A77 Maybole Bypass

Environmental Statement – Non-Technical Summary

Document reference: CO25000182-ENV-ES-NTS

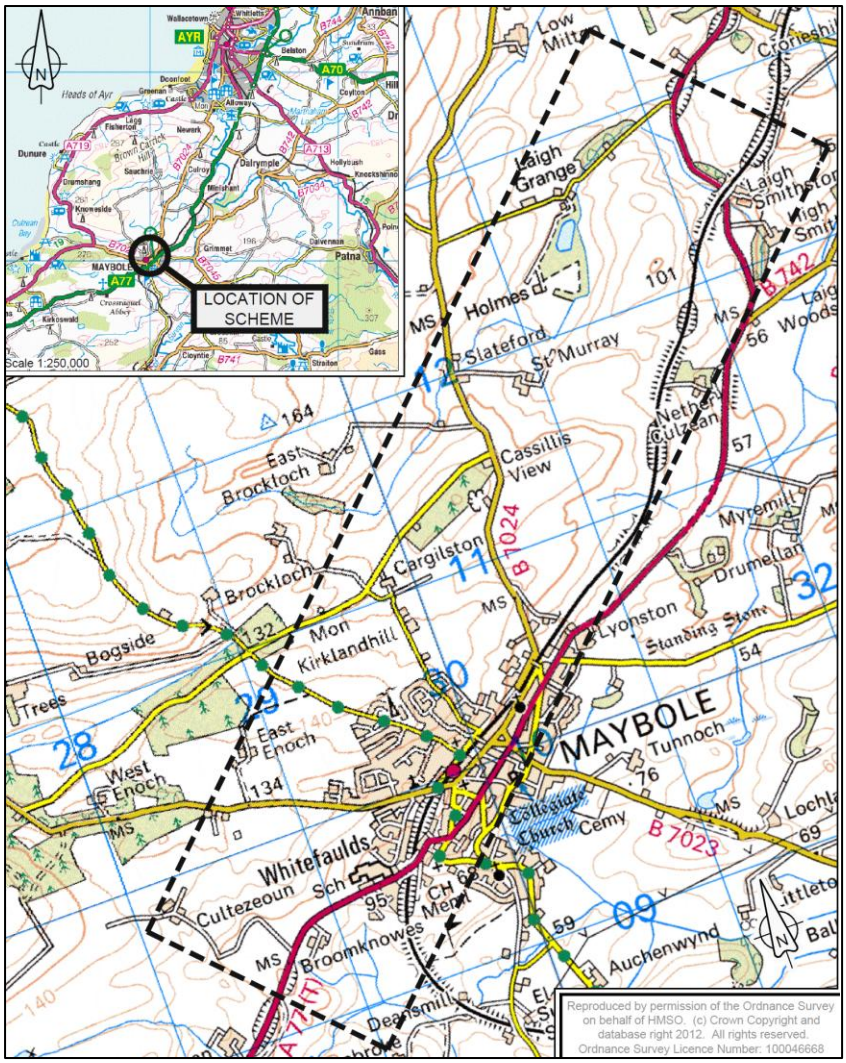
Revision: F1

Issued: November 2013

Introduction

The M77/A77 is the main link from Glasgow and central Scotland to Ayrshire and south-west Scotland. The A77 passes through the centre of Maybole along the High Street, which has restricted carriageway and footway widths. This results in poor conditions for pedestrians and road users with traffic problems for the community and a bottleneck for strategic traffic, partly due to the large numbers of cars and heavy goods vehicles (HGVs) using the A77 to travel to and from the Northern Ireland port facilities at Cairnryan.

Transport Scotland is therefore promoting the construction of a new road to bypass Maybole, referred to as the Proposed Scheme.



The key objectives of the Proposed Scheme are to:

- Improve the operational performance and level of service on the A77 by reducing the effects of driver stress through improved journey time reliability;
- Improve safety for motorised and non-motorised users (pedestrians, cyclists and equestrians);
- Reduce the environmental and social impacts being experienced by residents of Maybole;
- Protect and minimise impacts on the environment;
- Contribute positively to local policies and plans;
- Wherever practicable incorporate measures for non-motorised users;
- Maintain the asset value of the A77;
- Ensure that facilities are fully compliant with the requirements of the Disability Discrimination Act 2005 through application of Transport Scotland's "Roads for All" guidance as amended or updated;
- Achieve good value for money for both taxpayers and transport users; and,
- Improve sustainability in design and construction.

Environmental Impact Assessment

The design of the Proposed Scheme has been developed and assessed in accordance with guidance provided in the Design Manual for Roads and Bridges (DMRB). An environmental impact assessment of the proposals has been completed as required under the provisions of the Environmental Impact Assessment (Scotland) Regulations 1999 (as amended). The findings of the Environmental Impact Assessment for the Proposed Scheme are reported in the A77 Maybole Bypass Environmental Statement.

This Non-Technical Summary provides a summary of the findings of the Environmental Statement and outlines the principal environmental impacts and proposed mitigation identified during the assessment.

Consultation

Consultation on the Proposed Scheme has been undertaken through a public exhibition in Maybole. Specific consultations (by letter, email and face-to-face meetings) have also been carried out with landowners and affected parties as well as environmental regulators.

The purpose of the consultation exercise was to establish existing site conditions and assist in defining the key environmental issues associated with the Proposed Scheme. Feedback from consultations has helped inform the design of the scheme and environmental protection measures.

Alternatives

Bypass alignments to the north-west of Maybole and the south-east of Maybole were considered in earlier stages of the scheme development. These included four options to the north-west, four options to the south-east and a combination of the routes to the south-east linking to the northern part of the route proposed to the north-west of the town. Routes to the south-east of Maybole were assessed in engineering, economic and environmental terms as having greater impact and therefore three route options to the north-west were recommended to be taken forward to the next stage of assessment.

Each of the design options assessed at that stage considered different carriageway widths, with and without a roundabout at the B7023 Culzean Road. A Do-Minimum scheme comprising pavement reconstruction and re-surfacing of the existing A77 through Maybole with improvements to traffic signals and road markings at Smithston Bridge was also considered.

The assessment of these options indicated that a single carriageway bypass with climbing lanes on the shortest route performed best economically and environmentally in achieving the scheme objectives, principally through requiring least landtake and lower scheme cost.

Existing Environment

The A77 passes through the centre of Maybole along the High Street, which is the main retail area in the town. The High Street has been developed since the medieval ages and has restricted carriageway and footway widths. This results in poor conditions for pedestrians and road users and causes congestion, partly due to vehicles travelling to and from the Northern Ireland port facilities at Cairnryan. North of Maybole, the A77 also passes under the Ayr to Stranraer railway line at Smithston Bridge and suffers from poor alignment and restricted headroom.

The topography of the Proposed Scheme is generally undulating. The landscape is dominated by open agricultural grassland with only minor areas of woodland present. Several minor streams flow through the study area generally towards the south-east. Residential areas of Maybole are located at the south of the scheme while isolated dwellings are present at a number of other locations. The Proposed Scheme is intersected by several local roads and the northern portion is flanked on the eastern side by the Ayr to Stranraer railway line.

Proposed Scheme

The Proposed Scheme is illustrated in Drawing No. 25000182/ENV/NTS/001 which can be found within Appendix A and comprises the construction of a 5km bypass to the north-west of Maybole. It commences from the south at the tie-in with the existing A77 at a new roundabout at Broomknowes as illustrated in Drawing No. 25000182/ENV/NTS/002 before continuing northbound to tie-in with the A77 at a new roundabout north of Smithston railway bridge, as illustrated in Drawing No. 25000182/ENV/NTS/003.

The Proposed Scheme includes a roundabout at B7023 Culzean Road and four principal structures to cross local roads without connection at the following locations:

- Gardenrose Path overbridge
- Kirklandhill Path overbridge
- B7024 Alloway Road underbridge
- A farm underpass north of Broomknowes roundabout

Climbing lanes are provided on the steeper sections of alignment, comprising:

- A northbound climbing lane from the south roundabout, through the B7023 Culzean Road Roundabout for a distance of approximately 1.2km;
- A southbound climbing lane commencing north of Alloway Road past to around Kirklandhill Path for a distance of approximately 1km; and,
- A southbound climbing lane from the north roundabout for a distance of approximately 1km.

Environmental Effects

The Proposed Scheme and associated mitigation measures have been designed to minimise adverse environmental effects. Nonetheless some effects would arise from the proposals, as summarised below:

Air Quality

Given the rural nature of the setting for the Proposed Scheme, current air quality in the study area is good.

Construction works have the potential to create dust, which will be minimised by implementing best practice techniques on site to reduce the risk of disturbance or nuisance. Effects will be also localised and of short term duration as construction activities will be phased and would not be continuous in any area throughout the construction period.

Following opening of the Proposed Scheme, properties located along the existing A77 and within Maybole town centre will experience a reduction in pollutant levels resulting from traffic using the new bypass. Pollutant levels at a small number of properties located near the bypass will increase, however the increase will be slight.

Overall, the Proposed Scheme will be beneficial for local air quality, particularly in Maybole and pollutant levels at all locations will remain well below guideline values presented in the National Air Quality Strategy Objectives.

Cultural Heritage

Cultural heritage refers to archaeological remains, Listed Buildings, Conservation Areas, Historic Gardens, Designed Landscapes and other sites noted for their historical heritage. There are a total of fourteen archaeological remains and historic buildings located within 1km of the Proposed Scheme.

The scheme will have a beneficial effect on a large number of listed buildings and the conservation area within Maybole as the reduced traffic flow will improve the setting of historic town centre. Kirklandhill Cottage will encounter a substantial negative change as the site will be demolished, although it is not a listed building and recording of these remains prior to demolition will reduce the negative impact of this loss. The scheme is considered to be sufficiently remote from other cultural heritage assets along the route of the Proposed Scheme to result in only a slight impact.

Due to the potential for discovering archaeological remains, an archaeological watching brief will be carried out during any excavation work as a precaution to prevent damage on yet unrecorded sites or finds of archaeological interest. The watching brief will observe, investigate and record archaeological remains where present during construction ground works.

Ecology and Nature Conservation

The Proposed Scheme predominantly bisects areas of land including improved grassland, semi-improved grassland and arable land and a number of trees, hedgerow and scrub will be removed or cut back. There are no statutory designated sites of ecological importance affected by the Proposed Scheme. Ecological surveys have been undertaken as part of the assessment and numerous protected and important species have been found to be present within the survey area.

The loss of vegetation will have an adverse impact on birds within the surrounding area. No bat roosts have been confirmed on site, however the removal of vegetation will result in the loss of foraging habitat and the severance of bat commuting routes. Replacement planting of trees and hedgerows using native and local species will be carried out and hedgerows will be planted along the Proposed Scheme.

The Proposed Scheme passes directly through an outlier badger sett, which will be destroyed. During construction, badger will need to be excluded from the affected sett for the works to proceed. An artificial sett will be constructed to mitigate for the loss of the sett and mammal crossings under the Proposed Scheme with mammal-proof fencing will be installed to allow passage by mammals such as badger and otter under the bypass.

Through a range of mitigation provided, including compensatory planting of native species, the negative impact upon habitat can be reduced and habitat may be improved. Grass verges will be sown with wildflower seeds, an improvement from only grass. These will maximise potential for invertebrates, and in turn birds and mammals.

Mitigation measures will be in place during construction to prevent pollution and sedimentation of watercourses, and attenuation and treatment of surface water run-off from the scheme itself are to be undertaken as part of the scheme drainage design. This will protect water quality and habitat for fish and aquatic invertebrates.

Landscape Effects

The Proposed Scheme is located in an attractive, rural landscape whose rolling and, in places, hilly landform will not easily accommodate a transportation scheme of this type. However, the road has been designed to avoid and reduce the most significantly adverse effects by aligning the road in cutting where possible, particularly past Maybole.

The majority of the site comprises of fields of improved grassland, semi-improved grassland and arable land. Vegetation is primarily hedgerows, hedgerow trees and a line of mature beech trees associated with Parish March Burn running through the area. Fields are irregular in shape and size, ranging from small to medium, and settlement is limited to scattered, infrequent farmsteads.

The Proposed Scheme involves the construction of a new section of road through a number of pastoral fields. A number of embankments and cuttings will be required to accommodate the proposals given the undulating terrain. Cuttings to the south of the Proposed Scheme will contain a large amount of rock cutting slopes and structures will be constructed to allow the bypass to cross the local road.

Visual impacts during construction are largely due to the earthworks required. The scale and the nature of the scheme, with the inclusion of roundabouts and bridge structures creates landscape and visual impact due to the land-take required and vehicles using the road.

Mitigation measures and scheme design, with significant lengths in cutting, will however reduce the impact of the Proposed Scheme. Tree and shrub planting will be carried out to screen views and a high percentage of quick growing and evergreen tree species will be used to establish a dense screen, in particular at the embankment between the B7023 Culzean Road and Gardenrose Path.

The proposed mitigation measures will help screen views of the road for a large number of receptors, as well as providing attractive views out to the wider countryside for road users. The inclusion of planting along the scheme extents to retain and enhance the landscape character and quality also improves biodiversity within the scheme. Over the following years, the planting will continue to mature and reduce views further for those receptors affected.

Land Use

There are 11 farmed enterprises and two derelict properties located within the scheme extents. The derelict Kirklandhill Cottage will be the only building directly impacted by the Proposed Scheme and will be demolished. Although it is not a listed building, recording of these remains prior to demolition will be undertaken.

The Proposed Scheme will require land acquisition, primarily of agricultural land. Only a small parcel of prime quality agricultural land will be lost and land of similar agricultural classification will remain in the surrounding areas. However, the loss of land is the main long term impact of the Proposed Scheme. The design however aims to minimise the footprint and land take required. Existing accesses to properties and land adjacent to the bypass will also be maintained or alternative routes provided by connecting existing or replacement accesses to the local side road network.

Noise and Vibration

The scheme is located in a rural environment with the dominant noise source being traffic noise from the existing road network.

Noise during the construction phase in the vicinity of working areas will arise from the movement and loading/unloading of vehicles and machinery, earthworks, rock removal, tipping of rock and all other associated construction activities. Construction noise impacts are however temporary in nature and mitigation measures will be implemented to ensure that these impacts are kept to a minimum. Local residents will also be advised in advance of any construction works that are likely to cause disruption.

After the Proposed Scheme is opened to traffic, noise and vibration benefits are predicted for properties where traffic flows will reduce, principally adjacent to the existing A77 within Maybole. Noise and vibration impacts are predicted to increase along the route of the bypass, however low noise surfacing will be used to help reduce the impact. The bypass is predominantly in cutting as it passes Maybole which will assist in reducing the impact of the new road, although sections of the scheme are unavoidably on embankment.

The area with a greater impact will be north of Maybole, whereas the area with a greater betterment will be along the existing A77. Overall, the scheme presents a clear beneficial gain in relation to noise and vibration.

Pedestrians, Cyclists, Equestrians and Community Effects

The footway located alongside the A77 within Maybole town centre will benefit from the Proposed Scheme due to the reduced vehicle journeys through the town which will improve the general town centre environment for pedestrians.

New footway links will be constructed to tie into existing footways at Kirkoswald Road to the south of Maybole and the B7023 Culzean Road, which will require new crossings in the vicinity of the south and Culzean Road roundabouts. The existing footway at the B7024 Alloway Road and the local roads at Gardenrose Path and Kirklandhill Path will be separated from the bypass traffic through the provision of new bridge structures. The construction of footway tie ins and bridges will result in disruption, however access will be maintained during construction for pedestrians and cyclists.

Vehicle Travellers

An assessment of the existing route of the A77 indicates that drivers and other uses experience high levels of frustration, fear of potential accidents, and uncertainty when using the route due to the lack of safe overtaking sections and congestion. These factors are particularly acute in Maybole town centre, which has restricted road and footway widths.

The Proposed Scheme will have a positive impact on both driver stress and views from the road. There is predicted to be a major benefit on views from the road as the new bypass will provide open, high quality views compared to the restricted views of Maybole town centre. The Proposed Scheme will have a positive impact overall, as traffic volumes through the town centre will reduce, safety will increase and drivers' stress will decrease.

During construction, the majority of works will be undertaken offline and therefore the impact on vehicle travellers will be minimised. Some disruption will occur during tie in works although the duration will be limited and measures will be implemented minimise disruption.

Road Drainage and the Water Environment

There are nine watercourses in the vicinity of the site, three of which are crossed by the Proposed Scheme: Parish March Burn, Black Glen Burn and Brockloch Burn.

During the construction period there is potential for sediments and other pollutants (such as chemicals, fuels, oils, concrete) to enter watercourses as a result of vehicle movements, earth moving and building activities or accidental spillage. During construction, surface water would be managed by a temporary drainage network strategy including appropriate pollution control measures until the operational drainage system is constructed.

The operational drainage system incorporates measures to treat and attenuate surface water run-off from the road while the level of the road remains above recorded groundwater levels. The Proposed Scheme is therefore not predicted to present significant impacts on surface water bodies, groundwater or flooding. The installation of treatment ponds will provide improved water quality within the surface water run off when compared to the run off from the existing A77. Any existing land drainage channels or ditches would be diverted to the drainage system.

Geology and Soils

There are no designated geological sites within the vicinity of the Proposed Scheme and the site lies outwith any areas of underground mining in coal or other minerals, although a number of historic quarries are known to be present in the surrounding area. There will therefore be no adverse effects on geology arising from the Proposed Scheme.

During the earthworks phase of construction, geologically important strata may be exposed in cuttings and excavations. Monitoring will be undertaken during the earthworks phase of construction as appropriate and if geologically important strata are identified, their potential value should be assessed.

Construction stage effects may potentially include erosion due to rainfall on disturbed ground, erosion by vehicle movements, and the possibility of spills causing contamination of soil and/or the underlying bedrock. Mitigation measures will be implemented through appropriate site controls including seasonal working, adequate temporary drainage, pollution prevention measures such as spill kits and designated, surfaced refuelling areas. Soils stripped and set aside for re-use will be stockpiled in a controlled manner.

The earthwork proposals include a number of embankments and cuttings along the route. There is not expected to be a shortfall of fill material with all material excavated from site expected to be used in area of embankments or landscape areas. From survey work undertaken, it is considered unlikely that any significant unidentified soil or groundwater contamination will be found during construction.

Further Details

A full copy of the Environmental Statement and Non-Technical Summary can be viewed on the Transport Scotland website: www.transportscotland.gov.uk.

Full copies of the Environmental Statement are available for inspection during normal office hours at the following locations:

- Transport Scotland, Buchanan House, 58 Port Dundas Road, Glasgow, G4 0HF
- South Ayrshire Council, The Wallace Tower, 172-176 High Street, Ayr, KA7 1PZ
- Maybole Library, 1 High Street, Maybole, KA19 7AB

Any comments on the proposals should be addressed in writing to 'The Chief Road Engineer' at Transport Scotland before the closing date for comments and objections given in the Public Notice is available for public viewing,

Printed copies of the Environmental Statement may be obtained, on written request from Transport Scotland at the above address for a charge of £150. A CD is available for £10.

Appendix A

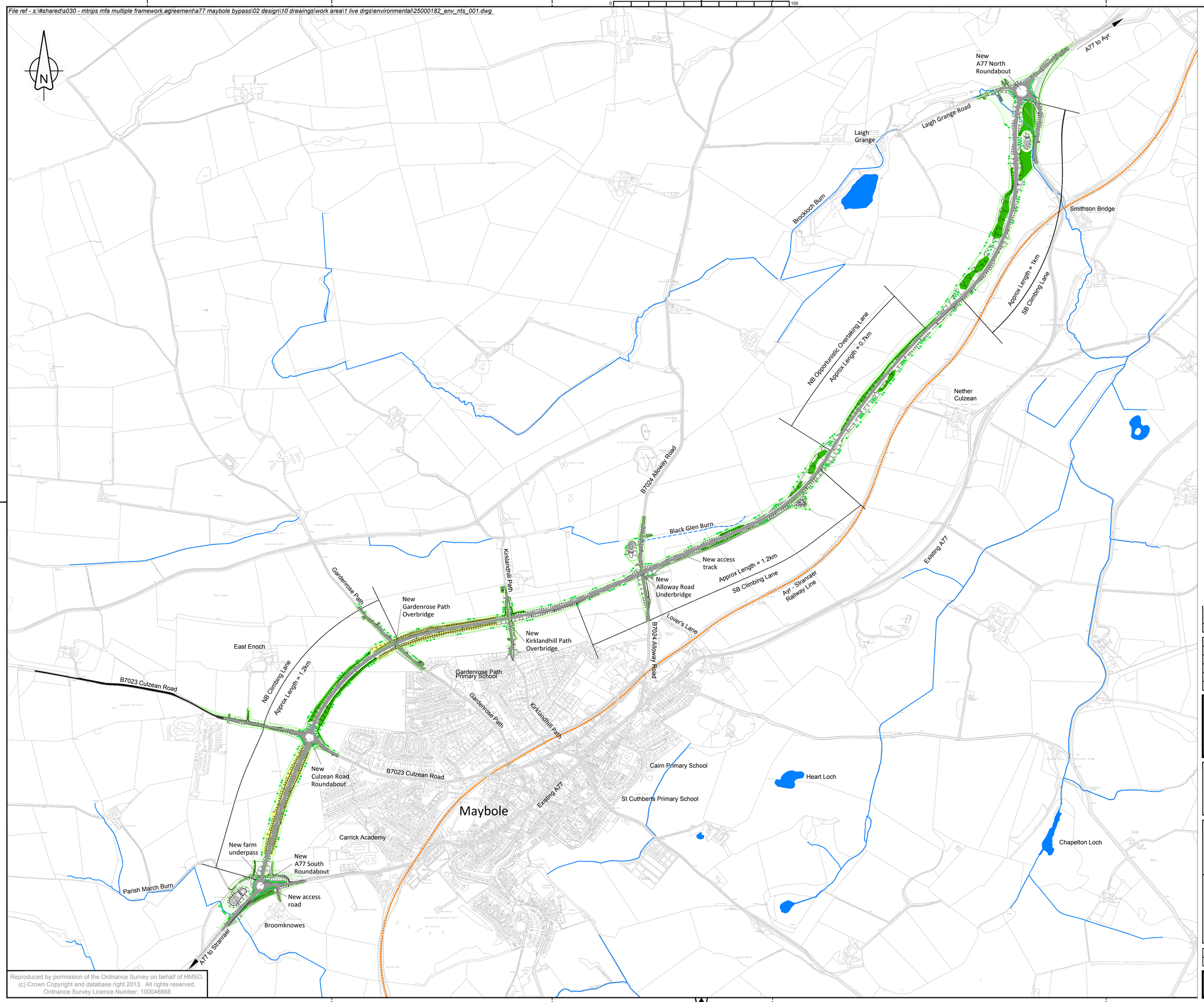
Drawing No. 25000182/ENV/NTS/001

Drawing No. 25000182/ENV/NTS/002

Drawing No. 25000182/ENV/NTS/003

File ref - s:\#shared\s030 - mtrips mfa multiple framework agreement\a77 maybole bypass\02 design\10 drawings\work area\1 live drgs\environmental\25000182_env_nts_001.dwg

0 100



KEY

- New Carriageway
- Existing Carriageway
- Ayr to Stranraer Railway Line
- Specimen trees
- Woodland planting
- Grass &/or wildflower areas
- Rock Cutting
- Drainage Pond
- Water Feature (River, burn, loch,pond, watercourse)
- Route Alignment on embankment
- Route Alignment in cutting

Rev	Revision details	Chkd	Appd	Date

Drawn:	ER	Preliminary	
Design:	MR	For comment	✓
Chkd:	GM	For tender	
Appd:	GM	For construction	
Date:	18/11/2013	As constructed	
		Other	

amey
www.amey.co.uk

Client
TRANSPORT SCOTLAND

Project Name
A77 Maybole Bypass

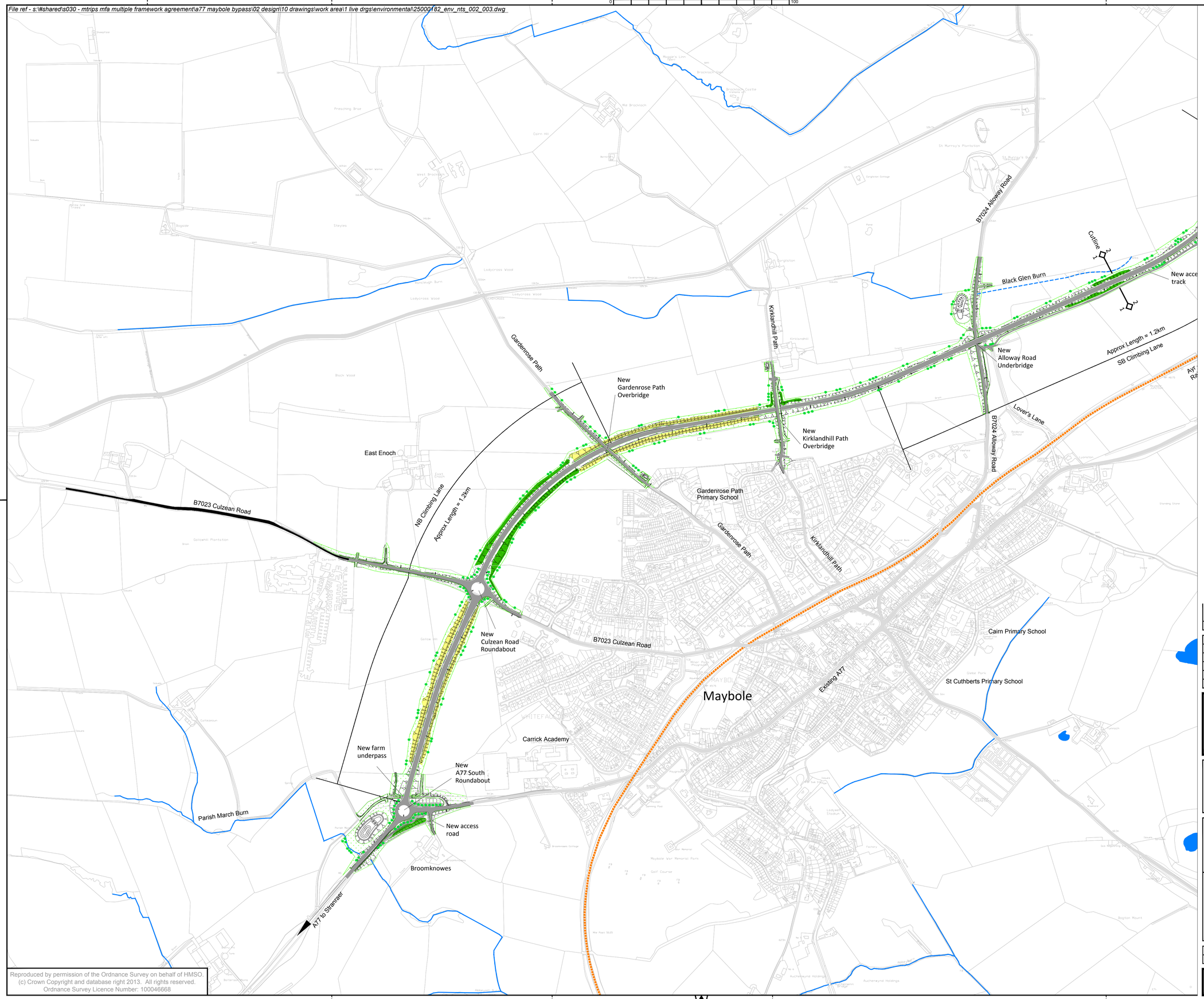
Drawing Title
Proposed Scheme

Original Drawing Size : A1	Dimensions : m
Scale : 1:7500	Copyright © Amey

Drawing No	Rev
25000182/ENV/NTS/001	0

File ref - s:\#shared\s030 - mtrips mfa multiple framework agreement\a77 maybole bypass\02 design\10 drawings\work area\1 live drgs\environmental\25000182_env_nts_002_003.dwg

0 100



KEY

- New Carriageway
- Existing Carriageway
- Ayr to Stranraer Railway Line
- Specimen trees
- Woodland planting
- Grass &/or wildflower areas
- Rock Cutting
- Drainage Pond
- Water Feature (River, burn, loch,pond, watercourse)
- Route Alignment on embankment
- Route Alignment in cutting

Rev	Revision details	Chkd	Appd	Date

Drawn:	ER	Preliminary	
Design:	MR	For comment	✓
Chkd:	GM	For tender	
Appd:	GM	For construction	
Date:	18/11/2013	As constructed	
		Other	

amey
www.amey.co.uk

Client
TRANSPORT SCOTLAND

Project Name
A77 Maybole Bypass

Drawing Title
Proposed Scheme - enlarged view
Sheet 1 of 2

Original Drawing Size : A1	Dimensions : m
Scale : 1:5000	Copyright © Amey

Drawing No	Rev
25000182/ENV/NTS/002	0

File ref - s:\#shared\s030 - mtrips mfa multiple framework agreement\a77 maybole bypass\02 design\10 drawings\work area\1 live drgs\environmental\25000182_env_nts_002_003.dwg

0 100

New A77 North Roundabout

A77 to Ayr

Laigh Grange

Laigh Grange Road

Brookloch Burn

Smithson Bridge

Approx Length = 1km

SB Climbing Lane

NB Opportunistic Overtaking Lane

Approx Length = 0.7km

Nether Culzean

B7024 Alloway Road

Cutline 1 2

Black Glen Burn

New access track

Kirklandhill Path

New Alloway Road Underbridge

Approx Length = 1.2km

SB Climbing Lane

Ayr - Stranraer Railway Line

New Gardenrose Path Overbridge

New Kirklandhill Path Overbridge

Lover's Lane

B7024 Alloway Road

Existing A77

KEY

- New Carriageway
- Existing Carriageway
- Ayr to Stranraer Railway Line
- Specimen trees
- Woodland planting
- Grass &/or wildflower areas
- Rock Cutting
- Drainage Pond
- Water Feature (River, burn, loch,pond, watercourse)
- Route Alignment on embankment
- Route Alignment in cutting

Rev	Revision details	Chkd	Appd	Date

Drawn: ER		Preliminary	
Design: MR		For comment	✓
Chkd: GM		For tender	
Appd: GM		For construction	
Date: 18/11/2013		As constructed	
		Other	

amey
www.amey.co.uk

Client
TRANSPORT SCOTLAND

Project Name
A77 Maybole Bypass

Drawing Title
Proposed Scheme - enlarged view
Sheet 2 of 2

Original Drawing Size : A1	Dimensions : m
Scale : 1:5000	Copyright © Amey

Drawing No	Rev
25000182/ENV/NTS/003	0

Amey is one of the UK's leading support service partners. As part of Ferrovial, one of Europe's largest infrastructure and services groups, Amey specialises in the outsourcing of sustainable business solutions for clients across the local government, transport, education, health and defence sectors.

Amey. A passion for the very best service, delivered through the very best people.

You can find more information on what we do, the way we do business and who we work with at www.amey.co.uk.

INVESTOR IN PEOPLE

Business in the Community COMPANIES THAT COUNT 2007
in association with THE SUNDAY TIMES

Certificate No. FS 69152

OHSAS 180 01
Certificate No. OHS 86203

Certificate No. EMS 69153

Amey UK plc. Registered office address:
The Sherard Building, Edmund Halley Road, Oxford OX4 4DQ

Head office and principal place of business:
Serrano Galvache, 56 Edificio Madroño, 28033 Madrid, Spain

Company No. 4736639, registered in England and Wales.

Part of Ferrovial

ferrovial