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Environmental Impact Assessment Record of Determination

M8 Prior to Union Canal Westbound

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Project Details

Description

BEAR Scotland has been commissioned by Transport Scotland to carry out resurfacing of the M8 westbound (WB) carriageway. The works will consist of resurfacing of the full width of the carriageway (Hard Shoulder, Lane 1, and Lane 2) to a maximum inlay depth of 330mm and reinstatement of road markings to Chapter 5 for a length of approximately 920m (1.06ha).

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,
- Tack/bond coat laid,
- Binder/base material laid and compressed by paver (where required),
- Material compacted using a heavy roller,
- 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 (in accordance with Chapter 5 of the Traffic Signs Manual),
- Remove TM and open road.

The works are programmed to begin on the 14th of October 2026 for approximately four nights. TM is currently programmed to comprise of a full closure of the M8 WB carriageway within the scheme extents. The planned diversion will take travellers off the M8 WB at Junction 2 and onto the M9 WB, A89 WB, and A899 SB, rejoining the M8 WB at Junction 3. This will result in an additional nine minutes and 1.6 miles.

Location

The scheme is located on the M8 WB carriageway to the east of Union Canal, between Junction 2 and 3 within the West Lothian Council boundary (Figure 1.).

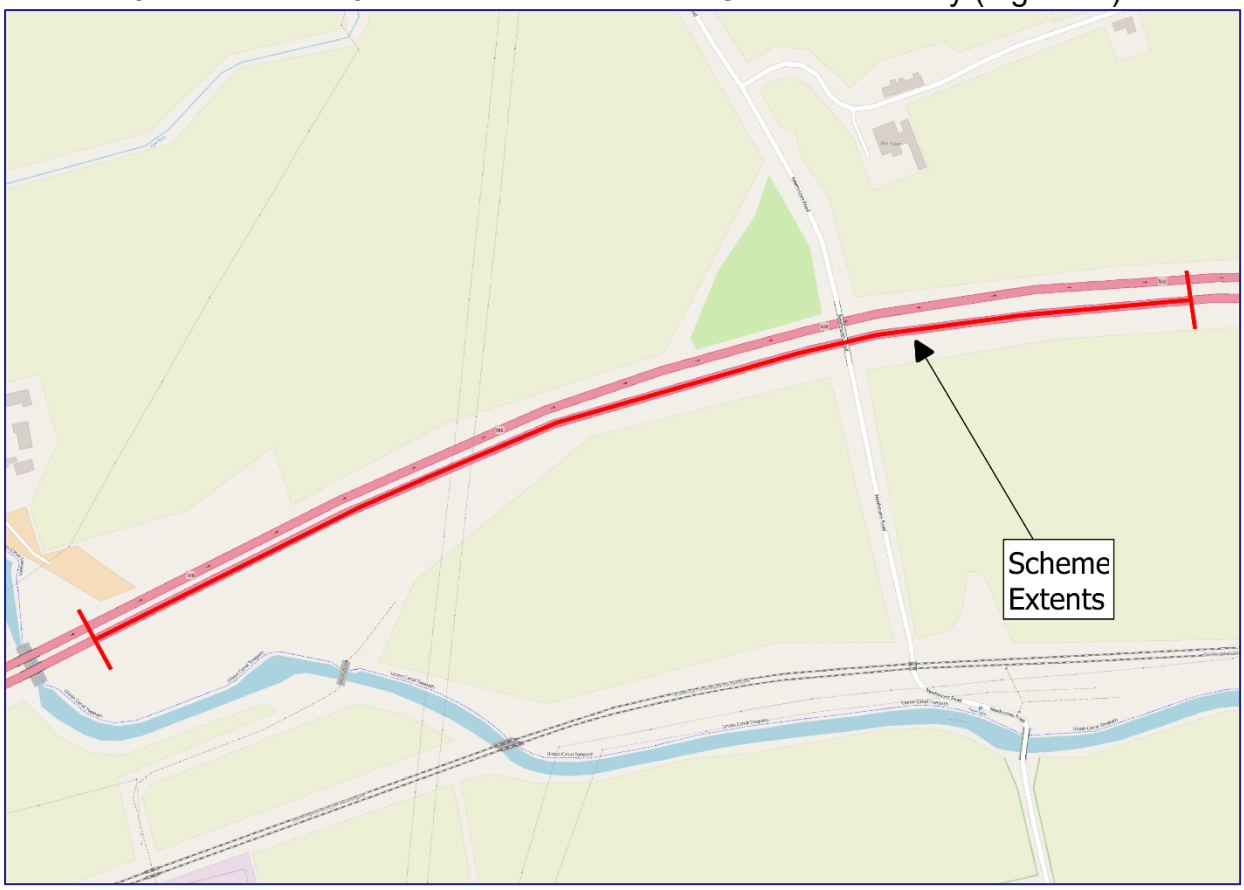


Figure 1. Extents of the Works. - Source: Asset Management Performance System (AMPS). © Europa Technologies Ltd. Contains Ordnance Survey data © Crown copyright and database right 2018.

Description of local environment

Air quality

For 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 air quality in the wider bandings are within the ‘green zone’ (Low Index 1-3).

The scheme is located within the West Lothian Council boundary which reports no active Air Quality Management Areas (AQMAs) within its administrative boundary. The closest AQMA, “Air Quality Management Area Glasgow Road 2013”, found within the City of Edinburgh Council boundary, is located approximately 2.92km northeast of the scheme extents and is declared for nitrogen dioxide (NO_2).

There are approximately twelve sites registered on the Scottish Pollutant Release Inventory (SPRI) for air pollutant releases within 10km of the scheme extents in the last 10 years. Their details are as follows:

- “Clapperton Poultry Complex, Broxburn, West Lothian” – Intensive livestock production and aquaculture – declared for ammonia, PM_{10}, and total particulate matter – located approximately 800m south of the scheme extents.
- “Clifton Poultry Farm, Clifton Road, Newbridge” – Intensive livestock production and aquaculture – declared for ammonia – located approximately 1.2km southeast of the scheme extents.
- “Hillwood Quarry, Ratho, Midlothian” – Mineral industry – declared for carbon dioxide and particulate matter <10 microns in diameter (PM_{10}) – located approximately 2.7km east of the scheme extents.
- “Wyman Gordon Ltd, Livingston” – Production and processing of metals – declared for carbon dioxide – located approximately 3.62km southwest of the scheme extents.
- “API Foils, Houston Industrial Estate, Livingston” – Other activities – declared for NVMOCs and toluene – located approximately 3.78km southwest of the scheme extents.
- “Ravelrig Quarry Kirknewton, Midlothian” – Mineral industry – declared for PM_{10} and $PM_{2.5}$ – located approximately 5.48km southeast of the scheme extents.
- “Kaimes Quarry Landfill Site, Kirknewton” – Waste and waste-water management – declared for methane – located approximately 5.7km southeast of the scheme extents.
- “Balerno Poultry Farm, Lanark Road West, Balerno” – Intensive livestock production and aquaculture – declared for ammonia – located approximately 6.68km south of the scheme extents.

- "Dalmeny Hound Point, South Queensferry" – Energy sector – declared for non-methane volatile organic compounds (NVMOCs) – located approximately 6.82km northeast of the scheme extents.
- "Gogarbank Poultry, Corstorphine, Edinburgh" – Intensive livestock production and aquaculture – declared for ammonia and PM_{10} – located approximately 7.4km east of the scheme extents.
- "Shin-Etsu Handotai, Wilson Road, Livingston" – Chemical industry – declared for ammonia – located approximately 7.57km southwest of the scheme extents.
- "Stepend Poultry Farm, West Calder, West Lothian" – Intensive livestock production and aquaculture – declared for ammonia – located approximately 9.3km southwest of the scheme extents.

Baseline air quality within the scheme extents is likely to be primarily influenced by traffic along the M8 carriageway. Secondary sources are most commonly derived from motor vehicles travelling along local network roads and day-to-day agricultural activities.

Cultural heritage

The PastMap and Historic Environment Scotland (HES) online mapping tools record four designated cultural heritage assets within 300m of the scheme extents, one Scheduled Monument, and three Listed Buildings.

The "Union Canal, River Almond to River Avon" Scheduled Monument lies approximately 45m southwest of the scheme extents at its closest point. It passes below the M8 carriageway approximately 50m southwest of the western side of the scheme.

The three Listed Buildings within 300m of the scheme are all bridges over Union Canal. The closest of these to the scheme is "Union Canal Bridge 21, Near Lookaboutye" (ID: LB7433) which is a Category C Listed Building located approximately 100m southeast of the scheme extents.

Of lesser concern, there are approximately twenty-two undesignated cultural heritage assets (UCHAs) located within 300m of the scheme extents. Of these, four lie partially or fully within the scheme extents. These are:

- "Archaeological Desk-Based Assessment And Walkover Survey, Broxburn To Humbie Farm Gas Pipeline Reinforcement, Boxburn, West Lothian" Historic Environment Record (HER) site (ID: 3784).
- "Union Canal, Learielaw Culvert" HER and National Record of the Historic Environment Site (NRHE) (IDs: 180594, 54440, and 55028).

Construction of the M8 is likely to have removed any archaeological remains that may have been present within the trunk road 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 between the nearest designated assets and the scheme extents, the potential for impacts to cultural heritage are deemed to be negligible. As such cultural heritage has been scoped out of further environmental assessment.

Landscape and visual effects

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

The Landscape Character Type (LCT) within the scheme extents is categorised as "Lowland Plain" (LCT – 274), which has the following key characteristics:

- Smoothly rolling, large scale agricultural plain with local interruptions of volcanic hills forming visual foci.
- Rivers cut through the farmland in incised valleys.
- High quality agricultural land with a predominantly rural character, divided into a strong pattern of large arable fields by fences, hedges, occasional walls and a network of shelterbelts.
- Policy woodlands and shelterbelts associated with designed landscapes, mansions, gatehouses and boundary walls contributing to character.
- Numerous villages and hamlets, including industrial settlements.
- Substantial but localised urban fringe influence around Edinburgh Airport, motorways and settlement expansion.
- Gentle sinuous sweep of the Union Canal as it leaves Edinburgh and heads north west.
- Industrial heritage legacy, with prominent quarrying, landfill and shale bing impacts.
- Important setting for western Edinburgh.

The Historic Land-use Assessment (HLA)classifies the land-use within 300m of the scheme extents as:

- Motorway and Major Roads.
- Rectilinear Fields and Farms.
- Industrial or Commercial Area.

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.

There are no areas of ancient woodland recorded on the Ancient Woodland Inventory, areas of native woodland recorded on the Native Woodland Survey, or any individual trees or areas of woodland covered by a Tree Preservation Order (TPO) within 300m of the scheme extents.

The scheme is bordered to the south by a shelterbelt consisting of strips of semi-mature broadleaved woodland, sections of hedgerows and areas of scrub.

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

Biodiversity

No European designated sites lie within 2km of the scheme extents, i.e., Special Protection Areas (SPAs), Special Areas of Conservation (SACs), or Ramsar Sites. However, the scheme does share hydrological connectivity with the Firth of Forth SPA and Ramsar Site, and Outer Firth of Forth and St Andrews Bay Complex SPA via an unclassified waterbody, which passes below the M8 carriageway within the scheme extents and drains into the River Almond, which ultimately drains into the Firth of Forth. Additionally, the scheme lies within buffer zones of qualifying features of the Firth of Forth SPA and Ramsar Site, Outer Firth of Forth and St Andrews Bay Complex SPA, and Westwater SPA and Ramsar Site. Details of these sites are given below:

The Firth of Forth SPA and Ramsar Site lie approximately 7.5km north of the scheme extents at their closest point.

The Outer Firth of Forth and St Andrews Bay Complex SPA is located approximately 9.57km northeast of the scheme extents at its closest point.

The Westwater SPA and Ramsar Site are located approximately 18.26km south of the scheme extents at their closest point.

Additionally, the Firth of Forth and Westwater SPAs are underpinned by Sites of Special Scientific Interest (SSSI). There are no SSSIs within 300m of the scheme extents.

There is one Local Nature Conservation Site (LNCS) within 300m of the scheme extents:

- "Union Canal – Broxburn to Lin's Mill" is located approximately 40m southwest of the scheme extents at its closest point.

The NBN atlas also holds records of numerous bird species within 2km over a ten-year period. Under the Wildlife and Countryside Act 1981 (as amended) (WCA), all wild birds and their active nests are protected.

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

Invasive Non-Native Species (INNS):

- Himalayan balsam (*Impatiens glandulifera*).

Injurious Weeds:

- Spear thistle (*Cirsium vulgare*).

No instances of invasive native perennials.

The closest of these records to the scheme extents pertains to spear thistle which is located approximately 1.58km southeast of the scheme extents.

A search of the Asset Management Performance System (AMPS) online mapping tool records the following instances of plant species as listed within the NMC within the scheme extents:

- Five instances of the invasive native perennial rosebay willowherb (*Chamaenerion angustifolium*).

No instances of INNS or injurious weeds.

The habitat immediately bordering the M8 Prior to Union Canal WB consists primarily of broadleaved shelterbelt, agricultural fields, and Union Canal, with further agricultural land, and residential and industrial land in the wider area. While there is some availability of roadside vegetation, habitat immediately bordering the M8 carriageway is assessed to be of reduced ecological value, due to the high likelihood of disturbances from high volume, fast-flowing traffic and that the M8 carriageways limit the connectivity and continuity for species between their potential habitats on either side of the road.

An Environmental Constraints Survey (ECS) was conducted on the 13th of August 2025 for a previous scheme relating to drainage works adjacent to the M8 WB. The purpose of the ECS was to investigate any potential environmental constraints for planned vegetation removal works. The survey area included the verge adjacent to the M8 WB and covered the entire scheme extents of the M8 Prior to Union Canal WB.

Geology and soils

There are no geological SSSIs or Geological Conservation Review Sites within 300m of the scheme extents (SiteLink). Additionally, there are no Local Geodiversity Sites (LGS) within 300m of the scheme extents.

The major and generalised soil groups within the scheme extents are classified as "Brown soils" in the central and western portion of the scheme, with the major soils in the east classified as "Noncalcareous gleys" while the generalised soil type is "Mineral gleys" (Scotland's Soils).

Bedrock geology in the scheme extents is classified as:

- Calders Member-Sedimentary rock cycles, Strathclyde Group type.
- Burdiehouse Limestone-Limestone.
- Hopetoun Member-Sedimentary rock cycles, Strathclyde Group type.
- Dunnet Sandstone-Sandstone.

Superficial deposits are classified as "Till, Devensian-Diamicton" (BGS Geology Viewer).

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

Given the restriction of the works to the M8 carriageway boundary, and the lack of any excavation works out with the carriageway, 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 rectify a number of defects which have been identified in the road surface. Materials used will consist of:

- TS2010 10mm Site Class 1.

- AC20 Dense Binder 40/60.
- AC32 Base.
- Tack/Bond coat.
- Thermoplastic Road Markings.
- Embedded Road Studs.

The value of the scheme is less than £350,000 and as such, a Site Waste Management Plan (SWMP) is required.

The approximately 920m scheme involves the removal of surface and binder course. In total, approximately 1,028 tonnes of bituminous material (740t of surface course, 230t of binder course, and 58t of base course) will be removed from site, of which 44.23 tonnes are classified as hazardous material containing coal tar. The coal tar bound planings will be removed from site and used within a separate BEAR Scotland scheme.

Noise and vibration

There are residential, commercial and farmstead properties within 300m of the scheme extents. For further details see “Population and Human Health”.

The works do not fall within a candidate quiet area (CQA) as defined by the Agglomerations Noise Action Plan (ANAP).

The nighttime noise levels (LNGT) modelled within the scheme extents range between 70 and 75 decibels (dB), with levels decreasing to between 35 and 55dB at the nearest property.

Baseline noise and vibration in the study area is mainly influenced by vehicles traveling along the M8 trunk road. Secondary sources are derived from vehicles travelling along nearby local network roads and day-to-day agricultural activities.

Population and human health

There are approximately three residential properties, one farmstead, and one commercial property within 300m of the scheme extents. The closest of these is the “Learielaw Farm” farmstead, which lies approximately 90m north of the scheme extents at its closest point. It receives little screening from the scheme extents, with clear sightlines from the M8 WB carriageway to the property. The closest residential property lies approximately 185m north of the scheme and is well screened by the raised roadside embankment and the roadside treeline.

The Union Canal Water Path (2a) and Towpath (2b) lie approximately 40m southwest of the scheme extents at their closest points (West Lothian Core Paths). They both pass below the M8 carriageway approximately 50m southwest of the scheme extents.

There is no street lighting throughout the scheme. There are no other community receptors within the immediate vicinity of the scheme.

The scheme extents are located on the M8 carriageway, which is a motorway with the national speed limit applying throughout. The Average Daily Traffic (ADT) flow is high (36,672 motor vehicles (ID: JTC00629, 2026 data)) (Transport Scotland).

Road drainage and the water environment

There is one SEPA classified waterbody within 300m of the scheme extents. “Union canal (Craigton to Murray Burn)” (ID: 8) is a river in the River Almond catchment area. It passes approximately 40m southwest of the scheme extents at its closest point and has a main stem approximately 19.8km in length. It was classified as having an overall status of “Good ecological potential” by SEPA in 2023.

There are approximately four unclassified waterbodies within 300m of the scheme extents. The closest of these, “Drain 1”, passes below the M8 carriageway within the scheme extents and ultimately drains into the River Almond. The next closest unclassified waterbody lies approximately 65m southwest of the scheme extents. These waterbodies are too small (in terms of catchment area) to be classified as main stem waterbodies by SEPA under the Water Framework Directive.

A search of the SEPA Flood Map online mapping tool shows that most of the scheme extents has an increased flood risk. Flood risk is primarily located within the hard shoulder and Lane 1 within the scheme extents, and ranges between a low (0.1%) and high (10%) likelihood of flooding each year.

The scheme is located within the Livingston groundwater basin (ID: 150711). It was classified as having a “Poor” overall status in 2024 by SEPA. It is a Drinking Water Protected Area (DWPA) (SEPA).

A search of the Scotland's Environment (SE) determined that the trunk road, within the scheme extents, does not lie within a Nitrate Vulnerable Zone (NVZ).

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 and construction machinery and vehicles 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 not significant.

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

Air quality mitigation measures:

- 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 construction machinery will have been regularly maintained, paying attention to the integrity of exhaust systems.
- Ancillary plant, vehicles and construction machinery 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, construction machinery and materials are restricted to areas of made/engineered ground on the M8 WB carriageway, and construction works are programmed to be undertaken at night (four 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 not significant.

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.

- 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 this 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

A Habitats Regulations Appraisal (HRA) screening has been undertaken which ruled out Likely Significant Effects (LSE) on the qualifying features of the Firth of Forth SPA and Ramsar Site, Outer Firth of Forth and St Andrews Bay Complex SPA, and Westwater SPA due to the restriction of the works to the M8 carriageway, and the relatively minor nature of the works. As such, an Appropriate Assessment (AA) was not required.

The “Union Canal – Broxburn to Lin’s Mill” LNCS is located approximately 40m southwest of the scheme extents at its closest point. The works are restricted to the M8 carriageway, require no earthworks or vegetation removal, and are relatively minor in nature, being completed over only four nights. As such, the likelihood of impacts to the LNCS are minimal. Given the mitigation detailed below, no impacts are expected to the “Union Canal – Broxburn to Lin’s Mill” LNCS.

AMPS has identified five instances of the invasive native perennial rosebay willowherb within the scheme extents. As such, there is potential for impacts relating to the spread of invasive plant species. However, the scheme is restricted to the M8 WB carriageway surface, with no requirement for vegetation removal or any working within roadside verges. As such, with the mitigation measures detailed below, the likelihood of impacts is considered minimal.

A temporary short-term increase in noise levels may cause disturbance to local wildlife if present in the vicinity of the works. Disturbance to local wildlife may occur through the use of plant, vehicles and construction machinery which will emit noise and create vibrations. In addition, the works will also require delivery of materials and the presence of personnel to facilitate the improvements to the road surface, which could result in disturbance. 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, furthermore, the scheme is of short duration (four nights) and will be undertaken on a rolling programme. The potential for significant species disturbance within the area of likely construction disturbance is therefore somewhat diminished.

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 not significant.

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

Biodiversity mitigation measures:

- Artificial lighting used during night works will be sufficiently screened and aligned to ensure that there is no direct illumination of neighbouring habitat (e.g., “Union Canal” LNCS, Union Canal, adjacent minor waterbodies, treelines, fields etc.).
- 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, the Environmental Team will be contacted.
- Toolbox Talk TTN-139 “Protected Species” will be briefed to all site personnel prior to the commencement of the works.
- Given the presence of the invasive native perennial rosebay willowherb within the scheme extents, Toolbox Talk TTN-009 “Working with Injurious Weeds and Invasive Plants” will be briefed to all site operatives prior to the commencement of the works.
- 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 BEAR's Environmental Team. Should a protected species be encountered or move within 50m of the active works (including compounds), 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 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, construction machinery 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 must 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. In addition, the re-use of coal tar bound materials on a separate BEAR Scotland site will see a reduction in the volume of materials going to landfill.

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 not significant. Upon completion of the works, no residual impacts are anticipated on materials or waste.

Material assets and waste mitigation measures:

- Good materials management methods (e.g., ‘just-in-time’ delivery) will be implemented wherever possible.
- The Contractor is responsible for the recycling / disposal of non-hazardous road planings and will operate in line with the SEPA’s Environmental Authorisations (Scotland) Regulations (EASR) 2025 Regulatory Position Statement - Low Risk Waste Activities WAS-PS-07.
- BEAR Scotland’s subcontractor Tarmac will gain any necessary permissions under EASR from SEPA prior to the storage of coal tar bound materials for re-use.
- The storage of the coal tar bound planings will be undertaken in line with SEPA’s Position Statement on Cold Recycling – Treatment Storage and Use of Asphalt Waste Containing Coal Tar WAS-PS-06.
- 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.
- 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 the relevant waste regulations.
- Special waste will 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 construction machinery for cold milling in preparation for carriageway resurfacing. Noise will also be generated by using breakers (jackhammers), chipping hammers, use of rollers, etc. As a result, there is potential for noise and vibration effects to residential, commercial, and farmstead properties in the area, the closest of which is a farmstead property located approximately 90m north of the scheme extents at its closest point. However, the works are not located within a CQA, and works will also be completed over four nights with the aim being to complete the noisiest works by 23:00.

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 works impacts on noise and vibration are therefore assessed to be not significant.

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.
- 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 construction machinery 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 construction machinery will be kept to a minimum to minimise noise when unloading.
- All ancillary plant, vehicles and construction machinery 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 construction machinery 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. However, TM will only be in place for four nights (when traffic flows will be at a minimum), as such no congestion issues are predicted during the proposed construction hours.

In addition, all residential properties are fully screened from the scheme extents and as such the potential for visual impacts is reduced.

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 not significant.

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:

- 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/or 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.
- 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.

Road drainage and the water environment

During resurfacing works, there is potential for temporary adverse impacts on the water environment e.g., nearby drainage channels and waterbodies. 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 such as the minor drainage channels found in proximity.

However, considering the relatively minor nature of the resurfacing works, the short duration, and that the closest major waterbody is located approximately 40m from the scheme extents, and with implementation of the mitigation detailed below, the proposed works impacts on the road drainage and water environment are assessed as not significant.

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:

- Site operatives will be made aware of the location of the classified waterbody “Union Canal” and the unclassified waterbody “Drain 1”.

- If any works are identified that would require entering a waterbody, 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 identified will not be permitted.
- 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, undertakes 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 carriageway resurfacing 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 construction machinery, 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 impacts to climate are considered to be minor adverse in magnitude.

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

Climate mitigation measures:

- Use of warm mix asphalt as standard.
- Local contractors and suppliers will be used as far as practicable to reduce fuel use and greenhouse gas emitted as part of the works.
- BEAR Scotland will adhere to its Carbon Management Policy.
- Where possible, waste will be disposed of at local waste management facilities.

Vulnerability of the project to risks

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

Works are restricted to areas of made ground on the M8 WB carriageway surface, with access to the scheme gained via the M8 WB mainline. TM will employ a full road closure with signed diversion.

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 of 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 West Lothian Council Planning Portal has identified one planning application within 300m of the scheme extents in the last two years:

- **Reference:** 0922/FUL/24 – **Description:** Change of use from paddock to domestic garden ground (in retrospect) and erection of garage with first floor living accommodation – **Decision:** Grant Planning Permission – **Distance from Scheme**: Approximately 195m north.

While it is not possible to determine the timings of the works detailed in the planning applications, it relates to relatively minor domestic building works. As such, the potential for cumulative impacts with the resurfacing works is considered to be negligible. This is due to the works being undertaken on a rolling schedule, limiting disturbance in any one place, the relatively small-scale nature of the resurfacing works and the planning application, and the restriction of the resurfacing to the M8 carriageway. Therefore, no in-combination effects are expected with relation to any of the above planning applications.

Additionally, a search of the Scottish Road Works Commissioner's website (map search) has identified no other roadworks within 300m of the scheme extents at the same time as the resurfacing works.

Additional BEAR Scotland resurfacing works are planned on the M8 WB carriageway between the Junction 2 on slip and the start of the scheme extents. These works are programmed to begin on the 5th of October and last for six nights, therefore slightly overlapping with the M8 Prior to Union Canal WB. All BEAR Scotland works are planned in conjunction with other schemes to minimise the likelihood of cumulative impacts relating to TM or road works. As such, no cumulative impacts are expected relating to other BEAR Scotland schemes.

Assessments of the environmental effects

The M8 Prior to Union Canal WB lies within the buffer zone of qualifying species of the Firth of Forth SPA and Ramsar Site, Outer Firth of Forth and St Andrews Bay Complex SPA, and Westwater SPA and Ramsar Site, and hydrological connectivity with the Firth of Forth SPA and Ramsar Site, and Outer Firth of Forth and St Andrews Bay Complex SPA. A HRA has concluded that the works will not result in LSE on any of the qualifying species of the sensitive areas, and as such AA is not required.

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 improvement of a road and the completed works (together with any area occupied by apparatus, equipment, machinery, materials, plant, spoil heaps, or other such facilities or stores required during the period of construction exceed 1 hectare in area.

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:

- The works are restricted to like-for-like replacement of the carriageway surface on the M8 WB carriageway.

- The works will be undertaken on a rolling schedule, minimising the impact to any one area, and any potential impacts of the works are expected to be temporary, short-term, not significant, and limited to the construction phase.
- The risk of major accidents or disasters is considered to be low and by removing the carriageway defects, this will provide this section of the M8 WB carriageway with another life cycle, and significantly improve the ride quality, which will result in safer conditions for road users.

Location of the scheme:

- The scheme is not located within 2km of any European designated sites but is located within the buffer zone of qualifying bird species of the Firth of Forth SPA and Ramsar Site, Outer Firth of Forth and St Andrews Bay Complex SPA, and Westwater SPA and Ramsar Site. However, a HRA has been undertaken, which confirmed the works will not result in LSE on any of the qualifying features.
- The scheme is not located within any areas designated for landscape interests or cultural heritage.
- The scheme will not require any private land acquisition, and land use will not change as a result of the works.
- The scheme is not located within a densely populated area.

Characteristics of potential impacts of the scheme:

- A Site Environmental Management Plan (SEMP) will be delivered to all site personnel, detailing all relevant environmental mitigation to be implemented during the works.
- The waste hierarchy will be followed to reduce waste to landfill.
- The works will adhere to standard practice pollution prevention measures such as SEPAs Guidance for Pollution Prevention (GPPs) and Environmental Authorisation (Scotland) Regulations (EASR) 2018.
- The works are programmed to take four nights to complete on a rolling programme, with the aim being to complete the noisiest works by 23:00.

References of supporting documentation

F565 HRA – M8 Prior to Union Canal Westbound

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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