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Environmental Impact Assessment Record of Determination

M8 Approach to Junction 3 Eastbound

Contents

Project Details

Description

BEAR Scotland has been commissioned by Transport Scotland to carry out resurfacing works on the M8 carriageway. The works will consist of carriageway resurfacing and reinstatement of road markings for a length of approx. 1.46km (1.63ha).

Construction activities for the resurfacing procedure are as follows:

- Set up traffic management (TM) and mark out site,
- Milling of existing bituminous material by road planer,
- Jackhammer and compressor for breaking up surfaces not accessible by planer (e.g., around gullies),
- Loader/excavator used to collect and move excess material,
- Sweeper to collect loose material and provide clean laying surface,
- Milled out/excavated materials all taken off site,
- Installation of a Glasstex grid for reinforcement at specific locations,
- Tack/bond coat laid,
- Binder material laid and compressed by paver (where required),
- Material compacted using a heavy roller,
- Installation of one set of traffic loops,
- New bituminous surface course material laid by paver,
- Material compacted using a heavy roller,
- Mechanical sweeper to collect loose material,
- HGV for removal and replacement of material,
- Road markings and studs applied where necessary,
- new traffic counter installation, and
- Remove TM and open road.

The works are programmed to be completed within the 2025/2026 financial year with works expected to begin on 8th October 2025. Works will be undertaken over eight nights (20:30 – 06:00), excluding Saturdays and Sundays. Traffic Management (TM) is currently programmed to be in the form of a full night time road closure with a signed diversion. Traffic will be diverted off the M8 at Junction 3A via A779, A89, M9 and rejoin the M8 at Junction 2 Eastbound.

Location

The scheme lies on the M8 carriageway north of Livingston, within West Lothian Council, and is surrounded by areas of woodland to the north, a golf course, woodland urban development to the south within agricultural land and other urban areas found in the wider area (Figure 1).

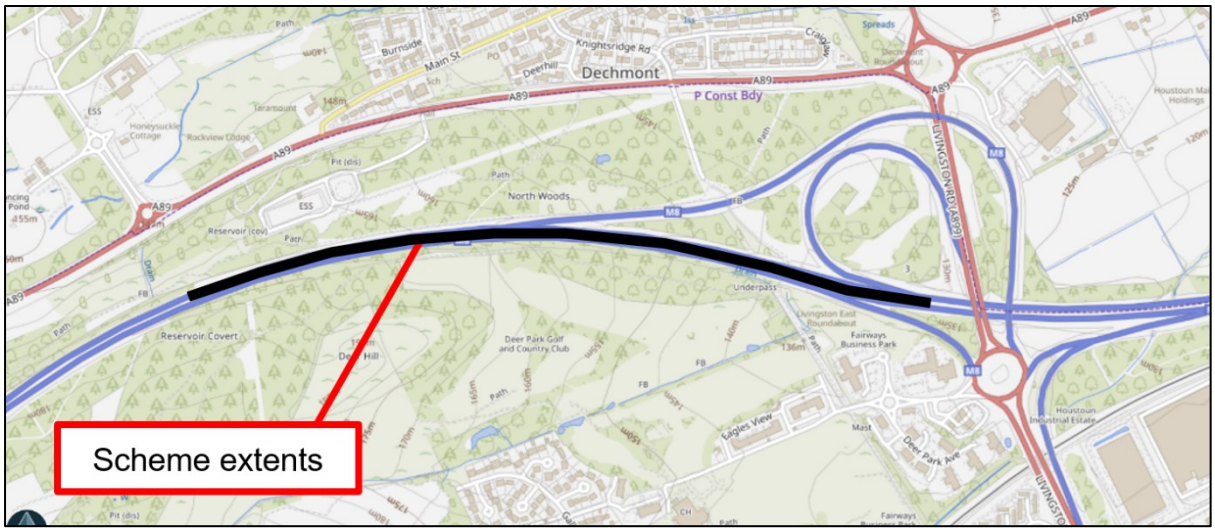

Figure 1. Extents of the Works. - Source: Asset Management Performance System (AMPS). © Europa Technologies Ltd. Contains Ordnance Survey data © Crown copyright and database right 2018.

Description of local environment

Air quality

Properties within 300m of the scheme – refer to 'Population and Human Health'.

A search of the Air Quality in Scotland online mapping tool records that the air quality zones in the wider area record bandings in the 'green zone' (Low Index 1-3).

The scheme lies within the boundary of West Lothian Council, which has no active and three revoked AQMA's within its administrative boundary. The nearest AQMA is 'Glasgow Road 2013', found within the Edinburgh City Council area, which lies approx. 8km northeast of the scheme and has been declared for nitrogen dioxide (NO_2).

There are 13 sites registered on the Scottish Pollutant Release Inventory (SPRI) for pollutant releases to air within 10km of the scheme, within the last 10 years. Details are as follows:

- Wyman Gordon Limited, Livingston – production and processing of metals declared for carbon dioxide (kt) which lies approx. 0.9km southeast of the scheme.
- API Foils, Houstoun Industrial Estate, Livingston – other activities declared for NMVOCs, toluene which lies approx. 1.3km southeast of the scheme.
- Shin-Etsu Handotai, Wilson Road, Livingston – chemical industry declared for ammonia (t), which lies approx. 3.7km southwest of the scheme.
- Clapperton Poultry Complex, Broxburn, West Lothian – intensive livestock and aquaculture production, declared for ammonia (t), particulate matter - PM_{10} and smaller (t) and particulate matter - total (t) which lies approx. 3.7km east of the scheme.
- Stepend Poultry Farm, West Calder, West Lothian – intensive livestock and aquaculture production declared for ammonia (t) which lies approx. 5.8km southwest of the scheme.
- Clifton Poultry Farm, Clifton Road, Newbridge – intensive livestock, declared for ammonia, PM_{10} which lies approx. 6.1km east of the scheme.
- Hillwood Quarry, Ratho, Midlothian – mineral industry, declared for carbon dioxide (kt) and particulate matter - PM_{10} and smaller (t) which lies approx. 7.8km east of the scheme.
- Kaimes Quarry Landfill Site, Kirknewton – waste and waste-water management, declared for methane which lies approx. 8.4km southeast of the scheme.

- Ravelrig Quarry, Kirknewton, Midlothian – mineral industry, declared for particulate matter - PM10 and smaller (t) and particulates - $PM_{2.5}$ and smaller only (t) which lies approx. 9.2km southeast of the scheme.
- Balerno Poultry Farm, Lanark Rd West, Balerno – intensive livestock, declared for ammonia (t) which lies approx. 9.2km southeast of the scheme.
- Rusha Poultry Farm, West Calder - intensive livestock, declared for ammonia (t) which lies approx. 10km southwest of the scheme.

The baseline air quality within the scheme extents is primarily influenced by motor vehicles travelling along the M8. Secondary sources are most commonly derived from motor vehicles travelling along local network roads and day-to-day urban and woodland management activities.

Cultural heritage

The PastMap and Historic Environment Scotland (HES) online mapping tool records Bangour Village Hospital Conservation Area is located 150m north of the scheme extents.

No other designated cultural heritage features are present within 300m of the scheme extents.

Of lesser cultural heritage value, seven undesignated cultural heritage assets (UCHAs) lie within 300m of the scheme extents. The closest of which is located 150m north of the scheme.

Construction of the M8 carriageway is likely to have removed any archaeological remains that may have been present within the motorway boundary. The potential for the presence of unknown archaeological remains in the study area has therefore been assessed to be low.

Given that the works will be restricted to the existing M8 carriageway boundary and depth and the distance to the closest cultural heritage feature, the potential for impacts to cultural heritage have been deemed negligible. As such cultural heritage has been scoped out of further environmental assessment.

Landscape and visual effects

The scheme is not situated within a National Park (NP) or National Scenic Area (NSA).

The Landscape Character Type (LCT) within the study area is ‘Urban’ (no. 0) (Scottish Landscape Character Types) which has no defining characteristics.

Land use within 300m of the scheme is categories into the following:

- Rough Grazing.
- Plantation.
- Motorway and major roads.
- Reservoir.
- Designed Landscape.
- Rectilinear Fields and Farms.
- Holdings
- Urban area.
- Golf course.

The national scale land capability for agriculture classifies land surrounding the scheme as being:

- 'Class 2' – Land capable of producing a wide range of crops.
- 'Class 888' – Urban.

Woodland within 300m of the scheme extents is categorised into the following:

- Approx 20ha of mixed conifer, broadleaved and young tree woodland borders the M8 EB within the scheme extents, approx. 1.8ha of this woodland is registered on the Native Woodland Survey of Scotland (NWSS).
- Approx 28ha of conifer woodland borders the M8 WB within the scheme extents.
- Approx. 1.5ha broadleaved woodland, which is registered on the NWSS, borders the M8 slip road within the scheme extents.
- Approx. 4ha of conifer woodland is located 80m southeast of the scheme extents.
- Approx. 1ha of broadleaved woodland is located 260m south of the scheme extents.

There are no areas registered on the Ancient Woodland Inventory Scotland or trees covered by a Tree Preservation Order (TPO) within 300m of the scheme extents.

The existing motorway is a prominent linear landscape feature. The motorway corridor, for example, has a distinct character shaped by fast-flowing traffic, road markings, safety barriers, signage, landscaping and lighting. The scale of the motorway detracts from the quality and character of the wider landscape.

Biodiversity

The NatureScot Sitelink online mapping tool identifies that the scheme extents do not fall within 2km of any European Sites, nor do they share hydrological connectivity with any. However, they are located within the buffer zone of some qualifying species of the Firth of Forth Special Protection Area (SPA) and Ramsar Site which lies approx. 9km north of the scheme extents. In addition, they are also within the buffer zone of some qualifying species of the Outer Firth of Forth and St Andrews Bay Complex SPA which lies approx. 13km northeast of the scheme extents.

There are no Sites of Special Scientific Interest (SSSI), Local Nature Conservation Sites (LNCS) or Local Nature Reserves (LNRs) designated for biodiversity features within 300m of, or which share connectivity to, the scheme. However, the Firth of Forth SPA is underpinned by the Firth of Forth SSSI.

The National Biodiversity Network (NBN) online mapping tool holds records of numerous bird species within 2km over a ten-year period. Under the Wildlife and Countryside Act 1981 (as amended), all wild birds and their active nests (typically active March to August inclusive) are protected. No other species of conservation importance were recorded within 2km of the scheme, in the last 10 years. Only records with open-use attributions (OGL, CCO, CC-BY) were included in the search criteria.

A search of the NBN online mapping tool records the following species as listed within the Network Management Contract (NMC), within 2km of the scheme (in last 10-years):

Three invasive non-native species (INNS):

- Himalayan balsam (*Impatiens glandulifera*).
- Japanese knotweed *(Reynoutria japonica)*.
- Rhododendron *(Rhododendron ponticum)*.

Five injurious weeds (as listed under the Weeds Act 1959):

- Curled dock *(Rumex crispus).*
- Creeping thistle (*Cirsium arvense*).
- Broad-leaved dock (*Rumex obtusifolius*).
- Common ragwort (*Senecio jacobaea*).

One invasive native perennial (as listed in the Trunk Road Inventory Manual):

- Rosebay willowherb (*Chamerion angustifolium*).

The nearest record pertains to Himalayan balsam recorded 0.2km south of the scheme extents in 2021.

A search of the Asset Management Performance System (AMPS) online mapping tool records rosebay willowherb and common ragwort within the verge of the carriageway within the scheme extents (2014, 2017).

Habitat immediately bordering the motorway tends to be of low intrinsic value because the existing road verge is subject to cyclic maintenance e.g., grass cutting, weed control, tree, and shrub cut-back etc. The roadside verges therefore comprise a homogenous species-poor semi-improved grassland alongside intermittent broadleaved trees and shrub shelterbelt, with varied sections of woodland bordering the westbound and eastbound carriageways within the scheme extents. Roadside vegetation generally offers low ecological habitat value due to its limited scale, fragmented nature and high potential for disturbance owing to cyclic motorway landscape maintenance, and the proximity of the motorway (with its fast-flowing traffic). In addition, Deer Park Golf and Country Club lies approx. 20m south of the scheme and is comprised of area of amenity grassland and blocks of woodland. The motorway also restricts continuity of, and connectivity between, habitats either side of the motorway boundary.

Geology and soils

The M8 within the scheme extents is not located within a Geological Conservation Review Site (GCRS), and there are no Local Geodiversity Sites (LGS) within 300m of the scheme extents.

The National Soil Map of Scotland online mapping tool records that within the scheme extents the generalised soil types are Brown Soils and Mineral Gleys and the major soil groups are Brown Soils and Gleys.

The British Geological Survey online mapping tool records that the superficial geology within the scheme extents is comprised of:

- Till, Devensian (Diamicton).

The bedrock geology within the scheme extents is recorded as:

- Midland Valley Sill-Complex (quartz-microgabbro)
- Hopetoun Member, Sedimentary Rock Cycles (Strathclyde Group Type).
- Dunnet Sandstone (sandstone).

There is no evidence of historical industrial processes or the storage of hazardous materials that could have given rise to significant land contamination within the scheme extents.

Given the restriction of the works to the M8 carriageway boundary, and the lack of any earthworks, local geology and soils are unlikely to be affected by the proposed works. Therefore, geology and soils has been scoped out of further environmental assessment.

Material assets and waste

The proposed works are required to resurface the worn carriageway and reinstate road markings. Materials used will consist of:

- TS2010 Surface Course,
- EME2 14mm Binder,
- EME2 20mm Base,
- Regulating 6mm Material,
- Glasstex P100 Grid,
- Thermoplastic road markings, and
- Surface mounted and milled road studs.

The scheme has a value greater than £350,000. As a result, a Site Waste Management Plan (SWMP) is required.

The scheme involves removal of the surface course and localised areas of binder and base. The main waste produced during the works will be 2425 tonnes of bituminous materials (European Waste Catalogue Code: 17 03 03) which will be removed from site, 578 tonnes of which is classified as hazardous material containing coal tar. Due to the presence of coal tar waste will be appropriately processed of in line with Transport Scotland's Guidance Note on dealing with coal tar bound arisings (Coal Tar Guidance).

Noise and vibration

Receptors – refer to 'Population and Human Health'.

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

The night-time modelled noise level (LNIGHT) within the scheme extents ranges between 75 and 80 decibels (dB) dropping to between ranges between 70 and 75 dB

at the nearest noise sensitive receptor (NSR) (hotel property) (Scotland's Noise Scotland's Environment).

Baseline noise and vibration in the study area is mainly influenced by vehicles travelling along the trunk road. Secondary sources are derived from vehicles travelling along the local road network, day-to-day urban, woodland and agricultural land management activities.

Population and human health

There are several properties (residential, business and industrial) that lie within 300m of the scheme extents. There are no properties within 50m of the scheme with the nearest residential property found approx. 185m south. Of note, Premier Inn Livingston (M8, Jct3) Hotel is located 100m south of the scheme at the eastern extents. The majority of properties are fully screened from the scheme by a combination of tree shelterbelt, woodland, intervening road network and topography. However, Premier Inn Livingston (M8, Jct3) Hotel only receives partial screening via shelterbelt plantation and is partially visible from the M8 within the scheme extents. In addition, the adjacent Veterinary Specialists Scotland and residential properties along Eagle View also only have partial screening.

Core Path 31 passes below the M8 within the scheme extents. There are no other non-motorised users (NMU) or community facilities present within, or that have connectivity to, the scheme extents.

Street lighting is present along both the EB and WB verges throughout the scheme extents.

The M8, within the scheme extents is a two-lane motorway with continuous hard shoulder and national speed limit applying. The Annual Average Daily Traffic (AADT) flow is moderate (24,185 motor vehicles (ID: JTC00296, 2025).

Road drainage and the water environment

The Scottish Environment Protection Agency (SEPA) River Basin Management Plan online mapping tool records no classified surface waterbodies located within 300m of the scheme extents.

There are five unclassified waterbodies, considered to be minor tributaries or drainage channels located within 300m of the scheme extents:

- Drain1 is located approx. 10m south of the scheme.
- Drain2 is located approx. 60m southwest of the scheme.

- Pond1 is located approx. 110m north of the scheme.
- Drain3 is located approx. 200m east of the scheme.
- Beugh Burn is located approx. 300m southeast of the scheme.

A search of the SEPA's Flood Map online mapping tool records that a small area at the eastern extents of the M8 EB within the scheme extents is at a low to high risk of surface water flooding (i.e., each year the area has a 0.1% to 10% chance of flooding).

A search of the Scotland's Environment (SE) online mapping tool determined that the motorway, within the scheme extents, lies on the 'Livingston' groundwater, which has been classified as 'Poor'.

A search of the SE online mapping tool determined that the motorway, within the scheme extents, does not lie within a Nitrate Vulnerable Zone.

Climate

The Climate Change (Scotland) Act 2009 ('The Act'), and its subsequent amendment under the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019, sets the framework for the Scottish Government to address climate change. The Act has an ambitious target to reach Net Zero greenhouse gas emissions by 2045, with any residual emissions balanced by removing carbon dioxide from the atmosphere. This is five years earlier than the rest of the UK due to the greater potential for carbon sequestration in Scotland.

The Act was amended to replace interim targets with carbon budgets. Carbon budgets are legally binding caps on greenhouse gas emissions in Scotland over five-year periods. In line with the Act, the Climate Change Committee (CCC) published advice on the level of Scotland's four carbon budgets, covering the period 2026 to 2045, recommending what the Scottish Government sets its carbon budgets at for annual average levels of emissions. These recommendations are based on an ambitious but credible route to Net Zero for Scotland by 2045.

Emissions reductions from surface transport are the largest contribution to meeting the first two carbon budgets. The pathway for surface transport emission reduction is primarily driven by the uptake of electric vehicles, in addition to measures to enable a shift from car use to public transport and active travel, which all play a role in reducing emissions from fossil fuel cars. Ensuring efficiency of existing transport infrastructure and improving/providing new active travel facilities is therefore important to support these carbon reduction budgets.

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

Policies and plans

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

Description of main environmental impacts and proposed mitigation

Air quality

During the construction phase, activities undertaken on site could potentially have some minor localised and short-term air quality impacts in proximity to the works. The construction phase will, for example, require a range of ancillary plant, vehicles, and non-road mobile machinery (NRMM) which will contribute to local dust and air pollutants. The main sources are likely to be dust generated by cold milling in preparation of carriageway resurfacing, as well as exhaust emissions from ancillary plant and vehicles. As a result, there is potential for impacts to local air quality.

However, considering the nature and duration of the scheme, along with implementation of mitigation detailed below, the proposed works' impacts on local air quality levels during the construction period are assessed to be temporary, negligible adverse in magnitude.

Upon completion of the works, no residual air quality impacts are anticipated.

Air quality mitigation measures:

- Careful consideration will be given to the siting and orientation of ancillary plant, vehicles, and NRMM, so that it is located, as far as is possible, away from receptors. Activities which have the potential to produce air pollution (e.g., cutting and grinding of materials) will also, if possible, be undertaken away from any surrounding properties.
- A water-assisted dust sweeper will sweep the carriageway after dust-generating activities, and waste will be contained and removed from site as soon as is practicable.
- Materials that have a potential to produce dust will be removed from site as soon as possible, and vehicles that remove cold-milled material from site will have sheeted covers.
- Ancillary plant, vehicles and NRMM will have been regularly maintained, paying attention to the integrity of exhaust systems.
- Ancillary plant, vehicles and NRMM will be switched off when stationary to prevent exhaust emissions (e.g., there will be no idling vehicles).
- Cutting, grinding, and sawing equipment (if required) will be fitted or used in conjunction with suitable dust suppression techniques e.g., local exhaust ventilation system that fits directly onto tools.
- Regular monitoring (e.g., by engineer or Clerk of Works) will take place when activities that have the potential to impact local air quality are occurring. In the

unlikely event that unacceptable dust or exhaust emissions are emanating from the site, the operation will, where practicable, be modified and re-checked to verify that the corrective action has been effective. Actions to be considered include: (a) minimizing cutting and grinding on-site, (b) reducing the operating hours, (c) changing the method of working, etc.

Landscape and visual effects

There will be a short-term impact on the landscape character and visual amenity of the site as a result of the presence of construction plant, vehicles, and TM. However, people, ancillary plant, vehicles, NRMM and materials are restricted to areas of made/engineered ground on the M8, and construction works are programmed to be undertaken at night (eight nights). As such, the visual impact of the works will be somewhat reduced.

Considering the nature, duration, size, and scale of the scheme, and with implementation of mitigation detailed below, impacts on landscape and visual effects are assessed as temporary, negligible adverse in magnitude.

Upon completion of the works, no residual impacts on landscape and visual effects are anticipated e.g., when complete the visual appearance will remain largely unaffected, with a renewed road surface being the only discernible change.

Landscape and visual effects mitigation measures:

- The site will be monitored regularly for signs of litter and other potential contaminants, and litter will be removed before and after works take place.
- The site will be left clean and tidy following construction.
- Where possible, construction vehicles will not be left in places where soil or vegetation can be damaged. If damage to road verge occurs it will be lightly cultivated or graded (upon completion of the works) to allow natural recolonization by local species and promote integration with existing landscape character.

Biodiversity

The Firth of Forth SPA and Ramsar Site lies approx. 9km north (at their nearest point) of the scheme extents. The Outer Firth of Forth and St Andrews Bay Complex SPA lies approx. 13km north (at its closest point). Given that the scheme is located within the buffer zones of some qualifying features of these European Sites a Habitat Regulations Appraisal (HRA) was undertaken. Given the lack of hydrological connectivity between the scheme and the designated sites, the distance separating the scheme from the sites, coupled with the nature and duration of the works, and

restriction to the M8 carriageway the HRA determined no likely significant effects (LSE) on the qualifying features of the designated sites.

A temporary short-term increase in noise levels may cause disturbance to local wildlife. The works will, for example, require a range of ancillary plant, vehicles and NRMM which will emit noise and create potential disturbance. The works will also require delivery of materials and the presence of personnel to facilitate the improvements to the carriageway. However, the number of construction vehicles and construction operatives required onsite is low given the scale and scope of works. In addition, any species in the area are likely to be accustomed to noise and visual disturbance pertaining to vehicle movements on the M8, and the scheme is of short duration (eight nights). The potential for significant species disturbance within the area of likely construction disturbance is therefore somewhat diminished.

No invasive non-native species (INNS) were identified within the study area. Of lesser note common ragwort, an injurious weed and rosebay willowherb, an invasive native perennial (as listed in the Trunk Road Inventory Manual), are noted along the roadside verge scattered throughout the scheme extents. However, works will be contained to the M8 carriageway and surrounding verges as far as practicable, this coupled with mitigation measures detailed below will limit potential for the spread of these species or the introduction of any INNS within the scheme extents.

Considering the nature, duration, size, and scale of the scheme, and with implementation of mitigation detailed above, the proposed works impacts on biodiversity throughout the construction period are therefore assessed to be temporary, minor adverse in magnitude.

Upon completion of the works, no residual impacts are anticipated in relation to biodiversity.

Biodiversity mitigation measures:

- Toolbox Talk TTN-139 ‘Protected Species’ will be briefed to all staff prior to the commencement of works.
- Due to the recorded presence of common ragwort and rosebay willowherb within the verge of the scheme extents as such, Toolbox Talk TTN-009 ‘Working with Injurious Weeds & Invasive Plants’ will be briefed to all staff prior to the commencement of works.
- Where possible, artificial lighting used during night works will be sufficiently screened and aligned so as to ensure that there is no direct illumination of neighbouring habitat (e.g., locations adjacent to tree shelterbelt, woodland etc.) to ensure minimal impact on nocturnal species.

- The works are not permitted to disturb or destroy any active birds nests. If an active birds nest is identified onsite that will be impacted by works, BEAR Scotland's Environmental Team will be contacted.
- All site workers will have received adequate training relevant to their role prior to working on the site, including specific environmental inductions and 'toolbox talks' as required.
- Site personnel will remain vigilant for protected species and will not approach or touch any animals seen on site. Any sightings of protected species will be reported to BEARs Environmental Team. Should a protected species be encountered or move within 50m of the active works, works will be temporarily halted until the animal(s) move at least 50m away from the construction site, or until BEAR's Environmental Team can provide advice.
- The Contractor will employ 'soft start' techniques for all noisy activity to avoid sudden and unexpected disturbance during works. Each time the activity is started up after a period of inactivity, the noise levels will be gradually increased over a period of 30 minutes to permit animals (including birds) to move away from the disturbance.
- All equipment stored onsite, if necessary, will be checked at the start of each workday to ensure mammal species are not present. Any storage containers/plant within the compound will also be secured overnight to prevent exploration by mammal species. Any areas where an animal could become trapped (e.g., storage containers) will also be covered at the end of each working day.
- People, ancillary plant, vehicles, NRMM and materials will be restricted to areas of made/engineered ground (as much as is reasonably practicable). If during works unforeseen access to the surrounding environment is required, works will cease in this area and BEAR Scotland's Environmental Team will be contacted to allow consideration of potential environmental effects.
- BEAR Scotland's Environmental Team will be contacted to allow consideration of potential environmental effects if:
  - unforeseen site clearance is required,
  - unplanned works are be undertaken out with the carriageway boundary,
  - there is any deviation from the agreed plan, programme and/or method of working,
  - nesting birds are found onsite.
- BEAR Scotland's Control Room will be contacted if there is a pollution incident.

Material assets and waste

Minimising impacts arising from construction materials are focussed upon making the most efficient use of materials onsite to reduce the need for imported primary materials and minimise the creation and disposal of waste through (i) reduction, (ii) re-use, and (iii) recycling. Potential impacts have been assessed for both the

construction and operational phases of this scheme. It is anticipated that most material impacts are likely to arise during construction, though long-term residual impacts could occur post construction during the operational phase e.g., during the disposal of materials arising from routine maintenance operations.

However, the detailed design will reduce the requirements for primary materials e.g., the carriageway surfacing, and subbase will be carefully considered to minimise the requirements for importing primary material. Materials will also be derived from recycled, secondary, or re-used origin as far as practicable within the design specifications to reduce natural resource depletion. Specifying TS2010 surface course also allows a wider array of aggregate sources to be considered when compared to typical stone mastic asphalt (SMA). As a result, the use of TS2010 should reduce the usage of imported aggregates and increase the use of a wider range of sustainable aggregate sources. The design life for the TS2010 surfacing is also estimated to be 20 years. The enhanced durability of TS2010 therefore reduces reoccurring routine maintenance and associated levels of traffic disruption to this section of road over the period.

Considering the nature, duration, size, and scale of the scheme, and with implementation of the mitigation detailed below, the proposed works impacts on material assets and waste throughout the construction period are therefore assessed to be temporary, negligible adverse in magnitude. Upon completion of the works, no residual impacts are anticipated on materials or waste.

Material assets and waste mitigation measures:

- A SWMP will be completed by the Designer and Contractor as required. The SWMP will provide details of the following:
    - The quantity and type of waste that will be produced.
    - How waste will be minimised, reused, recycled, recovered, or otherwise diverted from landfill.
    - How materials that cannot be reused, recycled, or recovered will be removed from site and consigned, transported and disposed of in full accordance with all relevant UK legislation.

- For removal of coal tar contaminated plannings the following will be undertaken:
    - Coal tar contaminated road planings will be classified as Special Waste.
    - Special waste consignment notes (SWCN) will be obtained from SEPA to allow the movement of the contaminated planings.
    - All waste will be appropriately segregated, with coal tar contaminated planings being kept separate from uncontaminated planings.
    - Coal tar contaminated road planings will be transported by a registered waste carrier to an appropriate waste recovery facility and accompanied by a SEPA-issued consignment note or code. The

approx. 578 tonnes being disposed of will be sent to a facility that holds suitable pollution prevention and control permits and waste management licences. Copies of consignment notes will be retained for a period of three years
    - SEPA will be notified at least 72 hours before (and no longer than one month before) Special Waste leaving site.
    - Waste will be transported in a safe and secure manner to prevent the release of contaminated material en-route.

- The waste hierarchy (Reduce, Reuse, Recycle and Dispose) will be employed throughout the construction works.
- Good materials management methods (e.g., 'just-in-time' delivery) will be implemented wherever possible.
- The Contractor will comply with all 'Duty of Care' requirements, ensuring that any surplus materials or waste are stored, transported, treated, used, and disposed of safely without endangering human health or harming the environment. Waste transfer notes and/or waste exemption certificates (if required) will also be completed and retained.
- The Contractor is responsible for the recycling / disposal of non-hazardous road planings, and this has been registered in accordance with a Paragraph 13(a) waste exemption issued by SEPA as described in Schedule 3 of the Waste Management Licensing Regulations 2011 (exemption number: WML/XS/2010889), the rules of which will be complied with.
- Designated areas will be identified within which all materials and personnel, including construction compounds, where necessary, will be contained to limit environmental disturbance during construction works. This will include a designated area (if required) for segregation and reuse of waste materials.
- The selection of areas for materials stockpiling will avoid sensitive locations such as road drainage. Stockpiled materials with leachate potential, for example, will be stored away from road drainage to prevent cross-contamination with other materials, wastes, or groundwater.
- Materials will be stored with the appropriate security to prevent loss, theft, or vandalism.
- All temporary road signs and traffic cones will be removed from site on completion of works.
- Wastewater from welfare facilities (if required) will be subject to effluent treatment followed by tanker removal.
- If hazardous substances are used onsite, each substance will be subject to assessment under the Control of Substances Hazardous to Health (COSHH) Regulations 2002. Hazardous substances will also be clearly labelled, and disposed of, in line with relevant waste regulations. Special waste will also not be mixed with general waste and/or other recyclables.

Noise and vibration

Activities undertaken on site could potentially have some localised and short-term noise impacts in proximity to the works. The road works will, for example, require a range of ancillary plant, vehicles and NRMM for cold milling in preparation for carriageway resurfacing. Noise will also be generated by using breakers (jackhammers), chipping hammers, and rollers, etc. As a result, there is potential for noise and vibration effects to residential properties within the local area, the closest of which is located approximately 100m south of the scheme extents.

However, the works are not located within a CNMA or CQA, and works will also be completed over eight nights, with the aim being to complete the noisiest works by 23:00. In addition, the proximity of road space suggests that local residents have a degree of tolerance to noise and disturbance. For guests of the Premier Inn Hotel, which is the closest property, they are partially screened by the works and are also separated by the active M8 WB carriageway, as such the potential for noise and vibration impacts are considered to be somewhat reduced.

The road surface is in a poor condition, with a series of defects. Replacing the life-expired surface course with TS2010 road surfacing affords the benefits of a reduction in mid-to-high frequency traffic noise and a reduction in the ground vibrations. As a result, upon completion of the work, noise associated with the movement of vehicles on the trunk road should decrease post construction.

Considering the likely sources of noise and vibration, with the nature, duration, size, and scale of the scheme, and with implementation of the mitigation detailed below, it is unlikely that noise and vibration associated with the works will lead to significant impacts, disruption and/or complaints. The proposed scheme is therefore anticipated to result in temporary, minor adverse noise impacts.

Noise and vibration mitigation measures:

- The local authority environmental health department will be notified of nighttime working by BEAR Scotland's design engineer.
- Where possible, the noisiest work operations (e.g., cold milling, using breakers (jackhammers), chipping hammers, use of rollers, etc.) will be completed before 23:00.
- Wherever possible, careful consideration will be given to the siting and orientation of particularly noisy items of NRMM so that it is located away from surrounding properties. Activities which have the potential to produce excessive noise e.g., cutting and grinding of materials will also, if possible, be undertaken away from surrounding properties.

- If unacceptable noise is emanating from the site the operation will, where possible, be modified and re-checked to verify that the corrective action has been effective. Actions to be considered include (a) minimizing cutting and grinding on-site, (b) reducing the operating hours, (c) repositioning equipment, (d) changing the method of working etc. Corrective actions will be actioned through the non-conformance reporting procedure, which ensures a root-cause analysis is carried out on each incident. The non-conformance procedure also ensures that appropriate corrective and preventative action measures are agreed and implemented in a timely fashion with all parties, and are recorded and actioned through to closeout, and fully auditable and traceable.
- Ancillary plant, vehicles and NRMM with directional noise characteristics will (where practical) be shut down in intervening periods between site operations.
- The use of paving breakers (jackhammers), chipping hammers, etc. will be avoided (except where there is an overriding justification), and if used will be fitted with mufflers or silencers of the type recommended by the manufacturer.
- Drop heights from vehicles and NRMM will be kept to a minimum to minimise noise when unloading.
- All ancillary plant, vehicles and NRMM used onsite will have been regularly maintained, paying attention to the integrity of silencers and acoustic enclosures.
- All compressors will be ‘sound-reduced’ models fitted with properly lined and sealed acoustic covers which will be kept closed when in use.
- HGV, site vehicles and NRMM will be switched to the minimum setting required by HSE and, where possible, will utilise ‘broadband non-tonal’ or ‘directional sound reversing’ alarms. Speed limits will also be reduced through the works.

Population and human health

During construction, activities undertaken on site have the potential to have temporary adverse impacts on local residents and road users. A number of residential properties and a hotel lie within 300m of the scheme and as such, there is potential for impacts to local residents and guests of the hotel in the form of noise/vibration impacts, visual disturbance and delays due to traffic management. However, TM will only be in place for eight nights excluding weekends (when traffic flows will be at a minimum), as such no congestion issues are noted during the proposed construction hours. Providing mitigation measures detailed below and those listed within the noise and vibration section are adhered to, the impacts are assessed to be somewhat reduced.

A core path is spanned by the M8 within the scheme extents. However, Given that this crosses the M8 via an underpass there will be no impacts to the core path. Best practice measures will be implemented to ensure no debris escapes over the M8 to the core path below during the works.

Considering the nature, duration, size, and scale of the scheme, and with implementation of the mitigation described above, impacts on population and human health are assessed as temporary, minor adverse in magnitude.

Upon completion of the works, there will be a positive impact in relation to population and human health due to the improvement of usability and safety provided by the new carriageway surface.

Population and human health mitigation measures:

- If deemed necessary, appropriate measures will be utilised to prevent material, ancillary plant, debris, sediment, etc., escaping over the carriageway during works and impacting upon the core path below at the eastern extent of the scheme.
- Construction lighting will take into account the need to avoid illuminating surrounding properties to avoid a nuisance at night, and non-essential lighting will be switched off at night.
- Where appropriate, a communication strategy (e.g., social media, consultation with local authority and other stakeholders, letter drop (for night-time works), etc.) will be initiated to keep local residents and businesses informed of the proposed working schedule, particularly the times and durations of noisy construction activities. The communication strategy will also provide a 24-hour contact number for the BEAR Scotland Control Room.
- Advanced signage will be strategically placed on the trunk road to notify stakeholders of the road closure and diversion at least seven days in advance.
- A Traffic Management Plan (TMP), which includes measures to avoid or reduce disruption to road traffic, will be produced in accordance with the Traffic Signs Manual (Department of Transport 2009). The TMP will ensure that there is no severance of community assets, access routes or residential development.
- Journey planning information will be available for drivers online at the trafficscotland.org website. Journey planning information will also be available for drivers online through BEARs social media platforms.

Road drainage and the water environment

During resurfacing works, there is potential for temporary adverse impacts on the water environment. Potential changes in water quality e.g., from pollution events (either by accidental spillage of sediments, particulate matter, chemicals, fuels or by mobilisation of these in surface water caused by rain) during works have the potential to have a direct or indirect effect on surrounding waterbodies.

There are five unclassified waterbodies, considered to be minor tributaries or drainage channels located within 300m of the scheme extents, however only one is located within 50m of the scheme extents, Drain1. Given the distance separating the

remaining waterbodies from the scheme and provided mitigation detailed below are adhered to, the impacts are assessed to be somewhat reduced.

Additionally, no 'in-water' works are required, therefore there will be no change in the hydrological regime or water quality within surrounding waterbodies. All land outwith the trunk road boundary is also considered out-of-bounds to all construction staff during the works and there is no requirement for land take, site clearance or resources from within a waterbody. There is also no requirement for the abstraction or transfers of water from, or discharges to a waterbody. The potential for a direct pollution incident within a waterbody is also unlikely e.g., experience gained from BEAR maintenance schemes elsewhere on the network has shown that where standard best working practice is adopted (e.g., adherence to SEPA GPPs), water quality is protected.

Considering the nature, duration, size, and scale of the scheme, and with implementation of the mitigation detailed below, the proposed works impacts on the road drainage and water environment are assessed as temporary, negligible adverse in magnitude.

Upon completion of the resurfacing works, no residual impacts are anticipated in relation to the road drainage and water environment.

Road drainage and the water environment mitigation measures:

- All site operatives will be made aware of the proximity of Drain1.
- No work has been identified that would require entering any surface waterbodies. If such a need were identified onsite, BEAR Scotland's Environmental Team will be contacted (before works commence) to allow consideration of potential environmental effects.
- The abstraction or transfers of water from, discharges to, or the washing of tools in surface waterbodies will not be permitted.
- The Contractor will implement measures to minimise the risk of sediment or accidental spillages entering the road drainage system e.g., prior to works commencing any roadside gullies within 10m of work activities will be protected (e.g., utilisation of drain covers or similar) to ensure full segregation of the works from the road drainage system. The Contractor will inspect these periodically to ensure that they have not been removed, damaged, or interfered with and they will be cleaned of silt and debris as necessary.
- Appropriate measures will be implemented during resurfacing operations to limit the potential for wastes (i.e. road planings) and materials (i.e. new asphalt) to enter any gullies present on site. On completion of resurfacing operations, any gullies present on site will be visually checked to ensure they have not become blocked as a result of the scheme.

- All site personnel will be made aware of site spillage response procedures and in the event of a spill, all works associated with the spill will stop, and the incident reported to the Site Supervisor. Small spills that did not leave the site boundary and are cleaned up without material environmental harm or residual environmental impact would most likely not be required to be notified to SEPA or other authorities. However, all such incidents will be recorded and reported to BEAR Scotland's Environmental Team. In the event of a 'serious incident', SEPA will be notified without delay. Such notification will include: (i) the time and duration of the incident, (ii) a description of the cause of the incident, (iii) any effect on the environment as a result of the incident, and (iv) any measures taken to minimise or mitigate the effect and prevent a recurrence.
- All waste, vehicles, ancillary plant, NRMM and fuels will be stored in the compound(s) or laydown area and will be secured and located, if space is available, at least 10m from drainage entry points, in order to comply with GPP 5 'works and maintenance in or near water'. Refuelling will only be undertaken at designated refuelling areas (e.g., on hardstanding, with spill kits available, and >10m from drainage entry points, where practicable). Spill kits will also be available within all site vehicles and spill kits will be replenished onsite when required. Only designated trained and competent operatives will be authorised to refuel plant. Generators, and other ancillary plant and NRMM, where there is a risk of leakage of oil or fuel, will have internal bunding or will have a secondary containment system placed beneath them that meets 110% capacity requirements. Containment systems will also be emptied regularly. All waste, vehicles, ancillary plant, NRMM and fuels will also be stored in a manner that ensures they are protected from damage by collision or extremes of weather.
- Regular visual pollution inspections of the designated laydown area and work site (particularly near road drainage entry points) will be conducted (e.g., site walkover by engineer or Site Supervisor), especially during periods of heavy rain.
- All vehicles and NRMM onsite will have been regularly maintained, paying attention to the integrity of oil tanks, coolant systems, gaskets etc. A checklist will be present to make sure that the checks have been carried out.

Climate

BEAR Scotland, working on behalf of Transport Scotland, undertake carbon monitoring of major projects and operational activities. Emissions from activities are recorded using Transport Scotland's Carbon Management System. BEAR Scotland also undertakes resource efficiency activities to manage and reduce emissions contributing to climate change. The works will also extend the maintenance intervals required for future works. In doing so, the service life of the trunk road is also extended.

During works there is potential for impacts as a result of the emission of greenhouse gases through the use of equipment, vehicles, and NRMM, material use and production, and transportation of material/waste. However, considering the nature, duration, size and scale of the scheme, and the mitigation detailed below, the risk of

significant impacts to climate are considered to be negligible and adverse in magnitude.

Upon completion of the proposed scheme no residual impacts are anticipated on the climate.

Climate mitigation measures:

- Local contractors and suppliers will be used as far as practicable to reduce fuel use and greenhouse gases emitted as part of the works.
- BEAR Scotland will adhere to its Carbon Management Policy.
- Where possible, waste will be removed to local waste management facilities.

Vulnerability of the project to risks

There will be no change to the likelihood of flooding on the M8 within the scheme extents upon completion of the works.

Works are restricted to areas of made ground on the M8 carriageway surface, with access to the scheme gained via the M8 mainline. As such, the proposed works' impacts on road traffic accidents are assessed to be of negligible magnitude.

A Site Environmental Management Plan (SEMP) will be produced by BEAR Scotland which sets out a framework to reduce the risk of adverse impacts from construction activities on sensitive environmental receptors. The Contractor will comply with all conditions of the SEMP during works and may be subject to audit throughout the contract.

Considering the above, the vulnerability of the project to of major accidents and disasters is considered to be low.

Assessment cumulative effects

The proposed works are not anticipated to result in significant environmental effects. Due to the nature of the proposed works, no cumulative effects are anticipated with any other developments in the vicinity.

A search of the Scottish Road Works Commissioner's website (map search) has identified that resurfacing works will be undertaken on the M8 Junction 3 on-slip at the same time as the M8 Approach to Junction 3 Eastbound scheme. BEAR Scotland have planned the slip road works to occur at the same time to reduce the impact of traffic management on road users given the mainline works will involve a full closure between Junction 3A and 2. In addition, the M8 B792 scheme will be

ongoing during the works, this scheme involves a contraflow along the M8. While there is potential for some cumulative impacts to road users from traffic delays the works will be undertaken at night when traffic flows are reduced.

In addition, a search using West Lothian Council Planning Portal identified ten planning applications within 300m of the scheme extents within the last two years.

Table 1: Planning Applications within the Last Two Years

Reference	Description	Status	Decision	Distance
0652/FUL/24	Erection of an annexe to provide additional guest accommodation, alterations to the existing hotel, car parking, landscaping and other associated works	Awaiting decision	Unknown	45m south
0004/A/24	Display of 4 digital menu board signs, 1 non-illuminated banner sign, 1 non-illuminated playland sign and 15 non-illuminated traffic signs.	Decided	Approve Advertisement Consent	55m south
0899/A/23	Display of 6 illuminated fascia signs, 3 illuminated booth lettering signs and 1 digital booth screen	Decided	Approve Advertisement Consent	55m south
0512/A/25	Display of 4 fascia signs, 2 wall mounted signs, 1 totem sign, 4 menu digital screen signs, 1 order point sign (all illuminated) and 1 height restrictor sign and 2 pole mounted signs (non-illuminated)	Awaiting decision	Unknown	65m south
0584/A/25	Display of 3 illuminated fascia signs and 4 illuminated building mounted signs	Awaiting decision	Unknown	80m south
0981/A/24	Display of 2 non-illuminated tri-stack signs, 2 non-illuminated large monolith signs, 4 non-illuminated small monolith signs, 5 flag pole signs and replacement hoarding panels	Decided	Approve Advertisement Consent	165m north
0803/MSC/23	Approval of matters specified in conditions of planning permission 1019/P/19 for partial demolition of the boiler house complex to form three retail units totalling 569sqm, demolition of shop and erection of 126sqm community pavilion, erection of seven retail units totalling 723sqm and a 626sqm free standing retail unit, erection of energy centre for districting heating system, extension to Honeysuckle Cottage with associated parking, access and landscaping	Awaiting decision	Unknown	165m north
0818/LBC/23	Listed building consent for proposed alterations including partial demolition, extension and conversion to former power station complex, including workshops and chimney stack and alteration and extension to Honeysuckle Cottage	Awaiting decision	Unknown	245m north
0560/TPO/24	Branch removal and cutting back of tree and hedge growth over footway	Decided	Grant TPO Application	250m north
0273/MSC/24	Approval of matters specified for the erection 100 houses with roads, parking, landscaping and associated works (revised layout and house types)	Decided	Grant Planning Permission	285m northwest

While it is not possible to gain an understanding on the timing or duration of the above granted planning applications, it is considered that even in the event that the above planning applications were being progressed at the same time as the planned BEAR Scotland resurfacing works, given the distance separating them from the scheme, coupled with the minor nature of the BEAR Scotland resurfacing works, no in-combination effects are expected.

Assessments of the environmental effects

As detailed in the Description of Main Environmental Impacts and Proposed Mitigation section, there are no significant effects anticipated on any environmental receptors as a result of the proposed works.

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

This is a relevant project in terms of section 55A(16) of the Roads (Scotland) Act 1984 as it is a project for the improvement of a road and the works (together with any area occupied by apparatus, equipment, machinery, materials, plant, spoil heaps, or other such facilities or stores required during the period of construction) exceed 1ha.

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

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

Characteristics of the scheme:

- Works are restricted to like-for-like replacement of worn/damaged road surface, with all works restricted to made ground on the M8 carriageway surface
- Works are not expected to result in significant disturbance to protected species that may be present in the wider area
- The risk of major accidents or disasters is considered to be low.

- By removing the carriageway defects, this will provide this section of the M8 carriageway with another life cycle, and significantly improve the ride quality, which will result in safer conditions for road users.
- Any potential impacts of the works are expected to be temporary, short-term, not significant, and limited to the construction phase.

Location of the scheme:

- An HRA has been undertaken which has confirmed that the works will not result in LSE on the qualifying features of the Firth of Forth SPA and Ramsar Site or the Outer Firth of Forth and St Andrews Bay Complex SPA.
- The scheme does not lie within any sites of historical, cultural, or archaeological significance.
- The scheme is not located within any areas designated for landscape interests.
- Land use will not change as a result of the works.
- The works do not require any private land acquisition.
- The scheme does not lie within any sites designated for geology or soils
- The scheme is not located within a densely populated area.

Characteristics of potential impacts of the scheme:

- The waste hierarchy will be followed to reduce waste to landfill.
- Works are programmed to take eight nights to complete on a rolling programme, with the aim being to complete the noisiest works by 23:00.
- With good practice pollution prevention measures implemented onsite, there is a negligible risk of a pollution event e.g., compliance with the SEMP.

Annex A

"sensitive area" means any of the following:

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

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