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Environmental Impact Assessment Record of Determination

A985 Rosyth

Contents

Project Details

Description

BEAR Scotland has been commissioned by Transport Scotland to carry out resurfacing works on the A985 carriageway. The works will consist of surface course resurfacing to a depth of 45mm throughout with localised deeper patches of 90mm along with the reinstatement of road markings, studs and inductive traffic loops for a length of 1280m (1.3ha).

The 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 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, traffic loops and studs applied where necessary (in accordance with the Traffic Signs Manual, Chapter 5).
- Remove TM and open road.

The works are currently programmed to be completed within the 2024/2025 financial year with works expected to begin on 2nd December 2024. Works are programmed to be completed over ten nights (18:00 – 06:00). Traffic Management (TM) will involve a full road closure of the A985 between Kinds Road roundabout and Admiralty Roundabout, traffic will be diverted between these two points. The diversion journey route will add approximately three minutes and 1.7 miles onto journeys.

Location

The scheme lies on the A985 carriageway within Rosyth in a highly residential area (Figure 1).

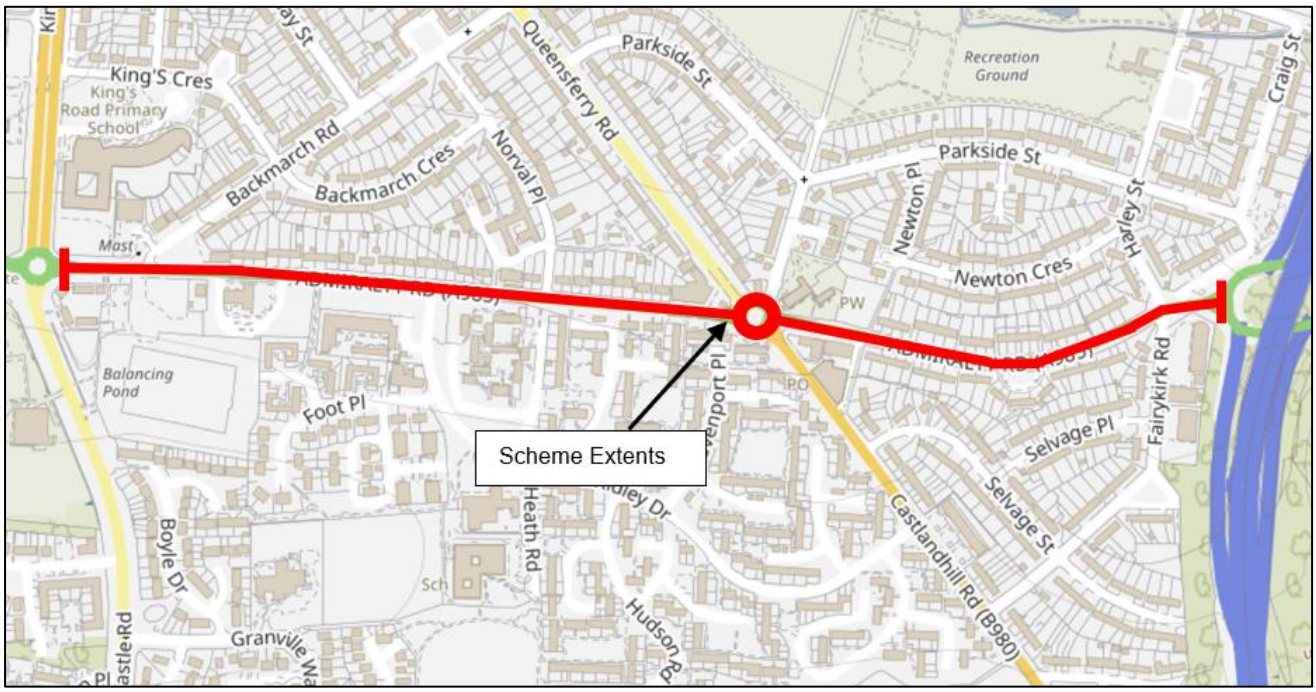

Figure 1: Location of Scheme Extents Source: Grid Reference Finder. Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown Copyright and database right 2022.

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 Fife Council which has two Air Quality Management Areas (AQMAs) within its administrative boundary, the closest of which, 'Appin Crescent Dunfermline', lies approx. 4.3km northwest of the scheme extents and has been declared for nitrogen dioxide (NO_2) and particulate matter (PM_{10}).

There are 10 sites registered on the Scottish Pollutant Release Inventory (SPRI) for pollutant releases to air within 10km of the scheme:

- Rosyth Dockyard, Dunfermline – Other Activities, declared for non-methane volatile organic compounds (NMVOCs), lies approx. 1.7km southwest of the scheme.

- Glendevon Poultry Farm, Wagon Road, Dunfermline – Intensive Livestock Production and Aquaculture, declared for ammonia, lies approx. 4.1km northwest of the scheme.
- Elmbank Poultry Farm – Intensive Livestock Production and Aquaculture, declared for ammonia and methane, lies approx. 5.1km northeast of the scheme.
- Mossbank Poultry Farm, Cowdenbeath, Fife – Intensive Livestock Production and Aquaculture, declared for ammonia, lies approx. 7.5km northeast of the scheme.
- Fife Ethylene Plant, Mossmorran – Chemical Industry, declared for benzene, butadiene, carbon dioxide (CO_2), carbon monoxide, ethylene, methane and nitrogen dioxides, lies approx. 8.5km northeast of the scheme.
- Fife NGL Plant, Cowdenbeath – Energy Sector, declared for CO_2, carbon monoxide, hydrochlorofluorocarbons (HCFCs), methane, nitrogen oxides, nitrous oxides, NMVOCs and sulphur dioxides, lies approx. 9.4km northeast of the scheme.
- Craigies Poultry Farm, Townhill, Dunfermline – Intensive Livestock Production and Aquaculture, declared for ammonia, lies approx. 6.8km northwest of the scheme.
- Fife Council, Lochhead L/F, By Wellwood, Fife – Waste and Waste-Water Management, declared for CO_2, chlorofluorocarbons and methane, lies approx. 7km northwest of the scheme.
- Saline Farms (Saline and Dinmoss) – Intensive Livestock Production and Aquaculture, declared for ammonia, lies approx. 9.9km northwest of the scheme.
- Dalmeny Hound Point, South Queensferry – Energy Sector, declared for HCFCs, methane and NMVOCs, lies approx. 6.8km south of the scheme.

The baseline air quality within the scheme extents is primarily influenced by motor vehicles travelling along the A985 trunk road. Secondary sources are derived from vehicles travelling along the local road network and day-to-day agricultural land management activities within the wider area.

Cultural heritage

The PastMap and Historic Environment Scotland (HES) online mapping tool records that the scheme extents lie within the Battle of Inverkeithing II Inventory Battlefield (IB). In addition, one designated site lies within 300m of the scheme extents which does not share connectivity with the scheme (i.e., lies > 15m from the scheme extents):

- Queensferry Road, Rosyth Parish Church (Church of Scotland), Including Gatepiers and Boundary Wall Listed Building (LB46945), lies approx. 280m north of the scheme.

Of lesser cultural heritage, approx. 20 undesignated cultural heritage assets (UCHAs) lie within 300m of the scheme extents, five of which have connectivity to the scheme (i.e., lie < 15m from the scheme extents):

- Rosyth, Admiralty Road, Rosyth Garden City, Canmore (ID: 93866), lies within the scheme extents.
- Rosyth, Queensferry Road, Ex Servicemen's Club, Canmore (ID: 93886), lies approx. 6m north of the scheme.
- Rosyth, The Crossroads, Council Information Point, Canmore (ID: 350515), lies approx. 3m north of the scheme.
- Rosyth, Former Episcopal Church, Canmore (ID: 378390), lies approx. 15m south of the scheme.
- Rosyth, St John and St Columba Roman Catholic Church, Canmore (ID: 153448), lies approx. 8m north of the scheme.

Construction of the A985 carriageway is likely to have removed any archaeological remains that may have been present within the carriageway boundary. The potential for the presence of unknown archaeological remains in the study area has therefore been assessed to be low.

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 scheme extents is 'Lowland Hills and Valleys' (no. 186) (Scottish Landscape Character Types). The key characteristics of which are:

- Variety and subtlety of landform.
- Generally dominated by open, regular farmland patterns of medium scale fields of arable and grasslands.
- Variable pattern of post and wire fences and mostly tall hedges with hedgerow trees.
- Extensive areas of forestry, shelter planting, roadside planting and policies linked to large estates.
- Regular, often linear, pattern of the distribution of steadings and larger settlements and towns, all of which are generally well related to the landscape.
- Towns in valleys enclosed by the landform of low hills which form a rural backdrop.
- Network of roads often well related to landform.
- Dominant linear and point features of forests and tree groups, individual trees or local buildings.
- A generally tended, safe, quiet, balanced and calm landscape, but also a busy, random, disturbed and noisy one in the more urban, industrialised areas.
- Variety of interrelated middle and long distance views of, from and across the low hills.

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

- 'Class 888' – Urban.

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

- Motorway and major roads.
- Urban area.
- Rough grazing.
- Recreation area.
- Industrial or commercial area.

One area of woodland registered on the Native Woodland Survey of Scotland lies within 300m of the scheme extents:

- Nearly-native lowland mixed deciduous woodland (approx. 1.8ha) lies approx. 152m east of the scheme.

In addition, approx. 2.8ha of broadleaved woodland lies within 300m 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 trunk road is a prominent linear landscape feature. The trunk road corridor, for example, has a distinct character shaped by slow-flowing traffic, road markings, safety barriers, signage, landscaping, lighting etc. The scale of the trunk road detracts from the quality and character of the wider landscape.

Biodiversity

The NatureScot Sitelink online mapping tool identifies that the Firth of Forth SPA and Ramsar Site lies approx. 1.1km southeast of the scheme extents.

The Firth of Forth Site of Special Scientific Interest (SSSI) (Site Code 169840) is located approx. 1.1km southeast of the scheme.

Additionally, Ferry Hills SSSI lies approx. 182m south east of the scheme.

There are no Local Nature Conservation Sites (LNCS) or Local Nature Reserves (LNRs) designated for biodiversity features within 300m of the scheme.

A search of the NBN online mapping tool records the following plant species within 2km of the scheme extents:

Invasive non-native species (INNS)

- Japanese knotweed (Reynoutria japonica)
- giant hogweed (Heracleum mantegazzianum)

- Himalayan balsam (Impatiens glandulifera)
- Rhododendron (Rhododendron ponticum)

Injurious weeds

- Common ragwort (Jacobaea vulgaris)
- Broadleaved dock (Rumex obtusifolius)
- Creeping thistle (Cirsium arvense)
- Curled dock (Rumex crispus)

Invasive native perennial

- Rosebay willowherb *(Chamaenerion angustifolium)*

The closest record pertains to creeping thistle within the roadside verge of the scheme extents (recorded in 2020).

A search of the Asset Management Performance System (AMPS) online mapping tool records no INNS, injurious weeds or invasive native perennials within the scheme extents.

The trunk road is bordered by footpaths for the entirety of the scheme with some areas of managed grassland found beyond and sections of hedgerow occasionally bordering residential properties. The presence of the trunk road and underpasses also restricts continuity of, and connectivity between, habitats either side of the trunk road boundary.

Outwith the trunk road boundary, the scheme extents are largely surrounded by residential developments with some areas of agricultural land to the west and woodland habitats to the east of the scheme.

Geology and soils

The A985 within the scheme extents is not located within a Geological Conservation Review Site (GCRS) however, North Queensferry (A90) Road Cuttings GCRS lies approx. 95m east of the scheme.

In addition, Ferry Hills SSSI lies approx. 182m south east of the scheme and is designated for geological feature Carboniferous – Permian Igneous.

There are no Local Geodiversity Sites (LGS) within 300m or which share connectivity to the scheme extents.

The National Soil Map of Scotland online mapping tool records no generalised soil type or major soil group within the scheme extents. The eastern extents of the scheme are considered ‘Built-up Land’.

The British Geological Survey online mapping tool records that the superficial deposits within the scheme extents are:

- Raised Tidal Flat Deposits, Late Devensian – Silt and Clay.

The bedrock geology within the scheme extents is recorded as:

- Anstruther Formation, Sedimentary Rock Cycles – Strathclyde Group Type.
- Lower Limestone Formation, Sedimentary Rock Cycles – Clackmannan Group Type.
- Midland Valley Sill, Complex – Quartz-Microgabbro.
- Pathhead Formation, Sedimentary Rock Cycles – Strathclyde Group Type.
- Hurlet Limestone – Limestone.

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.

Factor has no constraints that are likely to be impacted by the proposed works and has therefore 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, studs and inductive traffic loops. Materials used will consist of:

- TS2010 10mm surface course Site Class 1 and 3.
- AC20 dense binder 40/60.
- Hitex thermoplastic Type 1 high friction buff.
- Tack/bond coat.
- Paving grade bitumen.
- Eurolite thermoplastic road markings.
- Embedded and surface mounted road studs.

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

The approx. 1.28km scheme involves the removal of the surface course and localised areas of binder course. In total, approx. 1615 tonnes of bituminous material (European Waste Catalogue Code: 17 03 02), none of which is contaminated with coal tar, will be removed from site and recycled.

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 predominantly ranges between 60 and 65 decibels with some areas ranging between 65 and 70 decibels. Levels range between 60 and 65 decibels at the nearest noise sensitive receptor (NSR) (residential property) (Scotland's Noise Map).

Baseline noise and vibration in the study area is mainly influenced by vehicles traveling along the trunk road. Communication with the Design Engineer confirmed that the road surface is in a poor condition, with a series of defects, which have the potential to elevate ambient noise levels. Secondary sources are derived from vehicles travelling along the local road network and day-to-day agricultural land management activities within the wider area.

Population and human health

The scheme extents lie within a highly residential/urban area therefore, properties (residential, educational, business) surround the scheme extents, the closest of which are the residential properties found directly adjacent on the A985 with no screening from the scheme.

In addition, the following properties lie within 300m of the scheme extents:

- Gladyer Inn lies approx. 178m south of the scheme.
- Hillpark Hotel lies approx. 201m south of the scheme.
- Lodge Rosyth 1159 lies adjacent to the scheme on the roadside verge.
- Backmarch House (Hotel) lies approx. 78m north of the scheme.
- King's Road Primary School lies approx. 55m north of the scheme.
- Camdean Nursery lies approx. 149m northwest of the scheme.
- Camdean Primary School lies approx. 197m northwest of the scheme.
- Rosyth Church lies approx. 281m north of the scheme.
- St John's RC Primary School lies approx. 238m south of the scheme.
- Treetops Family Nurture Centre lies approx. 272m south of the scheme.

Street lighting is present throughout the scheme.

There are no core paths with connectivity to the scheme extents however, footpaths border both the EB and WB carriageways throughout the scheme extents. There are also numerous bus stops throughout the scheme extents on the westbound and eastbound carriageway.

The A985, within the scheme extents is a single carriageway with a speed limit of 30mph applying. The Annual Average Daily Traffic (AADT) flow is moderate (15,457 motor vehicles (ID: 40806, 2023)) (Road Traffic Statistics).

Road drainage and the water environment

The Scottish Environment Protection Agency (SEPA) River Basin Management Plan online mapping tool records one classified surface waterbody within 300m of the scheme extents:

- Brankholme Burn (ID: 4310), is a river in the South Fife Coastal catchment of the Scotland river basin district which lies approx. 244m north of the scheme. The main stem is approximately 5.3km in length. And has been classified as 'Moderate'. The water body has been designated as a heavily modified water body on account of physical alterations that cannot be addressed without a significant impact from an increased risk of subsidence or flooding. The waterbody is separated from the scheme by residential properties and grassland.

One unclassified waterbody lies within 300m of the scheme extents:

- A balancing pond lies approx. 55m south.

This waterbody is too small (in terms of catchment area) to be classified as a main stem waterbody by SEPA under the WFD.

A search of the SEPA's Flood Map online mapping tool records that one small area of Crossroads Roundabout within the scheme extents is at a medium risk of surface water flooding (i.e., each year this area has a 0.5% chance of flooding).

A search of the Scotland's Environment (SE) online mapping tool determined that the trunk road, within the scheme extents, lies on the 'Burntisland' groundwater which has been classified as 'Good' and the 'Dunfermline and Kirkcaldy' groundwater which has been classified as 'Poor'.

The scheme extents do not lie within a Nitrate Vulnerable Zone (NVZ).

Climate

The Climate Change (Scotland) Act 2009 sets out the target and vision set by the Scottish Government for tackling and responding to climate change (The Climate Change (Scotland) Act 2009). The Act includes a target of reducing CO_2 emissions by 80% before 2050 (from the baseline year 1990). The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 amended the Climate Change (Scotland) Act 2009 to bring the target of reaching net-zero emissions in Scotland forward to 2045 (Climate Change (Emissions Reduction Targets) (Scotland) Act 2019).

The Scottish Government has since published its indicative Nationally Determined Contribution (iNDC) to set out how it will reach net-zero emissions by 2045, working

to reduce emissions of all major greenhouse gases by at least 75% by 2030 (Scotland's contribution to the Paris Agreement: indicative Nationally Determined Contribution - gov.scot (www.gov.scot)). By 2040, the Scottish Government is committed to reducing emissions by 90%, with the aim of reaching net-zero by 2045 at the latest.

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

Policies and plans

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

Description of main environmental impacts and proposed mitigation

Air quality

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.

- 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.

Cultural Heritage

While the scheme extents are within the Battle of Inverkeithing II IB and have connectivity to five Canmore sites, construction of the A985 is likely to have removed any archaeological remains that may have been present within the trunk road boundary and surrounding verges. As such, the potential for the presence of unknown archaeological remains in the study area has therefore been assessed to be low. Furthermore, people, ancillary plant, vehicles, NRMM and materials are restricted to areas of made/engineered ground within the A985 carriageway boundary and depth. As such, there is negligible risk of disturbing the Battlefield or damaging previously undiscovered or unrecorded items of cultural interest.

Moreover, the works do not include any alterations that would affect the historic and architectural character of these features. As such, application for consent or any other permission is not required.

Given the nature of the scheme, and with the implementation of the mitigation detailed below, the proposed works impacts on cultural heritage during the construction period are assessed to be low in magnitude. Upon completion of the works, no residual impacts on cultural heritage are anticipated.

Cultural heritage mitigation measures:

- All site personnel will be made aware of the location of the Battle of Inverkeithing II IB.
- All site personnel will be briefed on the importance of archaeological finds and will be instructed to inform the site supervisor where potential finds are made. If there are any unexpected archaeological finds, all works will be temporarily stopped, the area will be cordoned off and BEAR Scotland's Environmental Team contacted for advice.
- People, ancillary plant, vehicles, NRMM and materials will be restricted to areas of made/engineered ground (as much as is reasonably practicable). Where access out with made/engineered ground is required for the safe and effective completion of the scheme, the area will be reduced as much as is reasonably practicable, and ideally will be accessed on foot.
- If a change to the construction programme onsite is required that necessitates earthworks or vegetation clearance, BEAR Scotland's Environmental Team will be contacted.

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 A985, and construction works are programmed to

be undertaken at night (ten 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 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

Given the limited nature of the works and the distance separating the Firth of Forth SPA, Ramsar Site and SSSI and the Ferry Hills SSSI no impacts are anticipated.

A temporary short-term increase in noise levels may cause disturbance to local wildlife if present in the vicinity of the works. 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 road surface. 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 A985. The potential for significant species disturbance within the area of construction is therefore somewhat diminished.

All works are restricted to the existing made-ground on the A985 carriageway surface, with only like-for-like replacement of carriageway road surface being undertaken. As such, there is limited potential for the spread or introduction of INNS, injurious flowering plants, or any invasive native perennial species.

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 is 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:

- Where possible, artificial lighting used during night works will be sufficiently screened and aligned so to ensure that there is no direct illumination of neighbouring habitat (e.g., locations adjacent to woodland at the eastern extents etc.) to ensure minimal impact on nocturnal species.
- 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 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 BEARs 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 will 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:

- 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 reuse / 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/2008619), 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 their 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, use of rollers, etc. As a result, there is potential for noise and vibration effects to properties within the local area, the closest of which (residential) lie adjacent to the carriageway surface and are not screened from the scheme extents.

However, the works are not located within a CNMA or CQA, with the aim being to complete the noisiest works by 23:00. In addition, the proximity of road space suggests that residents have a degree of tolerance to noise and disturbance.

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, as far as is possible. Activities which have the potential to produce excessive noise will be undertaken away from surrounding properties, if possible.
- 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. However, TM will only be in place at night (when traffic flows will be at a minimum), and no congestion issues are noted during the proposed construction hours, furthermore local access will be maintained as far as is possible.

As noted above there is potential for impacts to properties including residential, community (lodge) and business (hotels), however with mitigation measures implemented the magnitude of any impacts will be somewhat reduced.

While three schools, two nurseries and a church are found within 300m the impact to these are expected to be minimal given that works will only operate at night when these properties are not likely to be in use.

Footpaths border the EB and WB carriageways throughout the scheme extents, with large sections of these bordered by existing fencing. However, these are set back behind pedestrian barriers and will not be impacted / closed 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:

- Where appropriate, a communication strategy (e.g., social media, consultation with local authority and other stakeholders 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.
- Given the proximity of the residential properties to the scheme, Toolbox Talk TTN-042 'Being a Good Neighbour' will be briefed to all staff prior to works commencing.

- Advanced signage will be strategically placed on the trunk road seven days in advance to notify road users of the road closure and diversion.
- Construction lighting will consider the need to avoid illuminating surrounding properties to avoid a nuisance at night, and non-essential lighting will be switched off at night.
- 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. 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. However, the closest waterbodies relate to a pond 55m south and Brankholme Burn 244m north, as such there is limited potential for impacts to these given the distance separating them.

Furthermore, the works will be restricted to the existing A985 carriageway and all land outwith the A985 boundary is considered out-of-bounds to all construction staff during the works. Therefore, the potential for a direct pollution incident within a waterbody is considered 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 or PPGs, appropriate spill procedures, utilisation of drain covers or similar, etc.), 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.

Road drainage and the water environment mitigation measures:

- 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.
- 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 bunded

(e.g., utilisation of drain covers or similar) to ensure full segregation of the works from the road drainage system. The Contractor will inspect bunds periodically to ensure that they have not been removed, damaged, or interfered with and they will be cleaned of silt and debris as necessary. If it is identified that bunds are not up to standard, the works will not commence until they have been reinstated to the condition, they were originally in.

- 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 any waterbodies, and 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 A985 within the scheme extents upon completion of the works.

Works are restricted to areas of made ground on the A985 carriageway surface, with access to the scheme gained via the A985 mainline as per TM restraints. TM will employ full night-time road closures of the A985 with a signed diversion via King's Road to Junction 1C. There are numerous bus stops throughout the scheme extents on the westbound and eastbound carriageway and footpaths throughout that have the potential to be impacted. As such, the proposed works impacts on road traffic accidents are assessed to be of low 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 (website) has identified that there are two planned roadworks on the A985 trunk road or surrounding roads in proximity to the scheme which may be undertaken at the same time:

- Installation of new speed limit signs by Fife Council, with works expected to start between 04/11/2024 – 03/02/2025 for approx. five days on Castle Road, Rosyth, South end of the layby outside no's 6/8 (Reference: FI001 – S71643 (3654587)).
- Installation of new speed limit signs by Fife Council, with works expected to start between 04/11/2024 – 03/02/2025 on King's Road, Rosyth outside no's 108/110 (Reference: FI001 – S71642 (3654578)).

If these roadworks do occur at the same time as the works carried out by BEAR Scotland there is not expected to be any significant impacts as the works carried out by Fife Council will take place during daytime working hours and they are not on the same road as the BEAR Scotland works, despite being connected.

A search using the Fife Council 'Simple Search' identified 11 planning applications within 300m of the scheme extents within the last two-years:

Table 1: Planning Applications (Within Last Two-Years)

Reference	Description	Status	Distance
22/03264/FULL	Installation of steel shutter door	Application Permitted with Conditions	Approx. 201m north east
23/03424/FULL	Alterations and extensions to dwellinghouse	Application Permitted with Conditions	Approx. 87m south
22/04010/FULL	Porch extension to front of dwellinghouse (retrospective)	Application Permitted with Conditions	Approx. 142m north

Reference	Description	Status	Distance
23/00360/FULL	Display of 3 fascia signs, 1 wall sign and 1 poster box, all non-illuminated to front and side of shop	Application Permitted – No Conditions	Approx. 10m north
23/02998/ADV	Display of one non-illuminated fascia sign	Application Permitted with Conditions	Approx. 45m north
23/00654/FUL	Demolition of existing buildings, erection of a retail unit (Class 1) with associated access improvements	Application Permitted with Conditions	Within
23/00259/NMVI	Installation of multi-use games area including enclosure and floodlights	Application Permitted – No Conditions	Approx. 81m south west
23/00736/ARC	Erection of 2 (no) retail units (Class 1), 1 (no) business unit (Class 4), 1 (no) dental surgery (Class 2), 1 (no) nursery (Class 10), 2 (no) food units (Class 3) and 10 flats with associated car parking and landscaping	Application Permitted with Conditions	Approx. 180m west
23/01644/FUL	Erection of extension to side of food processing facility including associated infrastructure works	Application Permitted with Conditions	Approx. 196m west
22/03666/RCC	Roads Construction Consent	Application Permitted with Conditions	Approx. 257m west

While it is not possible to gain an understanding on the timing or duration of the above 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 small scale nature of the planning

applications, coupled with the short duration (ten nights) and minor nature of the scheme, 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 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 construction1) 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:

- Works are restricted to like-for-like replacement of worn/damaged road surface, with all works restricted to made ground on the A985 carriageway surface.
- Works are not expected to result in significant disturbance to protected species that may be present in the wider area i.e. soprano pipistrelle
- The risk of major accidents or disasters is considered to be low.
- By removing the carriageway defects, this will provide this section of the A985 carriageway with another life cycle, and significantly improve the rid quality, which will result in safer road 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:

- The Firth of Forth SPA, Ramsar Site and SSSI lies approx. 1.1km south east of the scheme and Ferry Hills SSSI lies approx. 182m south east of the scheme extents but they do not share any connectivity with the scheme and will not be impacted.
- The scheme lies within the Battle of Inverkeithing II Inventory Battlefield (IB) however, given the restriction of the works to the existing A985 carriageway boundary and depth there is no potential for impacts.
- 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 and soils.
- The scheme is located in 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 ten nights to complete, 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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