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Environmental Impact Assessment Record of Determination

M90 Glenfarg to Junction 8 SB

Contents

Project Details

Description

The scheme will consist of the resurfacing of a stretch of the M90 from Glenfarg to Junction 8, southbound. The works are being undertaken to improve the road quality and safety for users. Works are programmed to commence 23rd February – 27th February and will consist of overnight working from 19:00 to 06:30.

The area of works has a total of 12,380m^2, the construction activities will consist of the following:

- Installation of traffic management (TM).
- Milling carriageway to agreed depths.
- Resurfacing of carriageway to the existing road levels using TS2010 10mm aggregate (Site Class 1, Site Class 3), AC20 Binder & AC32 Base.
- Reinstatement of road markings, linings and studs.
- Removal of TM.

TM will be implemented and will consist of an overnight convoy. Details are as follows:

- Contraflow lane buffer implemented on Thursday 23rd February 19:30 and maintained as lane closure on M90 NB through to 19:30 on Friday 24th February.
- Contraflow implemented on Friday 24th Feb 19:30 and will run continuously until Monday 27th February 06:30 – surfacing works completed over this time period.
- Contraflow swapped back to lane closure, maintained from 06:30 through to 19:30 on Monday 27th February.
- All remaining traffic management removed between 19:30 Monday 27th February and 06:30 Tuesday 28th February.

Location

The scheme is located on the southbound lanes of the M90 at Glenfarg in Perth and Kinross, Scotland. The scheme is located within a predominately rural area, with large areas of woodland and greenspace, to the east of the village of Glenfarg. The scheme extents are located north of the overbridge that connects Arngask with the B996 on the M90 southbound carriageway between Junction 9 and Junction 8 at the following National Grid Reference (NGR):

- Start: NO 13918 11539
- End: NO 13555 10383

Site Location Maps are shown in Figures 1 & 2.

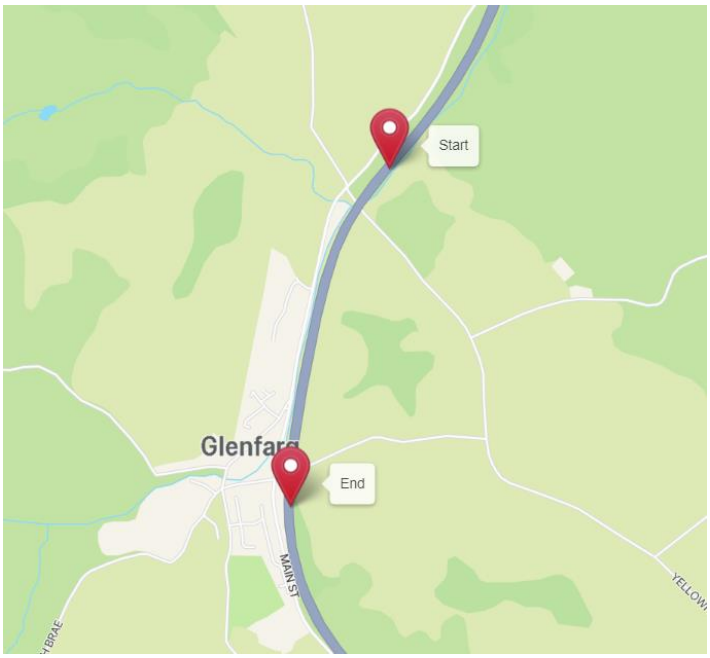

Figure 1: Site Location

Figure 2: Site Location, Regional Scale

Description of local environment

Air quality

In 2021, the Annual Average Daily Flow (AADF) of all vehicles along the M90 at Glenfarg (manual count point 20813) was 23,265, with 2,509 of those vehicles being Heavy Goods Vehicles (HGVs).

Perth and Kinross Council have declared two Air Quality Management Areas (AQMAs), the Perth AQMA and the Perth no.2 – Crieff AQMA; both are declared for Particulate Matter PM_{10} and Nitrogen dioxide NO_2. The scheme is not located within either of the AQMAs.

The following sensitive receptors are located within 200m of the scheme:

- Arngask Primary School (approx. 60m west)
- Glenfarg Bowling Club (approx. 100m west)
- Glenfarg Community Centre (approx. 100m west)
- Wallace Park (approx. 200m southwest)

Cultural heritage

A desktop study using Pastmap interactive map was undertaken and has not found any cultural heritage designations within the scheme extent. There are several Listed Buildings within the residential area of Glenfarg:

- Arngask House (LB5693) is a registered Listed Building, Category C (approx. 300m east)
- Arngask House is attached to Arngask Farm (LB5694) which is also a Category C Listed Building (approx. 300m east)

Due to the like-for-like nature of the works, the location and the short-term duration of the works, there will be no impact on surrounding listed buildings and cultural heritage designations.

Works will be restricted to the existing carriageway boundary and will not impact upon the surrounding landscape. As such, impact to surrounding cultural heritage features has been assessed as being 'no change' and has been scoped out of requiring further assessment.

Landscape and visual effects

The surrounding landscape has been classified as Rectilinear Fields and Farms using the HLA Map Resource.

A desktop study using NatureScot Sitelink online interactive map has not highlighted any areas designated for their landscape quality within 1km of the scheme extents.

Views of and from the road will be temporarily affected during construction due to the presence of works, traffic management and plant. As the works are minor and operating on a like-for-like basis, no permanent changes to landscape features are predicted.

Works will be restricted to the existing carriageway boundary and will not impact upon the surrounding landscape. As such, impact to local landscape has been assessed as being 'no change' and has been scoped out of requiring further assessment.

Biodiversity

There are no designated sites within 2km of the scheme. The National Biodiversity Network (NBN) Atlas noted there are several protected species within 500m of the scheme extent.

There are no Invasive Non-Native Species (INNS) within 500m of the scheme.

Further to the desktop study, a field survey has been scoped out for this scheme by a competent ecologist due to the nature the construction activities and the transient nature of the works.

Geology and soils

Scotland's Soils Map notes that where works are to be undertaken, the soils are primarily brown soils.

The British Geological Survey Geology Viewer notes the geological features in Glenfarg where works are to be undertaken are as follows:

- Bedrock Geology
  - Ochil Volcanic Formation – Andesite pyroxene
  - Ochil Volcanic Formation – Basalt, macrophyric
- Superficial desposits
  - Till, Devensian – Diamicton

Due to the like-for-like nature of the works, duration and location, impacts on geology and soils are unlikely to occur.

Works will be restricted to the existing carriageway boundary and will not impact upon the surrounding geological features. As such, impact to geology and soil has been assessed as being 'no change' and has been scoped out of requiring further assessment.

Material assets and waste

The tables below illustrate the key materials required and the waste arising from the scheme. Onsite investigations have not identified any contaminated material from the works being undertaken.

Table 1: Key materials required for activities and key waste arising from activities.

Key Materials Required for Activities		
Activity	Material Required	Origin/ Content
Site Construction	Road surfacing (aggregate and binder) Bitumen Road paint and studs Lubricant Vehicle fuel Oil	TS2010 Surface Course allows a wider array of aggregate sources to be considered when compared to typical SMA. As a result, the use of TS2010 will reduce the usage of imported aggregates and increase the use of a wider range of sustainable aggregate sources. A proportion of reclaimed asphalt pavement (RAP) is used in asphalt production. Typical RAP values for base and binder are 10% -15% with up to 10% in surface course.

Table 2: Key waste arising from construction activities

Key Waste Arising from Activities		
Activity	Waste Arising	Disposal/ Regulation
Site Construction	Road planings Removed iron/metal components	Uncontaminated road planings generated as a result of the required works, will be fully recycled in accordance with the criteria stipulated within SEPA document 'Guidance on the Production of Fully Recoverable Asphalt Road Planings. All materials that can, should be reused throughout the network.

Noise and vibration

The scheme is located on the southbound lanes of the M90 at Glenfarg in Perth and Kinross, Scotland. The scheme is located within a predominately rural area, with large areas of woodland and greenspace; however, there are over 100 residential properties within 300m, immediately west of the scheme in the village of Glenfarg, with small pockets of residential areas to the east. Noise sensitive receptors within 200m are as follows:

- Arngask Primary School (approx. 60m west)
- Glenfarg Bowling Club (approx. 100m west)
- Glenfarg Community Centre (approx. 100m west)
- Wallace Park (approx. 200m southwest)

In 2021, the AADF of all vehicles along the M90 at Glenfarg (manual count point 20813) was 23,265, with 2,509 of those vehicles being HGVs.

Scotland's Noise Map notes the daytime noise levels in the scheme extent and surrounding area range from 65 – 80dB; during night-time hours, noise levels range from 60 – 75dB.

The scheme does not fall within a Candidate Noise Management Area (CNMA).

Population and human health

The scheme is located on the southbound lanes of the M90 at Glenfarg in Perth and Kinross, Scotland. There are over 100 residential properties within 300m of the scheme, immediately west of the scheme in the village of Glenfarg, with small pockets of residential areas to the east. Local amenities within 500m of the scheme are as follows:

- Arngask Primary School (approx. 60m west)
- Glenfarg Bowling Club (approx. 100m west)
- Glenfarg Community Centre (approx. 100m west)
- Wallace Park (approx. 200m southwest)

The Perth and Kinross Core Paths plan notes The Glenfarg (opposite Ladeside) to Balcanquhal road via Arngask Core Path runs from Glenfarg, over the M90 via an overpass, and east to Arngask. The Paris Bridge to Arngask core path breaks off form the Glenfar to Balcanquhal and leads north onto an overpass across the M90 and the River Farg, heading west.

National Cycling Network route 775 runs through Glenfarg on Main Street (approx. 25m west) alongside the M90, it runs northwards from Route 1 in Milnathort/Kinross to Perth where it links with Route 77.

In 2021, the AADF of all vehicles along the M90 at Glenfarg (manual count point 20813) was 23,265, with 2,509 of those vehicles being Heavy Goods Vehicles (HGVs).

Road drainage and the water environment

The River Farg runs alongside the M90 to the west (approx. 15m west) and runs under the carriageway within the scheme extent, heading north east. The SEPA Water Classification Map notes the River Farg as being in 'moderate' condition.

The SEPA Flood Risk Map notes the River Farg as having 'medium' to 'high' risk of river flooding which would impact the scheme; there are no areas of 'high-risk' surface water flooding within the scheme extent.

Climate

The Climate Change (Scotland) Act sets out the target and vision set by the Scottish Government for tackling and responding to climate change. The Act includes a target of reducing CO_2 emissions by 80% before 2050 (from the baseline year 1990).

The Scottish Government has since published its indicative Nationally Determined Contribution (NDC) to set out how it will instead reach net-zero by 2045, working to reduce emissions of all major greenhouse gases (GHG) by at least 75% by 2030. By 2040, the Scottish Government is committed to reduce 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, this commitment is being enacted through the Mission Zero for Transport. Transport is the largest contributor to harmful climate emissions in Scotland. In response to the climate emergency, TS are committed to reducing their emissions by 75% by 2030 and to a legally binding target of net-zero by 2045.

Amey's Company Wide Carbon Goal is to achieve Scope 1 and 2 net-zero carbon emissions, with a minimum of 80% absolute reduction on our emissions by 2035. Amey is aiming to be fully net-zero, including Scope 3 emissions, by 2040.

Amey are working towards a contractual commitment to have carbon neutral depots on the SW NMC network by 2028. Amey have set carbon goals for the NE NMC contract as a whole to be net-zero carbon by 2032.

Monitoring, Management and Opportunities

To support our journey towards carbon neutral and zero waste we include potential opportunities for enhancement utilising circular economy principals within assessment of material assets.

Amey (working on behalf of Transport Scotland) undertake carbon monitoring. Emissions from our activities are recorded using Transport Scotland's Carbon Management System.

Further information identifying how Amey will obtain the above Carbon Goals can be viewed within the Carbon Management and Sustainability Plan Roadmap to net-zero: STRNMC – North East.

Description of main environmental impacts and proposed mitigation

Air quality

Impacts

- On site construction activities carry a potential to produce airborne particulate matter and generate emissions that may have a slight impact on local air quality levels.
- TM may result in a slight increase in associated vehicle emissions within the surrounding road networks and local areas.

The impacts identified will be a temporary for the duration of the works only and therefore no change is predicted on air quality.

Mitigation

The following best practice as outlined in the Guidance on the assessment of dust from demolition and construction (2014) published by the Institute of Air Quality Management (IAQM), which includes the following mitigation relevant to this scheme will be followed:

- Ensure all vehicles switch off engines when stationary; there will be no idling vehicles.
- All plant and fuel-requiring equipment utilised during construction will be well maintained in order to minimise emissions.
- Planing operations will be wetted to reduce dust arising.
- Drop heights to haulage vehicles and onto conveyors will be minimised where practicable.
- Lorries will be sheeted when carrying dry materials.
- Surfaces will be swept where loose material remains following planing.

It has been determined that the proposed project will not have direct or indirect significant effects on local air quality; providing all works operate in accordance with current best practice, the residual effect on air quality is considered neutral.

Biodiversity

Impacts

- There is potential for protected species to be active within the local surrounding area which may be disturbed by the works.
- During night-time programming, misdirected site lighting could cause disturbance to any surrounding nocturnal species.
- During night-time programming, additional noise from construction activities could cause disturbance to any surrounding nocturnal species.

The impacts identified will be a temporary for the duration of the works only and therefore no change is predicted on biodiversity.

Mitigation

- In the event that protected species is noticed on site, works will temporarily be suspended until the animal has moved on. Any sightings will be reported to the E&S Team.
- Vehicles and materials will not be stored or parked on grass verges.
- All temporary lighting will be directional and pointed away from sensitive ecological receptors to minimise disturbance to nocturnal species.
- Plant/machinery will be fitted with silencers/mufflers.
- No plant, vehicles or machinery will be left idling when not in use.
- Briefings on noise and vibration will be delivered to all site operatives prior to works commencing.

It has been determined that the proposed project will not have direct or indirect significant effects on biodiversity; providing all works operate in accordance with current best practice, the residual effect on biodiversity is considered to be neutral.

Material assets and waste

Impacts

- The design life for the TS2010 surfacing proposed is estimated to be 20 years. This will reduce the requirement for maintenance to this section of road over the period.
- The works will result in contribution to resource depletion through use of virgin materials.
- Transportation and recovery of materials/waste will require energy deriving from fossil fuel, a non-renewable source.

Mitigation

- Materials will be derived from recycled, secondary or re-used origin as far as practicable within the design specifications to reduce natural resource depletion and associated emissions.
- Uncontaminated road planings arising from the works will be fully recycled in accordance with guidance on the Production for Fully Recovered Asphalt Road Planings.
- Any waste containing coal tar will be classed as special waste. This will require landfill disposal to a site capable of accepting coal tar contaminated waste.
- The disposal of special waste is also subject to obtaining a SEPA consignment note and providing advance notice of at least three days prior to any waste movement.

It has been determined that the proposed project will not have direct or indirect significant effects on the consumption of material assets or creation of waste.

Noise and vibration

Impacts

- TS2010 road surfacing is shown to have superior durability and noise reducing features compared to standard road surfacing mixes. Vehicle travellers and nearby residential properties will benefit from improved road surfacing as a result of the scheme.
- If noise heavy works are required during night-time hours, then this could cause disturbance for residential properties in close proximity, and for the nearby amenity users. It is also anticipated that noise heavy works could cause day-time disturbance.

Mitigation

- The noisiest works will be completed before 23:00 where feasible.
- Plant/machinery will be fitted with silencers/mufflers. No plant, vehicles or machinery will be left idling when not in use.
- Perth and Kinross Council will be notified in advanced of the works, including proposed timings and duration of the night works.
- Properties as highlighted on the advisory Notification Map will be notified in advance of the works. Pre-notification will include details of proposed timings and duration of the works.

It has been determined that the proposed project will not have direct or indirect significant effects on noise and vibration; provided that mitigation measures and best practice is followed, the residual effect on noise and vibration is deemed neutral.

Population and human health

Impacts

- Core paths surrounding the scheme are likely to be unaffected.
- TM is likely to cause disturbance to carriageway users with possible increases in travel time.

Mitigation

- TM restrictions/arrangements and any expected travel delays will be publicised within the local and wider area, in an effort to minimise disturbance to vehicular travellers.
- Front facing properties along Main Street, Glenfarg will be notified in advance of the works. Pre-notification will include details of proposed timings and duration of the works.

It has been determined that the proposed project will not have direct or indirect significant effects on population and human health provided that mitigation measures and best practice is followed, the residual effect on population and human health is deemed neutral.

Road drainage and the water environment

Impacts

- If not adequately controlled, debris and run off from the works could be suspended in the surface water. In the event of a flooding incident, this debris may be mobilised and could enter the road drainage having a detrimental effect on the surrounding local water environment.
- Potential for spills, leaks or seepage of fuels and oils associated with plant to escape and reach drainage systems and watercourses if not controlled, which may negatively affect the water environment.

Mitigation

- All debris which has the potential to be suspended in surface water and wash into the local water environment will be cleaned from the site following the works.
- Debris and dust generated as a result of the works will be prevented from entering the drainage system. This will be via the use of drain covers or similar.
- Appropriate measures will be implemented onsite to prevent any potential pollution to the natural water environment (e.g., debris, dust, and hazardous

substances). This will include spill kits being present onsite at all times, and the use of funnels and drip trays when transferring fuel etc.

- The control room will be contacted if any pollution incidences occur (24 hours, 7 days a week).
- Visual pollution inspections of the working area will be conducted in frequency, especially during heavy rainfall and wind.
- Weather reports will be monitored prior and during all construction activities. In the event of adverse weather/flooding events, all activities will temporarily stop, and only reconvene when deemed safe to do so, and run-off/drainage can be adequately controlled to prevent pollution.
- All site operatives will be briefed on the Guidance for Pollution Prevention (GPP) documents (namely, GPP 1, GPP 2, GPP 5, PPG 6, GPP 8 and GPP 22) prior to working on site. This guidance will be adhered to on site at all times

It has been determined that the proposed project will not have direct or indirect significant effects on road drainage and water environment. Providing all works operate in accordance with current best practice, as demonstrated by SEPA's GPPs, the residual effect on the local water environment is considered to be neutral.

Climate

Impacts

- GHG emissions will be emitted through the use of machinery, vehicles and materials used (containing recycled and virgin materials) and transporting to and from site.

Mitigation

- Local suppliers will be used as far as reasonably practicable to reduce travel time and GHG emitted as part of the works.
- Vehicles/plant will not be left on when not in use to minimise and prevent unnecessary emissions being emitted.
- Further actions and considerations for this scheme are detailed in the above Material assets and waste section.

It has been determined that the proposed project will not have direct or indirect significant effects to climate.

Vulnerability of the project to risks

As the works will be limited to the like-for-like replacement of the carriageway structure, there will be no change in vulnerability of the road to risk, or in severity of major accidents/disasters that would impact on the environment.

It has been determined that the proposed project is not expected to alter the vulnerability of the existing trunk road infrastructure to risk of major accidents or disasters.

Assessment cumulative effects

The Scottish Road Works Commissioner's Interactive Map has not highlighted any ongoing works during the proposed timescale and at the location of the proposed works.

Amey's current programme of works has not highlighted any ongoing works during the proposed timescale and at the location of the proposed works.

Perth and Kinross Council's Planning Portal has not highlighted any ongoing works during the proposed timescale and at the location of the proposed works.

Any future schemes will be programmed to take into account already programmed works, and as such any effect (such as from TM arrangements and potential construction noise) will be limited.

Assessments of the environmental effects

Following assessment as detailed within this Record of Determination, and provided that mitigation measures are in place and best practice is followed, the residual impact is deemed neutral and there will be no significant effects on the environment.

The following environmental surveys/reviews have been undertaken:

- An Initial Environmental Review of the scheme, undertaken by the Environment and Sustainability Team at Amey in January 2023.

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, 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

- Construction activities are restricted to the approximate 12,380m2 area of existing carriageway.
- At end of life, components can be recycled, reducing waste to landfill.
- Any uncontaminated road planings will be recycled in accordance with Guidance on the Production for Fully Recovered Asphalt Road Planings.
- Materials will be derived from recycled, secondary or re-used origin as far as practicable within the design specifications.
- The chosen material TS2010 Surface Course allows a wider array of aggregate sources to be considered when compared to typical SMA.
- The design option conveys sustainability benefits by significantly reducing the quantity of maintenance interventions required at the location.

Location of the scheme

- The scheme will be confined within the existing carriageway boundaries and as a result will not require any land take and will not alter any local land uses.
- The scheme is not situated in whole or in part in a “sensitive area” as listed under regulation 2 (1) of the Environmental Impact Assessment (Scotland) Regulations 1999 (as amended).

Characteristics of potential impacts of the scheme

- As the works will be limited to the like-for-like replacement of the structural components, there is no change to the vulnerability of the road to the risk or severity of major accidents/disasters that would impact on the environment.
- The successful completion of the scheme will afford benefits to carriageway users and residential properties in proximity, due to improved condition and ride quality of the carriageway surface.
- The use of TS2010 road surfacing affords the benefits of a reduction in mid to high frequencies of traffic noise and a reduction in ground vibrations. As a result, ambient noise levels should decrease post construction

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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