Transport Scotland

Record of Determination A78 Springfield Gardens to Largs Yacht Haven

EC DIRECTIVE 2011/92/EU (as amended)

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

RECORD OF DETERMINATION

Name of Project:

A78 Springfield Gardens to Largs Yacht Haven

Location:

The scheme is situated between Largs and the Hailey Brae Junction to the Largs Yacht Haven/Marina, North Ayrshire.

The National Grid References are:

- Scheme start: NS 20858 58486
- Scheme end: NS 21124 57279

The scheme has an approximate area of 10,782m^2.

Description of Project:

The works are required to repair a section of worn and damaged carriageway along a section of the A78 northbound carriageway. The main driver for this scheme is due to fretted surface course along with localised lengths of transverse and longitudinal cracking which suggests structural failure of the carriageway. This indicates the surface course is approaching the end of its serviceable life.

The works will consist of an inlay treatment of TS2010 road surfacing intermittently throughout the length of the scheme to repair the defective road surface. AC20 binder will be utilised in areas of deeper treatment, between depths of 35 to 95mm. This will prevent accelerating pavement deterioration and improve the overall ride quality of the carriageway within the scheme extents.

The package of works is set to take place in February 2021 for the duration of three to four working nights. Operating hours will be between 20:00 and 06:00. North Ayrshire Council's Environmental Health Team were contacted regarding the works and provided no comment at time of writing.

Traffic management will involve a day-time convoy between peak hours and full night-time closures with a diversion route in place. The timings and date of closures are as follows:

- 18th Feb: overnight closure of Haylie Brae with convoy on A78 (20:00 – 06:00)
- 19th - 22nd Feb: Weekend closure South of Haylie Brae (20:00 Fri to 06:00 Mon)
- 26th Feb - 1st Mar: Weekend closure South of Haylie Brae (20:00 Fri to 06:00 Mon)

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 A78 is the key travel route between the mainland and the Isles of Arran, Bute and Great Cumbrae. The average annual daily flow (AADF) in 2019 for the A78 within the scheme extents was 10,345 with a 4% heavy goods vehicle (HGV) traffic count. A rail line runs parallel to the scheme extents, separating the carriageway from the sea. The scheme is situated in a semi-urban environment, with residential properties and a marina lying to the north and west of the carriageway, and a golf course adjacent to the southbound carriageway. There are a number of front-facing residential properties directly adjacent to the northbound carriageway within the scheme extents. The closest property is located approx. 10m from the scheme. Footpaths run adjacent to one or both sides of the carriageway for the full scheme extent. Core Path NC21[1] runs parallel to the A78 and joins the carriageway south of the marina, out-with the scheme extents. Several accesses leading to residential and commercial properties exist within the scheme extents. Two bus stops are located within the scheme extents, on either side of the carriageway, at the entrance to the marina. The Largs to Great Cumbrae public ferry service exists approximately 1.5km north of the scheme extents. The scheme does not fall within a Candidate Noise Management Area (CNMA) as defined by the Transportation Noise Action Plan, Road Maps[2].
2. Biodiversity The scheme extents fall within a mixed residential/commercial area to the north and maintained grassland/farmland to the south. Land use to the immediate east of the A78 is a golf course. The wider habitat is predominantly farmland surrounded by lines of woodland. The Largs Channel coastal water lies to the west. A desktop study using Nature Scot's Sitelink[3] online interactive map has identified the Clyde Muirshiel Regional Park (ID: 8718)[4] which borders the trunk road boundary. Amey's Invasive Non-native Species Database does not hold any record of INNS within the scheme extents. Japanese knotweed is known to be present in the wider area.

[1] https://www.north-ayrshire.gov.uk/Documents/CorporateServices/LegalProtective/LocalDevelopmentPlan/CorePathsPlanMap11.pdf (accessed 11/01/2021)

[2] https://consult.gov.scot/transport-scotland/transportation-noise-action-plan-2019-2023/ (accessed 11/01/2021)

[3] https://sitelink.nature.scot/map (accessed 11/01/2021)

[4] https://sitelink.nature.scot/site/8718 (accessed 11/01/2021)

Description of Local Environment:
Amey's Animal Roadkill Database (2013 – 2021) has identified no evidence of protected species roadkill within or within proximity to the scheme extents. Field Survey Given the lack of historical protected species evidence, coupled with the suboptimal surrounding habitat and artificially straightened watercourses, a field survey has not been deemed necessary for these works.
3. Land The trunk road footprint at this location consists of a single northbound and southbound carriageway. Footpaths run adjacent to the either or both sides of the carriageway for the full scheme extent. The footpaths are not separated from the carriageway by any distance, however some sections are segregated from the road by permanent pedestrian railings. On site work activities will be confined within the A78 carriageway boundary and will not require access over any private or community land.
4. Soil The scheme is not located within, or within proximity to, any Local Geodiversity Sites (formerly known as RIGS)[5] or geologically designated SSSIs[6]. The National Soil Map of Scotland[7] identifies the local soil type to consist of brown earths, raised beach and sands. A desktop study using the British Geological Survey Map[8] has identified local geology types as the following: • Bedrock Geology - Fairlie Sandstone Formation - Sandstone. Sedimentary Bedrock formed approximately 359 to 383 million years ago in the Devonian Period. Local environment previously dominated by windblown deposits. - Kelly Burn Sandstone Formation - Sandstone. Sedimentary Bedrock formed approximately 359 to 383 million years ago in the Devonian Period. Local environment previously dominated by rivers. • Superficial Deposits - Raised Marine Deposits, Devensian - Clay, Silt, Sand and Gravel. Superficial Deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by shallow seas (U). - Raised Marine Deposits of Holocene Age - Clay, Silt, Sand and Gravel. Superficial Deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by shallow seas (U).

[5] https://www.google.com/maps/d/viewer?mid=1HfclRWcITRxXUZWNARManl-PUhE&ll=57.74680670722851%2C-5.313263556249922&z=6 (accessed 11/01/2021)
[6] https://gateway.snh.gov.uk/sitelink/searchmap.jsp (accessed 11/01/2021)
[7] http://map.environment.gov.scot/Soil_maps/?layer=1 (accessed 11/01/2021)
[8] http://mapapps.bgs.ac.uk/geologyofbritain/home.html (accessed 11/01/2021)

Description of Local Environment:
5. Water The scheme is within the North Ayrshire Coastal groundwater body (SEPA ID: 150785). The overall status for this groundwater body is 'good'. SEPA's Water Classification Hub identifies Largs Channel (Fairlie Roads) (SEPA ID: 200026)[9] approximately 150m west of the scheme. SEPA have determined this watercourse to have an overall status of good, an ecological status of good and a chemical status of pass. Coalpit burn (unclassified by SEPA) and an issues, runs under the carriageway and drains into the Largs Channel. The Coalpit Burn has been artificially straightened to the west of the carriageway. The Indicative River & Coastal Flood Map by SEPA[10] highlights the carriageway to be at high risk of coastal and surface water flooding. Flooding is managed by top entry gullies which are found at various points throughout the scheme extents.
6. Air The works are located along a predominantly urban area just south of Largs. A number of residential developments are located within proximity to the scheme, with the closest residential property situated less than 10m from the carriageway. The Largs to Great Cumbrae public ferry service exists approximately 1.5km north of the scheme extents. The average annual daily flow (AADF) in 2019 for the A78 within the scheme extents was 10,345 with a 4% heavy goods vehicle (HGV) traffic count. As such, local air quality is likely to be affected by the moderate daily use of the carriageway by road vehicle users, nearby railway line and ferry. No Air Quality Management Areas[11] have been declared by North Ayrshire Council.
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 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.

[9] https://www2.sepa.org.uk/waterbodydatasheets/PDF/2012/200026.pdf (accessed 11/01/2021)

[10] http://map.sepa.org.uk/floodmap/map.htm (accessed 11/01/2021)

[11] http://www.scottishairquality.scot/laqm/aqma (accessed 11/01/2021)

Description of Local Environment:

8. Material Assets

Activity	Material Required	Origin/ Content
Site Construction	• TS2010 Surface (bitumen and aggregate) • AC20 Binder/AC32 Base • Road Paint • Road studs	• 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[12].

Key Waste Arising from Activities

Activity	Waste Arising	Disposal/ Regulation
Site Construction	• Road Planings	Uncontaminated road planings generated as a result of the works will be fully recycled in accordance with the criteria stipulated within SEPA document 'Guidance on the Production for Fully Recovered Asphalt Road Planings'[13].

9. Cultural Heritage

A desktop study using PastMap[14] has identified the following features of cultural heritage within proximity to the scheme extents:

- Kelburn Castle (ID: GDL00233)[15]
  - Garden & Designed Landscape
  - Located immediately adjacent to the southbound carriageway
- Largs Battle Monument ("The Pencil") (ID: LB37177)[16]
  - Category B Listed Building
  - Located approx. 250m west of the scheme extents

[12] Transport Scotland TS2010 Surface Course Specification and Guidance Issue 04, 2018 (as amended)
[13] SEPA Guidance on the Production of Fully Recovered Asphalt Road Planings
[14] https://pastmap.org.uk/ (accessed 11/01/2021)
[15] http://portal.historicenvironment.scot/designation/GDL00233 (accessed 11/01/2021)
[16] http://portal.historicenvironment.scot/designation/LB37177 (accessed 11/01/2021)

Description of Local Environment:
• Gamekeeper's Cottage, Kelburn Castle Estate, Fairlie (ID: LB52408)[17] ▪ Category C Listed Building ▪ Located approx. 300m west of the scheme extents • Kennels, Kelburn Castle Estate, Fairlie (ID: LB52406)[18] ▪ Category C Listed Building ▪ Located approx. 300m west of the scheme extents
10. Landscape The works are located within a semi-urban area of the A78, with the immediate environment consisting of residential properties, a golf course and maintained grassland/farmland. The wider environment contains pockets of woodland, coastal water and a marina. The A78 within the scheme extents does not fall within any designation for landscape quality or character.

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 • Given the nearby proximity of residential properties to the works location, it is anticipated that residents may experience a degree of disturbance with regards to construction noise, particularly during night-time hours when there is a potential for sleep to be impacted. • Full road closures will likely result in a large diversion route; this may cause delays to journeys, cause congestion and increase traffic on local roads. • Bus stops may be inaccessible during the works, and bus routes may be impacted by the road closure. • TS2010 will be utilised for resurfacing purposes, which is shown to have superior durability compared to standard road mixes. • Reduced reoccurring routine maintenance and associated levels of disruption due to TS2010 durability. TS2010 will afford benefits of a reduction in mid to high frequencies of traffic noise and a reduction in ground vibrations. As a result, ambient noise levels may decrease post construction[19].

[17] http://portal.historicenvironment.scot/designation/LB52408 (accessed 11/01/2021)
[18] http://portal.historicenvironment.scot/designation/LB52406 (accessed 11/01/2021)
[19] Transport Scotland TS2010 Specification and Guidance Issue 03, October 2015 (as amended)

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

1.2 Mitigation

- Properties nearby will be notified prior to the works starting; detailing the nature, timings and duration of works along with traffic management arrangements
- 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
- The noisiest works shall be scheduled for before 23:00, where practical
- Operatives will be briefed with the Noise and Vibration toolbox talk before starting works
- Artificial site lighting will be directional and pointed away from residential properties
- Operatives will facilitate local access requirements if obstructed by the works
- If footways are blocked by the works, measures will be put in place to allow for pedestrians of all abilities to safely bypass the works
- Bus operators will be pre-notified of the works and intended closures/restrictions. Where single lane closures will be applied, bus stops will be relocated outside the live working area and clearly signed
- The road closures/restrictions will be widely publicised within the local and wider area, in an effort to minimise disturbance to vehicular travellers

It has been determined that the proposed project will have slight temporary impact to population and human health.

2. Biodiversity

2.1 Impacts

- The works have no direct impact on the adjacent regional park. All works will be confined to the existing carriageway which is separated from the designated site by a stone wall. It is therefore determined that the works are 'not likely' to have a significant effect on the site.
- Misdirected site lighting could cause disturbance to any surrounding nocturnal species.
- All noted Japanese knotweed is at a suitable distance from the works that any impact through contact is considered unlikely. Works will be kept to the existing paved carriageway.

2.2 Mitigation

- On site light sources will be kept to a minimum, and only used as required. When in use, any artificial light should be pointed down and directed at the area of works as far as reasonably practicable, reducing any light spill into the wider surroundings including to nearby sensitive areas.
- It is an offence to intentionally kill, injure or take (capture) a protected species; Operatives will be vigilant for potential presence of protected species. If a protected species is sighted within proximity to the works location, work will be temporarily suspended, until it has moved on. Any sightings will be reported to the Environmental and Sustainability team.

Significant effects on locally designated sites locally are not likely.

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

Description of the main environmental impacts of the project and proposed mitigation:
3. Land 3.1 The works will be kept to the existing A78 carriageway boundary and will not require or prevent access to private or community land out. It has been determined that the proposed project will not have direct or indirect significant effects to land.
4. Soil 4.1 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.
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. • Risk of flooding may impact the scheme extent delaying the works. 5.2 Mitigation • 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 always include spill kits being present onsite, the use of funnels and drip trays when transferring fuel, the use of drain covers. • Oil, fuels and other potential pollutants or poisonous materials will be stored safely on site. • Visual pollution inspections of the working area will be conducted frequently, 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 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 carbon emissions may temporarily affect air quality and will require the use of finite resources.

Description of the main environmental impacts of the project and proposed mitigation:
• On site construction activities carry a potential to produce airborne particulate matter 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 practice measures will include but not be limited to: ▪ Plant and vehicles will be switched off when not in use ▪ Vehicle and plant servicing/checks as per manufacturing and legal requirements ▪ Adoption of drive green techniques ▪ Route preparation and 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 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. 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. • Uncontaminated 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.

Description of the main environmental impacts of the project and proposed mitigation:
Circular Economy 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. 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 The works will be kept to the existing footprint of the carriageway and will not impact upon the adjacent Garden and Designed Landscape or nearby listed buildings. It has been determined that the proposed project will not have direct or indirect significant effects to features of undiscovered cultural heritage.
10. Landscape The A78 within the scheme extents does not fall within any designation for landscape quality or character. 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 operating on a like-for-like basis, no permanent changes to landscape features are predicted. 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:

- North Ayrshire Council's Environmental Health Team have been notified of the proposed works.

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Record of Determination A78 Springfield Gardens to Largs Yacht Haven

Extent of EIA work undertaken and details of consultation:

The following environmental surveys / reviews have been undertaken:

- An Initial Environmental Review, 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.

Characteristics of the scheme:

- Construction activities are restricted to the 10,782m²/1.08ha 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.
- Uncontaminated 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.
- A slight adverse impact is predicted with regards to noise and vibrations during construction due to the close proximity to residential properties, this will be mitigated as far as is reasonably practicable on site and residents informed of upcoming works.
- 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, 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