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Environmental Impact Assessment Record of Determination

Queensferry Crossing – South Automated Barriers Scheme

Contents

Project Details

Description

The Queensferry Crossing (QFC) is a multi-span bridge crossing the Firth of Forth. When the QFC is subjected to a closure, the bridge is closed to traffic and diversion routes are implemented, one of which is the diversion of traffic to the Forth Road Bridge (FRB). However, the current timeframe required to implement the sequencing of traffic management for a diversion to the FRB is approximately 5 hours, which can cause delays on the trunk road network. This timeframe is required to allow operatives the safe working area to open median and outer carriageway barriers on the M90 northern and southern approaches to the FRB prior to allowing traffic to be diverted.

The proposed scheme will see northbound and southbound traffic on the southern end of the QFC utilising the existing diversion connection from the M90 to the A9000 and the FRB. Automated barriers will be installed to replace the current removable Open Box Beam (OBB) barriers on the M90 southern approach to the FRB. This will minimise the time taken to implement the temporary traffic diversion and therefore reduce delays to road users on the M90. A closure of the M90 northbound and southbound would be required prior to activating the automated barriers.

Works on the verges will be completed during dayshift as these works only require the hard shoulder to be closed. Due to traffic sensitivity and the requirement for lane closures on either side of the central reserve, works within the central reserve will be completed during night time. The proposed scheme is designed to provide a ‘free flow’ connection for traffic from the M90 to the A9000 and FRB. This ‘free flow’ connection will only be used when a diversion of the QFC is required.

The proposed scheme comprises the following key activities:

- Approximately 800m of temporary traffic management (traffic signs and road markings) along the M90 to the interface with the A9000.
- Approximately 300m of temporary traffic management (traffic signs and road markings) along the A9000 to the interface with the M90.
- Installation of three rows of automated barriers (approximately 65m; 85m and 50m long) and intelligent light studs to divide the northbound and southbound traffic traversing along the M90/A9000 during the temporary traffic management.
- Central reserves to be permanently upgraded to accommodate the proposed automated barriers.
- Existing road restraints upgraded to tie-in with the proposed automated barriers.
- Construct proposed barrier foundations for foundation modules and pivots.

- Hardstanding / maintenance layby for access to automated barrier cabinets. There are two proposed laybys. One is aligned along the A9000 (on the eastern verge along the southbound carriageway, and approximately 50m north of the A9000/M90 interface) and the other is proposed to be located on the M90 northbound verge (to the west of the proposed automated barriers).
- Current bus / taxi lane heading north traverse the A9000 and not along the M90 / A90.
- Upgrade highways drainage:
    - Replace existing slot drains with realigned slot polymer concrete drains.
    - Replace existing filter drains with realigned slot polymer concrete drains.
    - Replace existing carrier drains with realigned carrier drains.
- Upgrade pavement works:
    - Replace existing pavements along the central reserves with new full depth construction.
    - Add new full depth pavement construction along the verges.
    - Milling existing surface course to tie in with existing pavements.
- Highways lighting to be relocated.
- Diversions of IT communications cable ducts.

A mirrored project for the installation of automated barriers on the north approach to the QFC is considered in a separate Record of Determination (RoD) and is not considered further in this RoD.

Location

The proposed scheme is located at the interface between the M90 and the A9000 which leads north to the FRB (refer to location plan in Appendix 1).

Description of local environment

Air quality

The proposed scheme is not located within an Air Quality Management Area (AQMA) (Air Quality Scotland). No air quality monitoring stations are located in the vicinity of the proposed scheme (Air Quality Scotland). The nearest air quality monitoring station is located at West Lothian Newton, approximately 4km west of the scheme. At the time of writing, this monitoring station recorded an air pollution level of 'Low' (Air Quality Scotland).

The air quality in the vicinity of the scheme is most likely influenced by road traffic on the M90, A90 and A9000.

Cultural heritage

The following designated cultural heritage assets are located within 300m of the proposed scheme (PastMap):

- Garden and Designed Landscape: Dundas Castle (Dataset: GDL00151) is located on the boundary/adjacent to the works location.
- Listed Building: Dundas Home Farm (Formerly Newbigging Steading) (Dataset: LB5520) is located approximately 250m from the works location.
- Listed Building: Dundas Home Farm (Formerly Newbigging Farmhouse), including Railings and Boundary Walls) (Dataset: LB5521) is located approximately 200m from the works location.
- Listed Building: Dundas Castle, North Lodge, including Gates and Gatepiers, Railings and Walls (Dataset: LB5517) is located approximately 170m from the works location.
- Listed Building: South Queensferry, 1 and 2 Scotstoun House, including Coachhouse and Garden Walls (Dataset: LB50165) is located approximately 280m from the works location.

There are multiple cultural heritage assets recorded on the Historic Environment Record and Canmore Database located within 300m to the scheme (PastMap).

Landscape and visual effects

The proposed scheme is located within the Coastal Farmland – Lothians Landscape Character Type (LCT) (LCT 280) (NatureScot National Landscape Character Assessment) which has the following key characteristics:

- Open, sweeping and gently rolling agricultural area of mostly intensively managed arable farmland on the fertile soil of underlying Carboniferous rock.
- Some prominent igneous rock outcrops.
- Generally north-facing towards the coast.
- Drained by inconspicuous burns falling to the Firth of Forth.
- Significant policy and shelterbelt woodland associated with farm estates
- Significant gardens and designed landscapes associated with historic houses.
- Generally medium scale fields but in areas smaller or larger scale, defined by hedgerows, hedgerow trees, stone dykes or wire boundaries.
- An even scatter of farm steadings, estates and cottages, with a limited number of other settlements.
- Distinctive grid pattern of major transport corridors of the M9, A904, the Edinburgh to Glasgow/Perthshire railway and the Union Canal passing through the area in a west-east direction and linked by a series of minor roads running north-south.
- Highly distinctive and differing designs of the three Forth bridges and their approaches.
- Often extensive views northwards across the Firth of Forth and its bridges to the Ochil Hills and beyond, and to the south to the Bathgate Hills and Pentland Hills beyond.

Biodiversity

One parcel of woodland is located approximately 130m south of the scheme extents and is recorded on the Ancient Woodland Inventory as 'Long-Established (of plantation origin)' (Scotland's Environment).

Firth of Forth Special Protection Area (SPA) (SiteLink), Firth of Forth Ramsar (SiteLink) and Firth of Forth Site of Special Scientific Interest (SSSI) (SiteLink) is located approximately 1.1km to the north of the scheme at its closest point.

No records of invasive non-native species (INNS) and injurious weeds are recorded on the NBN Atlas (NBN Atlas) within the last 10 years within 2km of the scheme extents.

One record of rosebay willowherb (*Chamerion angustifolium*), an invasive native perennial as listed in the Trunk Road Inventory Manual, is recorded on Asset

Management Performance System (AMPS) (Transport Scotland's record of assets on the trunk road network) within the scheme extents during the past five years.

The habitat in the immediate vicinity of the scheme is mostly urban areas, with areas of arable land and market gardens south of the proposed scheme (Scotland's Environment).

Geology and soils

The proposed scheme is not located within a Geological Conservation Review Site (GCRS) (NatureScot SiteLink)

Bedrock geology within the proposed scheme extents is recorded as Hopetoun Member - Sedimentary Rock Cycles, Strathclyde Group Type. Superficial deposits within the scheme are recorded as Till, Devensian – Diamicton (British Geological Survey Maps).

Soils within the proposed scheme extents are recorded as mineral gleys (Scotland's Soil Maps).

Material assets and waste

Materials used will consist of:

- Reinforced concrete foundation modules with waterproofing
- Steel base plate for automated barriers
- Bolts, washers, nuts and anchors for concrete foundations
- Safety barriers, terminals and posts
- Galvanised guardrails
- Stormwater drains, chambers, slot drains and headwalls
- Service ducts, chambers and cabinets
- Asphalt road pavements (all layers) and sub-base
- Precast concrete edging kerbs and grasscrete type paving
- Traffic signs, road markings and road studs
- New highways lighting columns, if existing cannot be relocated

Wastes anticipated are:

- Safety barriers, terminals and posts
- Existing slot drains and combined drainage kerbs

- Concrete and asphalt pavements
- Formation materials including Class 5A
- Road markings
- Lighting columns if the existing columns cannot be relocated

Noise and vibration

There are no designated Candidate Noise Management Areas (CNMAs) or Candidate Quiet Areas (CQAs) within close proximity to the works location (Scottish Noise Maps). The existing noise climate is likely to be influenced by the traffic on the existing surrounding infrastructure and anthropogenic activities in the surrounding area.

Population and human health

There are multiple residential and commercial properties within 300m of the scheme extents. There are no Core Paths (Scotland's Environment) or National Cycle Network (NCN) Routes (OS Maps) within the scheme extents.

The closest traffic count point (ID: 81480) on the A9000 is located approximately 250m north west of the scheme. In 2020 the number of vehicles recorded at this count point was 205, of which 3 were heavy goods vehicles. It should be noted that since the opening of the Queensferry Crossing, the number of vehicles on the A9000 in the past few years has been reduced (Road Traffic Statistics).

The closest traffic count point (ID: 90002) on the M90 is located approximately 650m west of the proposed scheme. In 2020 the number of vehicles recorded at this count point was 43129, of which 3273 were heavy goods vehicles. It should be noted that due to the COVID-19 pandemic, the AADF was lower in 2020 than 2019. In 2019, an AADF of 73030 was recorded, of which 4582 were heavy goods vehicles (Road Traffic Statistics).

Road drainage and the water environment

The scheme is located within the South Queensferry (ID: 150513) groundwater waterbody (Scottish Government) which is a Drinking Water Protected Area (Ground). This groundwater body was classified by SEPA in 2020 as having overall status of 'Good' (SEPA).

There are multiple discrete areas with a high likelihood of surface water flooding (each year this area has a 10% chance of flooding) within 300m of the scheme

extents, however, there is no likelihood of flooding within the proposed scheme area (SEPA Flood Maps).

The existing road drainage arrangements for this section of road discharges into the existing Sustainable Urban Drainage System (SuDS) pond, in-between the M90 and the A9000.

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 CO2 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

Construction activities associated with the proposed works have the potential to cause temporary local air quality impacts. Activities undertaken on site may cause dust and particulate matters to be emitted to the atmosphere. However, given the scale and nature of the works, and the following mitigation measures, the likelihood of significant impacts on air quality is considered to be low.

Mitigation includes:

- All plant, machinery and vehicles associated with the scheme must be maintained to the appropriate standards. All plant, machinery and vehicles must be switched off when not in use.
- Material stockpiles will be reduced as much as reasonably practicable by using a 'just in time' delivery system. All material will also be stored on made ground.
- Any stockpiled material on site will be monitored daily to ensure no risks of dust emissions exists.
- Materials should be removed from site as soon as is practicable.
- Good housekeeping will be employed throughout the work.

With the above mitigation measures in place, it is anticipated that any air quality effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this Record of Determination (RoD)

Cultural heritage

Although multiple designated cultural heritage assets are located within 300m of the scheme extents, with one being located adjacent the scheme (Dundas Castle Garden and Designated Landscape), the proposed scheme is not anticipated to have negative impacts on cultural heritage as works will be restricted to made ground within the carriageway and verge. The following mitigation measures will be in place to reduce the risk of impacts to known and unknown features of cultural heritage interest:

- There will be no encroachment onto the Garden and Designated Landscape area. Unnecessary encroachment onto designated cultural heritage areas will not be tolerated.

- All site personnel are to be briefed on the importance of archaeological finds and are instructed, as part of the site induction, to inform the site supervisor where potential finds are made.
- People, plant, and materials should, as much as is reasonably practicable, only be present on areas of made / engineered ground. Where access out with these areas is required for the safe and effective completion of the scheme, it should be reduced as much as is reasonably practicable and ideally be limited to access on foot.
- There should be no storage of vehicles, plant, or materials against any buildings, walls or fences.
- Should any unexpected archaeological evidence be discovered, works will stop temporarily in the vicinity and the BEAR Scotland Environment Team will be contacted for advice.

With the above mitigation measures in place, it is anticipated that any cultural heritage effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Landscape and visual effects

There is potential for minor temporary adverse impacts during the works as a result of damage to roadside verges obstructed views due to vehicles and machinery. However considering the nature of the works and with the following mitigation measures in place, the likelihood of significant impacts to landscape and visual receptors is considered to be low.

Mitigation includes:

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

With the above mitigation measures in place, it is anticipated that any landscape and visual effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Biodiversity

Construction activities will be required to be undertaken within proximity to a number of features of potential ecological value, such as Firth of Forth SPA, Firth of Forth Ramsar and Firth of Forth SSSI, located approximately 1.1km to the north of the scheme at its closest point.

In relation to the Firth of Forth SPA and the Firth of Forth Ramsar, and as part of the Habitat Regulations Appraisal (HRA) process, an Appropriate Assessment has been undertaken in consultation with NatureScot and concluded that the proposed works would not lead to an adverse effect on site integrity. On a precautionary basis, to avoid disturbance of birds which currently use the area adjacent to St Margaret's Marsh in small numbers, or might be displaced there, the following mitigation measures should be in place:

- The contractor will employ a soft-start to all noisy activities. The noise levels will be gradually increased over a period of 30 minutes to allow birds to relocate.
- Lighting arrangements for night-time working will ensure minimum light-spill, and not beyond the spill zone of the existing road lighting.

In addition, the intention to use the FRB only for limited movements of cars and vans should be strictly adhered to avoid an increase in the amount of noise adjacent to North Queensferry. Furthermore, the ECoW presence and bird monitoring underway for the FRB maintenance works, taken together with the noise monitoring and management plan, will monitor the impacts of qualifying interests in the Long Craig and North Queensferry areas. Any impacts that the proposed scheme may have on birds in these areas will be recognised and recorded by the ECoW. Further mitigation measures will be identified at that point.

The proposed scheme has the potential to have a temporary adverse impact on biodiversity in the area as a result of increased vehicle presence, and construction noise disturbance. Pollution controls and good practice measures to reduce impacts of works will be detailed in the SEMP and adhered to on site. Any protected species in the area are likely to be accustomed to road noise on the M90/A9000 and anthropogenic activities within Queensferry. The following mitigation measures will be put in place:

- Site personnel will remain vigilant for the presence of any protected species throughout the works period. Should a protected species be noted during construction, works will temporarily halt until the species has sufficiently moved on. Any sightings of protected species will be reported to the BEAR Scotland Environmental Team.
- All construction operatives will be briefed through toolbox talks prior to works commencing. The toolbox talks provide information of the legislation, general

ecology, and best practice measures for relevant protected / invasive non-native species.

- Works will be strictly limited to areas required for the proposed works. Unnecessary encroachment onto terrestrial or aquatic areas will not be tolerated.
- Any excavations, exposed pipes/drains, or areas where an animal could become trapped (e.g. storage containers) will be covered over when not in use, at the end of each shift, and following completion of the works to avoid animals falling in and becoming trapped.
- If fencing is utilised at any point during the works, a gap of 200mm from ground level must be provided, allowing free passage for mammals and preventing entrapment.
- A 'soft start' will be implemented on site each day. This will involve switching on vehicles and checking under/around vehicles and the immediate work area for mammals prior to works commencing to ensure none are present and that there is a gradual increase in noise.
- Site personnel will be briefed on the location of the rosebay willowherb that is recorded onsite and will remain vigilant for the presence of INNS or injurious weeds throughout the works period. Should any INNS be identified in working areas, no works may take place within 7m of these areas until the BEAR Scotland Environmental Team can provided further advice on additional mitigation measures.

With the above mitigation measures in place, it is anticipated that any biodiversity effects associated with the proposed scheme are unlikely to be significant. This receptor is not considered further in this RoD.

Geology and soils

Construction activities are associated with the replacement of current removable OBB barriers with automatic barriers. The works will be restricted to existing made ground. With the following mitigation measures in place, the likelihood of significant impacts on geology and soils is low.

- The parking of machinery/personnel and storage of equipment on road verges will be minimised as far as is reasonably practicable.
- Upon completion of the works, any damage to the local landscape (i.e. damage to grass verges) should be reinstated as much as is practicable.
- Mitigation measures to prevent contamination of soils through loss of containment will be strictly adhered to.

With the above mitigation measures in place, it is anticipated that any geology and soils effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Material assets and waste

There is potential for impacts as a result of resource depletion through use and transportation of new materials. However, materials will be sourced locally where possible and the following mitigation measures will be put in place:

- Materials will be sourced from recycled origins as far as reasonably practicable within design specifications.
- Care will be taken to order the correct quantity of required materials to prevent the disposal of unused materials.
- Where possible, minimal packaging should be requested on required deliveries to reduce unnecessary waste and production of packaging materials.

There is potential for impacts during works as a result of the improper storage or disposal of waste. The following mitigation measures will be put in place:

- The waste hierarchy (Reduce, Reuse, Recycle and Dispose) will be employed throughout the construction works.
- The subcontractor will adhere to waste management legislation and ensure they comply with their Duty of Care.
- Containment measures will be in place to prevent debris or pollutants from entering the surrounding environment.
- All wastes and unused materials must be removed from site in a safe and legal manner by a licensed waste carrier upon completion of the works. The appointed waste carrier must have a valid SEPA waste carrier registration, a copy of which will be provided to and retained by BEAR Scotland as early as possible.
- All appropriate waste documentation must be present on site and be available for inspection. A copy of the Duty of Care paperwork should be provided and filed appropriately in accordance with the Code of Practice (as made under Section 34 of Environmental Protection Act 1990 as amended).
- Re-use and recycling of waste will be encouraged and the subcontractor will be required to fully outline their plans and provide documentary evidence for waste arising from the works (e.g. waste carrier's licence, transfer notes, and waste exemption certificates).
- Staff will be informed that littering will not be tolerated. Staff will be encouraged to collect any litter seen on site.
- Where applicable, all temporary signage will be removed from site on completion of the works.
- If any hazardous or special waste is produced, this will be subject to the Special Waste Regulations 1996 should be removed from site by a specialised waste carrier. Special waste should not be mixed with general waste and/or other recyclables.

With the above mitigation measures in place, it is anticipated that any material assets and waste effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Noise and vibration

Construction activities associated with the proposed scheme works have the potential to cause noise and vibration impacts through the use of equipment and construction vehicles for the proposed activities, mostly related to replacement of the OBB barriers with automatic barriers. The following mitigation measures will be put in place:

- The Best Practice Means, as defined in Section 72 of the Control of Pollution Act 1974, will be employed at all times to reduce noise to a minimum.
- All construction operatives will be briefed through toolbox talks prior to works commencing using the 'Being a Good Neighbour' toolbox talk, included in the SEMP.
- On-site construction tasks should be programmed to be as efficient as possible, with a view to limiting noise disruption to local sensitive receptors.
- All site personnel will be fully briefed in advance of works regarding the need to minimise noise of the night-time works and of the site-specific sensitivities.
- BEAR will notify the local authority and the relevant stakeholders about the works.
- The noisiest work operations (e.g. using breakers, chipping hammers, etc.) should be completed before 11pm where possible.
- All plant, machinery and vehicles will be switched off when not in use.
- All plant will be operated in such a way that minimises noise emissions and will have been maintained regularly to the appropriate standards.
- Where fitted, and where permitted under Health and Safety requirements, white noise reversing alarms should be utilised during construction.

With the above mitigation measures in place, it is anticipated that any noise and vibration effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Population and human health

During construction, activities undertaken on site may have temporary negligible adverse impacts on local residents and road users as a result of vehicle noise and delays due to traffic management measures. Pedestrians, cyclists, equestrians and community (PCEC) road users will not be impacted as the works are restricted to the

carriageway and verge and will not result in the closure of pedestrian facilities. The following mitigation measures will be put in place:

- Traffic management will be in place.
- BEAR will notify the local authority and the relevant stakeholders about the proposed works.
- Road users and local residents will be notified of the proposed works through a media release approved by Transport Scotland into the local paper and overhead gantries/variable message signs will display messages about the works.
- Mitigation measures will be implemented for night time works to minimise noise disturbance (mentioned under 'Noise and vibration' heading above).

With the above mitigation measures in place, it is anticipated that any population and human health effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Road drainage and the water environment

There are no watercourses within close proximity to the scheme extents. There are a number of unnamed watercourses approximately 150m and further from the scheme extents. Although unlikely, potential changes in water quality from pollution events (either by accidental spillage sediments, particulate matter, chemicals, fuels or by mobilisation of these in surface water caused by rain) during works have the potential to have direct or indirect effect on the surrounding waterbodies. The following mitigation measures will be put in place:

- A spillage control procedure will be in place and all staff should be trained on how to deal with spillages.
- Suitable spill kits will be present on site and staff should know how and when use them.
- Storage of hazardous material, oil and fuel containers will be distanced more 10m away from any watercourses.
- All plant and equipment will be regularly inspected for any signs of damage leaks. A checklist must be present to make sure that the checks have been carried out.
- Standard working practices to comply with The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) for works in or near water will be detailed in the SEMP and adhered to on site.

With the above mitigation measures in place, it is anticipated that any road drainage and the water environment effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Climate

Construction activities associated with the proposed scheme works have the potential to cause local air quality impacts as a result of the emission of greenhouse gases through the use of vehicles and machinery, material use and production, and transportation of materials to and from site. The following mitigation measures will be put in place:

- BEAR Scotland will adhere to their Carbon Management Policy.
- Local contractors and suppliers will be used as far as practicable to reduce fuel use and greenhouse gas emitted as part of the works.
- Where possible, materials will be sourced locally to reduce greenhouse gas emissions associated with materials movement, and waste will be disposed at local landfill.

With the above mitigation measures in place, it is anticipated that any climate effects associated with the proposed works are unlikely to be significant. This receptor is not considered further in this RoD.

Vulnerability of the project to risks

There are multiple pockets with a high likelihood of surface water flooding (each year this area has a 10% chance of flooding) in close proximity (<300m) to the scheme extents.

The works will be restricted to the road verges and the carriageway and any traffic management will be designed in line with existing guidance. These measures, along with mitigation measures and standard working practices, will be detailed in the SEMP and adhered to on site. The vulnerability of the project to risks of major accidents and disasters is considered to be low.

Assessment cumulative effects

The north automated barriers scheme is currently programmed to be completed first, therefore there would be no cumulative effects from north and south schemes being constructed at the same time.

The proposed works are not anticipated to result in significant environmental effects. A search of the City of Edinburgh Council Planning Portal (Map Search) highlighted that there are no other schemes planned in the vicinity of the scheme. A search of the Scottish Roads Works Commissioner's website (Map Search) has identified that no other roadworks are currently ongoing, or noted as being planned on the trunk

road at the same time as the scheme. Some smaller scale traffic restrictions / roadworks are found in the local authority road network in proximity to the proposed works, however given their scale and lack of connectivity to the trunk road network, no cumulative effect is assessed. Due to the nature of the proposed works, no cumulative effects are anticipated with any other developments in the vicinity.

BEAR Scotland programme all of their proposed works in line with appropriate guidance and contractual requirements. All schemes are programmed to take into account existing and future planned works, with a view of limiting any cumulative effects relating to traffic management. As a result of this exercise, where a potential for cumulative impacts is identified, BEAR will reprogramme schemes to avoid / limit any cumulative effects or will utilise existing traffic management to complete multiple schemes at once. This approach allows BEAR Scotland to effectively manage the potential cumulative effects as a result of traffic management, resulting in minimal disruption to users of the Scottish trunk road network.

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 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 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 confined to the existing carriageway and verge.
- Containment measures of the working area will be in place to prevent pollutants from entering the surrounding environment.

Location of the scheme:

- The works are in close proximity to Dundas Castle Garden and Designated Landscape, however no impacts are anticipated as works will be restricted to the existing carriageway and verge.
- Land use will not change as a result of the works.

Characteristics of potential impacts of the scheme:

- Any potential impacts of the works are expected to be temporary and short term.
- Measures will be in place to ensure appropriate removal and disposal of waste.
- The SEMP will include plans to address environmental incidents.
- No impacts on the environment are expected during the operational phase as a result of works.

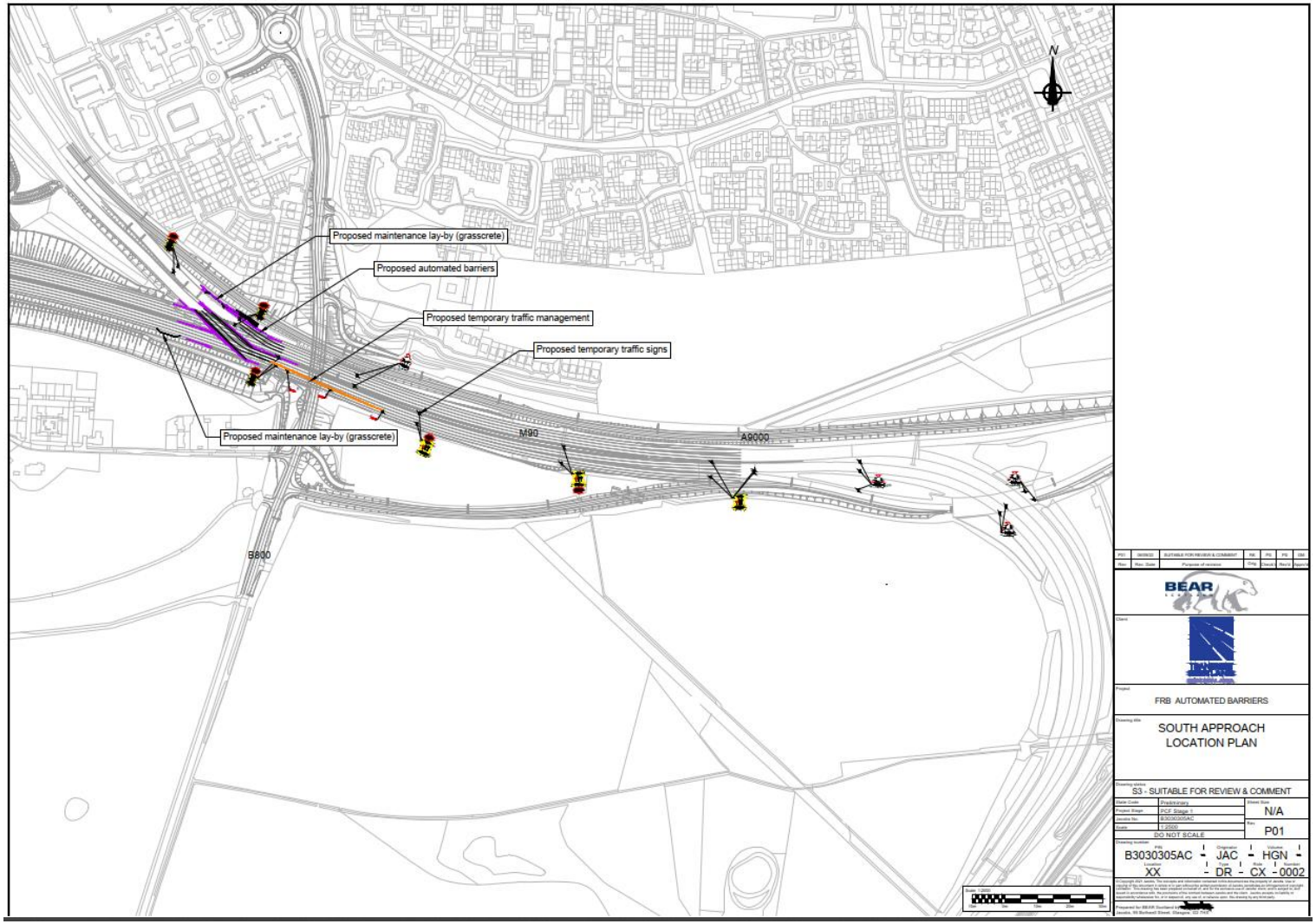
- As part of the HRA process an Appropriate Assessment has been undertaken in consultation with NatureScot and concluded that the proposed works would not lead to an adverse effect on site integrity.

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.

Appendix I – Location Plan



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