Transport Scotland

Record of Determination M8 Hillington between the slips EB & WB

EC DIRECTIVE 2011/92/EU (as amended)

ROADS (SCOTLAND) ACT 1984 (Environmental Impact Assessment) Regulations 2017 (as amended)

RECORD OF DETERMINATION

Name of Project:

M8 Hillington between the slips EB & WB

Location:

The works are located on the M8 carriageway at junction 26, within Renfrewshire. The works have the following National Grid References:

- EB Scheme Start: NS 51718 66312
- EB Scheme End: NS 52208 66271
- WB Scheme Start: NS 52215 66251
- WB Scheme End: NS 51789 66297

The length of the scheme is approximately 1km with an area of approximately 11,015m^2.

Description of Project:

The works are required to maintain the safety and integrity of the M8 carriageway within the scheme extents. The proposed works are to prevent accelerating pavement deterioration caused by water ingress to the lower layers and improve the overall ride quality of the carriageway surface.

The treatment will remove the widespread fretting, crazing and localised longitudinal / transverse cracking throughout the scheme. It will also remove numerous existing patches which will reduce the number of joints and therefore increase the durability of the pavement.

Works will involve carriageway reconstruction utilising T2010 treatment to depths of 40mm, 100mm, 120mm and 360mm. Asphalic plug joints will also be replaced as part of the works.

The proposed construction activities are likely to involve the following:

Re-surfacing:

- Milling of existing bituminous material by road planer;
- Hand-held jackhammer and compressor for breaking up surfaces not accessible by planer;
- Loader/excavator used to collect and move excess material;
- Base/binder material laid and compressed (where required);
- New bituminous material laid by a paver;
- Material compacted using a heavy roller;
- Mechanical sweeper to collect loose material;

- HGV for removal and replacement of material;
- Road markings replaced;

Plug joints:

- Existing surface cut with a floor saw;
- Trench excavated using a handheld jackhammer and excavator;
- Trench cleaned and dried with a hot air compressor; Expansion gap caulked;
- Deck sealed with hot bitumen binder; Anti-skid dressing applied to joint;
- New bridge joint will be levelled with the carriageway and adjacent expansion joints and will be given sufficient time to cure prior the TM being removed.

The works have been programmed for February 2021. An exact duration has yet to be confirmed, however works will likely last for three – five nightshifts.

Renfrewshire Council was notified of the works on the 26th of October. No further comments have been made. Residential properties within proximity will also be notified by letter drop.

Traffic management will require a full closure of the carriageway with a suitable diversion route in place. Traffic will likely be diverted using the on and off slips at this location.

Please see Appendix 1 for a Location Plan and Scheme Extents drawing.

Description of Local Environment:

The following baseline descriptions have been numbered to follow the appropriate DMRB chapters for environmental assessment and do not reflect a ranking of sensitivity.

1. Population and Human Health

The works are located within an urbanised section along the M8 carriageway with the surrounding environment consisting of commercial and residential properties. Several residential properties are located within proximity of the works, with the closest properties on Braille Drive situated approximately 45m north of the eastbound carriageway.

The works do not fall within a Candidate Noise Management Areas (CNMA) as defined by the Transportation Noise Action Plan, Road Maps[1].

Baseline noise at the works location is likely to be primarily influenced by vehicle traffic from the carriageway and surrounding urban activities.

The Average Daily Traffic Flow (2019) for all eastbound carriageway lanes was 50,740 with an average of 17% heavy goods vehicles.

The Average Daily Traffic Flow (2019) for all westbound carriageway lanes was 46,407 with an average of 11% heavy goods vehicles.

[1] https://noise.environment.gov.scot/action-planning-round-two.html (Accessed on 26/10/2020)

Description of Local Environment:
2. Biodiversity The works are located in a highly urbanised area primarily surrounded by commercial and residential properties. Minor areas of grass land and scrub/trees border the carriageway and slip roads at this location. Amey's Animal Roadkill Database (2013 -2020) has not highlighted any protected species roadkill within the scheme extents. Amey's Invasive Non-native Species Database has not highlighted and invasive plant species within proximity to the works. Given the highly man-made urban surrounding environment and lack of roadkill data, the area has been deemed unsuitable for protected species shelter. As a result, no ecological survey was indicated. No statutory consultation will be required.
3. Land The trunk road footprint consists of three east and westbound lanes with slip roads. Minor areas of grass land and scrub/trees can be located bordering the carriageway and its slip roads at this location. On site work activities will be confined within the M8 carriageway boundary and will not require access over any private or community land.
4. Soil The National Soil Map of Scotland has not highlighted any soil data at this location, likely due to the highly urbanised surroundings[2]. The scheme is not located within, or within proximity to, any Local Geodiversity Sites (formerly known as RIGS)[3] or geologically designated SSSIs[4]. A desktop study using the British Geological Survey Map[5] has identified major local geology type as the following: • Bedrock Geology: Lower Limestone Formation – Sedimentary Rock Cycles, Clackmannan Group Type. Sedimentary bedrock formed approximately 328 to 331 million years ago in the Carboniferous Period. Local environment previously dominated by swamps, estuaries and deltas. • Superficial Deposits – Sediment. Superficial deposits formed up to 3 million years ago in the Quaternary Period. Local environment previously dominated by no interpretation of the environment of deposition.

[2] http://map.environment.gov.scot/Soil_maps/?layer=1 (Accessed on 26/10/2020)
[3] https://www.google.com/maps/d/viewer?mid=1HfclRWcITRxXUZWNARManl-PUhE&ll=57.74680670722851%2C-5.313263556249922&z=6 (Accessed on 12/10/2020)
[4] https://sitelink.nature.scot/map (Accessed on 12/10/2020)
[5] http://mapapps.bgs.ac.uk/geologyofbritain/home.html (Accessed on 26/10/2020)

Description of Local Environment:

5. Water

SEPA's Water Classification Hub Map[6] does not identify any watercourses within proximity of the works.

The Indicative River & Coastal Flood Map[8] by SEPA has highlighted areas of surface water flood risk within the scheme extents.

Drainage is provided by top entry gullies throughout the scheme extents.

6. Air

The M8 is a strategic route connecting Glasgow to Edinburgh. Urban land encompasses the scheme location.

The Average Daily Traffic Flow (2019) for all eastbound carriageway lanes was 50,740 with an average of 17% heavy goods vehicles.

The Average Daily Traffic Flow (2019) for all westbound carriageway lanes was 46,407 with an average of 11% heavy goods vehicles.

Local air quality is likely to be impacted by road traffic and urban land use activities.

The works are not located within an Air Quality Management Area declared by Renfrewshire Council[7].

7. 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 CO2 emissions by 80% before 2050 (from the baseline year 1990).

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

8. Material Assets and Waste

Activity	Material Required	Origin/ Content
Site Construction	• TS2010 Surface (bitumen and aggregate) • Road Paint / studs • AC32 / AC20 Binder • Asphaltic plug joints	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. TS2010 Surface Course 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

[6] https://www.sepa.org.uk/data-visualisation/water-classification-hub/ (Accessed on 26/10/2020)
[7] http://www.scottishairquality.scot/laqm/aqma (Accessed on 26/10/2020)

Description of Local Environment:

		of a wider range of sustainable aggregate sources[8].

Key Waste Arising from Activities

Activity	Waste Arising	Disposal/ Regulation
Site Construction	• Road Planings • Old plug joints	Road planings generated as a result of the works will be fully recovered in accordance with the criteria stipulated within SEPA document 'Guidance on the Production for Fully Recovered Asphalt Road Planings'[9]. 23 cores were tested, none of which contained coal tar. Special waste disposal will not be required.

9. Cultural Heritage

A desktop study using PastMap[10] has not highlighted any features of cultural heritage within close proximity to the works.

10. Landscape

A desktop study using PastMap[11] and Nature Scot Sitelink[12] online interactive map has not highlighted any areas designated for landscape characteristics within the works location.

Historic Environment Scotland's HLAMap[13] has highlighted the surrounding landscapes as Motorway and Major Roads, Rough Grazing and Industrial or Commercial Areas.

Description of the main environmental impacts of the project and proposed mitigation:

The following environmental impacts have been numbered to follow the appropriate DMRB chapters for environmental assessment and do not reflect a ranking of impact severity. Construction and operational impacts, including impact on Policies and Plans, are covered within each environmental topic heading where applicable.

1. Population and Human Health

1.1 Impacts

- Traffic management will involve a full closure of the carriageway, with traffic being rediverted via the slip roads. As a result, the diversion route is short and local and unlikely to cause delays.

[8] Transport Scotland TS2010 Surface Course Specification and Guidance Issue 04, 2018 (as amended)
[9] SEPA Guidance on the Production of Fully Recovered Asphalt Road Planings
[10] https://pastmap.org.uk/map (Accessed on 26/10/2020)
[11] http://pastmap.org.uk/ (Accessed on 26/10/2020)
[12] https://sitelink.nature.scot/map (Accessed on 26/10/2020)
[13] https://map.hlamap.org.uk/ (Accessed on 26/10/2020)

Description of the main environmental impacts of the project and proposed mitigation:
• Residential properties within proximity may experience a level of disturbance as a result of the works. • TS2010 road surfacing is shown to have superior durability and noise reducing features compared to standard road surfacing mixes; thus preventing the need for reoccurring routine maintenance and associated levels of disruption. 1.2 Mitigation • Renfrewshire Council Environmental Health Noise Team will be notified in advance of the works. • Residential properties within close proximity will be notified in advance of the timing, nature and duration of the works. • Operatives will be briefed with the Noise and Vibration toolbox talk before starting works; • Effects from noise will be kept to a minimum through the use of appropriate mufflers and silencers fitted to machinery. All exhaust silencers will be checked at regular intervals to ensure efficiency; • Where possible, noise heavy activities shall be scheduled for before 11:00pm; • The road closures/restrictions will be widely publicised within the local and wider area, in an effort to minimise disturbance to vehicular travellers. The residual impact to population and human health is considered negligible. Upon completion, the works will have a slight beneficial impact for all road users. It has been determined that the proposed project will not have direct or indirect significant effects to Population and Human Health.
2. Biodiversity 2.1 Impacts • No site specific impacts have been highlighted. 2.2 Mitigation • No sensitive biodiversity features have been identified at this location and no specific mitigation actions are proposed beyond environmental good practice standards. No residual impact is predicted to local biodiversity. It has been determined that the proposed project will not have direct or indirect significant effects to Biodiversity.
3. Land The works will be kept to the existing M8 carriageway boundary and will not require access to private or community land out. Plant, materials and storage will all be kept to the made carriageway surface. It has been determined that the proposed project will not have direct or indirect significant effects to land.
4. Soil The works will be kept to the existing carriageway and soils shall not be impacted.

Description of the main environmental impacts of the project and proposed mitigation:
It has been determined that the proposed project will not have direct or indirect significant effects to soil.
5. Water 5.1 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; • Surface water flooding may impact the scheme extents, resulting in delays. 5.2 Mitigation • Spill kits will be readily available on site at all times; • Visual pollution inspections of the working area will be conducted in frequency, especially during heavy rainfall and wind; • Weather reports shall be monitored prior and during all construction activities. In the event of adverse weather / flooding events, all activities should temporarily stop, and only reconvene when deemed safe to do so, and run-off / drainage can be adequately controlled to prevent pollution. • Best practice, as detailed by SEPA's Guidance for Pollution Prevention (GPPs), will always be followed onsite. This will ensure that any potential sediments / spills are not allowed to enter road drainage unchecked. It has been determined that the proposed project will not have direct or indirect significant effects to water.
6. Air 6.1 Impacts • The use of vehicles and plants emitting exhaust fumes may temporarily affect air quality. • On site construction activities carry a potential to produce dust that may have a slight impact on local air quality levels. 6.2 Mitigation • Best practice measures will to be adopted for the duration of the scheme. Best practices measures will include but not limited to: - Vehicle and plant servicing/checks as per manufacturing and legal requirements; - Adoption of drive green techniques; - Route preparation and planning. - When not in use plant and vehicle will be switched off. • Planing operations will be wetted to reduce dust arising. • Drop heights to haulage vehicles and onto conveyors will be minimised. • Lorries will be sheeted when carrying dry materials.

Description of the main environmental impacts of the project and proposed mitigation:
• Surfaces will be swept where loose material remains following planning. It has been determined that the proposed project will not have direct or indirect significant effects to air quality.
7. Climate 7.1 Impacts • Greenhouse gas emissions will be emitted through the use of machinery, vehicles and materials used (containing recycled and virgin materials). 7.2 Mitigation • Where possible local suppliers will be used as far as practicable to reduce travel time and greenhouse gas emitted as part of the works; • Vehicles / plant shall 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 section 8 Material Assets. It has been determined that the proposed project will not have direct or indirect significant effects to climate.
8. Material Assets and Waste 8.1 Impacts • Contribution to resource depletion through use of virgin materials, • Greenhouse gas emissions generated by material production and transporting to and from site, • Transportation and recovery of planings will require energy deriving from fossil fuel, • Limited quantity of waste from sweeping will arise requiring disposal. 8.2 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. • Road planings generated will be recovered by a licenced contractor for reuse and / or recycling in accordance with the criteria stipulated within SEPA document 'Guidance on the Production of Fully Recoverable Asphalt Road Planings'. • The chosen material TS2010 Surface Course 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. • Road sweeping waste will be treated at a licenced facility to separate useful materials such as stone/aggregate as far as reasonably practicable, recovering this waste and diverting it from landfill. <u>Circular Economy</u> 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.

Description of the main environmental impacts of the project and proposed mitigation:
It has been determined that the proposed project will not have direct or indirect significant effects to the consumption of material assets or disposal of waste.
9. Cultural Heritage No site specific mitigation is required. It has been determined that the proposed project will not have direct or indirect significant effects to Cultural Heritage.
10. Landscape Works will be like for like in nature and will not have any lasting visual change. Views of and from the road will be impacted by the presence of traffic management, plant and vehicles during construction. This is predicted to be a slight temporary impact locally, with no permanent change to views following the completion of works. It has been determined that the proposed project will not have direct or indirect significant effects to Landscape.
11. Vulnerability of the Project to Risks As the works will be limited to the like-for-like replacement of the carriageway pavement, 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.

Extent of EIA work undertaken and details of consultation:

The following environmental parameters have been considered within this Record of Determination:

- Population and Human Health
- Biodiversity
- Land
- Soil
- Water
- Air
- Climate
- Material Assets
- Cultural Heritage
- Landscape

The following statutory organisations have been consulted:

- N/A

The following environmental surveys / reviews have been undertaken:

Transport Scotland

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Extent of EIA work undertaken and details of consultation:

- A design Initial Environmental Review of the scheme, undertaken by the Environmental and Sustainability Team at Amey in October 2020.

Statement of case in support of a Determination that a formal EIA and Environmental Impact Assessment Report is not required:

The works are considered to constitute a relevant project falling within Annex II as referred to in the Environmental Impact Assessment (Scotland) Regulations 1999 (as amended), since they 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). Screening using Annex III criteria, reference to consultations undertaken and review of available information has identified there is no need for a full 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 11,015m² / 1.1 ha area of existing carriageway.
- 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.
- Road planings will be fully recycled in accordance with Guidance on the Production for Fully Recovered Asphalt Road Planings.
- The design option (replacing the defective surfacing) conveys sustainability benefits by significantly reducing the quantity of maintenance interventions required at the location over approximately 20 years.

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 areas” 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 carriageway pavement and plug joints, 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.
- No significant residual impacts are predicted. Disruption due to construction activities are not expected to be significant and will be mitigated as far as is reasonably practicable.
- The successful completion of the scheme will afford benefits to road users.

- 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.

File references of supporting documentation:

Appendix 1 – Scheme location and extent

APPENDIX 1: SCHEME LOCATION AND EXTENTS