



**TRANSPORT  
SCOTLAND**  
CÒMHDHAIL ALBA

[transport.gov.scot](https://transport.gov.scot)

# **Record of Determination**

## **M77 Junction 2 to Corkerhill Resurfacing**

## Contents

<b>Project Details .....</b>	<b>4</b>
Description.....	4
Location .....	4
<b>Description of Local Environment.....</b>	<b>6</b>
Population and Human Health .....	6
Biodiversity .....	6
Field Survey .....	6
Land.....	6
Soil.....	7
Bedrock Geology.....	7
Superficial Deposits .....	7
Water.....	8
Air .....	8
Climate Change.....	8
Material Assets .....	9
Waste .....	9
Cultural Heritage.....	9
Vulnerability of the Project to Risks .....	10
<b>Description of Main Environmental Impacts and Proposed Mitigation .....</b>	<b>10</b>
Population and Human Health .....	10
Impacts.....	10
Mitigation.....	10
Biodiversity .....	11
Impacts.....	11
Mitigation.....	11
Water.....	11
Impacts.....	11
Mitigation.....	11
Air .....	12
Impacts.....	12
Mitigation.....	12
Climate Change.....	12
Impacts.....	12
Mitigation.....	12
Material Assets .....	12

Impacts.....	12
Mitigation.....	13
Waste .....	13
Impacts.....	13
Mitigation.....	13
Cultural Heritage.....	13
Vulnerability of the Project to Risks .....	13
<b>Assessments of the Environmental Effects.....</b>	<b>14</b>
<b>Statement of case in support of a Determination that a statutory EIA is not required.....</b>	<b>14</b>
<b>Annex A.....</b>	<b>16</b>

## Project Details

### Description

The works are required to maintain the safety and integrity of the M77 carriageway within the scheme extents. The main driver for the scheme is the ageing surface course which is showing crazing though out indicating that it is approaching the end of its serviceable life. There are also localised lengths of longitudinal cracking and failed buried bridge joints.

Works will involve carriageway surface reconstruction utilising TS2010 treatment to a depth of 30mm across the full scheme. In addition, some areas of deeper treatment will be required to depths of 100mm and 300mm inlays.

Construction activities will likely include:

- 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; and,
- Road markings replaced.

Works will take place over seven night shifts and one day shift in June 2021.

Traffic management (TM) will consist of overnight closures and a single daytime lane closure.

Glasgow City Council have been notified on the 5th of May 2021 about the upcoming works.

### Location

The works are located on the M77 carriageway at junction 2, within Glasgow City. The works have the following National Grid References:

- Scheme Start: NS 53597 60904
- Scheme End: NS 54168 62462

The total area of the works is approximately 14,082m<sup>2</sup>.

The total length of the scheme is approximately 1,980m.

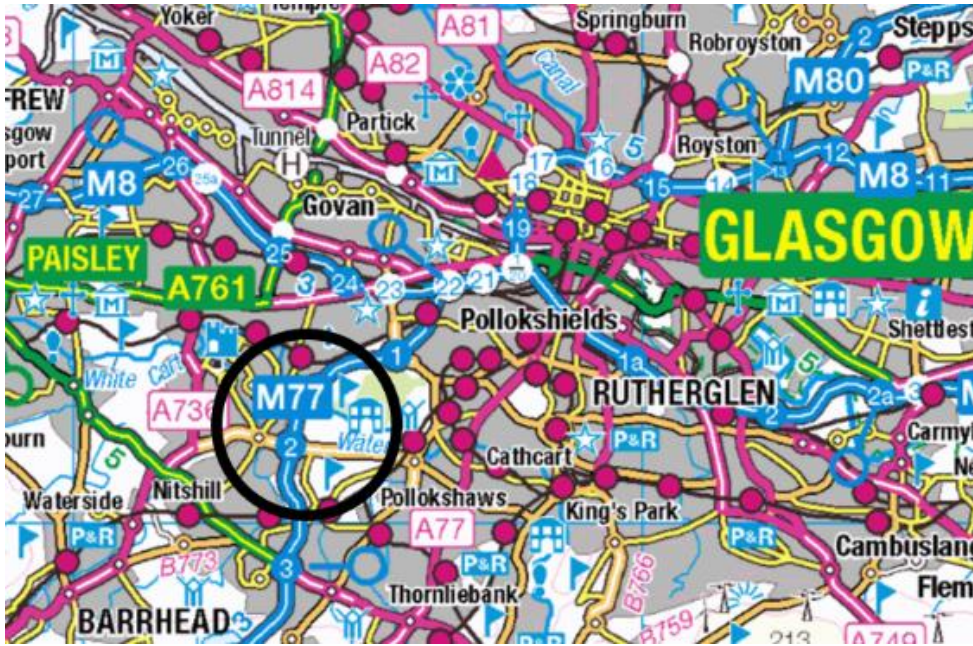


Figure 1 - Location Plan



Figure 2 - Scheme Extents



## Description of Local Environment

The works are located on an urban motorway within Glasgow City, with the surrounding environment consisting of built up areas (commercial, industrial and residential), recreational ground and field.

### Population and Human Health

This section of the M77 is an urban motorway, with large built up areas located to the west and a public golf course located to the east. Residential properties in the areas of Cowglen and Corkerhill are located within proximity to the works, with the closest properties situated at a distance of approximately 45m from the carriageway.

Baseline noise levels are likely primarily influenced by vehicle traffic from the carriageway, with secondary sources from local urban activity.

The scheme does not fall within a Candidate Noise Management Area (CNMA) as defined by the Transportation Noise Action Plan, Road Maps.

The Annual Average Daily Traffic Flows (AADT, 2019) at this location is 24,599 approximately 17% of which consists of Heavy Goods Vehicles (HGVs).

No non-motorised provisions exist within the scheme extents.

### Biodiversity

The works are located within an urban environment, with large built up areas located to the west and a public golf course located to the east. Strips of woodland are located along the carriageway and within the wider area in the golf course and along the banks of White Cart Water.

NatureScot Sitelink has not identified any European designated sites within 2km of the works. No locally designated sites are within 300m of the works.

Amey's Invasive Non-native Species Database has identified growth of Japanese knotweed *Fallopia japonica* and giant hogweed *Heracleum mantegazzianum* within the northbound verge. Further growths of giant hogweed are known to exist along the banks of the White Cart Water and on the southbound carriageway prior to the B762 overbridge.

### Field Survey

Given the lack of suitable habitat in close proximity to the scheme, coupled with the highly urbanised surrounding area and lack of recent roadkill records, a site survey was deemed unnecessary for the works.

### Land

This section of the M77 is an urban motorway consisting of two lanes, each 3.8m wide, with a hard shoulder. Safety barriers and kerbing run the full length of the central reservation and the hard shoulder. Road verges are vegetated with low lying grass and thin intermittent strips of scrub/trees.

On site work activities will be confined within the M77 carriageway boundary and will not require access over any private or community land.

Historic Environment Scotland's HLA Map has highlighted the following surrounding landscapes:

- Motorway and Major Roads
- Recreation Area
- Golf Course
- Industrial or Commercial Area
- Urban Area
- Rectilinear Farms and Fields
- Managed Woodland

The works will be kept to the existing M77 carriageway boundary and will not require access to private or community land.

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

## **Soil**

The National Soil Map of Scotland has no record of soil data at this location, likely due to the highly urbanised location.

A desktop study using the British Geological Survey Map has identified major local geology type as the following:

## **Bedrock Geology**

Limestone Coal Formation – Sedimentary Rock Cycles, Clackmannan Group Type. Sedimentary bedrock formed approximately 328 to 329 million years ago in the Carboniferous Period. Local environment previously dominated by swamps, estuaries and deltas.

Upper Limestone Formation – Sedimentary Rock Cycles, Clackmannan Group Type. Sedimentary bedrock formed approximately 324 to 329 million years ago in the Carboniferous Period. Local environment previously dominated by swamps, estuaries and deltas.

## **Superficial Deposits**

Raised Tidal Flat deposits, Late Devensian – Gravel, sand and silt. Superficial deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by shorelines.

Till, Devensian – Diamicton. Superficial deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by ice age conditions.

Alluvial Fan Deposits – Gravel, sand, silt and clay. Superficial deposits formed up to 3 million years ago in the Quaternary Period. Local environment previously dominated by rivers.

Alluvium – Clay, silt, sand and gravel. Superficial deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by rivers.

The works will be kept to the existing carriageway and soils shall not be impacted.

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

## Water

Scottish Environmental Protection Agency's Water Classification Hub has identified the "White Cart Water (Kittoch Water to A726 road bridge) [ID: 10000]" channelled directly below the carriageway within the scheme extents. SEPA has classified this waterbody as having an overall status of poor ecological potential and a chemical status of pass.

The Indicative River & Coastal Flood Map by SEPA has highlighted areas of surface water flood risk within the scheme extents. River flooding has also been associated with the White Cart Water, however as works will take place on the elevated road structure, river flooding is unlikely to impact the works.

## Air

The M77 is a major road connecting Glasgow to Kilmarnock. Urban land primarily encompasses the carriageway. A traffic count in 2019 accounted for 24,599 vehicles per day at this location with approximately 17% of which consists of Heavy Goods Vehicles (HGVs).

Local air quality is likely to be impacted by high traffic levels and other local urban activities.

## Climate Change

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 our activities are recorded using Transport Scotland's Carbon Management System.

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



## Material Assets

Activity	Material Required	Origin/ Content
Site Construction	AC32 Base AC20 Binder TS2010 Surface Course Road studs Road paint	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 of a wider range of sustainable aggregate sources.

## Waste

Activity	Waste Arising	Disposal/ Regulation
Site Construction	Old studs Road paint Road planings	A total of 23 cores were taken spaced throughout the scheme, none of which tested positive for tar.  Road planings generated as a result of the works may be recovered in accordance with the criteria stipulated within SEPA document 'Guidance on the Production of Fully Recoverable Asphalt Road Planings'.

## Cultural Heritage

A desktop assessment using PastMap has highlighted the following features of cultural heritage:

- Pollok Park
- Conservation Area

The M77 carriageway passes directly through the conservation area

- Pollok Park (Nether Pollok)
- Garden and Designed Landscape

The M77 carriageway passes directly through the garden and designed landscape

## **Vulnerability of the Project to Risks**

The works will take place on the existing man-made carriageway structure. Works will involve like-for-like resurfacing, with no major changes to the structure.

Currently, the M77 at this location is not vulnerable to any major specific risk. SEPA's has identified small areas of surface water flood risk.

## **Description of Main Environmental Impacts and Proposed Mitigation**

### **Population and Human Health**

#### **Impacts**

- Residential properties within proximity may experience a level of disturbance during night works.
- Traffic management may result in local delays.
- Reduced reoccurring routine maintenance and associated levels of disruption due to TS2010 durability.
- TS2010 road surfacing will be utilised, which should improve the skid resistance and reduce mid to high frequencies of traffic levels.

#### **Mitigation**

- Glasgow City Council's Environmental Health Department were contacted on the 5<sup>th</sup> of May 2021.
- Residential properties in proximity should be notified in advance of the works, providing details of timings, nature, and duration of the works, as well as any potential access restrictions.
- Advanced warning signs should be put in place to notify drivers of the upcoming closures and diversion route.
- Operatives must be briefed with the Noise and Vibration toolbox talk before starting works.
- Effects from noise should be kept to a minimum through the use of appropriate mufflers and silencers fitted to machinery. All exhaust silencers should be checked at regular intervals to ensure efficiency.
- The nosiest works should be scheduled for before 11:00pm if feasible.
- Local access must be granted by site operatives when required.

The residual impact throughout the duration of the works will be considered slight adverse throughout the works. The residual impact for population and human health is considered beneficial upon completion.

## Biodiversity

### Impacts

- Works have the potential to spread the invasive plant Japanese knotweed and giant hogweed.
- Giant hogweed can result in large blisters if sap makes skin contact.
- Additional on-site lighting may cause disruption to nocturnal species in the area.

### Mitigation

- Operatives should be briefed in advance of the location of the INNS and on the relevant toolbox talk.
- No machinery, traffic management, or site operatives should enter the verge within the vicinity of the INNS See Invasive Species Map above for approximate location.
- If the area of INNS must be entered, all equipment, PPE and machinery must be cleaned within the infected area prior to moving on.
- Extra caution should be taken when working around giant hogweed, as well as suitable PPE worn at all times.
- Artificial site lighting should be kept directional to the works area and switched off when not in use.

Providing all works adhere to best practice and mitigation measures, no impact is predicted to local biodiversity.

## Water

### 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;
- Flooding/adverse weather may impact the scheme extents, resulting in delays.

### 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;
- Any pollution incidents will be reported.
- 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

## Air

### Impacts

- The use of vehicles and plants emitting carbon emissions may temporarily affect air quality and will require the use of finite resources.
- On site construction activities carry a potential to produce airborne particulate matter that may have a slight impact on local air quality levels.

### Mitigation

Best practice measures will to be adopted for the duration of the scheme. Best practices measures can 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.

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

## Climate Change

### Impacts

- Greenhouse gas emissions will be emitted through the use of machinery, vehicles and materials used (containing recycled and virgin materials).

### 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 Material Assets.

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

## Material Assets

### Impacts

- Contribution to resource depletion through use of virgin materials,

- Greenhouse gas emissions generated by material production and transporting to and from site,
- 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.

### 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.

It has been determined that the proposed scheme will not have direct or indirect significant effects to the consumption of material assets.

### Waste

#### Impacts

- No special waste has been identified and as result all waste created from the works can be recycled, reducing the need for landfill.

#### Mitigation

- 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.
- Operatives will be briefed with the Basic Waste Rules briefing.

It has been determined that the proposed scheme will not have direct or indirect significant effects to waste disposal.

### Cultural Heritage

Glasgow City Council were contacted on the 28th of April 2021 in regards to the works taking place within the conservation area. As the works benefit from permitted development status under Class 31 of the Town and Country Planning (General Permitted Development) (Scotland) Order 1992 as amended, the council expressed no concerns with the works.

No site specific mitigation is required. All works should operate in line with good practice standards upheld by Amey (including pollution prevention, emergency preparedness and response, waste management and environmental risk assessment).

### Vulnerability of the Project to Risks

As the works will be limited to the replacement of the existing 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.



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.

## Assessments of the Environmental Effects

The following statutory organisations have been consulted:

- Glasgow City Council Council's Environmental Health Team have been notified by email on the 5th of May 2021 of the proposed works.
- Glasgow City Council's Planning Department were consulted by email on the 28th of April 2022 in regards to the works.

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

## 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)— exceeds 1 hectare in area, however are not situated in whole or in part in a sensitive area within the meaning of regulation 2(1) of the Environmental Impact Assessment (Scotland) Regulations 1999.

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 1.4ha 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.

Location of the scheme:

- The scheme will be confined within the existing carriageway falling within Glasgow City Council's authority.

- 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).
- The works are located within Pollock Park conservation area and Garden and Designed Landscape area. As the works benefit from permitted development status under Class 31 of the Town and Country Planning (General Permitted Development) (Scotland) Order 1992 as amended, no planning permissions are required. No impact is predicted on the areas.

Characteristics of potential impacts of the scheme:

- As the works will be limited to the replacement of the existing 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.
- 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.

## 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.



**TRANSPORT  
SCOTLAND**  
CÒMHDHAIL ALBA

© Crown copyright 2021

You may re-use this information (excluding logos and images) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence, visit <http://www.nationalarchives.gov.uk/doc/open-government-licence> or e-mail: [psi@nationalarchives.gsi.gov.uk](mailto:psi@nationalarchives.gsi.gov.uk)

Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

Further copies of this document are available, on request, in audio and visual formats and in community languages. Any enquiries regarding this document / publication should be sent to us at [info@transport.gov.scot](mailto:info@transport.gov.scot)

This document is also available on the Transport Scotland website: [www.transport.gov.scot](http://www.transport.gov.scot)

Published by Transport Scotland, June 2021

Follow us:



transcotland



@transcotland

**transport.gov.scot**



**Scottish Government**  
Riaghaltas na h-Alba  
[gov.scot](http://gov.scot)