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M74 Junction 5, Raith

Environmental Statement

Non-Technical Summary

2007



Mouchel FAIRHURST

M74 Junction 5, Raith

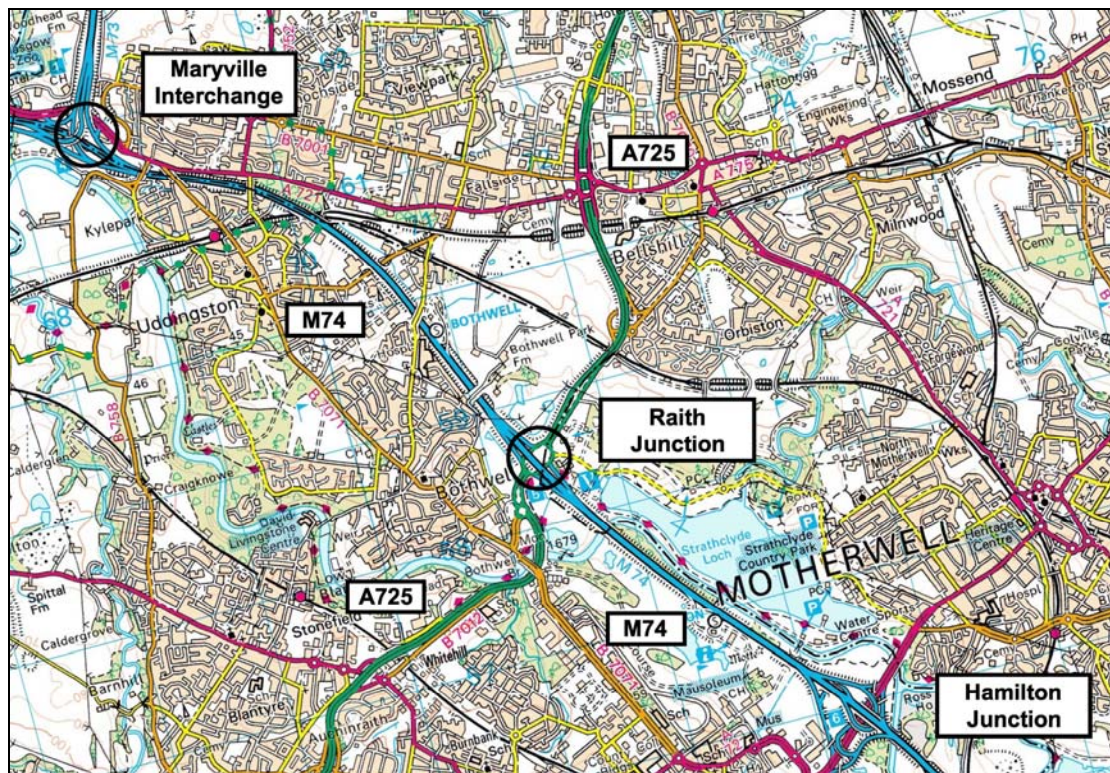
Non-Technical Summary

Introduction

Raith Junction links the M74 motorway with the A725 Bellshill Bypass and East Kilbride Expressway. An Environmental Impact Assessment has been completed on the proposed improvements to the junction and the findings are set out in an Environmental Statement.

The Environmental Statement has been prepared in accordance with EC Directive 85/337 as required by the Roads Scotland Act 1984, and as amended by the Environmental Impact Assessment (Scotland) Regulations 1999.

This Non-Technical Summary sets out the key findings of the Environmental Statement.



Background to the Scheme

Raith Junction and the surrounding motorway network are vital links in the trunk road network of Central Scotland.

Severe traffic congestion exists at Raith Junction. The combination of high traffic volumes and circulating traffic on the roundabout cause both the northbound and southbound exit slips from the M74 to block back as far as the main motorway, with queues forming on the motorway at peak times. There are also significant queues on the A725 in both directions at the Raith Roundabout and the adjacent Whistleberry Toll roundabout.

The Need for the Scheme

The Central Scotland Transport Corridor Studies (CSTCS) identified and investigated specific interventions to resolve or ameliorate the transport problems within the A8, A80 and M74 corridors in order to meet the Government's five policy objectives in respect of Environment, Economy, Safety, Integration and Accessibility. In January 2003, Scottish Ministers announced:

'An investigation into ways of improving the performance of the trunk road network including Raith Interchange on the M74 will be undertaken as part of the delivery phase for the upgrading of the A8 between Baillieston and Newhouse'.



Objectives

The Raith Junction improvement scheme has been developed in accordance with Transport Scotland's key objectives:

Economy

- To provide a cost effective solution to meet the reasonable needs of traffic using the A725 and the M74.
- To improve the operation of existing businesses making use of the Central Scotland trunk road network, by reducing travel costs.

Safety

- To remove traffic from the roundabout and provide free flow conditions for the A725 through traffic in 2010, thus reducing the potential for vehicular accidents.
- To reduce the potential for conflicts between pedestrians and cyclists and motor vehicles.

Environment

- To protect the natural and built environment, minimising impacts on the nearby Site of Special Scientific Interest (SSSI) and Sites of Interest for Nature Conservation (SINC), seeking opportunities to maintain and improve their habitat value.

Integration

- To maximise the improvement in transport links to employment, education and health for vulnerable groups and promote social inclusion.

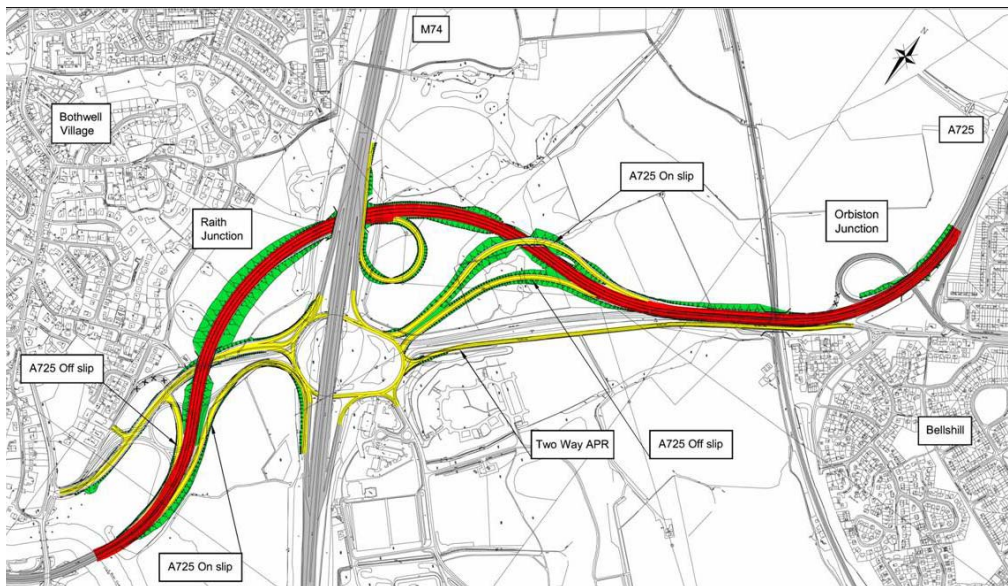
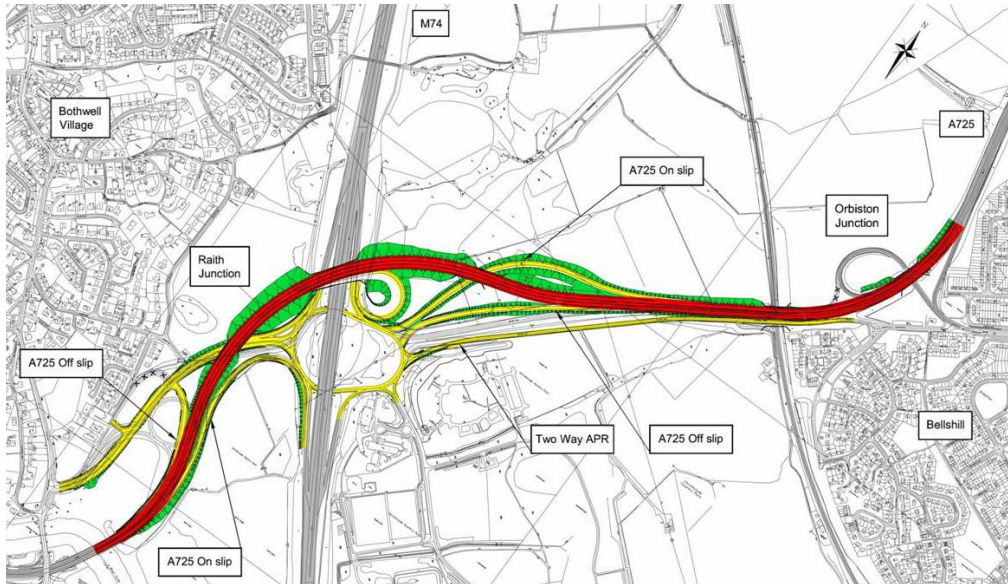
Accessibility

- To improve the relative ease with which individuals can reach destinations or amenities important to them.

To remove the current barrier to non-motorised users across and around the junction, by providing safe, segregated, crossing facilities.

Alternative Improvement Options

Various options for relieving congestion at Raith have been considered. An initial appraisal of six alternative options was carried out. Three schemes were presented at a series of Public Exhibitions in 2005, with the preferred scheme identified as being the one which was considered to best meet the scheme objectives.



Alternative Options previously rejected

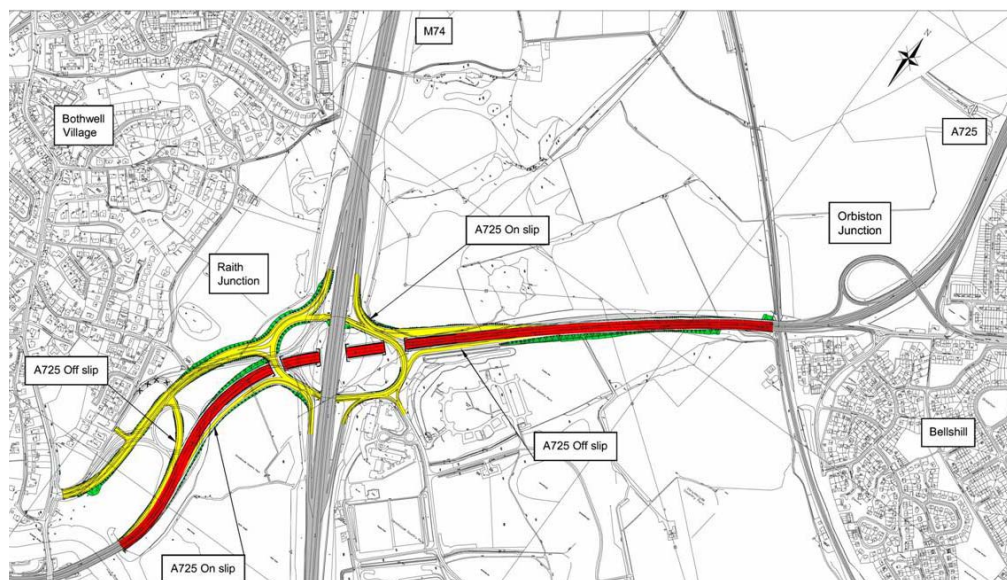
The Proposed Scheme

The proposed scheme has been developed into a conceptual design as shown on the plan contained in this Non-Technical Summary. The scheme comprises a 3 level grade separated junction at Raith together with associated works on the A725, M74, Bellshill Road and Hamilton Road (B7071). The proposed scheme creates a new direct A725 link which will pass below the Raith Junction. There will be an additional lane on the M74 southbound between Bothwell services and the Raith junction.

The existing signalised Raith roundabout is generally retained, however the south section requires alteration to accommodate the dual carriageway link road southbound approach to the B7071. The Whistleberry Toll roundabout will be removed as part of the scheme; all existing vehicle movements will be retained by the proposed scheme.

The existing mini roundabout at the Hamilton Road/Bellshill Road junction will be replaced with a signalised junction including improved pedestrian crossing facilities.

An existing private access from the A725 south west of the West Coast Main Line railway will be closed. In place of this, access will be via the Raith Roundabout exit to Strathclyde Park, continuing through the local road network and along a new access road running adjacent to the A725.



Proposed Scheme

Environmental Impact Assessment

The Environmental Statement describes the Environmental Impact Assessment (EIA) carried out as part of the scheme design in relation to its potential impacts on humans, the natural and historic environment, and current and future uses of the environment.



Consultations

The design and environmental impact assessment of the scheme included consultation with a range of organisations, public bodies, non-governmental organisations and private individuals and businesses. Consultation responses were used to inform the development of the conceptual design, identify key environmental issues, and to develop mitigation measures.

Environmental Impacts and Mitigation

Air Quality

Close to the proposed scheme, residents will experience a slight deterioration in air quality, but pollution levels will remain below the relevant air quality objectives. Also, by influencing strategic traffic patterns, the scheme will alter air quality across a wider area. The proposed scheme is predicted to improve local air quality in some locations but will cause air quality to deteriorate in others. In most places, any change will be negligible and overall, the effect of the proposed scheme on local air quality is judged to be neutral.

The scheme is expected to bring about an extremely small increase in the total emissions of relevant air pollutants across the road network.

Any effect of construction vehicle emissions on local air quality will be negligible. Dust generated during construction works will be controlled through appropriate mitigation measures. Properties that are closest to the construction works and to site entrances might experience occasional dust soiling.



Cultural Heritage

No Scheduled Monuments or Listed Buildings are directly affected by the scheme. Consultation with Historic Scotland and an assessment of the scheme corridor indicates there are no significant adverse impacts on cultural heritage and therefore no specific mitigation is required. Should any previously unrecorded remains be discovered during the construction phase, appropriate steps will be followed by the Contractor to inform Historic Scotland and conserve, record or further investigate as considered necessary.

Land Use

The total land take necessary for the scheme (including existing roads) is approximately 65 ha, of which 55 ha is already in the ownership of Scottish Ministers. Additional land totalling approximately 10 ha will therefore need to be compulsorily purchased.

The majority of the land take for the scheme is land directly adjacent to the existing junction and associated roads, mostly land classified as capable of agricultural production, although most is not in active farming use. There will be no residual severance due to the mitigating effects of the proposed accommodation tracks and bridges.

No property (other than a small stable, to be rebuilt nearby) will require demolition as part of the scheme. Land take will be required in the Green Belt, but there will be very little effect on land used by the public. There will be adverse impacts due to small areas of land take within a SSSI, SINIC and Community Land (within Strathclyde Country Park). New wetland habitat creation, tree and shrub planting, and landscaping proposed as part of the scheme will help to mitigate impacts over the long term.

Overall the land use impacts are considered to be slight adverse. In the longer term they should be outweighed by access improvements together with the potential economic benefits which the scheme is expected to promote.

Disruption Due to Construction

The construction period for the scheme is expected to be approximately two years. The construction programme will aim to minimise disruption to the existing environment and avoid unnecessary delay and disruption to existing road users and the surrounding area. Individual operations, such as earthworks and piling operations, will be restricted in terms of the working hours and allowable noise/vibration levels during the course of the construction contract. Construction is likely to cause direct and indirect disruption at and around the junction, on the M74 motorway and on sections of the A725 trunk road linking to the wider network.

There will be temporary adverse visual impact to occupiers of properties with views across the scheme, and to road users. The most visually intrusive activities will relate to earthworks and piling operations.

Traffic flows on the M74 motorway will be under temporary traffic management for the duration of the works to construct the new underpass. This will consist of a contraflow operation on one carriageway of the motorway, while works proceed on or below the other carriageway. Temporary traffic management will also be required on the roundabout to accommodate the construction of the two roundabout underbridges.

Temporary groundwater management (dewatering) will be needed when constructing the underpass, which will result in localised temporary drawdown of groundwater around the junction. Mitigation measures have been identified to control this process and ensure that there are no adverse impacts on immediately adjacent properties or sensitive wetland habitats.

The Contractor's compounds and material storage areas will be established within the footprint of the works. The precise location of the storage areas have not yet been determined, and will be considered by the Contractor at a later stage. The compounds will however be sited away from watercourses and locations identified as sensitive and/or vulnerable so that, after site restoration, there are no permanent environmental impacts.

Localised dust soiling may occur from certain construction activities. The effect of construction vehicle emissions on local air quality will be negligible. During construction a package of mitigation measures will be set in place to minimise dust emissions. Any effects will be temporary and any events will be infrequent, depending on the weather conditions and occurrence of dust raising activities.

To avoid or reduce impacts, mitigation measures will be specified in an Environmental Management Plan (EMP) and Method Statements prepared by the Contractor prior to commencement of works on site.

Ecology and Nature Conservation

The scheme will affect 2.3 ha of habitat within Hamilton Low Parks SSSI, largely comprising boundary trees and scrub adjacent to the A725. Bothwell and Laighlands SINCs will also be directly affected.

Mitigation measures to compensate for land-take within the SSSI and SINCs, protect wetland areas and maintain the value of the area to wildlife, in particular birds, have been identified. These include a set-aside ecological mitigation area adjacent to Bothwell SINC, new areas of habitat creation, pre-construction protected species surveys, and measures to protect adjacent habitats outwith the scheme footprint during both the construction and operational phases.

New wetlands in and around the proposed drainage attenuation and treatment basin and the new northern flood compensation storage area will be created. Species-rich conservation grassland/wildflower areas will also be sown, along with native-species trees and scrub. Approximately 4.5 ha of new woodland, scrub/shrub areas and nearly 1.7 km of new hedgerow will be planted, using native species appropriate to the area.



Landscape and Visual Issues

The SSSI/SINC designated landscape areas are affected by the scheme, as previously mentioned within the Ecology and Nature Conservation. The local landscape has already been significantly affected by the existing M74 motorway and junction.

Possible landscape and visual impacts have been minimised where possible by the junction design and through the proposed landscape planting as illustrated within the Scheme Plan. The A725 will pass under the junction in cutting, thereby reducing adverse visual effects. Some slight adverse impacts will remain due to the addition of a new pedestrian/cyclist overbridges and associated embankment features.

The junction and approach roads are already lit and there will be only small changes to the current impact of lighting in the vicinity. Where additional lighting is required (for pedestrian and cycle routes and new slip roads) there will be a lighting and planting mitigation strategy to minimise light spill whilst meeting visibility and road safety requirements.

Landscape and visual effects are limited to the more elevated elements of the road scheme and the improved recreational route between Bothwell, Orbiston and the Strathclyde Country Park, where mitigation measures cannot fully screen the associated effects. Cumulative residual effects are predominantly from the residential areas of Bothwell and will be slight adverse.



Vehicle Travellers

The proposed road will reduce driver stress experienced by both local users and users of the A725 and M74 motorway by addressing congestion.

There will be permanent but brief effects on driver views where the A725 passes under the junction. Views will be retained out to the countryside from the M74, and travellers will experience only minor changes to views over the longer term.

Vegetation and planting, as it matures, will help to screen views from the road where the route passes over embankments.



Traffic Noise and Vibration

Noise impacts of the proposed scheme have been assessed by comparing the difference in predicted noise levels with and without the scheme in 2010 and 2020.

The scheme results in a slightly greater number of properties experiencing an increased noise level when compared without the scheme. However, these adverse impacts occur in a relatively small localised area and will be further reduced with mitigation such as acoustic barriers along the A725 at Orbiston and the A725 between the A725/Bellshill Road junction and the Bellshill roundabout.

Some properties may be eligible for double glazing in order to further mitigate the impact of traffic noise due in part to the scheme. The number of (potentially) eligible domestic properties is 72 at ground floor and 127 at first floor.



Pedestrians, Cyclists, Equestrians and Community Effects

The existing junction presents a barrier to east-west and north-south movements of pedestrians and cyclists. The proposed scheme includes a number of provisions for non-motorised users, including:

- Crossing points, signals and bridges to reduce or remove pedestrian/cyclist and vehicle conflicts.
- Widened footways and cycle paths compliant with the Disability Discrimination Act (DDA) 2005, especially in terms of dual use paths and accessible design for ramps and bridges.
- Protective 2m wide verges between vehicular traffic lanes and pedestrian/cycle paths, providing a safety barrier and improved amenity for users.
- A clear signage strategy for pedestrians/cyclists crossing the junction.
- Improved lighting for pedestrians and cyclists across the junction.

A section of the Clyde Walkway which currently runs along the edge of the SSSI will be diverted by the proposed scheme. This new route will ensure continuity of the Walkway and offer safety benefits without any significant change to journey times.

The proposed scheme will provide better links to the proposed National Cycle Network (NCN) Route 74, with an improved junction crossing and connection between Langside Road and Strathclyde Country Park. The scheme provides an opportunity to improve accessibility and inter-linkage of the wider footpath and cycleway network.

Bus stops will also be provided on the Bothwell Link Road.



The pedestrian/cyclist crossings are designed to be accessible to all user groups. These proposals will provide a significant improvement in the standard of infrastructure currently available and have the potential to increase pedestrian and cyclist activity across the junction and links between Bothwell and Strathclyde Country Park and between Orbiston and Bothwell.

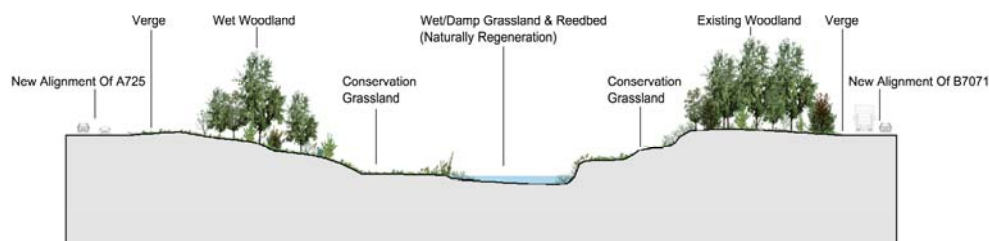
Road Drainage and the Water Environment

The proposed scheme has a relatively small footprint and largely replaces sections of existing road. One small un-named burn will be affected by the scheme, requiring diversion in open ditch and a replacement culvert under the re-aligned A725 and B7071. Road drainage will be directed away from the sensitive wetlands of Hamilton Low Parks SSSI and outfall to the River Clyde. The scheme incorporates a Sustainable Urban Drainage System (SUDS) which will protect watercourses from potentially contaminated surface water runoff and provide areas of new wetland habitat. Spill containment storage features will be incorporated to capture any potentially polluted runoff from the roads following collisions or accidents. Erosion protection measures will be used at the outfall to the River Clyde.

Raith Junction is situated in the functional floodplain of the River Clyde. The scheme will therefore incorporate flood protection measures and two new flood storage areas will be provided to compensate for any potential loss of flood storage capacity.

No significant adverse impacts on water quality or quantity are predicted with the mitigation in place. During the construction phase, special protection measures will be set in place by the Contractor to protect groundwater, watercourses and ponds from accidental damage.

The scheme shows negligible effect in terms of the impact on the contaminant concentration in the River Clyde. The provision of spillage containment facilities (not currently in place for the existing junction) further reduces the potential for accidental damage to watercourses and to important nearby habitats.



Typical Section through Flood Storage Area

Geology and Soils

Past mining activities may have caused ground contamination and although there is no risk to current users or to the public, investigations indicate that locally contaminated soil, groundwater and surface water exists at the site. Mitigation measures will be set in place to protect construction and maintenance workers and to ensure that any possible migration of contaminants is avoided.

Approximately 370,500 cubic metres of rock and soil will be excavated during construction, some of which will be re-used to meet the need for fill material for embankments. Any unsuitable or potentially contaminated materials will be contained or safely removed. Additional imports of bulk materials will be required for the construction phase, but the amount required will be kept to the minimum possible.

Construction of the proposed scheme will involve a deep excavated underpass in water-bearing soils beneath the junction. A comprehensive groundwater investigation and assessment has been carried out and the impacts on the local hydrogeology have been addressed. Scheme construction will require localised, temporary, de-watering. On completion of the construction phase and cessation of the local and temporary de-watering, groundwater levels will gradually return to normal and no permanent dewatering is considered necessary.

The wetland areas around Raith Junction will be unaffected by the completed infrastructure and the impact of the scheme on hydrogeology or groundwater is considered to be negligible with the proposed mitigation measures in place.

Policies and Plans

The scheme generally complies with the relevant transport planning policies and guidance at national, structure plan, and local plan levels. It realises the strategic roads policy designation and it will contribute to improvements in the national road and transport infrastructure, as well as contributing to economic development and regeneration. The scheme will be compatible with the policy of reducing congestion on the route network.

There are policy implications in relation to designated areas (SSSI, SINC, Green Belt, Community Land and the Clyde Walkway), which will be addressed through the creation of compensatory habitat, wildlife protection measures and provision of new pedestrian and cyclepath routes in consultation with North and South Lanarkshire Councils and Scottish Natural Heritage.

Scheme Development

The Environmental Statement is based on a conceptual design. The final specimen design, and scheme as it will be implemented by the Contractor, will result in no material change to impacts described in the Environmental Statement without further consultation with statutory organisations and publication of an addendum to the Environmental Statement if required.

A final procurement plan has yet to be agreed, however, it is anticipated that the proposed scheme will be procured by Design and Build or a Public Private Partnership (PPP).

Comments

Any person wishing to make representation with regard to the Draft Road Orders and/or the Environmental Statement should write to:

**Chief Road Engineer
Transport Scotland
Trunk Road Infrastructure & Professional Services
Buchanan House
58 Port Dundas Road
Glasgow
G4 0HF**

Written responses are invited within 42 days of the advertised date of publication of the Environmental Statement.

Further copies of the Non-Technical Summary are available free of charge. Copies of the Environmental Statement and the Non Technical Summary are available for download from the Transport Scotland website www.transportscotland.gov.uk. Printed copies of the Environmental Statement may be obtained from the above address at a charge of £225. A CD is also available for £10.

The Environmental Statement and Draft Road Orders are also available for public viewing at the above address and at the following locations:

South Lanarkshire Council
Montrose House
154 Montrose Crescent
Hamilton

North Lanarkshire Council
Civic Centre
Motherwell

Bothwell Library
The Donald Institute
Main Street
Bothwell

**Bellshill Cultural Centre
Library**
John Street
Bellshill

**Hamilton Town House
Library**
102 Cadzow Street
Hamilton

Blantyre Library
Clydeview Shopping Centre
Glasgow Road
Blantyre

East Kilbride Central Library
The Olympia Shopping Centre
East Kilbride

Scheme Summary

The scheme comprises:

- Realignment of the A725 over a length of approximately 1.8km
- Provision of an underpass for the A725 approximately 625m long 35m wide with one bridge deck carrying the M74 and two bridge decks carrying the Raith roundabout north and south of the M74
- Realignment of the Raith roundabout south of the M74
- Provision of a new link road approximately 0.6km between the B7071 and Raith roundabout with a signalised junction at the A725 eastbound off slip
- Modifications to the M74 slip roads
- Provision of new pedestrian/cyclist bridges over the Raith roundabout to the north and south of the M74
- Provision of an additional lane on the southbound M74 between Bothwell Services and the Raith Junction
- Demolition of the existing Bothwell Park Road access bridge to the north of Raith junction and provision of a new realigned access bridge over the M74.
- New private access road through Strathclyde Country Park
- Provision of a Sustainable Urban Drainage System
- Provision of compensatory flood storage areas
- Diversion to the Clyde Walkway and new improved signalised crossing points for pedestrians and cyclists.
- New link to the proposed route for NCN 74.
- Environmental mitigation and enhancement works

Overall land requirements: circa 65ha

Land in Scottish Ministers ownership: circa 55ha

Costs: £56 - £61 million (estimated)

Construction Period: a maximum of 24 Months (estimated)



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