weighting. <http://www.noisemap.ltd.uk/home/eu%20noise%20directive.html>

³ As per 2

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Fender replacement

Existing steelwork elastomeric pads and wood will be removed to a waste disposal site off site and new materials brought in.

Superstructure painting

Waste is likely to be grit which will be contained, re-used or disposed of off site by licensed waste carriers.

Scour repairs

Materials and resources used for scour repairs will comprise rock armour and geotextile.

Drainage cleaning

Waste from the drainage system will be removed by a gully vacuum truck and disposed of at licenced waste disposal facility.

Bird guano removal

Bird guano will be double bagged to prevent spillage and removed off site for disposal to landfill.

Cleaning and pressure washing superstructure

Cleaning of superstructure is required to remove marine salts from the structure so will not require removal from site. Water required for pressure washing the bridge will be taken from an existing watermain running the length of the underside of the bridge. Volumes will amount to approximately 15,000 litres a day.

Cable stays painting

The works will entail removing defective coatings and debris, cleaning the cables with solvent and applying paint using fleece-lined gloves. All works will be contained within the mobile access cradle and will be confined to above the cycle tracks on the bridge with no requirement for access below the bridge.

Description of the main environmental impacts of the project and good practice and environmental management measures:

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 (maintenance activities) and operational effects. Generic good practice and management measures have been considered (see **Description of Project**), along with additional mitigation to determine whether the residual effect on a given receptor is significant.

The table 'Environmental Impacts and Proposed Good Practice, Management Measures and Mitigation: Summary' within the back of this document provides a summary of all the predicted effects and the good practice, management and mitigation measures that will be implemented.

In some cases, compliance with environmental consents, authorisations and licences will also form part of the measures in place to minimise environmental impacts. The table 'Environmental Impacts and Proposed Good Practice, Management Measures and Mitigation: Summary' will also include reference to the conditions of various licences, where relevant.

Unless otherwise stated, the study area considered for the assessment of potential impacts extends 200 m in each direction from the centre of the road.

AIR AND CLIMATE:

There is potential for a short-term minor decrease in air quality during the construction phase due to activities associated with the works including:

- Emissions from construction vehicles, plant and machinery;
- Resuspension of dust by haulage vehicles, other construction vehicles and from plant.

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Impacts on air quality are anticipated to be negligible, with no significant effects, with the following measures in place:

- Plant, machinery and vehicles associated with the works will have engines switched off when not in use in order to minimise emissions;
- Machinery and vehicles will have been serviced regularly;
- A traffic management plan will be in place to control the length of time that traffic needs to idle;
- Dust generated from construction activities will be minimised as far as possible via wetting down;
- Large material stockpiles will not be required and drop heights will be minimised to avoid excessive dust generation;
- Any skips holding waste on site will be covered to prevent dust movement; and
- Any loose materials will be covered during transportation to and/or from site.

During construction, there will be no significant effects in terms of heat and radiation emissions. The construction activities, for example, emissions from construction vehicles and plant will result in the release of 'greenhouse' gases for a short-term period. However, due to the short-term nature of the construction works, this effect is not considered to be significant.

The proposed work will not affect air quality during the operational stage, as operation will not differ from baseline.

CULTURAL HERITAGE AND MATERIAL ASSETS:

The 5 year maintenance programme is ultimately designed to maintain the structural and cultural integrity of the Kessock Bridge.

The scour repairs and cyclic maintenance activities will protect the structural integrity of the bridge and is likely to result in a minor significant positive impact through maintaining the cultural heritage of the bridge.

A minor positive significant impact is anticipated on cultural heritage and material assets during the operation phase.

No mitigation measures are required.

BIODIVERSITY:

Designated Sites

Advice was received from SNH (Redacted 4th April 2018). During initial consultation regarding the proposed maintenance activities at Kessock Bridge (Appendix E) SNH advised that the proposal could lead to a potential Likely Significant Effect (LSE) on a number of qualifying features of the designated conservation sites (see Appendix E and Table 1).

Since the initial consultation (4th April 2018), further detail has been provided on the good practice and management measures that will be adopted during construction, specifically those measures that would prevent the loss of materials and/or pollution in the marine environment. These measures are acknowledged and detailed further within the SIAA and also in the section **Description of Project** within this document. In addition the following good practice and management measures will also be adopted throughout the maintenance programme irrespective of the activity:

- The site supervisor will give appropriate toolbox talks prior to work commencing. These talks will highlight any sensitive features, including the designated sites and their qualifying features.
- In line with good practice, the contractor will follow the updated and relevant Guidance for Pollution Prevention (GPPs) including GPP 5 (Works and maintenance in or near water). Pollution Prevention Guidance (PPGs) will be followed if no corresponding GPP is available.
- Oils, fuels and chemicals will be stored in fully bunded areas.
- Spill kits will be available on site (including jack-up barges) and workers trained in their use.
- The contractor will produce a contingency plan for dealing with spills or environmental incidents.
- Any waste generated will be removed from site and either recycled or disposed of in compliance with Waste Management Regulations.

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Table 1: Qualifying features with potential for a LSE from the proposed works at Kessock Bridge.

Broad Feature	Associated SAC, SPA and/or Ramsar site
Atlantic salmon	River Moriston SAC
Freshwater pearl mussels	River Moriston SAC
Bottlenose dolphin	Moray Firth SAC
Wintering birds	Moray Firth pSPA, Inner Moray Firth SPA and Ramsar
Harbour seal	Dornoch Firth and Morrich More SAC

Since the initial consultation (4th April 2018), a review of the proposal has confirmed that piling works are no longer required as part of the 5-year maintenance programme. Given that no piling is required then the likelihood of a significant effect from disturbance on marine mammals or fish is significantly reduced.

With the application of specific additional mitigation the SIAA then considered the potential for LSE against each of those features identified in Table 1. It concluded that all conservation objectives of the designated sites would be maintained and thus the qualifying features and corresponding designated sites would not be adversely affected by the proposed maintenance.

Where specific additional mitigation was acknowledged for a given feature, a breakdown has been provided below. Further detail is given within the SIAA.

Atlantic salmon and freshwater pearl mussels (*River Moriston SAC*)

With the following additional mitigation measures implemented throughout the works the SIAA concluded that there would be no adverse effect on the conservation objectives of Atlantic salmon or freshwater pearl mussels:

- Normal working operations of the scour repair and fender replacement activities will take place between the hours of 07:00 to 19:00, unless there is an urgent need to extend operations. This will allow a minimum of 12 hours in every 24 hour period when no subtidal activities (scour repair and fender replacement) will be carried out.
- Fender replacement and scour repair works will be programmed, where feasible to do so, to take place outside the months of May and June when majority of Atlantic salmon migration takes place.
- Should fender replacement or scour repair work be required to take place during May and June then these activities will not take place during the weekend unless there is an urgent need to do so.
- The scour repair activity will be preceded by a 'soft start' in general activities, thus allowing a 'ramping-up' of noise levels.
- Following cessation of fender replacement or scour repair activities on any given day, works lighting will be directed away from the water, as much as practicable.
- Vessels used for the works are to maintain constant speed and direction when transiting between working areas and berth point, unless otherwise required for reasons of safe navigation.
- Vessels used for the works will adhere to set routes (in accordance with the general requirements of the Port of Inverness) for transit between working areas and berth point.
- Vessels used for the works will adhere to the general principles in the Scottish Marine Wildlife Watching Code.

Bottlenose dolphin and harbour seal (*Moray Firth SAC and Dornoch Firth and Morrich More SAC*)

With the following additional mitigation measures implemented throughout the works the SIAA concluded that there would be no adverse effect on the conservation objectives of harbour seal and bottlenose dolphin:

- Scour repair works will be programmed, where feasible, to take place outside the summer months (June to August inclusive) to avoid the harbour seal and bottlenose dolphin breeding season.
- Normal working operations of the scour repair activities will take place between the hours of 07:00 to 19:00, unless there is an urgent need to extend operations.
- The scour repair activity will be preceded by a 'soft start' in general activities, thus allowing a 'ramping-up' of noise levels.

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- Following cessation of scour repair activities on any given day, works lighting will be directed away from the water, as much as practicable.
- Vessels used for the works are to maintain constant speed and direction when transiting between working areas and berth point, unless otherwise required for reasons of safe navigation.
- Vessels used for the works will adhere to set routes (in accordance with the general requirements of the Port of Inverness for transit between working areas and berth point.
- Vessels used for the works will adhere to the general principles in the Scottish Marine Wildlife Watching Code.

Wintering Birds (*Moray Firth pSPA, Inner Moray Firth SPA and Ramsar*)

With the following additional mitigation measures implemented throughout the works the SIAA concluded that there would be no adverse effect on the conservation objectives of wintering birds:

- Normal working operations of the scour repair activities will take place between the hours of 07:00 to 19:00, unless there is an urgent need to extend operations.
- The scour repair activity will be preceded by a 'soft start' in general activities, thus allowing a 'ramping-up' of noise levels.
- Following daily cessation of fender replacement or scour repair activity in the bird overwintering period (October to March), works lighting will be directed away from the water and intertidal areas, as much as practicable.
- During the overwintering period (October to March) lighting will be kept to a minimum
- Works will be progressive eg should avoid lighting the whole bridge at the same time.
- Vessels used for the works are to maintain constant speed and direction when transiting between working areas and berth point, unless otherwise required for reasons of safe navigation.
- Vessels used for the works will adhere to set routes (in accordance with the general requirements of the Port of Inverness) for transit between working areas and berth point.
- Vessels used for the works will adhere to the general principles in the Scottish Marine Wildlife Watching Code.
- If works are required to be carried out over night the most disruptive activities will be scheduled for the earlier part of the evening.
- Where reasonably practicable, workers will avoid accessing the intertidal shores around the bridge at all times of the year.

Habitats

Scour repairs will entail the side-casting of substrata around the bridge piers. This will be highly localised, with the substrata being distributed in a similar location on the sea bed to its original location. Due to the works being within a deep navigational channel and the small amount of sediment involved, consultation with SNH has confirmed these activities are unlikely to lead to a potential LSE on the qualifying interest of subtidal sandbanks in the Moray Firth SAC (see Appendix E). Acknowledging the potential effects, the good practice and management measures (see **Description of Project**) and the nature of the habitats, it is concluded that there would be no significant long-term effect on habitats.

Birds

Staff will remain vigilant for breeding birds and nests in the treelines immediately adjacent to the proposed works (up to 10m from the carriageway), between the months of March and August inclusive. If works are required during this timeframe, pre-maintenance breeding bird checks will be required. The requirement of these surveys will be dependent on the maintenance work in question and should be taken under advisement of the BEAR Environmental Team. Should evidence of nests or breeding birds be seen on the bridge, works will stop and the site supervisor will be informed who will then seek advice from the BEAR Environment Team.

With the adoption of additional mitigation, as outlined above and in the SIAA, the effects on breeding and wintering birds from the proposal would not be significant.

Otters

There is the potential to impact otters using the area during the construction phase as a result of pollution and disturbance caused by the presence of plant and machinery, vehicles, floodlighting and increased human activity.

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This could cause disruption to normal foraging routes. An otter couch was recorded in rip rap at the southern end of the bridge during the site walkover and so an organisational licence will be required. BEAR currently hold an organisational licence that permits disturbance of otter for the purpose of preserving public health and safety.

An organisational otter licence (Number 118944 valid from 10 April 2018 to 31 December 2019) obtained by BEAR Scotland NW Unit and its accompanying Species Protection Plan (SPP) will be followed during the main works to reduce disturbance to otter; the licence and SPP are included as Appendix F. The contractor must obtain a copy of an updated or extended organisational licence, or obtain a project-specific one if the organisational one is not updated, for any works affecting otters after 31 December 2019. Conditions outlined in the licence will be followed by way of mitigation.

Otter monitoring surveys will be required if works are conducted that could impact any otter resting places. Cameras will be deployed for a period of 14 days to monitor the activity of resting places. The requirement of these surveys will be dependent on the maintenance work in question and should be taken under advisement of the BEAR Environmental Team.

The following mitigation is also proposed:

- Following the monitoring surveys, SNH will be provided with the survey data and consulted on the need for a site-specific licence and appropriate mitigation;
- Site supervisor will brief all persons on site as part of the induction process to ensure everyone is aware of the presence of otter, the mitigation measures and their legal obligations;
- The Otter Toolbox talk will be included in the Site Environmental Management Plan (SEMP) and delivered to site personnel prior to commencement of works;
- A "soft start" will be implemented on the works each day. This will involve checking under/around vehicles and the immediate work area and then switching on vehicles prior to works commencing, with the aim of ensuring no otters or other species, are in the vicinity of works before vehicular movement and there is a gradual increase in noise;
- Any excavations, entrances to pipes/drains or areas where an animal could be trapped will be covered over at the end of each shift and following completion of the works to avoid animals falling into them and becoming trapped; and
- If lighting is required during the hours of darkness during the active season it be as focused as far as is possible on the works.
- Refer to and follow above mitigation regarding adherence to PPGs and GPPs.

Marine mammals

Acknowledging the good practice and management measures, along with the adoption of additional mitigation, as outlined above and in the SIAA, the effects on marine mammals (including seals, dolphins and harbour porpoise) from the proposal would not be significant.

Fish

Acknowledging the good practice and management measures, along with the adoption of additional mitigation, as outlined above and in the SIAA, the effects on fish (Atlantic salmon and freshwater pearl mussel) from the proposal would not be significant.

In relation to migratory species such as Atlantic salmon, sea trout and European eel, specific consideration was given to the potential effects from the subtidal activity scour repair and fender replacement. Underwater noise from scour repair will be limited to the tasks of excavation and localised rock placement and are thus considered to be highly temporary. The scour repair and fender replacement work will take place at consecutive localised points along the piers and therefore will not create a barrier across the water.

Darkness is a known contributing factor to influencing the migration of fish species. As stated above, under normal working operations there would be no scour repairs or fender replacement and thus no subtidal maintenance activity, taking place from 19:00 to 07:00. Given this and the highly localised and temporary nature of the scour repair and fender replacement it is concluded that there would be no significant effect on migratory fish populations.

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LANDSCAPE:

During the maintenance works there will be a temporary visual impact as a result of works on the bridge, provision of fencing, traffic management, situation of vehicles and machinery, and use of the site compound. Due to the nature of the works and location of the site there is minimal vegetation removal expected as a result of the works. With the following mitigation in place impacts on landscape are not anticipated to be significant.

Mitigation proposed:

- Land required for building the compound area will be confined to the minimum required area, and the contractor will agree the location of the compound if it is outwith the traffic management area;
- The site will be kept clean and tidy during and following maintenance works;
- All waste will be removed from site, with a preference for recycling, otherwise disposal at a licensed waste facility in compliance with Waste Management Regulations;
- Vehicles and large machinery/equipment will be kept as clean as possible and switched off when not in use;
- Mitigation detailed in the Waste, Materials and Use of Resources and Water sections will be strictly adhered to.

LAND:

There will be no change in land use as a result of the schemes, cyclic maintenance and inspections included in the 5 year maintenance programme. No significant impacts are anticipated on land use during the construction, maintenance periods or operation phase.

NOISE:

There is a potential for disruption of sensitive receptors during the maintenance works to the protected species outlined in the Biodiversity section, as well as the residential / commercial properties described in the baseline. The maintenance works noise may be derived from the following activities:

- construction plant including vacuum trucks, concrete mixers and underbridge access units etc.;
- haulage of materials and movement of vehicles;
- road planing;
- spraying of waterproof materials;
- excavation, sidecasting and installation of new rock armour; and

With the implementation of the following mitigation, noise impacts are not anticipated to be significant.

Mitigation proposed:

- The owners and occupiers of the residential/commercial properties located within 300m of Kessock Bridge will be informed of the works at least 14 days in advance of the works;
- All plant and machinery will be switched off when not in use;
- The Being a Good Neighbour toolbox talk will be included in the SEMP and delivered to site personnel prior to works.
- 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;
- Scour repair work will not take place between the hours of 19:00 and 07:00 during normal operations;
- Night works may be required for the cyclical maintenance works but this will depend on design requirements and the contractor's programme and method of works. If required, the Highland Council Environmental Health Officer will be consulted prior to the works and evening and night-time working will be completed as quickly and efficiently as practicable;
- Where practicable, the successful contractor will try and ensure the most disruptive activities (e.g. milling, planing) are carried out within daylight hours;
- All plant will be operated in a mode that minimises noise emissions and will have been maintained regularly to comply with relevant national and international legislation;
- Where fitted and Health and Safety requirements allow, white noise reversing alarms will be used on plant to reduce noise impact;
- All site personnel will be fully briefed in advance of works regarding the need to minimise noise during the night-time period and of the site specific sensitivities;

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- Consultation will be carried out ahead of the works with affected residents to inform them of the proposals;
- Residents will be provided with a 24-hour contact number within the consultation letter;
- Temporary staff toilets/site compound will be located as far as is practicable from sensitive receptors;
- If generators are required, these will be located as far away from residences as reasonably practicable.

The proposed works are not expected to affect noise levels during the operational phase since it will not result in a change in traffic levels or dynamics.

POPULATION AND HUMAN HEALTH:

There is a potential for disruption of Non-Motorised Users (NMU) during the maintenance works. Although there are no recognised cycle routes or core paths, both pedestrians and cyclists access to the bridge will likely be impacted during the period of maintenance works, whilst traffic management measures remain in place. Equestrians are unlikely to use this section of the A9 and Kessock Bridge due to the high speed and volume of traffic. With the employment of mitigation measures, the impact on NMUs is predicted to be low and not significant. Mitigation proposed is as follows:

- The needs of NMU traffic will be considered within the design of the Traffic Management Plan; and
- NMU access over the Kessock Bridge will be maintained during and following the maintenance works as far as is practicable;
- Mitigation measures outlined in the Air Quality and Climate and Noise sections will be strictly adhered to.

There will be a temporary impact on vehicle travellers during construction due to traffic management.

Traffic management will be implemented to alleviate disruption to vehicle travellers throughout the maintenance periods. Traffic management will be required periodically and the duration of which will depend on the works required at the time. Lane closures and traffic lights will be set out in accordance with the Traffic Signs Manual Chapter 8 and Safety at Street Works and Road Works: A Code of Practice will likely be required for most of the works. Speed limits will be reduced from 50mph to 30mph throughout the works area, which is expected to result in minor delays and a slight increase in travel times along the A9. Emergency vehicles will have access through the works at all times.

With the implementation of the following mitigation, impacts on vehicle travellers are not anticipated to be significant.

Mitigation proposed:

- A Traffic Management Plan will be developed to minimise disruption to vehicle travellers;
- Traffic will be controlled by temporary traffic lights, allowing vehicles to continue to use one lane of Kessock Bridge during the construction phase;
- Motorists will be informed of works and likely delays via the Traffic Scotland website, media releases and by variable message and fixed signs; and
- Mitigation measures outlined in the Air and Climate and Noise sections will be strictly adhered to.

The proposed works will not affect the surrounding local population or human health during the operational phase since works will not result in a change in access. This includes both NMUs and vehicle users.

WATER:

With the implementation of the following mitigation, impacts on the water environment are not anticipated to be significant.

Mitigation proposed with regards to the cyclical maintenance works are as follows:

- A Marine Licence will be secured and all conditions will be adhered to;
- If required, an appropriate SEPA CAR licence will be obtained for all discharges into the Firth and the conditions of the licence will be complied with throughout the course of the works;
- Relevant Construction Industry Research and Information Association (CIRIA) guidance and SEPA's Pollution Prevention Guidelines (PPGs) and Guidance for Pollution Prevention (GPPs) will be followed including PPG 1, 6, 7, 8, 13, 18, 21 and 22. Particular attention will be paid to GPP 5: Works and

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maintenance in or near water, PPG 6: Working at construction and demolition sites and PPG 21: Pollution incident response planning;

- In the event of a pollution incident occurring, SEPA and BEAR Environment Team will be notified within 24 hours of the event;
- A contingency plan will be put in place to minimise the risk from pollution incidents or accidental spillages and all necessary containment equipment will be available on site and staff trained in its use;
- Sediment traps and sedimentation mats will be used where required during construction to prevent sediments and chemicals entering the water environment;
- All re-fuelling will take place at a designated re-fuelling site, away from the Firth and any road drains within the area of works;
- Oils, fuels and chemicals will be stored in bunded areas off the bridge at the best practice requirement of 110% of containment capacity of the volume stored. Drip trays will be used and maintained when dispensing;
- Spill trays will be fitted to all stationary construction plants;
- 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 and waste materials will be removed from site by licenced waste carriers;
- Gully cleaning vehicles are to be used which will vacuum water and debris from the gullies, and vacuum trucks will be emptied at licenced facilities;
- Bird Guano will be double bagged to prevent spillage and will be taken to a licenced facility;
- All milling works will be carried out during suitable periods of weather to ensure that waste material is not blown or washed in the water.
- Debris netting is to be installed around the area being milled as required;
- Edge protection and debris netting to be installed to ensure materials can't be knocked over the edge of the bridge during construction of the new parapet.

In addition to the above, mitigation specific to scour repair works will be adopted, which is as follows:

- All rock armour will be washed and cleaned prior to immersion to ensure that no contaminants are brought into contact with the marine environment.
- ; and
- All equipment to be washed down and cleaned prior to immersion.

The proposed works are not expected to affect water quality during the operational phase since it will not result in a change in road drainage patterns or traffic levels. There will be no change from baseline conditions.

SOILS AND GEOLOGY:

Within the 200m study area there are no sensitive receptors identified in relation to geology and soils, and no impact is predicted from the works during construction or operation. Mitigation detailed within the Water section will minimise the risk of potential contamination of soils and geology through spillages.

WASTE, MATERIALS AND USE OF NATURAL RESOURCES:

All waste will be removed from site and disposed of safely and legally, preferably by recycling or re-use. Plantings will be disposed of under a paragraph 13(a) exemption. All temporary traffic signs and road cones will be removed from site on completion of works. Waste water generated from hydro-demolition must be disposed of legally under the conditions of the CAR registration or simple licence.

Superstructure painting

Waste generated is likely to be grit which will be contained, re-used or disposed of at a licensed waste facility by licensed waste carriers.

Scour repairs

These works will require side casting of materials, comprising local sea bed substrata from around the piers. There is no requirement to dispose of materials to landfill or at sea.

Drainage cleaning

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All drainage works will involve the use of a gully vacuum truck to clean out the drainage system and materials will be disposed of at a licenced waste facility.

Bird guano removal

Bird guano will be double bagged to prevent spillage and removed off site for disposal to landfill.

Cleaning and pressure washing superstructure

Waste water volume will be unlikely to exceed 15,000 litres per day during pressure washing. Marine salts are likely to be the only deposits on the bridge, however, steelwork will be tested to confirm whether there are any pollutants present. If this is the case, advice will be taken from SEPA prior to pressure washing.

Cable stays painting

Waste will comprise empty paint tins, sacrificial PPE i.e. white painting suits, gloves and various packaging. All waste will be removed from site and disposed of safely and legally, preferably by recycling or re-use. If any of the waste is classified as COSHH waste or special waste, it will be removed from site by a specialised waste carrier with a valid SEPA waste carrier registration.

Mitigation proposed:

- The sub-contractor will adhere to waste management legislation and ensure they comply with their Duty of Care;
- The sub-contractor will provide all information on quantities of waste (including recycled and re-used) and transportation of materials required by the Operating Company;
- Re-use and recycling of waste is encouraged and the sub-contractor will be required to fully outline their plans and provide documentary evidence for waste arising from the works (e.g. waste carriers licence, transfer notes and waste exemption certificates) as well as filling in the sub-contractor's waste return spreadsheet; and
- Mitigation measures described in the Water section will be adhered to.

No impacts on waste, materials, or natural resources are predicted during the operational stage.

RISK OF MAJOR ACCIDENTS OR DISASTERS:

During the construction phase, with the implementation of appropriate signage and traffic management road users and NMUs will be made aware of lane and footpath closures and the presence of traffic lights. No significant impact on road safety is expected during the construction phase.

The works will not result in a change to the alignment or width of the road. The maintenance works are necessary to ensure the longevity of the bridge and operational reliability. The proposed works are not anticipated to result in a greater risk of major accidents during operation as there is will be no change in traffic levels or alignment.

CUMULATIVE EFFECTS:

With the good practice, management and appropriate mitigation measures in place, as described in each section, potential impacts are not considered significant. Therefore, there is no potential for significant cumulative effects.

There are two other five-year maintenance programmes scheduled over the same timeframe as the A9 Kessock Bridge; these will take place at Cromarty Bridge and Dornoch Bridge. No significant adverse effects were predicted at Kessock or Dornoch Bridge as outlined in the respective RoDs, and hence there would be no in-combination effect from these proposals with Kessock.

Appropriate programme planning will be undertaken, including scheduling the works so as to avoid simultaneous traffic management at Cromarty, Kessock and Dornoch where practicable.

Extent of EIA work undertaken and details of consultation:

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

- Air and Climate

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- Cultural Heritage and Material Assets
- Biodiversity
- Landscape
- Land
- Noise
- Population and Human Health
- Water
- 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 there are potential Biodiversity parameters which could be affected during the works. Appendix E provides a list of consultees and a synopsis of their comments.

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:

- Lies within and has connectivity with several sensitive areas, specifically the Moray Firth SAC, Moray Firth pSPA, Inner Moray Firth SPA and Ramsar site, Dornoch Firth and Morrich More SAC and the River Moriston SAC.

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. 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 5 year maintenance programme comprises a mixture of schemes, cyclic maintenance and investigations. Most of these activities, with the exception of the fender replacement and scour repair, will take place above deck with no requirement to be in the water. It is anticipated that the cyclic activities and investigations will not be carried out simultaneously with other activities and will be not be continuous throughout the 5 years;
- The works are will not exceed 1 ha;
- All works will be confined to the Kessock bridge, with no change in the structures footprint.

Location of the scheme:

- The works will take place entirely within the footprint of the bridge and the compound area, with no requirement for further land take;
- Adherence to relevant good practice and management measures (i.e. SEMP), appropriate mitigation, and the conditions of the marine licence and CAR registration or simple licence, will occur throughout the duration of the works. This will ensure protection of the environmental features and designated conservation sites.

Characteristics of potential impacts of the scheme:

- No significant adverse environmental impacts are predicted;
- Potential impacts during construction on the environmental disciplines discussed will be minimised through robust mitigation measures, good practice, management measures and compliance with licences e.g. Marine Licence.
- Operation of the bridge will not differ from existing baseline, therefore there would be no impacts on environmental receptors during the operation.

File references of supporting documentation:

- Marine Licence – applied for, awaiting licence currently

Document:

- Statement to Inform Appropriate Assessment
- Site Environmental Management Plan

I have determined, following discussions with the Project Manager, that an EIA Report is not required for this project.

SIGNATURE: (Transport Scotland Environmental Advisor)

PRINT NAME:.....

DATE:

Authorisation to publish Notice of Determination

SIGNATURE: (Director, Trunk Road and Bus Operations)

PRINT NAME:.....

DATE:

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ENVIRONMENTAL IMPACTS AND PROPOSED GOOD PRACTICE, ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURES: SUMMARY

Issue	Baseline Conditions	Impact	Mitigation
General: activity specific good practice and management measures	N/A	N/A	<p><u>All activities</u></p> <ul style="list-style-type: none"> The site supervisor will give appropriate toolbox talks prior to work commencing. These talks will highlight any sensitive features, including the designated sites and their qualifying features. In line with good practice, the contractor will follow the updated and relevant Guidance for Pollution Prevention (GPPs) including GPP 5 (Works and maintenance in or near water). Pollution Prevention Guidance (PPGs) will be followed if no corresponding GPP is available. Oils, fuels and chemicals will be stored in fully bunded areas. Spill kits will be available on site (including jack-up barges) and workers trained in their use. The contractor will produce a contingency plan for dealing with spills or environmental incidents. Any waste generated will be removed from site and either recycled or disposed of in compliance with Waste Management Regulations. <p><u>Fender Replacement</u></p> <ul style="list-style-type: none"> Production and implementation of a Biosecurity Management Plan (appended to the Site Environmental Management Plan (SEMP)) during the construction phase. Prior and during the construction phase, appropriate staff will be informed of relevant marine Invasive Non Native Species (INNS). These staff will receive a copy of the Biosecurity Management Plan and understand how to implement the management measures. These staff will also be cognisant of guidance produced by SNH for the prevention of introduction of non-native species (Payne <i>et al.</i>, 2014). The Contractor will produce a Ballast Water Management Plan⁴ (if relevant) to prevent the risk of introducing invasive non-native species into the Moray Firth. Prior to installation and immersion, all equipment will be washed and cleaned to ensure that no contaminants are brought into contact with the marine environment. New fenders will be cleaned prior to installation and immersion <p><u>Superstructure and cable stay painting</u></p> <ul style="list-style-type: none"> All painting/grit blasting will be carried out within protective shelters (above and below the bridge deck), ensuring that all overspray is enclosed. All grit will be recycled and either re-used or disposed of off-site by licenced waste carriers. <p><u>Drainage cleaning</u></p> <ul style="list-style-type: none"> Vacuum trucks will be emptied at licensed facilities. <p><u>Structural bolt and welding renewal</u></p> <ul style="list-style-type: none"> Install protective barrier around working area to prevent loss of materials (bolts). <p><u>Bird guano removal</u></p> <ul style="list-style-type: none"> Bird guano will need to be double-bagged to prevent spillage. Guano will be taken to a licensed facility for disposal. <p><u>Mass damper re-tuning</u></p> <ul style="list-style-type: none"> Install protective barrier around working area to prevent loss of materials. <p><u>Cleaning and pressure washing structure</u></p> <ul style="list-style-type: none"> Bird guano will be double-bagged to prevent spillage. Guano will be taken to a licensed facility for disposal. Clean potable water will be used for pressure washing. Testing of the steelwork will be carried out to confirm whether any pollutants are present in the marine salts. If pollutants are present in the marine salts then advice will be taken from SEPA if this is the case and before any pressure washing takes place.

⁴ <http://www.imo.org/en/OurWork/Environment/BallastWaterManagement/Pages/Default.aspx>



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			<p><u>Cable stay painting</u></p> <ul style="list-style-type: none">• All painting will be carried out within approved containment systems, ensuring that all overspray is enclosed. <p><u>Minor bridge maintenance</u></p> <ul style="list-style-type: none">• Containment of any working platform needed to access the underbridge area using debris netting and flooring layers.
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Air and Climate	<p>Local air quality will be predominantly influenced by traffic travelling on the A9 and anthropogenic sources in the neighbouring settlements of Inverness, Craigton and North Kessock. The nearest air quality monitoring site is within the city of Inverness itself. At the time of writing (08/03/2018), air pollution was measured to be Low (1). There are numerous sensitive receptors within 500m of the bridge, including the North Kessock RNLI lifeboat station, residential properties and businesses.</p> <p>Inverness's climate is classified as warm and temperate with prevailing winds mainly travelling in a south-westerly direction up the Great Glen.</p>	<p>There is potential for a short-term minor decrease in air quality during the construction phase due to activities associated with the works including:</p> <ul style="list-style-type: none"> • Emissions from construction vehicles, plant and machinery; • Resuspension of dust by haulage vehicles, other construction vehicles and from plant. 	<ul style="list-style-type: none"> • Plant, machinery and vehicles associated with the works will have engines switched off when not in use in order to minimise emissions; • Machinery and vehicles will have been serviced regularly; • A traffic management plan will be in place to control the length of time that traffic needs to idle; • Dust generated from construction activities will be minimised as far as possible via wetting down; • Large material stockpiles will not be required and drop heights will be minimised to avoid excessive dust generation; • Any skips holding waste on site will be covered to prevent dust movement; and • Any loose materials will be covered during transportation to and/or from site.
Cultural Heritage and Material Assets	<p>The Historic Environment Scotland (HES) PastMap website shows that the Kessock Bridge is recorded as a Canmore site and a Historic Environment Record (HER) site (built 1978-1982). There are no Scheduled Monuments or Listed Buildings within 300m of the proposed maintenance works.</p>	<p>The 5 year maintenance programme is ultimately designed to maintain the structural and cultural integrity of the Kessock Bridge.</p> <p>The scour repairs and cyclic maintenance activities will protect the structural integrity of the bridge and is likely to result in a minor significant positive impact through maintaining the cultural heritage of the bridge.</p> <p>A minor positive significant impact is anticipated on cultural heritage and material assets during the operation phase.</p>	<p>No mitigation measures are required.</p>

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<p>Biodiversity</p>	<p>Advice was received from SNH (Ben Leyshon, 4th April 2018). During initial consultation regarding the proposed maintenance activities at Kessock Bridge (Appendix A) SNH advised that the proposal could lead to a potential Likely Significant Effect (LSE) on a number of qualifying features of the designated conservation sites (see Appendix A and Table 1).</p> <ul style="list-style-type: none"> • River Moriston SAC • Moray Firth SAC • Moray Firth pSPA • Inner Moray Firth SPA and Ramsar • Dornoch Firth and Morrich More SAC <p>These features include</p> <ul style="list-style-type: none"> • Atlantic salmon • Freshwater pearl mussel • Bottlenose dolphin • Wintering birds • Harbour seal 	<p>With the application of specific additional mitigation the SIAA then considered the potential for LSE against each of those features identified in Table 1. It concluded that all conservation objectives of the designated sites would be maintained and thus the qualifying features and corresponding designated sites would not be adversely affected by the proposed maintenance.</p>	<p><u>Designated Sites</u></p> <p>Atlantic salmon and freshwater pearl mussels (<i>River Moriston SAC</i>)</p> <ul style="list-style-type: none"> • Normal working operations of the scour repair and fender replacement activities will take place between the hours of 07:00 to 19:00, unless there is an urgent need to extend operations. This will allow a minimum of 12 hours in every 24 hour period when no subtidal activities (scour repair and fender replacement) will be carried out. • Fender replacement and scour repair works will be programmed, where feasible to do so, to take place outside the months of May and June when majority of migration takes place. • Should fender replacement or scour repair work be required to take place during May and June then these activities will not take place during the weekend unless there is an urgent need to do so. • The scour repair activity will be preceded by a 'soft start' in general activities, thus allowing a 'ramping-up' of noise levels. • Following cessation of fender replacement or scour repair activities on any given day, works lighting will be directed away from the water, as much as practicable. • Vessels used for the works are to maintain constant speed and direction when transiting between working areas and berth point, unless otherwise required for reasons of safe navigation. • Vessels used for the works will adhere to set routes (in accordance with the general requirements of the Port of Inverness) for transit between working areas and berth point. • Vessels used for the works will adhere to the general principles in the Scottish Marine Wildlife Watching Code. <p>Bottlenose dolphin and harbour seal (<i>Moray Firth SAC and Dornopch Firth and Morrich More SAC</i>)</p> <ul style="list-style-type: none"> • Scour repair works will be programmed, where feasible, to take place outside the summer months (June to August inclusive) to avoid the harbour seal and bottlenose dolphin breeding season. • Normal working operations of the scour repair activities will take place between the hours of 07:00 to 19:00, unless there is an urgent need to extend operations. • The scour repair activity will be preceded by a 'soft start' in general activities, thus allowing a 'ramping-up' of noise levels. • Following cessation of scour repair activities on any given day, works lighting will be directed away from the water, as much as practicable. • Vessels used for the works are to maintain constant speed and direction when transiting between working areas and berth point, unless otherwise required for reasons of safe navigation. • Vessels used for the works will adhere to set routes (in accordance with the general requirements of the Port of Inverness for transit between working areas and berth point. • Vessels used for the works will adhere to the general principles in the Scottish Marine Wildlife Watching Code. <p>Wintering Birds (<i>Moray Firth pSPA, Inner Moray Firth SPA and Ramsar</i>)</p> <ul style="list-style-type: none"> • Normal working operations of the scour repair activities will take place between the hours of 07:00 to 19:00, unless there is an urgent need to extend operations. • The scour repair activity will be preceded by a 'soft start' in general activities, thus allowing a 'ramping-up' of noise levels. • Following daily cessation of fender replacement or scour repair activity in the bird overwintering period (October to March), works lighting will
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			<p>be directed away from the water and intertidal areas, as much as practicable.</p> <ul style="list-style-type: none">• During the overwintering period (October to March) lighting will be kept to a minimum• Works will be progressive eg should avoid lighting the whole bridge at the same time.• Vessels used for the works are to maintain constant speed and direction when transiting between working areas and berth point, unless otherwise required for reasons of safe navigation.• Vessels used for the works will adhere to set routes (in accordance with the general requirements of the Port of Inverness) for transit between working areas and berth point.• Vessels used for the works will adhere to the general principles in the Scottish Marine Wildlife Watching Code.• If works are required to be carried out over night the most disruptive activities will be scheduled for the earlier part of the evening.• Where reasonably practicable, workers will avoid accessing the intertidal shores around the bridge at all times of the year. <p><u>Birds</u> Staff will remain vigilant for breeding birds and nests in the treelines immediately adjacent to the proposed works (up to 10m from the carriageway), between the months of March and August inclusive. If works are required during this timeframe, pre-maintenance breeding bird checks will be required. The requirement of these surveys will be dependent on the maintenance work in question and should be taken under advisement of the BEAR Environmental Team. Should evidence of nests or breeding birds be seen at any time, works will stop and the site supervisor will be informed who will then seek advice from the BEAR Environment Team.</p> <p><u>Otters</u> Otter monitoring surveys will be required if works are conducted that could impact any otter resting places. Cameras will be deployed for a period of 14 days to monitor the activity of resting places. The requirement of these surveys will be dependent on the maintenance work in question and should be taken under advisement of the BEAR Environmental Team.</p> <p>The following mitigation is also proposed:</p> <ul style="list-style-type: none">• Following the monitoring surveys, SNH will be provided with the survey data and consulted on the need for a site-specific licence and appropriate mitigation;• Site supervisor will brief all persons on site as part of the induction process to ensure everyone is aware of the presence of otter, the mitigation measures and their legal obligations;• The Otter Toolbox talk will be included in the Site Environmental Management Plan (SEMP) and delivered to site personnel prior to commencement of works;• A "soft start" will be implemented on the works each day. This will involve checking under/around vehicles and the immediate work area and then switching on vehicles prior to works commencing, with the aim of ensuring no otters or other species, are in the vicinity of works before vehicular movement and there is a gradual increase in noise;• Any excavations, entrances to pipes/drains or areas where an animal could be trapped will be covered over at the end of each shift and following completion of the works to avoid animals falling into them and becoming trapped; and• If lighting is required during the hours of darkness during the active season it be as focused as far as is possible on the works.
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			<ul style="list-style-type: none">Refer to and follow above mitigation regarding adherence to PPGs and GPPs.
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Landscape	The landscape surrounding the Kessock Bridge is characterised by open views across the Firth to Inverness, east to Chanonry Point and Fort George and west to views of the hills surrounding the Beauly Firth. The planned maintenance works do not lie within or in close proximity to any areas designated for landscape interest.	During the maintenance works there will be a temporary visual impact as a result of works on the bridge, provision of fencing, traffic management, situation of vehicles and machinery, and use of the site compound. Due to the nature of the works and location of the site there is minimal vegetation removal expected as a result of the works.	<ul style="list-style-type: none"> Land required for building the compound area will be confined to the minimum required area, and the contractor will agree the location of the compound if it is outwith the traffic management area; The site will be kept clean and tidy during and following maintenance works; All waste will be removed from site, with a preference for recycling, otherwise disposal at a licensed waste facility in compliance with Waste Management Regulations; Vehicles and large machinery/equipment will be kept as clean as possible and switched off when not in use; Mitigation detailed in the Waste, Materials and Use of Resources and Water sections will be strictly adhered to. Use of Natural Resources' section will be adhered to.
Land	Land use is predominantly urban residential on the northern side of the Firth, with mixed woodland and coniferous forestry surrounding the residences. The city of Iverness lies to the south and west of the works, with industrial, urban and transport being the primary land uses.	There will be no change in land use as a result of the schemes, cyclic maintenance and inspections included in the 5 year maintenance programme. No significant impacts are anticipated on land use during the construction, maintenance periods or operation phase.	<ul style="list-style-type: none"> None required.

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<p>Noise</p>	<p>Noise and vibration levels in the surrounding area are primarily influenced by the A9 trunk road, local roads serving nearby industrial estates and anthropogenic activities in the wider environs. Scottish noise mapping indicates that typical noise levels for day, evening and night (Lden) range between <55 dB -75 dB and for night (Lnight) range between 50 – 65 dB.</p> <p>Sensitive receptors to noise and vibration disturbance are mainly located in North Kessock and Craigton to the north of the bridge. Other sensitive receptors are as described in the 'Air and Climate' and 'Biodiversity' sections.</p>	<p>There is a potential for disruption of sensitive receptors during the maintenance works to the protected species outlined in the Biodiversity section, as well as the residential / commercial properties described in the baseline. The maintenance works noise may be derived from the following activities:</p> <ul style="list-style-type: none"> • construction plant including vacuum trucks, concrete mixers and underbridge access units etc.; • haulage of materials and movement of vehicles; • road planing; • spraying of waterproof materials; • excavation, sidecasting and installation of new rock armour. 	<ul style="list-style-type: none"> • The owners and occupiers of the residential/commercial properties located within 300m of Kessock Bridge will be informed of the works at least 14 days in advance of the works; • All plant and machinery will be switched off when not in use; • The Being a Good Neighbour toolbox talk will be included in the SEMP and delivered to site personnel prior to works. • 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; • Scour repair work will not take place between the hours of 19:00 and 07:00 during normal operations; • Night works may be required for the cyclical maintenance works but this will depend on design requirements and the contractor's programme and method of works. If required, the Highland Council Environmental Health Officer will be consulted prior to the works and evening and night-time working will be completed as quickly and efficiently as practicable; • Where practicable, the successful contractor will try and ensure the most disruptive activities (e.g. milling, planing) are carried out within daylight hours; • All plant will be operated in a mode that minimises noise emissions and will have been maintained regularly to comply with relevant national and international legislation; • Where fitted and Health and Safety requirements allow, white noise reversing alarms will be used on plant to reduce noise impact; • All site personnel will be fully briefed in advance of works regarding the need to minimise noise during the night-time period and of the site specific sensitivities; • Consultation will be carried out ahead of the works with affected residents to inform them of the proposals; • Residents will be provided with a 24-hour contact number within the consultation letter; • Temporary staff toilets/site compound will be located as far as is practicable from sensitive receptors; • If generators are required, these will be located as far away from residences as reasonably practicable. •
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<p>Population and Human Health</p>	<p>A pedestrian footway/cycleway lines both sides of the Kessock Bridge with the north-bound cycleway being part of National Cycle Route 1, which connects Dover and the north of Scotland. Cyclists are known to also use the A9 rather than the cycleways. Equestrians are unlikely to use the Kessock Bridge due to the high speed and volume of traffic.</p> <p>There is a bus-stop on the south-bound carriageway at the northern approach to the bridge.</p>	<p>There is a potential for disruption of Non-Motorised Users (NMU) during the maintenance works. Although there are no recognised cycle routes or core paths, both pedestrians and cyclists access to the bridge will likely be impacted during the period of maintenance works, whilst traffic management measures remain in place. Equestrians are unlikely to use this section of the A9 and Kessock Bridge due to the high speed and volume of traffic. With the employment of mitigation measures, the impact on NMUs is predicted to be low and not significant.</p> <p>There will be a temporary impact on vehicle travellers during construction due to traffic management.</p> <p>Traffic management will be implemented to alleviate disruption to vehicle travellers throughout the maintenance periods. Traffic management will be required periodically and the duration of which will depend on the works required at the time. Lane closures and traffic lights will be set out in accordance with the Traffic Signs Manual Chapter 8 and Safety at Street Works and Road Works: A Code of Practice will likely be required for most of the works. Speed limits will be reduced from 50mph to 30mph throughout the works area, which is expected to result in minor delays and a slight increase in travel times along the A9. Emergency vehicles will have access through the works at all times.</p>	<ul style="list-style-type: none"> • The needs of NMU traffic will be considered within the design of the Traffic Management Plan; and • NMU access over the Kessock Bridge will be maintained during and following the maintenance works as far as is practicable; • Mitigation measures outlined in the Air Quality and Climate and Noise sections will be strictly adhered to. • A Traffic Management Plan will be developed to minimise disruption to vehicle travellers; • Traffic will be controlled by temporary traffic lights, allowing vehicles to continue to use one lane of Kessock Bridge during the construction phase; • Motorists will be informed of works and likely delays via the Traffic Scotland website, media releases and by variable message and fixed signs; and • Mitigation measures outlined in the Air and Climate and Noise sections will be strictly adhered to.
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<p>Water</p>	<p>The Inner Moray Firth is located to the north of Inverness and is one of the major arms of the Moray Firth. It comprises the Beauly Firth and Inverness Firth, including Munlochy Bay, to form the estuarine component of the Moray Basin. It receives freshwater from a number of rivers, including its principal rivers Beauly and Ness to the west of the Kessock Bridge.</p> <p>Two coastal water bodies meet beneath the Kessock Bridge; the Moray Firth and the Beauly Firth, both classified by SEPA as being at good status in 2016.</p> <p>The River Beauly (Beauly Firth to Cannich) is designated by SEPA as a heavily modified water body (HMWB) on account of physical alterations that cannot be addressed without a significant impact on water storage for hydroelectricity generation. SEPA classified this water body as being at good ecological potential in 2016.</p> <p>The River Ness (Inverness Firth to Loch Ness) was classified by SEPA in 2016 as being at moderate status because of impacts on its physical condition and water quality. The pressures on its physical condition are due to modifications to its beds, banks and shores as a result of urban and rural land uses. The pressures on water quality are currently unknown and more investigations into the causes are being taken forward by SEPA.</p>	<p>There is potential to impact the water environment during the construction phases of fender replacement, scour repair and painting the superstructure. With the implementation of the following mitigation, impacts on the water environment are not anticipated to be significant.</p>	<ul style="list-style-type: none"> • A Marine Licence will be secured and all conditions will be adhered to; • If required, an appropriate SEPA CAR licence will be obtained for all discharges into the Firth and the conditions of the licence will be complied with throughout the course of the works; • Relevant Construction Industry Research and Information Association (CIRIA) guidance and SEPA's Pollution Prevention Guidelines (PPGs) and Guidance for Pollution Prevention (GPPs) will be followed including PPG 1, 6, 7, 8, 13, 18, 21 and 22. Particular attention will be paid to GPP 5: Works and maintenance in or near water, PPG 6: Working at construction and demolition sites and PPG 21: Pollution incident response planning; • In the event of a pollution incident occurring, SEPA and BEAR Environment Team will be notified within 24 hours of the event; • A contingency plan will be put in place to minimise the risk from pollution incidents or accidental spillages and all necessary containment equipment will be available on site and staff trained in its use; • Sediment traps and sedimentation mats will be used where required during construction to prevent sediments and chemicals entering the water environment; • All re-fuelling will take place at a designated re-fuelling site, away from the Firth and any road drains within the area of works; • Oils, fuels and chemicals will be stored in bunded areas off the bridge at the best practice requirement of 110% of containment capacity of the volume stored. Drip trays will be used and maintained when dispensing; • Spill trays will be fitted to all stationary construction plants; • 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 and waste materials will be removed from site by licenced waste carriers; • Gully cleaning vehicles are to be used which will vacuum water and debris from the gullies, and vacuum trucks will be emptied at licenced facilities; • Bird Guano will be double bagged to prevent spillage and will be taken to a licenced facility; • All milling works will be carried out during suitable periods of weather to ensure that waste material is not blown or washed in the water. • Debris netting is to be installed around the area being milled as required; • Edge protection and debris netting to be installed to ensure materials can't be knocked over the edge of the bridge during construction of the new parapet. <p>In addition to the above, mitigation specific to scour repair works will be adopted, which is as follows:</p> <ul style="list-style-type: none"> • All rock armour will be washed and cleaned prior to installation to ensure that no contaminants are brought into contact with the marine environment; and • All equipment to be washed down and cleaned prior to immersion.
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Soils and Geology	<p>The Kessock Bridge does not sit within or in close proximity to any site statutorily designated for geological interests.</p> <p>Bedrock geology at the north and southern sides of the bridge is recorded as Middle Old Red Sandstone, comprising conglomerate, sandstone, siltstone and mudstone. This is sedimentary bedrock formed approximately 385 to 398 million years ago in the Devonian Period. It indicates a local environment that was previously dominated by rivers and alluvial fans.</p> <p>Superficial geology is not recorded at this location.</p>	<p>Within the 200m study area there are no sensitive receptors identified in relation to geology and soils, and no impact is predicted from the works during construction or operation. Mitigation detailed within the Water section will minimise the risk of potential contamination of soils and geology through spillages.</p>	<p>No mitigation required</p>
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<p>Waste, Materials and Use of Natural Resources</p>	<p>Waste generated as a result of each activity will range from grit to bird guano and is described below.</p> <p><u>Fender replacement</u> Existing steelwork elastomeric pads and wood will be removed to a waste disposal site off site and new materials brought in.</p> <p><u>Superstructure painting</u> Waste is likely to be grit which will be contained, re-used or disposed of off site by licensed waste carriers.</p> <p><u>Scour repairs</u> Scour repairs are to be carried out by excavating and side casting existing material on the sea-bed in the location of the piers. There is no requirement to dispose of at sea or to landfill.</p> <p><u>Drainage cleaning</u> Waste from the drainage system will be removed by a gully vacuum truck and disposed of at licenced waste disposal facility.</p> <p><u>Bird guano removal</u> Bird guano will be double bagged to prevent spillage and removed off site for disposal to landfill.</p> <p><u>Cleaning and pressure washing superstructure</u> Cleaning of superstructure is required to remove marine salts from the structure so will not require removal from site. Water required for pressure washing the bridge will be taken from an existing watermain running the length of the underside of the bridge. Volumes will amount to approximately 15,000 litres a day.</p> <p><u>Cable stays painting</u> The works will entail removing defective coatings and debris, cleaning the cables with solvent and applying paint using fleece-lined gloves. All works will be contained within the mobile access cradle and will be confined to above the cycle tracks on the bridge with no requirement for access below the bridge.</p>	<p>No impacts on waste, materials, or natural resources are predicted during the operational stage.</p>	<ul style="list-style-type: none"> • The sub-contractor will adhere to waste management legislation and ensure they comply with their Duty of Care; • The sub-contractor will provide all information on quantities of waste (including recycled and re-used) and transportation of materials required by the Operating Company; • Re-use and recycling of waste is encouraged and the sub-contractor will be required to fully outline their plans and provide documentary evidence for waste arising from the works (e.g. waste carriers licence, transfer notes and waste exemption certificates) as well as filling in the sub-contractor's waste return spreadsheet; and • Mitigation measures described in the Water section will be adhered to.
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Risk of Major Accidents or Disasters	N/A	<p>During the construction phase, with the implementation of appropriate signage and traffic management road users and NMUs will be made aware of lane and footpath closures and the presence of traffic lights. No significant impact on road safety is expected during the construction phase.</p> <p>The works will not result in a change to the alignment or width of the road. The maintenance works are necessary to ensure the longevity of the bridge and operational reliability. The proposed works are not anticipated to result in a greater risk of major accidents during operation as there is will be no change in traffic levels or alignment.</p>	No mitigation required
Cumulative Effects	N/A	<p>There are two other 5-year maintenance programmes scheduled over the same timeframe as, and in close proximity to, the A9 Kessock Bridge, specifically the A9 Cromarty Bridge and A9 Dornoch Bridge.</p> <p>This will result in some additional disruption to road users. This is unlikely to be significant as the maintenance activities will take place periodically throughout the 5 year period and will be programmed to avoid being carried out at the same time as other schemes. Furthermore, appropriate traffic management will be in place to minimise disruption.</p>	<ul style="list-style-type: none"> • Mitigation detailed in the RoD and SEMP will be adhered to; • Nearby residents to be informed of the works; <p>There will be media releases and signage to inform drivers of traffic management.</p>

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APPENDIX A: SCHEME LOCATION AND EXTENTS



Figure A1: Location of A9 Kessock Bridge

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APPENDIX B: AIR AND CLIMATE

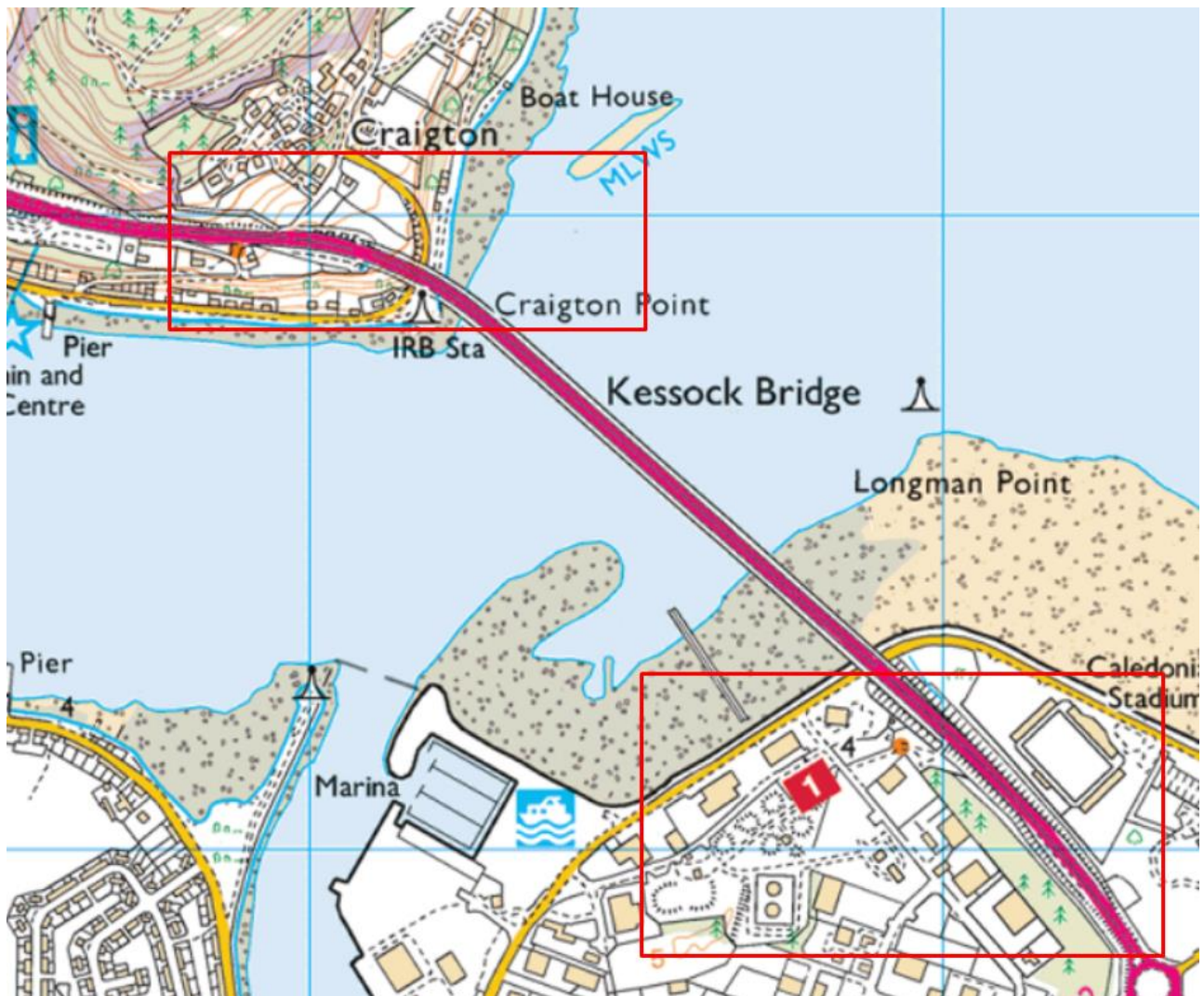


Figure B1: Receptors within 300m of scheme

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APPENDIX C: CULTURAL HERITAGE AND MATERIAL ASSETS



Figure C1: Sites of cultural heritage interest recorded within 300 m of works programme. Source: HES PastMap

Table C1: Details of sites of cultural heritage interest within 300m of works programme. Source: HES PastMap

Dataset	Dataset UID	Name	OS NGR	Classification
HERHIG HL	MHG3068	Kessock Bridge	Out of range	BRIDGE
HERHIG HL	MHG33641	Human remains, N Kessock Point	Out of range	HUMAN REMAINS
HERHIG HL	MHG30270	Inverness, volunteer rifle range	Out of range	FIRING RANGE
HERHIG HL	MHG25807	Craigton	Out of range	TOWNSHIP
HERHIG HL	MHG37806	LAUREL: LONGMAN POINT, INVERNESS, BEAULY FIRTH	Out of range	WRECK
HERHIG HL	MHG47430	Unknown: Longman Point, Inverness, Beaulay Firth	Out of range	WRECK

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HERHIG HL	MHG48590	Earl Of Montrose: Longman Point, Inverness, Beauly Firth	Out of range	WRECK
HERHIG HL	MHG49496	Craigton Point, Beacon	Out of range	BEACON
HERHIG HL	MHG49987	Darling: Longman Point, Inverness, Beauly Firth	Out of range	WRECK
RCAHMS	68591	INVERNESS, KESSOCK BRIDGE	NH 66100 48100	ROAD BRIDGE
RCAHMS	280011	CRAIGTON POINT, BEACON	NH 66187 47840	BEACON
RCAHMS	299509	INVERNESS, LONGMAN AIRFIELD, TYPE 24 PILLBOX	NH 66870 47160	PILLBOX (20TH CENTURY)
RCAHMS _MAR	209340	LAUREL: LONGMAN POINT, INVERNESS, BEAULY FIRTH	NH 66900 47600	STEAMSHIP (19TH CENTURY)
RCAHMS _MAR	261592	UNKNOWN: LONGMAN POINT, INVERNESS, BEAULY FIRTH	NH 66900 47600	GALLIOT (19TH CENTURY)
RCAHMS _MAR	273245	EARL OF MONTROSE: LONGMAN POINT, INVERNESS, BEAULY FIRTH	NH 66900 47600	CRAFT (19TH CENTURY)
RCAHMS _MAR	283998	DARLING: LONGMAN POINT, INVERNESS, BEAULY FIRTH	NH 66900 47600	CRAFT (19TH CENTURY)

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APPENDIX D: BIODIVERSITY

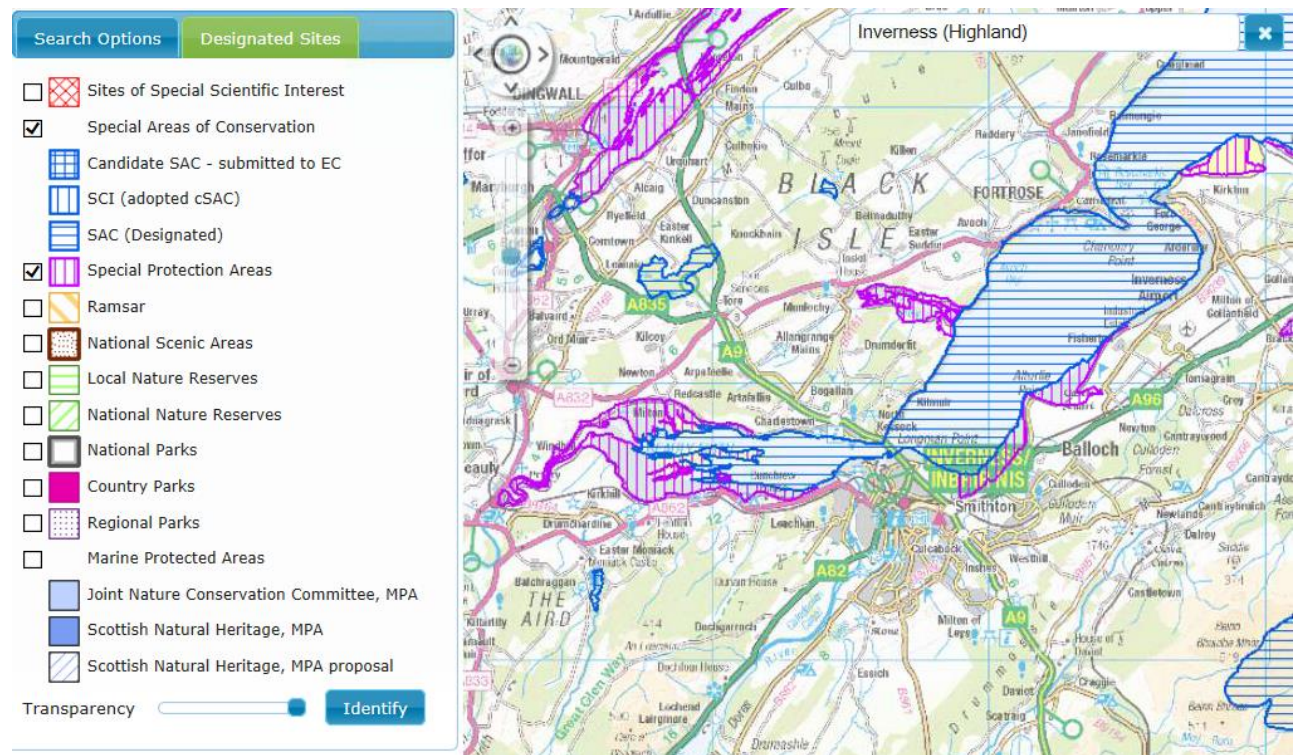


Figure D1: SNH Sitelink search results

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Table D1: NBN Atlas search results within 5 km of the scheme

Taxon Name	Common Name	Taxon Group	Licence
<i>Lutra lutra</i>	European otter	Terrestrial Mammal	CC-BY (Whale and Dolphin Conservation)
<i>Meles meles</i>	Eurasian badger	Terrestrial Mammal	CC-BY (Mammal Society)
<i>Myotis daubentonii</i>	Daubenton's bat	Terrestrial Mammal	CC-BY (HRBG)
<i>Myotis nattereri</i>	Natterer's bat	Terrestrial Mammal	
<i>Pipistrellus pipistrellus</i>	Common pipistrelle	Terrestrial Mammal	CC-BY (Wildlife Information Centre)
<i>Pipistrellus pygmaeus</i>	Soprano pipistrelle	Terrestrial Mammal	CC-BY (Wildlife Information Centre)
<i>Plecotus auritus</i>	Brown long-eared Bat	Terrestrial Mammal	OGL (SNH)
<i>Anguilla anguilla</i>	European eel	Bony Fish	CC-BY (HRBG)
<i>Salmo trutta</i>	Sea trout	Bony Fish	CC-BY (Biological Records Centre)
<i>Salmo salar</i>	Atlantic salmon	Bony Fish	CC-BY (Biological Records Centre)
<i>Phocoena phocoena</i>	Common porpoise	Marine Mammal	CC-BY (HRBG)
<i>Lagenorhynchus acutus</i>	Atlantic white-sided dolphin	Marine Mammal	CC-BY (HRBG)
<i>Tursiops truncatus</i>	Bottle-nosed dolphin	Marine Mammal	CC-BY (Whale and Dolphin Conservation)
<i>Phoca vitulina</i>	Harbour seal	Marine Mammal	CC-BY (Whale and Dolphin Conservation)
<i>Halichoerus grypus</i>	Grey seal	Marine Mammal	CC-BY (Whale and Dolphin Conservation)
<i>Erignathus barbatus</i>	Bearded seal	Marine Mammal	CC-BY (HRBG)

Table D2: Invasive non-native species recorded on the NBN Atlas within 5 km of the scheme

Taxon Name	Common Name	Taxon Group	Licence
<i>Neovison vison</i>	American mink	Terrestrial mammal	CC-BY (HRBG)
<i>Pasifastacus leniusculus</i>	North American signal crayfish	Crustacean	CC-BY (Biological Records Centre)

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APPENDIX E: CONSULTATION

Summary of Consultation

Consultee	Consultee Response	Addressing Concerns
SNH	<ul style="list-style-type: none"> The Moray Firth potential Special Protection Area should be scoped in to the HRA. LSE, yes. Screen in, yes. Most of the proposed works will be carried out above MHWS and the mitigation measures described should ensure that no materials or pollution will enter the Moray Firth. For all works above MHWS the position outlined in the attached response dated 22 January 2016 apply. Two of the proposed operations (i.e. 4.1.1 Fender replacement and 4.1.5 Scour Repairs) will be carried out below MHWS. For these operations there is LSE for the Moray Firth SAC (dolphin interest) and the River Moriston SAC (Atlantic salmon and freshwater pearl mussel interest) for the reasons you have stated in the HRA screening spreadsheet. We advise that the Dornoch Firth and Morrich More SAC (harbour seal interest) is also LSE, yes and Screen in, yes for these operations. This is because there is connectivity between seals in the Dornoch Firth and the Beaully Firth. 	<p>Habitats Regulations Appraisal for designated sites:</p> <ul style="list-style-type: none"> Moray Firth pSPA Inner Moray Firth SPA and Ramsar Site Moray Firth SAC River Moriston SAC
MS-Lot	Separate marine licence applications should be submitted for each bridge and no PAC is required.	We have submitted individual marine licence applications for each of the bridges.
Ness District salmon Fisheries Board	No response	Robust good practice and management measures have been put in place to protect the water environment

Copy of correspondence with Redacted **SNH, 07/03/2018**

From: Redacted

Sent: 07 March 2018 15:56

To: SOUTH_HIGHLAND

Subject: A9 Kessock Bridge 5 year Marine Licence - pre-application HRA consultation

Good afternoon,

Transport Scotland

Trunk Road and Bus Operations

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BEAR Scotland have been commissioned by Transport Scotland to apply for a 5 year Marine Licence to cover a 5 year programme of maintenance works on the A9 Kessock Bridge, Inverness. The Bridge spans and has connectivity with several Natura 2000 sites and a Ramsar site, listed below along with their qualifying interests. As part of the pre-application process, a Habitats Regulations Appraisal has been carried out to determine whether any of the activities planned could have a likely significant effect on any of the qualifying interests of the relevant sites.

Description of Works

Various maintenance activities will take place over the next 5 years during all times of the year with some work possible being required during night-time hours (see attached programme). Different activities will take place above and below MHWS with some required to be carried out in the sub-tidal zone, specifically piling and scour repair.

Designated sites

1. Moray Firth Special Area of Conservation (SAC) – qualifying interests of:

- Subtidal sandbanks,
- Bottlenose dolphin (*Tursiops truncatus*)

2. Inner Moray Firth Special Protection Areas (SPA) – qualifying interests of:

- Bar-tailed godwit (*Limosa lapponica*) non-breeding
- Common tern (*Sterna hirundo*) breeding
- Cormorant (*Phalacrocorax carbo*) non-breeding
- Curlew (*Numenius arquata*) non-breeding
- Goldeneye (*Bucephala clangula*) non-breeding
- Goosander (*Mergus merganser*) non-breeding
- Greylag goose (*Anser anser*) non-breeding
- Osprey (*Pandion haliaetus*) breeding
- Oystercatcher (*Haematopus ostralegus*) non-breeding
- Red-breasted merganser (*Mergus serrator*) non-breeding
- Redshank (*Tringa totanus*)
- Scaup (*Aythya marila*) non-breeding
- Teal (*Anas crecca*) non-breeding
- Waterfowl assemblage non-breeding
- Wigeon (*Anas Penelope*) non-breeding

3. Inner Moray Firth Ramsar Site – qualifying interests of:

- Bar-tailed godwit (*Limosa lapponica*) non-breeding
- Greylag goose (*Anser anser*) non-breeding
- Intertidal mudflats and sandflats
- Red-breasted merganser (*Mergus serrator*) non-breeding
- Redshank (*Tringa totanus*) non-breeding
- Saltmarsh
- Sand dune
- Shingle
- Waterfowl assemblage, non-breeding

4. Dornoch Firth and Morrich More SAC – qualifying interests of:

- Subtidal sandbanks
- Atlantic salt meadows
- Glasswort and other annuals colonising mud and sand
- Estuaries
- Intertidal mudflats and sandflats

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- Otter (*Lutra lutra*)
 - Harbour seal (*Phoca vitulina*)
 - Dunes with juniper thickets
 - Shifting dunes
 - Dune grassland
 - Shifting dunes with marram
 - Coastal dune heathland
 - Humid dune slacks
 - Lime-deficient dune heathland with crowberry
5. River Moriston SAC – qualifying interests of:
- Atlantic salmon (*Salmo salar*)
 - Freshwater pearl mussel (*Margaritifera margaritifera*)

Please find attached a spreadsheet to show the screening stage for 'likely significant effect' for the above qualifying interests. I'd appreciate it if you could confirm whether SNH are in agreement with this. For information, the environment team at BEAR Scotland will produce a Statement to Inform Appropriate Assessment on behalf of Transport Scotland as the competent authority for roads projects.

If you need to discuss further, please do not hesitate to contact me on the number below. I look forward to hearing from you in due course.

Kind regards,

Red

Redacted
Environmental Manager
BEAR Scotland | North West Unit

From: Redacted
Sent: 04 April 2018 17:13
To: Redacted
Subject: RE: A9 Kessock Bridge 5 year Marine Licence - pre-application HRA consultation

Dear Red

Many thanks for your e-mail below.

We offer the following advice:

- The [Moray Firth potential Special Protection Area](#) should be scoped in to the HRA. LSE, yes. Screen in, yes.
- Most of the proposed works will be carried out above MHWS and the mitigation measures described should ensure that no materials or pollution will enter the Moray Firth. For all works above MHWS the position outlined in the attached response dated 22 January 2016 apply.
- Two of the proposed operations (i.e. 4.1.1 Fender replacement and 4.1.5 Scour Repairs) will be carried out below MHWS. For these operations there is LSE for the Moray Firth SAC (dolphin interest) and the River Moriston SAC (Atlantic salmon and freshwater pearl mussel interest) for the reasons you have stated in the HRA screening spreadsheet. We advise that the Dornoch Firth and Morrich More SAC (common seal interest) is also LSE, yes and Screen in, yes for these operations. This is because there is connectivity between seals in the Dornoch Firth and the Beaully Firth.

I hope these comments are helpful but if you have any questions then please contact me.

Best regards,

Transport Scotland
Trunk Road and Bus Operations

Document:

Re

R

Scottish Natural Heritage | Dingwall | Fodderty Way | Dingwall Business Park | Dingwall | IV15 9XB | t: Redacted

Inbhir Pheofharain | Slighe Fhodhraitidh | Pàirc Gnothachais | Inbhir Pheofharain | Inbhir Pheofharain | IV15 9XB

nature.scot – Connecting People and Nature in Scotland – [@nature_scot](https://twitter.com/nature_scot)

Copy of correspondence with MS-Lot 29/03/2018

Consultation with MS-Lot:

From: MS.MarineLicensing@gov.scot <MS.MarineLicensing@gov.scot>

Sent: 29 March 2018 09:18

To: Redacted

Subject: RE: Marine Licence Applications for 5 year maintenance programme_BEAR Scotland

H Red ,

I have reviewed the documentation and suggest that a separate marine licence application for each of the bridges is submitted.

From the information provided, I do not anticipate that these works would require PAC.

Kind Regards

Redac

From: Redacted

Sent: 22 March 2018 09:42

To: MS Marine Licensing

Subject: Marine Licence Applications for 5 year maintenance programme_BEAR Scotland

Dear Sir/Madam,

Please find attached covering letter and relevant supplementary documentation.

Should you have any queries, please feel free to contact either myself or any of my colleagues included in the covering letter.

Kind regards,

Red

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Document:

Redacted

Environmental Manager

BEAR Scotland | North West Unit

Direct Dial: Redacted

Email: Redacted

Dear Sir/Madam

As part of a proposed bridge maintenance programme, BEAR Scotland, on behalf of Transport Scotland, intend to carry out maintenance and repair work at a number of bridges across Scotland. BEAR Scotland have been commissioned to prepare and manage the marine licence applications for three bridges:

- A9 Kessock Bridge
- A9 Cromarty Bridge
- A9 Dornoch Bridge

It is intended that the proposed maintenance programmes for each of the three bridges are covered under separate 5-year Marine Licences. This will allow maintenance works to be carried out, when required, during this 5-year period. Therefore, in due course we will be submitting separate Marine Licence Applications, under the Marine Scotland (Act) 2010 Part 4, to cover the proposed maintenance programmes for each of the bridges listed above. A summary of the maintenance works for each bridge is provided within the table below. A detailed description of all the proposed maintenance works for each bridge, including mitigation measures, is provided in the attached documents.

The proposed maintenance activities are broken down to 'scheme' and 'cyclic maintenance' works. Scheme represents those works that **will** be required over the next 5 years, whilst cyclic represents those works which **may** be required over the same timeframe.

Two of the three bridge maintenance programmes require a limited degree of works to be carried out within the intertidal (between MHWS and MLWS) and/or underneath the bridge. Of the three bridge maintenance programmes, only the proposed Fender replacement, superstructure painting and scour repairs at Kessock Bridge; and scour and concrete repairs at the Cromarty Bridge will require work below MLWS, in the sub-tidal environment.

We would welcome any comments from MS-LOT on the intended approach. To assist MS-LOT in this regard, we have provided detail on the works and designated sites in the vicinity of each bridge.

BEAR Scotland will be carrying out a site walkover and otter survey at each bridge. These activities will assist in understanding whether EPS licences will be required at each site, with further consultation being sought in the near future once more information is available.

Natura Designated Sites: Likely Significant Effect Screening

To fulfil the requirements of Regulation 48 of The Conservation (Natural Habitats, & c.) Regulations 1994 (The Habitats Regulations) BEAR Scotland have carried out Likely Significant Effect screening to inform the Habitat Regulations Appraisal. Consultation with SNH has been initiated in relation to the Likely Significant Effects (LSE) screening of these projects on designated sites and SNH have been contacted to confirm if they are in agreement with our LSE screening opinion for each bridge (these are summarised for each bridge as follows).

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As Transport Scotland (TS) are the competent authority for roads projects, if it is deemed that there would be a 'likely significant effect' on any of the qualifying interests at the bridges then TS will carry out their own Appropriate Assessment.

Kessock Bridge

There is potential for the proposal to have significant effects on one or more of the qualifying features of the Moray Firth SAC, Inner Moray Firth SPA and Ramsar, River Moriston SAC.

It is unlikely that the proposal will have any significant effects (direct or indirect) on any of the qualifying interests of the Dornoch Firth and Morrich More SAC.

Cromarty Bridge

There is potential for the proposal to have significant effects on one or more of the qualifying features of the Moray Firth SAC, Inner Moray Firth SPA, Dornoch Firth and Morrich More SAC, Cromarty Firth SPA and Ramsar site; and Dornoch Firth and Loch Fleet Ramsar Site.

It is unlikely that the proposal will have any significant effects (direct or indirect) on any of the qualifying interests of the Conon Islands SAC, Inner Moray Firth Ramsar Site, Moray and Nairn Coast Ramsar and SPA; and Moray Firth marine pSPA.

Dornoch Bridge

There is potential for the proposal to have significant effects on one or more of the qualifying features of the Dornoch Firth and Loch Fleet SPA, Dornoch Firth and Morrich More SAC, Dornoch Firth and Loch Fleet Ramsar and Moray Firth marine pSPA.

It is unlikely that the proposal will have any significant effects (direct or indirect) on any of the qualifying interests of the Moray Firth SAC, River Evelix SAC and River Oykel SAC.

Pre-application consultation procedure

Cognisant of regulation 4 of The Marine Licensing (Pre-application Consultation) (Scotland) Regulations 2013, it is our understanding that none of the marine licensable activities proposed for the bridges would require a public pre-application consultation procedure.

In the past, we also understand that due to the scope and scale of proposed bridge maintenance works, BEAR have been informed that no pre-application consultation procedure would be required.

However, acknowledging the scope of the maintenance works contained within the attached documents, we would be very grateful if MS-LOT could advise whether a pre-application consultation statement should be sought for the marine licensable activities at any of the three bridges i.e. if there is any uncertainty that any of the activities may be of a class, or description, prescribed in regulation 4.

We look forward to discussing the above clarifications with MS-LOT in the near future. Given the project programme constraints, we would be grateful if you could acknowledge receipt of this email and the supporting attachments.

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If you have any queries then please don't hesitate to contact either myself, Sarah Rauch-Lynch or Julie Bhatti (details below).

Kind regards,

Redacted

Redacted

Environmental Specialist
BEAR Scotland | North West Unit

Direct Dial: Redacted

Email: Redacted

Copy of consultation sent to Ness DSFB 29/05/2018

From: Redacted

Sent: 29 May 2018 14:50

To: 'ceo@ndsfb.org' <ceo@ndsfb.org>

Cc: Redacted

Subject: FW: A9 Kessock Bridge 5 year maintenance activities programme

Good afternoon Red

I wondered if you'd had an opportunity to comment on the below 5-year maintenance programme for the Kessock Bridge, Inverness. BEAR Scotland are currently applying for a marine licence to cover all activities and they will try as far as possible to carry out the scour repairs and fender replacement outwith the main smolt run. Would you be able to confirm that this is in March for the Ness, Beaulieu and Moriston systems?

I have copied in my colleague Steven Melvin as I will be leaving BEAR Scotland on the 8th June and Steven will be taking this forward.

Kind regards,

Red

Redacted

Environmental Manager
BEAR Scotland | North West Unit

Direct Dial: Redacted

From: Julie Bhatti

Sent: 19 April 2018 12:12

To: 'ceo@ndsfb.org'

Subject: A9 Kessock Bridge 5 year maintenance activities programme

Good morning Red

BEAR Scotland have been commissioned by Transport Scotland to carry out a 5 year programme of maintenance works at the A9 Kessock Bridge, Inverness (see below).

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Description of Works

Various maintenance activities will take place over the next 5 years during all times of the year with some work possible being required during night-time hours. Different activities will take place above and below MHWS with some required to be carried out in the sub-tidal zone, specifically scour repair. The specific activities are as follows:

- Bridge fender replacement and scour repair schemes;
- Cyclic maintenance activities of gulley and drainage cleaning, joint renewal, pressure washing, cleaning and painting the bridge superstructure, bird guano removal;
- Investigations of the bridge via static and mobile access platforms beneath the bridge.

Scour repair works will entail excavating and side-casting sea bed material around the piers at the navigational channel and placing rock in these locations to maintain the bed integrity. BEAR are applying for a 5 year Marine Licence to authorise these works and we are also in consultation with SNH regarding Habitats Regulations Appraisal.

Programme details for the scour works are not currently known, but every effort will be made to programme these works to avoid the main salmon smolt run period. Could you confirm that for the Ness, Moriston and Beaully systems that the main run is in March?

Please do not hesitate to contact me with any further concerns/comments from a fisheries perspective and I'll feed these back to our engineers so that we can plan for minimal impact on migratory salmonids.

Kind regards,
Julie

Redacted
Environmental Manager
BEAR Scotland | North West Unit
Redacted

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APPENDIX F: OTTER LICENCE DOCUMENTATION



Scottish Natural Heritage
Species Licensing
Great Glen House
Leachkin Road
Inverness
IV3 8NW
01463 725364
e-mail: licensing@snh.gov.uk

Animal Licence		
Licence Number: 118944	Valid from :10-APR-18	Valid to :31-DEC-19
This Licence has been amended from Licence Number : 92624		
Licence Holder : Mr Ian Stewart		
Address:	Inveralmond Road Inveralmond Industrial Estate Perth PH1 3TW	
Additional Persons		
Name	Role	Additional Conditions
BEAR Scotland North West Unit Staff	Agent	
This Licence is Granted under the following Legislation:		
The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended): Regulation 44 (2) (e)		
Project Details		
This licence permits the disturbance of otter for the purpose of preserving public health and safety in North West Scotland in areas covered by the North West Unit of BEAR Scotland. All works must be carried out in accordance with the document entitled: "BEAR Scotland NW Trunk Roads Operations and Otters: An Otter Species Protection Plan" by Julie Bhatti and subsequent correspondence agreed in writing between SNH Licensing Team and the licence holder, but subject to modifications or amendments imposed by the conditions of this licence.		
Activities, species and locations covered by this licence are listed in Annex 1		
Conditions		
1	All working methods, mitigation and compensation measures must be carried out in accordance with those set out in the licence application and supporting documents as listed in the project details of this licence, and any subsequent correspondence agreed in writing between SNH Licensing Team and the licence holder, but subject to any modifications or amendments imposed by this licence.	
2	All workers must be briefed about the likelihood of otters being found on site, the terms of this licence, and what to do if otter are	

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	found at any time.
3	This licence does not permit damage or destruction or obstruction of access to any other shelter.
4	If evidence of breeding or young is found within 200m of the development site at any time, no further works must be carried out until all cubs can be shown to be sufficiently mobile to make use of alternative holts, unless agreed by an SNH licensing officer. (The SNH website provides more guidance under Otters and Development - Click Here).
5	Protection zones as defined in the licence application and supporting documents listed in the project details of this licence, must be clearly marked out on the ground prior to any works commencing on site.
6	All vegetation clearance and/or tree felling works within protection zones must be carried out by hand (including the use of chainsaws and hand-held power tools), or if harvesting machines are being used they must be operated from outside protection zones. All trees must be felled away from holt entrances, and all timber must be lifted out, processed and stacked, outwith protection zones.
7	The licence holder may employ agents or assistants to work under the terms of this licence.
8	While engaged in work authorised by this licence, the licence holder and agents must be able to produce a copy of this licence to any Police Officer, authorised person, or official of SNH on demand.
9	The licence holder must provide SNH licensing team with annual licence returns due one year from the start date of the licence and detailing any action carried out under this licence. The final return must be submitted within one month of the expiry of this licence. Please send this information by email (including your licence number in the subject line of the email) to: licensing@snh.gov.uk . using the form found here: Click Here .
Notes	
Licence holders or any other persons covered by this licence should note the following;	
1	This licence is granted subject to compliance with the conditions as specified. Anything done otherwise than in accordance with the terms of the licence may constitute an offence.
2	Agents may work independently of the licence holder. It is the responsibility of the licence holder to ensure that agents have the appropriate training and experience and that they understand the terms and conditions of this licence.
3	Assistants must work under the personal supervision of the licence holder or agents. The number of assistants that can be appropriately supervised is at the discretion of the licence holder or agent.
4	Nothing in this licence shall confer any right of entry on to land or property.
5	This licence may be modified or revoked at any time by SNH.

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6	This licence only exempts any legal provision contained in the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended).
---	--

This licence is granted subject to compliance with the terms and conditions specified

Licence no:118944

Authorised on behalf of Scottish Natural Heritage by: Redacted Date: 10-APR-2018

Licence no:118944

Annex 1: Permitted activities

Action	Purpose	Species	Location	Grid Reference	Method
Disturb	Preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.	Otter	North West Scotland in areas covered by the North West Unit of BEAR Scotland	-	N/A

This licence is granted subject to compliance with the terms and conditions specified

Licence no:118944

Authorised on behalf of Scottish Natural Heritage by: Redacted Date: 10-APR-2018

Document:



BEAR Scotland NW Trunk Roads Operations and Otters:
An Otter Species Protection Plan

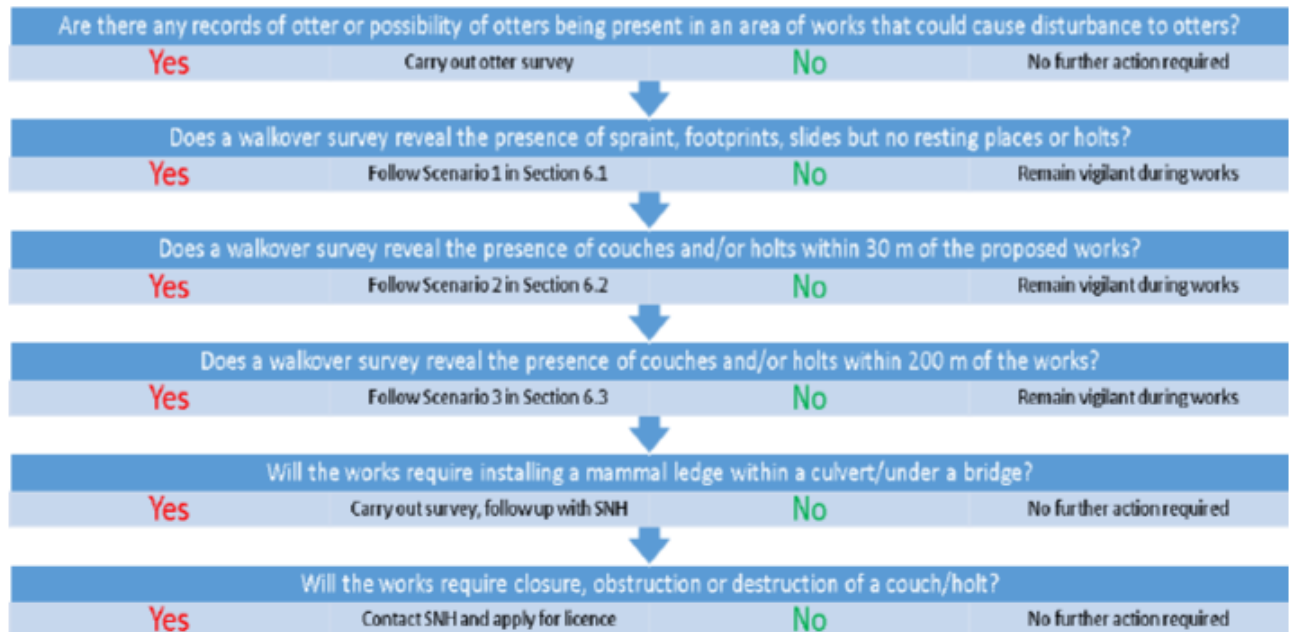
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Flow Diagram Showing Decision Process



1 Introduction

This species protection plan has been prepared by BEAR Scotland and SNH. It is intended to support an application for an organisational otter licence to cover those trunk road operations which have the potential to affect Eurasian otter (*Lutra lutra*).

1.1 Otters in Scotland

Scotland has an internationally important population of otters and they are also listed on the Scottish Biodiversity List as a species of importance for the purpose of conservation of biodiversity in Scotland¹.

Almost any watercourse or water body is likely to be used by otters at some point in time. The Scottish population makes use of two distinct types of habitat: freshwater habitats, including lochs and rivers, and coastal habitats mainly along the west and north coast of Scotland and the Western Isles and Shetland. There is considerable variation amongst populations in both habitat types and like any animal, otters change their range and habitat use in response to changing environmental conditions.

In the freshwater environment, otters are largely nocturnal and occur at very low population densities. For a female, the typical home range is around 20 km of river, stream and loch-shore with males covering up to 39 km (Kruuk, 2006). The sexes tend to live apart for most of the time but in both types of environment, the otter is territorial and ranges may overlap, especially those of females (SNH, Kruuk, 2006).

A high proportion of the Scottish otter population, 50% or more, are coastal-dwelling. This has often led to them being incorrectly referred to as 'sea otters', a North American species of otter. They are exactly the same species as those found further inland, but take advantage of the productive coastal waters to feed on bottom-dwelling fish and crustaceans (SNH). The productive waters are also key to allowing a higher density of otters to be sustained. Coastal otters are more active during daylight hours than their freshwater counterparts. Home ranges also tend to be smaller in the coastal environment often being as small as 4 to 5 km of coastline. As in the freshwater environment, sexes tend to live apart but male territories can overlap those of several females in coastal areas.

1.2 Otters and the Law

The otter is a European protected species, listed in Annexes II and IV of the EC Habitats Directive. It is fully protected in the UK under the Conservation (Natural Habitats, &c.) Regulations 1994, as amended. Where otters are qualifying features of a Special Area of Conservation, designated under the EC Habitats Directive, their habitats are also protected. They are also legally protected under Appendix II of the Bern Convention 1979.

In summary, under this legislation, it is illegal to:

- Deliberately or recklessly capture, kill or injure otters;

¹ The UK Biodiversity Action Plan was succeeded by the UK Post-2010 Biodiversity Framework in July 2012.

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- Deliberately or recklessly harass or, in certain circumstances, disturb otters;
- Damage or destroy a breeding site or resting place for otters.

A person is not guilty of the above offences if they are carried out in accordance with a derogation licence, which can only be issued under strict conditions.

1.3 BEAR Scotland

BEAR Scotland Ltd. is appointed as the Agent to Transport Scotland for the Term Contract for Management and Maintenance of the Scottish Trunk Road Network for the North West Unit. The North West 4G contract between BEAR Scotland and Transport Scotland commenced in April 2013 and currently extends to 2020. The vast majority of maintenance operations and construction undertaken by BEAR Scotland falls under Permitted Development under the Roads (Scotland) Act 1984.

Under the contract, BEAR Scotland are responsible for:

- Planned maintenance/design (e.g. resurfacing, earthworks, traffic signs, safety barriers, bridge maintenance and replacements);
- Network management (e.g. community and local authority liaison, 24/7 365 days/year control room);
- Emergency and incident response (e.g. specially trained operatives available 24/7, remove hazards from carriageway, reduce congestion caused by incidents);
- Routine and cyclic operations (e.g. gully cleaning and drainage repairs, grass cutting and weed spraying, inspection);
- Winter service (e.g. salting of trunk roads, snow ploughs).

2 Context

BEAR Scotland is a regular holder of otter derogation licences, with more than 20 applications granted in 2016. SNH Species Licensing have agreed with BEAR Scotland that a more appropriate approach would be to secure an otter derogation licence that covers activities on the NW Unit.

2.1 What the organisational licence will cover

This licence will cover all works on the BEAR Scotland North West Unit that are likely to:

- Disturb otters whilst they are using resting/breeding sites.

The licence will not cover the obstruction or destruction of otter resting places, holts or natal holts. Where obstruction or destruction of otter resting places is required, SNH will be consulted and a separate derogation licence will be applied for.

2.2 Trunk road operations that may disturb otters or resting sites

Various trunk road operations have the potential to disturb otters using breeding/resting sites along the NW network. Disturbance of otter resting places or breeding sites is the most frequent risk to be considered by the BEAR Scotland Environment Team. These structures are still protected even when otters are not present.

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The main types of trunk road operations that may disturb otters using resting/breeding sites are listed as follows (not exhaustive):

- Road resurfacing;
- Installation of vehicle restraint systems and barriers;
- Repair of carriageway defects, including retaining walls;
- Road drainage repairs;
- Bridge/culvert replacement;
- Bridge/culvert scour repairs;
- Bridge expansion joint replacement;
- Bridge parapet replacement.

3 Environment Team Capabilities and Survey Licences

The NW BEAR Scotland Environment Team have qualified and appropriately licensed ecologists who carry out otter surveys, as well as agents named on specific survey licences who are allowed to work independently. They are:

Staff member	Qualifications	Survey licence number
Redacted Environmental Manager	BSc.(Hons) MSc. MCIEEM, CEnv	62278
Redacted	BSc. (Hons), HND with Distinction	57786
Redacted	BSc. (Hons) MRes, Associate Member IFM, Pending Associate Member CIEEM	Agent on 62278
Redacted	BSc. (Hons) MSc. Pending Graduate Member CIEEM	Agent on 62278

This list of licensed members of staff will be subject to change over time. The list is correct as of April 4th 2018.

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4 Survey and Site Assessment

4.1 Desk-based Assessment

Before any trunk road project can go ahead, an Environmental Assessment Request detailing the proposed works is submitted to the Environment Team by the BEAR Scotland Design Engineer. This is then subject to a screening process, including a desk-based assessment. Based on information gained from this assessment, the Environment Team determine carry out surveys to establish whether otters are present in habitat surrounding the proposed working area. This is necessary to assess the potential impacts of the proposed works on the otter population in the area and to develop mitigation measures.

Where the proposed works are within, or have connectivity with, a Special Area of Conservation where otters are a qualifying feature of the site, the Environment Team will consult SNH.

4.2 Survey Methods

Field surveys are undertaken by experienced ecologists based on methodology contained in Volume 10, Section 4 of the Design Manual for Roads and Bridges (DMRB) and in '*Monitoring the Otter Lutra lutra*' (Chanin, 2003). Surveys involve searching a minimum of 200 m beyond the working area for signs of otter, including the presence of holts, lying-up sites or couches, spraint and footprints. The locations of all otter signs found within the study area are recorded using a hand-held GPS.

Where possible, surveys are not undertaken during or following periods of heavy rainfall.

4.3 Survey Results

Signs normally encountered in the field on the North West trunk road network, include:

- Field signs, including spraint, footprints and feeding remains;
- Otter slides;
- Sightings;
- Couches (un-covered resting places above ground);
- Non-breeding holts (underground resting places with at least one chamber);
- Natal holts.

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Figure 4.1 Spraint on rock near Onich



Figure 4.2 Otter footprints in wet sand



Figure 4.3 Active otter couch/holt near Skye Bridge

If a holt is identified, a wildlife camera may be set-up by a licensed otter surveyor to monitor use of the holt. Suspected natal holts will also be monitored using a wildlife camera to determine usage. If evidence of breeding or young is found within 200 m of the construction site, SNH will be consulted prior to any works being carried out.

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Figure 4.4 Otter leaving holt on Skye, camera trapped under licence 62278

5 Evaluating Impacts on Otters

The main potential impact on the otter population in the vicinity of works will arise from the visual and noise disturbance due to increased human activity and the presence of machinery and vehicles. Generally, the affected resting places are adjacent to the trunk roads which have a high level of disturbance and background noise all year round. Therefore it is likely that the level of impact will be less than that which would occur at an isolated site.

Any pollution from, for example, silt, fuel or oil could have an impact on water quality, potentially having an effect on otters and their prey.

Resting places will not be damaged or obstructed by the works, however, otters making use of these areas may be disturbed as a result of construction. With mitigation in place, the level of impact arising from these works will be reduced and it is considered unlikely that a significant effect at a national or international level will occur.

6 Management Approaches

In relation to otters and trunk road operations, there are a number of different scenarios that are commonly encountered during maintenance works across the NW network. They range from finding signs (i.e. spraint and footprints) to actual sightings of otters. The appropriate management approach must be identified for each type of scenario. These scenarios are set out in the following section, along with mitigation measures to minimise the risk to otters in each case.

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6.1 Scenario 1: Spraint, footprints and/or feeding remains identified but no resting places/holts found

- 'Working with Otters' Toolbox Talk to be provided to all site personnel prior to commencement of construction. This will be included in a Site Environmental Management Plan to be kept on site;
- The work area will be checked at the start of each shift for the presence of resting otters. In addition, before being used, machinery will be checked at the start of each shift for the presence of resting otters;
- Should otters or fresh signs of otters be discovered during works, work will be immediately stopped in the vicinity and the supervisor informed. Advice will be sought from the BEAR Scotland Environment Team;
- Pollution prevention measures will be strictly enforced on site and the Scottish Environment Protection Agency (SEPA) Pollution Prevention Guidelines (PPGs), and Guidance for Pollution Prevention (GPPs) in particular GPP 5 "Works and maintenance in or near water" will be strictly adhered to;
- Suitable emergency spill kit(s) will be provided on site, staff trained in their use and a contingency plan will be put in place to deal with environmental incidents;
- Refuelling and material storage areas, where required, must be fully bunded and secure and be located, if space is available, at least 10 m from watercourses, lochs, canals and drainage entry points, in order to comply with SEPA GPP 5 and minimise pollution risk;
- No wash water (or any other substance) to be discharged into watercourses, lochs, canals, transitional waters, coastal waters or road drainage system;
- Any excavations created will be covered over at the end of each shift and following completion of the works to avoid otters falling into them and becoming trapped;
- Any entrances to pipes/drains that are in the process of being constructed will be suitably protected to prevent otter access;
- All waste will be removed from site either for re-use, recycling or disposal in accordance with waste management regulations.

6.2 Scenario 2: Couches and/or holts identified within 30 m of the works

In addition to the measures in 6.1, the following mitigation will be adhered to where resting places and/or holts are found within 30 m of the works:

- Black infra-red camera trapping will be carried out under licence to determine the status of the holt i.e. if non-breeding or breeding. The use of infra-red minimises disturbance to otters;
- If a breeding holt is identified, SNH will be consulted as soon as practicably possible for further advice on how to proceed;

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- No works will be carried out until the status of the holt has been established and it has been determined that all young, if present, are independently able to move to another holt;
- All conditions/advice given by Species Licensing will be complied with during the course of the works;
- If the structure is found to be used for non-breeding purposes, all conditions of the organisational otter licence will be complied with during the course of the works and a copy of the licence will be kept on site for inspection at any time;
- The site supervisor will brief all persons on site as part of the induction process to ensure that everyone is aware of the presence of otter, the mitigation measures, their legal obligations and the licensing conditions imposed on them;
- Where work on bridges is required, the thoroughfare for otters passing underneath the bridge will be maintained at all times;
- An exclusion zone will be marked out around the shelter prior to work commencing consisting of orange semi-rigid barrier fencing or high visibility tape. This will be 30m where possible but if the works are closer than this distance, the exclusion zone will be as near as possible to a minimum of 30 m. The fencing will be fixed in place allowing for as large a buffer as possible between the works and the resting places. This 'red zone' will be clearly marked as out of bounds to personnel throughout the course of the works and will be removed on completion of the works;
- A copy of the Site Environmental Management Plan, detailing mitigation measures required will be kept on site;
- Works will be carried out mainly during daylight hours but there may be cases where night-time working is required due to safety reasons;
- If night-time working is required, any lighting required will be directed away from water bodies and resting places as far as reasonably practicable;
- In such cases, works may be carried out under the direct supervision of an experienced ecologist if necessary;
- Staff to remain vigilant for sightings of otter during the course of the works;
- If otter are encountered during night-time working, works will cease in the immediate vicinity until the Environment Team can give advice;
- If the works are expected to take place over a prolonged period of time, repeat otter surveys will be carried out every 3 months.

6.3 Scenario 3: Couches/holts identified within 200 m of the works

In addition to the measures in 6.1, the following measures will be adhered to where resting places and/or holts are found within 200 m but more than 30 m from the works:

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- Black infra-red camera trapping will be carried out under licence to determine the status of the holt i.e. if non-breeding or breeding. The use of infra-red minimises disturbance to otters;
- If a breeding holt is identified, SNH will be consulted as soon as practicably possible for further advice on how to proceed;
- No works will be carried out until the status of the holt has been established and it has been determined that all young, if present, are independently able to move to another holt;
- All conditions/advice given by Species Licensing will be complied with during the course of the works;
- A copy of the Site Environmental Management Plan, detailing mitigation measures required will be kept on site;
- Works will be carried out mainly during daylight hours but there may be cases where night-time working is required due to safety reasons;
- If night-time working is required, any lighting required will be directed away from water bodies and resting places as far as reasonably practicable;
- In such cases, works may be carried out under the direct supervision of an experienced ecologist if necessary;
- Staff to remain vigilant for sightings of otter during the course of the works;
- If otter are encountered during night-time working, works will cease in the immediate vicinity until the Environment Team can give advice;
- If the works are expected to take place over a prolonged period of time, repeat otter surveys will be carried out every 3 months.

7 General enhancement measures for otters

Roads can pose a particular problem for otters and can lead to significant numbers of casualties and mortalities. Road deaths are more likely when rivers are in spate and instead of being able to safely follow the watercourse through culverts or under bridges, otters cross over roads. BEAR Scotland collect data on otter road deaths to identify hotspots where further measures could prevent/reduce road mortalities. There are a couple of simple measures that BEAR Scotland use to do this.

Mammal ledges have also been installed at culverts and bridges where otter deaths had been previously recorded and where it was possible to do so. Where possible, these ledges should be fitted in conjunction with a dry otter tunnel so that otters have safe access across the road when watercourses are in spate.

Before these measures can be installed, the BEAR Scotland Environment Team carry out thorough otter surveys and in the case of installing mammal ledges at culverts, liaise with SEPA regarding Controlled Activities Regulations (CAR) requirements. Installation of mammal ledges is usually classed as an environmental service under CAR.

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These activities may be covered under the organisational otter licence but if the main scope of works do not fall within the scenarios in section 6, SNH will be consulted for advice before any works are carried out.

8 What the licence will not cover

The organisational licence will only cover the scenarios set out in section 6. The licence will not cover incidences where:

- Couches/holts are obstructed;
- Couches/resting places need to be closed to enable works to go ahead;
- A holt needs to be destroyed to enable works to go ahead.

In these exceptional cases, SNH Species Licensing will be contacted and an application for a specific otter derogation licence will be made.

The organisational licence will only cover activities and operations on the NW Unit. It does not extend to the BEAR Scotland North East Unit.

9 Annual licence returns

Annual licence returns for the NW Unit will be made to SNH as a condition of the organisational otter licence. The submission date will be agreed with SNH.