



A68 Soutra South to Oxton Road Improvement Scheme

ENVIRONMENTAL STATEMENT

NON-TECHNICAL SUMMARY

AUGUST 2008



**A68 Soutra South to Oxton
Road Improvement Scheme**

**STAGE 3 ENVIRONMENTAL
STATEMENT**

NON-TECHNICAL SUMMARY

**Multiple Framework Agreement 2003/1
For Scottish Trunk Road Schemes
Preparation**

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Transport Scotland

Prepared by
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1 Introduction

1.1 Background to Scheme

The A68 trunk road is one of the main transport routes extending southwards from the outskirts of Edinburgh to Darlington, passing through Midlothian, the Scottish Borders, Northumberland, Durham and Newcastle upon Tyne. The Scottish section is approximately 95 km in length. The A68 is largely a two-lane single carriageway and carries long-distance traffic from the North East of England through the Scottish Borders to Edinburgh as an alternative to the A1. Various communities along the route rely on the A68 for communication and transport needs.

A Route Action Plan (RAP) for the A68 trunk road was completed by the Scottish Borders Council in 1996, on behalf of the Scottish Executive. The purpose of this study was to examine the potential for improvement of this trunk road in order to improve opportunities for overtaking, preventing traffic delays and frustration to drivers. Potential areas of improvement were subsequently identified in a Firm Strategy Report (FSR) produced in 1997. These RAPs identified sections of the trunk road where improvements could be made that would be the most effective and most enhancing.

These RAPs were also developed for other trunk road networks within Scotland, which then led to a review of these reports being completed by the Scottish Executive and an announcement was made in March 2003 that ten new road improvement schemes would be developed across Scotland. Two of these schemes arose from the A68 RAP, of which the A68 Soutra South to Oxton Road Improvement Scheme was one.

In August 2003, a team of transport and environmental consultants (Mouchel Parkman (MP; now Mouchel), Scottish Borders Council (SBC), Young Associates (Environmental Consultants) Ltd. (YA; now AMEC Earth and Environmental (UK) Ltd. (AMEC)) and SIAS) were commissioned to complete initial investigation, assessment and design of road improvement options. These options were then reviewed in line with current requirements (through completion of a Stage 1 (Route corridor study) and Stage 2 (identification of route options) Design Manual for Roads and Bridges (DMRB) Assessment) and consulted upon, resulting with the selection, by the Scottish Executive (now Transport Scotland (TS)) of a preferred scheme. The preferred scheme (as presented here) has then been subjected to more consultation and further detailed assessment (Stage 3) in order to meet with current legislative requirements.

For the more detailed Stage 3 assessment, TS confirmed that due to environmental interests within the preferred scheme extents, a formal Environmental Statement (ES) would need to be completed to meet with the requirements of the Environmental Impact Assessment (Scotland) Regulations 1999. AMEC, as Environmental Co-ordinator, has therefore undertaken the completion of an ES. The purpose of the ES is to inform the public, relevant Governmental and non-Governmental bodies and the Scottish Ministers of the likely environmental effects of the proposed scheme. The ES

includes information on the development of the scheme design and the route selection process, the relevant planning background and the existing environmental conditions along the proposed route. The ES also presents the results of specific studies and consultations undertaken to assess the potential environmental effects of the proposal, both negative and positive, and the measures that will be implemented to ensure that the potential negative impacts are avoided or minimised.

1.2 Purpose of the Non-technical Summary

An Environmental Impact Assessment (EIA) of the proposed scheme has been completed and an Environmental Statement (ES) has been published under Section 55A of the Roads (Scotland) Act (1984), as amended by Part III of the Environmental Impact Assessment (Scotland) Regulations (1999). The results of the EIA are fully published in the ES allowing all interested parties an opportunity to review the assessment and the proposed scheme. A public consultation period of 6 weeks follows the date of publication of the draft Road Orders and the accompanying ES to enable interested parties to present their views or comments to the Scottish Ministers before a decision is made.

This short report constitutes the non-technical summary (NTS) of the ES, which summarises the environmental impacts and presents the main findings in an easily understandable form using non-technical language. The information contained in the NTS is divided into four chapters; Chapter 1 comprises an introduction, Chapter 2 provides an overview of the proposed road scheme, while Chapter 3 contains a summary of the key issues arising from the ES process, focusing on the significance of the effects of the scheme and the main mitigation proposals, with Chapter 4 presenting the conclusions. As well as this separate report, the NTS is also bound into the front of the ES.

Copies of the Environmental Statement are available for viewing by the public and are on display at the following locations:

Transport Scotland
Major Transport Infrastructure Projects
Buchanan House
58 Port Dundas Road
Glasgow
G4 OHF

Scottish Borders Council
Technical Services
Newton St Boswells
Melrose
TD6 0SA

Leader Leisure Centre & Lauder Library
Old Causeway
East High Street
Lauder
TD2 6SX

The publication of the ES and draft Road Orders will be followed by a 6 week period (3 week period for the Compulsory Purchase Order) during which any person wishing to make representation regarding the proposed draft Orders and / or the ES should lodge it in writing to the following address:

Director MTRIPS
Transport Scotland
Major Transport Infrastructure Projects
Buchanan House
58 Port Dundas Road
Glasgow
G4 0HF

Electronic copies of the ES and the NTS are available for download at <http://www.transportscotland.gov.uk>. Printed copies of the ES will be available following publication at a cost of £50.00 from the above address. The ES will also be available in CD format at a cost of £10.00 each.

2 Scheme Description

2.1 Scheme Overview

The location of the A68 Soutra South to Oxton road improvement scheme is shown in Figure 1, with details of the preferred scheme illustrated in Figures 2a – 2c.

The preferred scheme extends from the bottom of the Soutra South climbing lane to the north end of the three-lane section of road (differential acceleration lane or DAL) at Carfraemill Roundabout and covers a length of approximately 2.15 km. The proposed improvement consists of a new section of three-lane carriageway, with two lanes travelling southwards between bottom of the Soutra South climbing lane and the Oxton junction (C84). There is also an extension of the existing three-lane carriageway, that has two lanes travelling northwards at Carfraemill Roundabout. This will be extended through to the Oxton junction (C84).

The improvements comprise of a widened and straightened carriageway with a configuration referred to as a WS2+1. An example of a WS2+1 configuration is present at Soutra Hill and involves the presence of two lanes in one direction allowing dedicated overtaking, while traffic travelling in the opposite direction is restrained from overtaking (as identified by the characteristic red-painted central area). The scheme is designed to meet with current design standards and fulfils the objective of providing dedicated overtaking opportunities for both northbound and southbound travellers.

The southbound overtaking will be approximately 1290m in length extending from the foot of Soutra Hill (approximately 450m northwest of the existing Carfrae (D47/5) and Kirktonhill (C83) junctions) to approximately 50m southeast of Riggsyde. A changeover section of 500m in length will then be provided to allow safe access to and from the C84 Oxton road. The northbound overtaking will be extended from the existing DAL at Carfraemill Roundabout to just south east of the C84 Oxton road junction, a distance of approximately 210 m (Figure 2c).

As part of this scheme, it is necessary to close up the existing D47/5 Carfrae junction with the southbound A68, however a new access road will be provided approximately 100m to the south of the existing junction in order to maintain access to the A68. The C83 Oxton junction at this location will also require to be closed to vehicles. Access to the A68 from the west side of the road would be via a new side road linking the C83 with the C84. In order to allow continued crossing of the A68 at this point by pedestrians, cyclists and equestrians, and improve safety, an underpass will be provided between the D47/5 Carfrae and the C83 Oxton junctions.

The Annfield Bridge will remain in place to avoid severe environmental damage to the Headshaw Burn. However it will need to be widened for the additional lane requirements and the bridge will therefore be extended adjacent to the southbound carriageway.

The existing private access to Riggsyde off the A68 will be closed off and a new means of access will be provided from new side road linking the C84 and C83 (Figures 2b and 2c). The new side road will provide access to vehicles from the A68 to the D8/5 Hartside & Threeburnfold road and the D1/5 Kirktonhill road without the need to travel through Oxton village. The construction of this new side road will include a new bridge structure across the Headshaw Burn.

All of the eleven existing farm access gates along the A68 will be closed off. Alternative means of access to these fields will be gained from new and existing field gates located on side roads, which will lead to new farm access tracks.

There are no lay-bys proposed as part of the scheme therefore all the existing lay-bys are to be closed off, with the exception of the emergency lay-by, which is located immediately south of the scheme. This lay-by is to remain.

It is anticipated that on the whole, conventional construction methods will be employed for the scheme. Specific structural details, including lengths, heights and widths of cuttings and embankments, type and dimension of watercourse crossings etc. will be developed during the detailed design stage. Appropriate environmental protection measures have and will be incorporated into the scheme design, construction and operational phases.

3 Environmental Impact Assessment

3.1 Introduction

As mention in Chapter 1, the development of the road design and alignment as assessed in this ES has occurred over three stages and time-periods:

- Stage 1 – update of the RAP, which involved a preliminary assessment and considered broadly defined improvement options. This was completed in May 2004.
- Stage 2 – involved the assessment of two route options and ultimately concluded with the selection of a preferred alignment. The assessment was completed in January 2005. The impacts, both positive and negative, of the route options were considered in terms of their likely effects on the properties and residents along the proposed routes and on a range of environmental issues. Following this assessment and similar assessments completed for engineering, economics and traffic flows, the then Scottish Executive decided in 2005 upon the most suitable option in terms of engineering, the environment and the economics.
- Stage 3 – the final stage in the assessment process involved the detailed examination of the potential negative and positive impacts of the preferred route option or scheme on the surrounding environment, including the preparation of this ES.

The Stage 3 environmental assessment involves several key stages. Firstly existing environmental conditions within the study area are established using a combination of desk-based research, consultations with appropriate organisations and fieldwork. This allows potential environmental constraints and on-site sensitivities to be identified so that the environmental assessment can focus on the issues of particular relevance to the scheme. Consultations with organisations are typically a critical part of this. Potential environmental impacts, positive and negative, are then identified and their significance assessed. For impacts that are considered to be adversely (negatively) significant, measures are developed to either avoid, reduce or offset (known as mitigation) the impact using generally well accepted practical techniques that will be implemented as part of the detailed design, construction or operation of the scheme.

3.2 Consultation

A comprehensive consultation exercise has been undertaken, with both statutory and non-statutory consultees, as part of the environmental impact assessment process. Statutory organisations include SBC, the SE / TS, Historic Scotland (HS), Scottish Natural Heritage (SNH) and the Scottish Environment Protection Agency (SEPA). Non-statutory consultees include organisations such as the British Horse Society,

Borders Bat Group, Tweed Foundation / River Tweed Commissioners, Royal Society for the Protection of Birds (RSPB), Scottish Wildlife Trust (SWT), Scottish Badgers (SB), Sustrans Scotland (SS) and the Cyclist Touring Club (CTC). Additional consultations have also been undertaken as part of the separate Engineering and Traffic and Economic assessments and include parties such as community councils, police and landowners.

Organisations were contacted by letter to inform them of the details of the proposed scheme and to seek any specific information that they may hold or any comments that they may have concerning the proposals. The information obtained helped to develop the alternative scheme options and also to select and assess the preferred scheme. As well as obtaining organisations' opinions associated with the development, the consultation process provided information about existing environmental conditions.

Key specific issues raised through the consultations related to the community effects associated with the closure of the C83 Kirktonhill junction, archaeology (or cultural heritage), the impacts upon the River Tweed Special Area of Conservation (SAC) with respect to pollution / ecology and the protection of woodland and use of semi-native species for landscape planting and seeding.

3.3 Air Quality

The air quality assessment for the proposed A68 road improvement was carried out in accordance with the requirements of the Design Manual for Roads and Bridges (DMRB), Volume 11, Section 3, Part 1.

The numbers of properties lying within 200 metres of the affected routes and receptors that will potentially be affected by the realignment and improvement of the A68 have been identified. A total of 99 sensitive receptors (all properties) were located within 200 metres of the proposed scheme (A68, C83, C84 and new side road).

Air pollutant concentrations relating to emissions from traffic on the new road were calculated for eight receptors that are most likely to be affected by the construction of the proposed scheme (The Shieling, Riggsyde, No.2 Station Road, Trostan, Leaderbank, The Row, Heathfield and Channelkirk Primary School). The concentrations were predicted for the opening year (2010) and the design year (2025). The results indicate that the scheme would have an insignificant impact on air quality at all receptor locations. All air pollutant concentrations were well below the national air quality standards for all assessments.

The overall change in NO₂ and PM₁₀ experienced at all 99 receptor locations identified within 200m of the affected route was also assessed for distances of 20, 70, 115 and 175 metres from the centreline of each road affected to identify whether there would be deterioration, no change or improvement in pollutant concentrations. The number of properties experiencing deterioration in air quality due to PM₁₀ increasing is predicted at four, with no change at 94 properties and improved air quality at one property. For

NO₂, four properties are predicted to experience deterioration while 47 will experience an improvement and 48 will experience no change. These changes (deterioration or improvement) are however slight and well below the national air quality standards and other recognised significance levels. They will therefore be insignificant.

A regional assessment of the change in emissions was also undertaken. The total emissions for NO₂ and PM₁₀ were found to increase between a do-minimum (no scheme improvement) to a do-something (completion of scheme improvement) scenario due to the scheme. Higher concentrations of carbon dioxide will also occur at this time due to an increase in traffic flow for the do-something scenario.

During construction of the new road, dust generation will be controlled through the use of standard mitigation measures and best practice. Environmental management proposals for the construction phase will be drawn up by the contractors, to include mitigation measures, where required, such as watering of road surfaces, stockpile areas located away from sensitive areas and residential properties, imposition of speed limits, use of wheel washes etc. This will ensure that air quality impacts occurring during the construction phase are minimised.

3.4 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 two Scheduled Ancient Monuments (SAMs) within the immediate vicinity of the scheme, both of which are considered to be of national value. There is one listed building within the vicinity of the scheme, namely the Justicehall House / Courtroom, a B-Listed building (of regional value) located within Oxton, approximately 320m from the scheme. Eighteen other unscheduled / unlisted sites (not protected by law) are located in the vicinity of the scheme and their value is classed as of local to negligible importance.

Impacts upon archaeological features have primarily been avoided by careful scheme alignment so as not to directly affect the location of designated sites of cultural heritage. The scheme comprises mainly of on-line widening along the existing A68 route.

One significant impact has been identified and this is related to the potential to find archaeological features that have not yet been discovered or recorded that may be present within the vicinity of the existing road or along the line of the new access tracks / junctions. These features may be disturbed / damaged / lost by the scheme. New sites may also be uncovered as a consequence of the route re-alignment, therefore adding to the archaeological information for the area.

No other impacts on any of the SAM's, the listed building or the unscheduled/unlisted features have been identified.

HS have outlined their acceptance of the scheme on the condition that in terms of potential effects on unrecorded archaeology, a programme of field evaluation and possible follow-up excavations will be carried out in areas of on-line widening and of new side road and access track / junction. The extent of this programme will be determined by HS in consultation with TS. Any 'Special Requirements' required by HS will also be implemented during construction, through contractual documents.

3.5 Land Use

The vast majority of land within the survey area is under agricultural use comprising areas of improved grassland used or let for grazing. Post and wire fencing or run-down hedgerows mark the boundaries of the farmland. There are two areas of private, non-agricultural land, namely land associated with the property of Riggysyde and the area referred to as Henry's Wood. There is no community land, proposed development land, commercial forestry land or waterways within the road improvement area.

The main effect of the scheme on land use is the loss of non-prime agricultural land and the increased severance of fields associated with two farm holdings, although it is anticipated that the viability of these affected farms would not be significantly affected in the long term. Discussions are currently taking place with the relevant landowners in terms of arranging different access routes and field accesses (referred to as 'Accommodation Works'). Measures will be put in place to reduce the amount of agricultural land lost to the road improvements and disturbed areas restored wherever possible.

Widening of the A68 will result in the loss of approximately 5.6 ha of agricultural land classified as grade 4₁ and 4₂ (medium value). In comparison to the amount of surrounding medium quality agricultural land, this is a relatively small area of land, which is in close proximity to the existing A68.

Carfrae Farm is located mainly on the east side of the A68 but has a single field on the west side. The area of this field is approximately 7.8 ha, which is a small percentage of the total area of the farm. At present this field is in set-a-side but it has in the past been used for grazing sheep. Thus, stock movements across the trunk road to this field using field access gates are sometimes required. The farmer considers that stock transfer is becoming harder due to increasing traffic numbers and he tends to move stock very early in the morning. There is therefore a degree of severance at present. It is proposed as part of the scheme to stop up all field accesses onto the A68. The field will therefore be further severed from the main farm. However, it is proposed that the new side road will provide alternative access to this field, which will be much safer for the stock / farmer and vehicles.

The proposed re-positioning of the D47/5 junction and the widening of the A68 will also result in Carfrae Farm losing land to the east of the existing D47/5. This land is currently used for grazing sheep and the field is approximately 8.66 ha. After

completion of the works this field will be reduced by 13.3%. The re-positioning of the D47/5 will also result in the severance of access from the field to Headshaw Burn. This will prevent the farmer from allowing livestock access to a water supply. The small pocket of land between the re-positioned D47/5 and Headshaw Burn will be too small for the farmer to use so will be purchased by TS for landscaping purposes.

Netherhowden Farm is located mainly on the west side of the A68. It has however a number of fields on the east side. These fields are used for grazing sheep and cattle. Stock is moved across the trunk road around 10 times a year. The farm access gates are located within the existing three lane section of road (DAL) associated with Carfraemill Roundabout and as such this operation can only be carried out in the early morning when traffic flows are light. There is therefore a degree of severance for this farm. As part of the scheme these field accesses onto the A68 will be stopped up. Due to the surrounding topography it is not practicable to provide an underpass and it is also not feasible to consider purchasing the land to the east of the A68 because of the large area involved. New access will therefore be required.

The existing access to the only private property within the scheme boundary, Riggsyde, will be stopped up as part of the scheme. Access will be from the new side road linking the C84 and C83 (Figure 2b). There will be some loss of land associated with this new side road and access track. There will also be a loss of land associated with the online widening of the A68 in the field to the south east of the property. In total the area of land associated with the property will be reduced by 1.15 ha and thus fall from 3.19 to 2.04 ha.

Mitigation measures to reduce the impacts of the proposed scheme upon the various land uses of the study area include the following:

- Minimisation of land-take where possible;
- Re-use of excavated agricultural soils in landscape mitigation;
- Restoration of disturbed areas to original use wherever possible; and
- Compensation for the loss of land and the relocation of existing access arrangements.

Other measures to be agreed upon as part of Accommodation Works that may reduce impacts may include: (please note that the following measures are subject to the necessary agreements and approvals being obtained from the affected landowners/occupiers)

- Provision of water troughs in fields to the east of the existing D47/5 for Carfrae Farm, in the field between the C83 and the Headshaw Burn for Kirktonhill Farm and in the fields forming part of Riggsyde;

- Provision of access tracks to provide access to fields previously accessed directly off A68; and
- Provision of stock holding pens to facilitate the movement of stock across the A68 for Carfrae and Netherhowden Farms.

3.6 Ecology and Nature Conservation

The main interest within the vicinity of the proposed scheme is the Headshaw Burn, which forms part of the River Tweed Special Area of Conservation (SAC) / Site of Special Scientific Interest (SSSI) and is designated due to its salmon, otter and plant communities. Due to the required extension of the Annfield Bridge and a new side road bridge crossing the Headshaw Burn, there may potentially be temporary impacts upon water quality, fish populations and otter passage. Surveys were carried out for various protected species including bats, badgers (*Meles meles*), red squirrel (*Sciurus vulgaris*), otters (*Lutra lutra*), water vole (*Arvicola terrestris*) and botanical flora.

Otter and badger are both present within the vicinity of the scheme and appropriate mitigation has been consulted upon with SNH. No evidence of water vole, red squirrel or bat was recorded in or around the areas affected by the scheme.

Significant impacts upon ecology include disturbance / damage to the Headshaw Burn and the River Tweed SAC / SSSI, disturbance to otters and badgers and a reduction in water quality / increase in water pollution.

In order to reduce these impacts, ecologists will provide a Construction Method Statement for the Annfield Bridge widening, the Headshaw Burn bridge and advice on site landscaping, to ensure that opportunities are taken to maximise the ecological value of new habitats created by the proposals. This is being developed in consultation with SEPA and SNH.

In order to avoid possible increases in mammal road casualties and potentially reduce current levels of road kills, mammal fencing will be located at known hotspots to guide mammals to crossing facilities (mammal ledge and an underpass) to allow safe passage of otter and badger across the A68. Fish passage will also be enhanced where possible e.g. improvements for lamprey within the Annfield Bridge.

Construction works will be timed to avoid sensitive times of the year e.g. otter breeding, bird breeding and fish spawning / migration and pre-construction protected species surveys / pre-vegetation clearance breeding bird checks will be completed prior to the start of the construction phase. Vegetation clearance will be completed out with the bird breeding season (March to August) as far as possible. All works will be carried out in accordance with the requirements of SNH, SEPA and other relevant bodies such as the Scottish Government and the Tweed Foundation. Through applying these measures all impacts can be reduced to insignificant levels.

3.7 Landscape Effects

The landscape and visual impact of the proposed scheme has been assessed taking into account the proposed mitigation in the winter, fifteen years following the scheme opening. The assessment indicates that appropriate mitigation measures will reduce the significance of the landscape impact of the scheme to negligible and therefore not significant overall.

The only designated landscape site in the area is the Lammermuir Hills Area of Great Landscape Value (AGLV). This is located on the Lammermuir Hills and is 700m away from the A68 road at its closest point. There are two areas of woodland along this part of the A68 route corridor. There is the mature mixed plantation woodland east of the road. This belt runs along the ridge east of the road, wrapping round the hill above the Shieling, with spurs running down the hill. There is also Henry's Wood which is a small area of immature mixed hardwood planting adjacent to the A68 at the north end of the proposed scheme. This was planted in 1993 sometime after the construction of the climbing lane on the A68. The study area is within the Upland Valley with Farmland Landscape Character Type as defined in SNH Borders Landscape Character Assessment Report.

The A68 north and south of the Carfraemill roundabout has been planted with an avenue of lime trees, which is a noticeable feature in the immediate landscape. Beyond this, in the study area the road is currently bounded by post and wire fencing with the remains of a hawthorn hedge for the remaining length north of the avenue.

The scheme will have some landscape impact in terms of loss of existing hedgerow at its southern end, and also in terms of the embankments required to support the carriageway on either side. However the proposed scheme includes relocating the D47/5 Carfrae junction around 100 metres to the south and as such there is an opportunity for additional planting between the burn and the new D47/5 Carfrae junction. The new side road and access to Riggsyde follows the line of an existing hedgerow, and therefore fits with the existing lines of the landscape.

To address these impacts landscaping will be incorporated into the scheme design so as to preserve the landscape character and to seek opportunities for biological and landscape enhancement. This will include grading of embankments and cuttings, seeding of verges, grass / wildflower seeding, woodland / shrub planting, planting of hedgerows etc. It is anticipated that this will make a rapid and progressive contribution to integrating the road improvement into the landscape. Adverse effects on the landscape due to the improvement scheme will therefore be reduced as landscaping matures.

Visual amenity is defined as the pleasantness of the view or outlook of an identified receptor or group of receptors. The visual impact assessment determines the degree of anticipated change to visual amenity that would occur as a result of the proposed

scheme to buildings, areas of public open space, roads and footpaths. The buildings, open spaces, roads and footpaths that would yield views of the road development are collectively referred to as 'receptors'.

Visual receptors relating to the scheme comprise the residential properties on the east side of the village of Oxton. The dwellings potentially most affected are Howden Mill, Redstone Lodge, The Granary, No 2 Station Road and Leaderbank. A further property, Riggsyde, is situated immediately adjacent to the A68, with access to the property directly from the main road. This is at present badly affected by the trunk road because it is so close to it.

Headshaw Farm is positioned on the side of the hill to the north of the scheme, looking south down the valley. The scheme could be visible from the Shieling to the north of the A68, but trees, which provide screening from the road, surround this property.

The village of Oxton sits on a bank to the west of the Leader Water. The houses on the east of the village therefore look directly across the valley towards the A68. Those identified above have windows or direct views to the road because of their orientation.

In conclusion the existing adverse impact of the road in the area will not be significantly changed by the scheme, but there will be an opportunity to increase visual amenity and biodiversity by improving the hedgerows through planting enhancements.

3.8 Traffic Noise and Vibration

The Noise Insulation (Scotland) Regulations 1975 and the Memorandum on the Noise Insulation (Scotland) Regulations, 1975 stipulate amongst other criteria that residential properties are considered to be entitled to insulation against road traffic noise if the highway causes, or is expected to cause, noise at a level not less than 68dB(A).

A total of 12 sensitive receptors / properties have been identified as present within 300m of the proposed scheme (A68 and new side road), which may be impacted upon by traffic noise and vibration. Receptors especially sensitive comprise Riggsyde and The Shieling properties, adjacent to the A68.

Noise monitoring was undertaken during June 2008 to record existing ambient noise levels at Riggsyde, The Shieling and two other properties representative of the 10 sensitive receptors present within 300 metres of the new side road / C84 junction. These two properties were Trostan and Howden Mill. Monitoring determined that the main noise source was from the traffic using the existing A68.

A noise and nuisance assessment was then undertaken to predict the noise levels that would be experienced during both the opening year (2010) and the design year (2025) for the scheme. These predictions were made for both 'do minimum' (no road improvement scheme) and 'do something' (with road improvement scheme) scenarios.

It has not been possible to calculate noise levels using CTRN methodology for the new side road due to the low flows of traffic that will use this road. However, as noise monitoring has indicated that the dominant noise source is from the A68 and this will remain the situation if the road improvement works is carried out, the calculations for the A68 are considered to provide an accurate prediction for future noise levels, with the new side road making little difference to the overall levels.

The noise assessment results show that predicted noise levels will increase at all 12 of the properties, apart from Riggsyde, by < 1 dB(A) for the 2025 'do something' scenario. This slight increase is within the acceptance criteria identified through legislation and therefore is considered to be imperceptible. No noise mitigation is required for these properties.

The noise levels at all of the 12 receptors, apart from Riggsyde, are predicted to be below 58 dB(A). Traffic induced airborne vibration caused by vehicle engines and exhausts is expected to affect a very small percentage of people at exposure levels below 58 dB(A) and therefore zero percent of people will be bothered very much or quite a lot by vibration. Noise levels predicted at the Riggsyde property indicate ambient noise levels above 58 dB(A), although a reduction in noise levels of < 1 dB(A) is predicted. As a slight beneficial change may occur, it has not been considered necessary to assess vibration or vibration nuisance for this property.

The reduction in noise levels at the Riggsyde property (predicted to be less than 1 dB(A)) will cause a slight reduction in the percentage of people bothered by airborne vibration (reduction of 2% from 37% to 35%).

3.9 Pedestrians, Cyclists, Equestrians and Community Effects

No significant adverse impacts with respect to journey length and travel patterns for pedestrians, cyclists or equestrian users have been identified. Therefore, no specific mitigation measures are required. However, the scheme will include a pedestrian / cyclist / equestrian underpass that will ensure that there is no severance for these users and provide a safer route beneath the trunk road. The inclusion of the underpass will provide benefits to pedestrians and others. The underpass will also become an important section of the larger cycle network when it is implemented.

No significant adverse impacts with respect to community use have been identified. Therefore, no specific mitigation measures are required.

With the stopping up of any junction or access, the issue of increased vehicle journey lengths and times must be considered. The C83 Kirktonhill junction is to be stopped up and journey times will increase in certain instances. Measures to reduce or mitigate against an increase in journey times will include the creation of a new side road linking the C83 and C84 so that vehicles do not have to travel through the village of Oxton.

To mitigate the increased severance created by the proposed stopping up of all

existing field gates and private accesses, alternative access arrangements in the form of new access points, access tracks and stock holding pens, are proposed. These measures will maintain access and facilitate the movement of stock by vehicle and thus reduce the degree of severance. Many of these measures will be provided as part of the accommodation works for the affected landowners, therefore their implementation is dependant on the agreement of the relevant parties.

3.10 Vehicle Travellers

The assessment of the scheme in terms of its effects on the quality of driving conditions for vehicle travellers includes the changes to the views from the road and effects of the scheme on driver stress.

'View from the road' is defined as the extent to which vehicle travellers, particularly drivers, are exposed to the different types of scenery through which a route passes.

'Driver stress' relates to three main components; frustration, fear of potential accidents and uncertainty relating to the route being followed.

Views from the road will mainly be impacted upon during the construction phase and immediately after construction due to on-site plant and construction activities. This is unavoidable but will be mitigated against with measures such as minimisation of disturbed areas as far as possible, appropriate fencing or lighting and adequate signage. The existing terrain will restrict disturbance involving cuttings and as most of the scheme is on-line, views will remain much as they currently are. Views from the re-positioned D47/5 road will open up views to the traveller. In the long-term, the views will be enhanced.

Along with landscaping, the following measures are also likely to benefit views from the new road:

- Appropriate earthworks - Minimal cut / fill slopes where practicable.
- Appropriate seeding and landscaping of earthworks to reflect surrounding vegetation.
- Replacement and additional planting of hedgerows and roadside vegetation and the establishment of tree screens where appropriate.
- Replacement planting of mature trees lost to the scheme.

Once the landscaping measures have had time to establish they will assist in reducing the impact of the proposed scheme in terms of views from the road.

In terms of driver stress, this will be reduced due to the increased opportunity to overtake and lowering of frustration from less encountering of traffic platoons / slow

moving vehicles. Improved junctions and sight lines will also be beneficial.

With respect to potential accidents, the additional carriageway width will provide more space and reduce the risk of accidents from dangerous overtaking or driver stress. In addition, closure / re-alignment of minor junctions and improved sight lines from the straightening of the road will help lower the number of accidents that occur.

The scheme is designed to provide safe, dedicated overtaking opportunities in both directions along this section of the A68. Also, improved signage like possible advance notification for overtaking sections, changeover sections and junctions along with clear road markings will significantly reduce of driver stress and therefore no further mitigation measures are proposed.

3.11 Road Drainage and the Water Environment

The main watercourse within the vicinity of the proposed scheme is the Headshaw Burn, with the Leader Water and Mountmill Burn also being present in the surrounding area. These watercourses are tributaries of the River Tweed and part of the River Tweed SAC / SSSI. They are classed as having a high water quality. With respect to groundwater, site investigations have shown that the groundwater varies between 0m and 5.8m below ground level.

Existing road drainage is present along both sides of the A68, which either drains into the Headshaw Burn and Leader Water directly or drains into surrounding fields and possibly eventually into the Leader Water. With the scheme improvements, better drainage facilities are planned by using filter drains, a filtering ditch (called a swale), a reed bed and a settlement pond. This would protect the existing high water quality and in fact may be beneficial in the long term, especially if there are accidental spillage incidents.

For the extension of Annfield Bridge, special methods will be used so as to limit the disturbance to the Headshaw Burn and the construction works will be completed at a suitable time of the year in order to reduce any disturbance or damage to fish and otters due to temporary sediment pollution / changes in bed condition. This work is being carried out in association with the local fisheries interests, SNH and SEPA and the detailed methods to be used are set out within a separate Construction Method Statement, which the site Contractor will have to apply.

Flooding is known to occur to the north of the Annfield Bridge and it does often affect the A68. The new scheme comprises the creation of earthwork embankments for the realigned D47/5. This will serve to retain any flood water and prevent it running across the A68. There is also a floodplain to the south of the Annfield Bridge extending from the bridge south to Carfraemill. This floodplain is located between the Leader Water / Headshaw Burn and the existing A68, within agricultural land. The new side road will

be located on the eastern edge of the flood plain but is unlikely to have any impact upon existing flooding patterns or frequencies.

No other significant water quality and drainage impacts are predicted, however best practice will be adhered to so that run-off from the new road and side road is treated before being discharged to nearby watercourses, i.e. through the incorporation of the new road drainage system. The 'Special Requirements in Relation to the Scottish Environment Protection Agency' regarding Controlled Waters will be strictly adhered to during both construction and operational phases along with Pollution Prevention Guidance Notes issued by SEPA. Additional mitigation measures will include: adequate storage of on-site materials to prevent potentially contaminating spillage events; provision of temporary silt traps, containment bunds and storage reservoirs to prevent sediments entering local watercourses; clearly defined 'no access' areas adjacent to sensitive watercourses; and contingency procedures in case of emergencies.

3.12 Geology and Soils

Road schemes have the potential to impact upon the geology and soils of an area through direct and indirect impacts on sites of importance or scientific interest, loss or sterilisation of mineral deposits or soil resources, disturbance of contaminated land or surcharging of ground which may accelerate erosion and subsidence.

The proposed scheme will not impact on any sites of geological interest, mineral extraction locations or any known areas of contaminated land. No impact is predicted in relation to surcharging of ground.

The scheme will require the creation of earthwork embankments and cut slopes to allow a third lane to be created adjacent to the existing carriageway. Ground investigations have verified that a high proportion of the cut material will be suitable as fill.

The proposed earthworks are anticipated to result in a slight negative impact on the geological and soil conditions of the site through removal of existing soils and drift deposits and the deposition of fill material from out with the site area.

The only impact upon hydrogeology will be a very slight reduction in ground permeability caused by the construction of embankments on alluvial material.

The impact of excavated material generated through cutting activities will be reduced through the re-use of material on site and topsoil will be stripped and reused for landscaping purposes. On-site storage of soil will require to be appropriately protected from the weather and should not be stored for prolonged periods. The Contractor on site will undertake best practice to maximise the re-use of materials.

It will not be possible to achieve an earthwork balance for the proposed scheme and the requirement for imported material may have a slight adverse impact on the geology of the area.

Any imported soil should be from local sources where possible.

3.13 Policies and Plans

An appraisal of the strategic and local planning context relating to the proposed scheme was carried out to identify any potential planning constraints associated with the preferred road improvement scheme.

Although a Structure Plan Alteration is currently undergoing consultation / final approval (which may lead to re-evaluation of the housing land policies in light of future projected growth in the Scottish Borders), one consequence of the current Structure Plan development strategy is that there will be a presumption against substantial residential development in communities on the fringes of Borders near Edinburgh, such as Oxton. Since January 2007 (until June 2008), there have been 41 planning applications submitted within the Oxton and Channelkirk Community Council area. Eight of these involve extension / improvement works to existing properties; 23 involve applications for new dwelling houses; two are for erection of stable blocks / agricultural buildings; three are for erection of garages; two are related to Dun Law wind farm; with the remaining three covering erection of a substation, a marquee at Carfrae Hotel and a change of building use. Under existing policy, future development within Oxton is only likely to extend as far as the occasional residential dwelling house, with the majority of development based around the Waverley rail line and other key areas of future growth (including new settlements).

The preferred scheme complies fully with current development planning policies and proposals and there are no overriding reasons in this respect why it cannot proceed. Taking other planning applications in to consideration, no cumulative impacts are anticipated either.

4 Conclusions

The proposed A68 WS2+1 scheme improvement will reduce journey times and driver stress while increasing traffic safety through the incorporation of dedicated overtaking opportunities in both southbound and northbound directions. Improved driver visibility will also result from the straightening and widening of the road and improved junctions will reduce the risk of road traffic accidents.

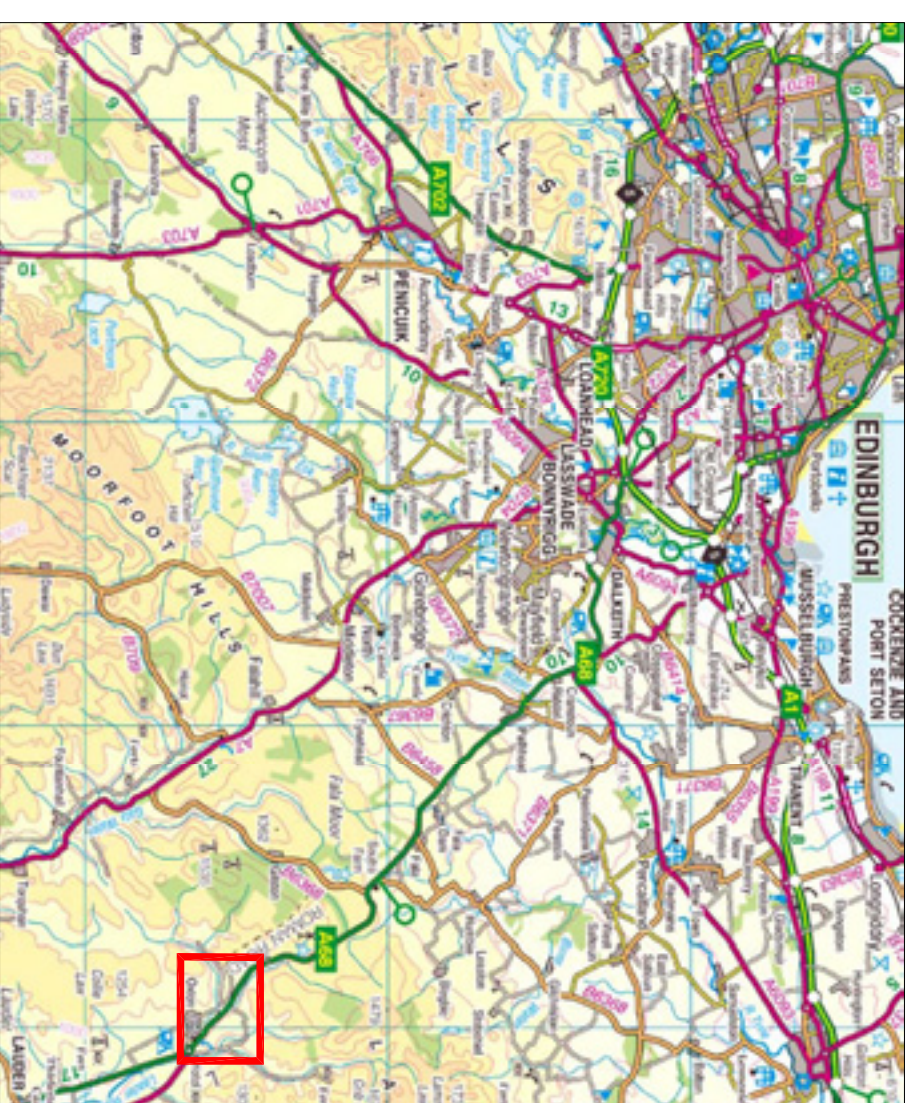
The design of the proposed scheme is the culmination of several years of feasibility studies, development and assessment of alternative options and of refining of the chosen alignment to ensure that all potential adverse impacts on the environment are minimised during design. Further reduction in impacts will be possible during construction of the scheme through the use of best practice and a range of specific mitigation measures.

The key areas raised by specific consultees and identified as the main issues are cultural heritage (archaeological evaluation / trial trenches), ecology (River Tweed SAC / SSSI and associated features of interest; habitat preservation and the protection of woodland), water quality (pollution during construction and degradation), geology and soils (importation of fill material) and community effects (particularly the closing of the C83 to Oxton). Following the environmental impact assessment it has been concluded that with the implementation of a comprehensive suite of mitigation measures designed to avoid or minimise potential impacts the proposed scheme will not have a permanent significant impact on any of the environmental topics assessed.

FIGURES

Figure 1. Scheme Location



Figure 1



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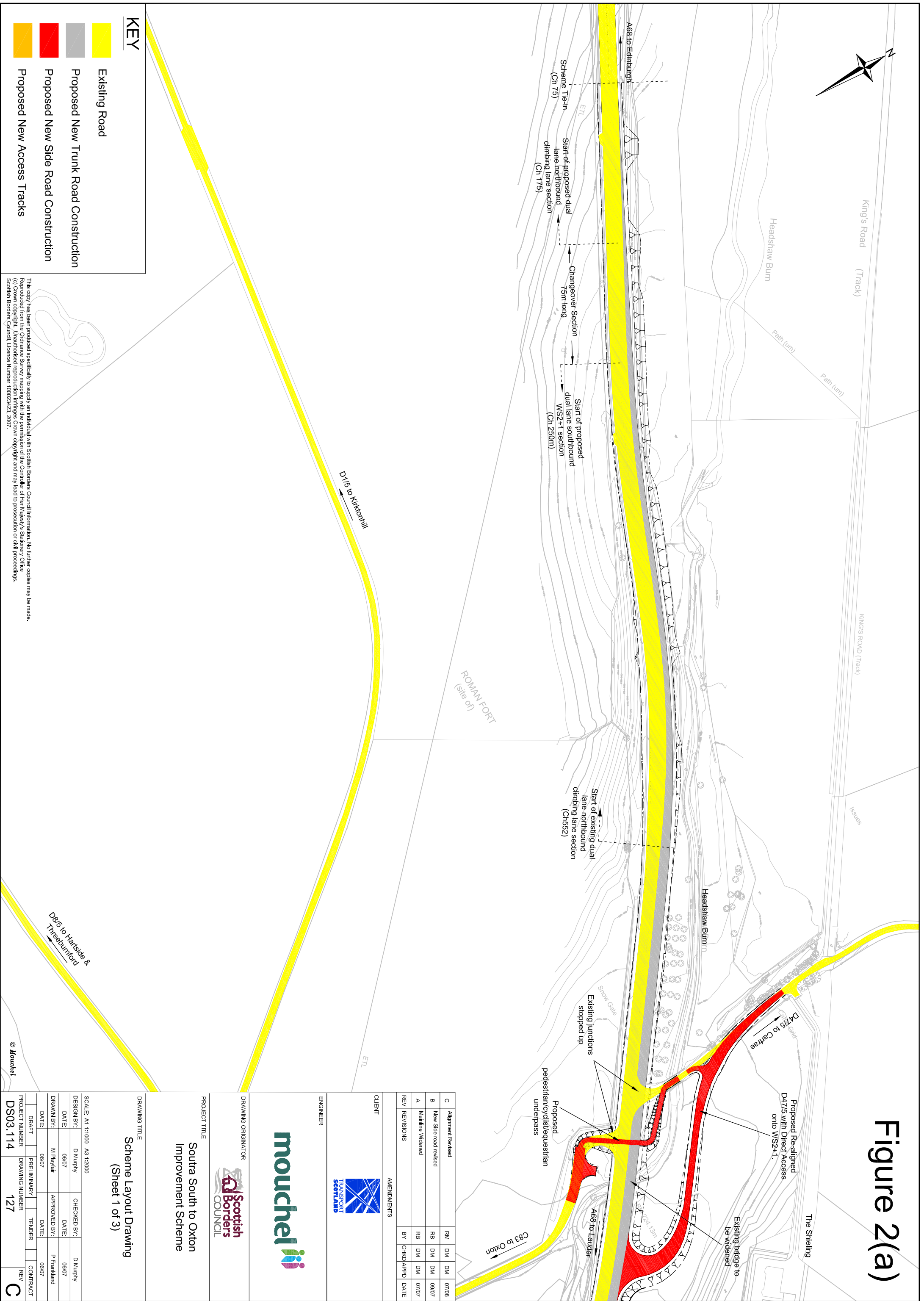


Scheme Extent

AMENDMENTS		PG	DM	PF	07/06
B	Location map amended	SP	DM	PF	12/05
A	Additional OS Tiles Added & Scheme Extents Amended	BY	CHKD	APPD	DATE
CLIENT					
ENGINEER					
 					
DRAWING ORIGINATOR					
PROJECT TITLE					
A68 Soutra South to Oxton Improvement Scheme					
DRAWING TITLE					
Location Plan					
SCALE: A1 1:10,000, A3 1:20,000					
DESIGN BY:	A Turnah	CHECKED BY:	A Sindair		
DATE:	03/03/04	DATE:	03/03/04		
DRAWN BY:	A Turnah	APPROVED BY:	WDC Green		
DATE:	03/03/04	DATE:	03/03/04		
DRAFT	<input checked="" type="checkbox"/> PRELIMINARY	TENDER	<input type="checkbox"/> CONTRACT		
PROJECT NUMBER	DS03.114	DRAWING NUMBER	01	REV	B

Figures 2a, b & c. Scheme Layout Drawing.

Figure 2(a)



KEY

- Existing Road
- Proposed New Trunk Road Construction
- Proposed New Side Road Construction
- Proposed New Access Tracks

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REV	REVISIONS	BY	CHKD	APPD	DATE
C	Alignment Revised	RM	DM	DM	07/08
B	New Side road revised	RB	DM	DM	09/07
A	Mainline Widened	RB	DM	DM	07/07

AMENDMENTS	BY	CHKD	APPD	DATE

CLIENT


ENGINEER

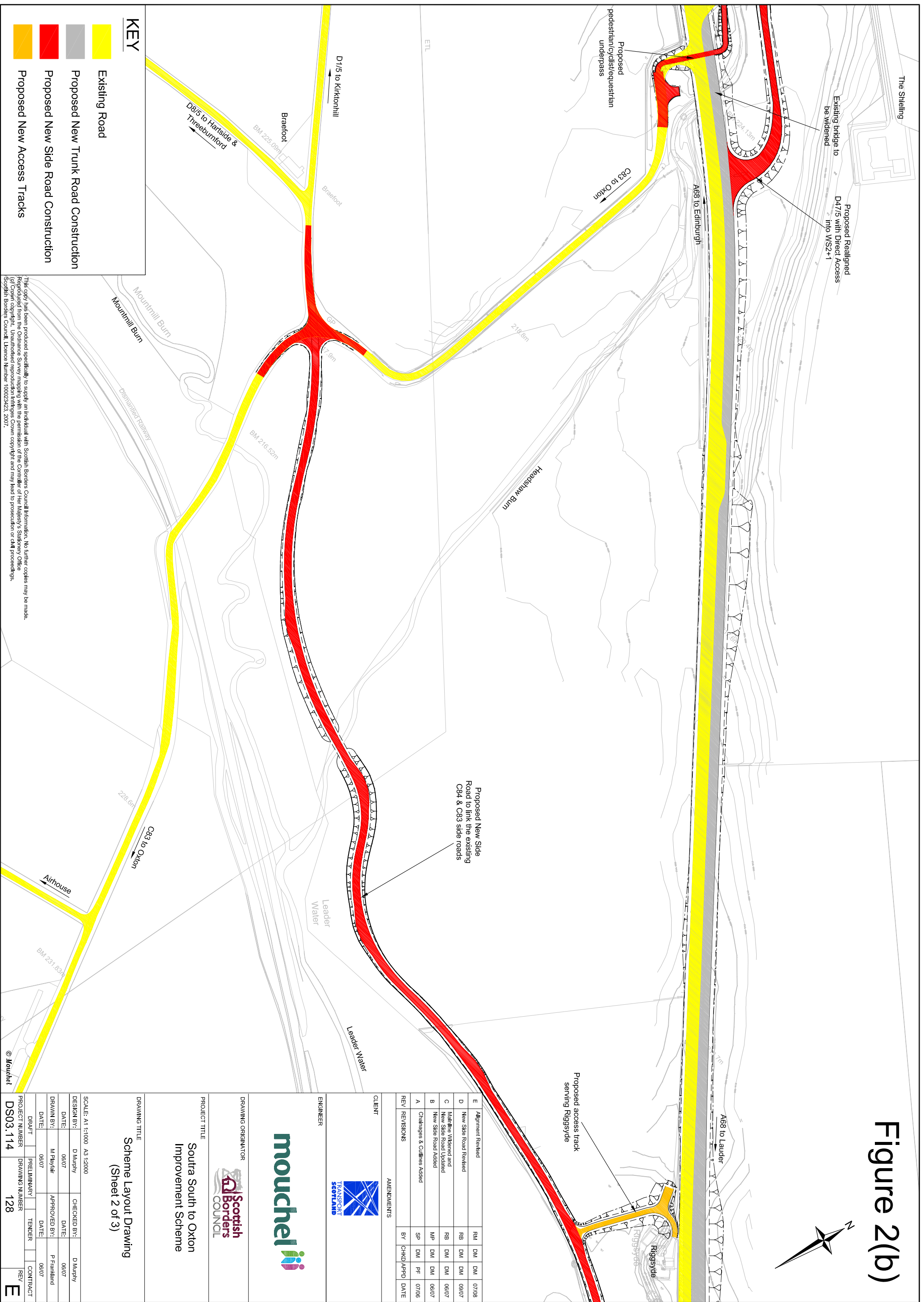
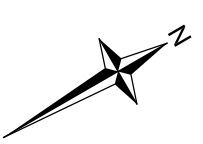

DRAWING ORIGINATOR


PROJECT TITLE
Soutra South to Oxton Improvement Scheme

DRAWING TITLE
Scheme Layout Drawing (Sheet 1 of 3)

SCALE: A1 1:1000 A3 1:2000	DESIGN BY: D Murphy	CHECKED BY: D Murphy
DATE: 08/07	DATE: 08/07	DATE: 08/07
DRAWN BY: M Playfair	APPROVED BY: P Frankland	DATE: 08/07
DATE: 08/07	DATE: 08/07	DATE: 08/07
DRAFT	PRELIMINARY	TENDER
PROJECT NUMBER DS03.114	DRAWING NUMBER 127	CONTRACT REV C

Figure 2(b)



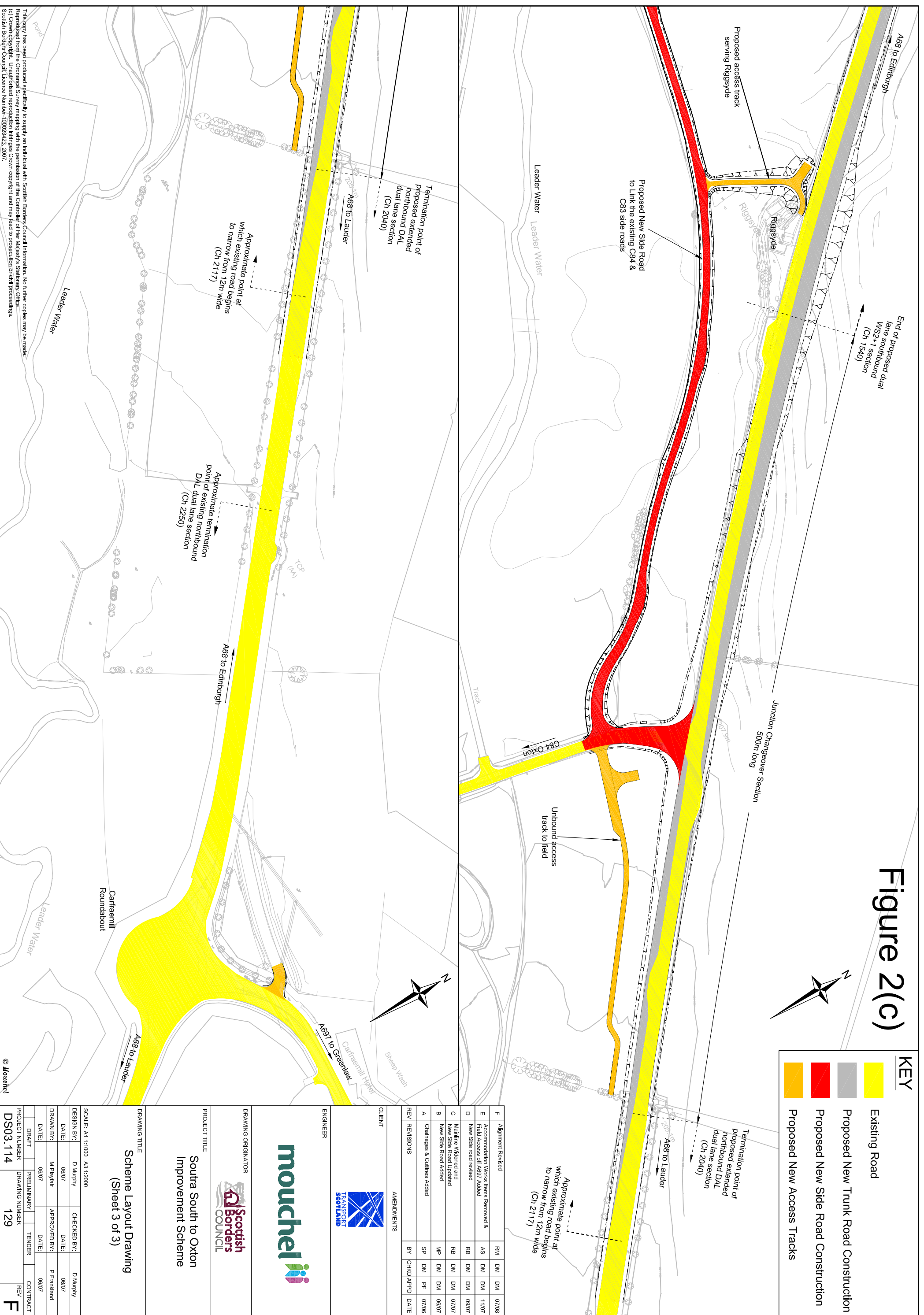
KEY

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DRAWN BY: M Playfair DATE: 06/07	APPROVED BY: P Frankland DATE: 06/07																																												
DRAFT PRELIMINARY	TENDER																																												

Figure 2(c)



KEY

- Existing Road
- Proposed New Trunk Road Construction
- Proposed New Side Road Construction
- Proposed New Access Tracks

AMENDMENTS

REV	REVISIONS	BY	CHKD	APPD	DATE
F	Alignment Revised	RM	DM	DM	07/08
E	Accommodation Works Items Removed & Field Access off A697 Added	AS	DM	DM	11/07
D	New Side road revised	RB	DM	DM	09/07
C	Mainline Widened and New Side Road Updated	RB	DM	DM	07/07
B	New Side Road Added	MP	DM	DM	06/07
A	Challenges & Cullins Added	SP	DM	PF	07/06

CLIENT

TRANSPORT SCOTLAND

ENGINEER

mouchel

Scottish Borders COUNCIL

PROJECT TITLE

Soutra South to Oxton Improvement Scheme

DRAWING TITLE

Scheme Layout Drawing (Sheet 3 of 3)

SCALE: A1 1:1000 A3 1:2000

DESIGN BY:	CHECKED BY:	DESIGN BY:	CHECKED BY:
D Murphy	D Murphy	D Murphy	D Murphy
DATE: 06/07	DATE: 06/07	DATE: 06/07	DATE: 06/07
DRAWN BY: M Poyall	APPROVED BY: P Frandland	DRAWN BY: M Poyall	APPROVED BY: P Frandland
DATE: 06/07	DATE: 06/07	DATE: 06/07	DATE: 06/07
DRAFT	PRELIMINARY	TENDER	CONTRACT
PROJECT NUMBER: DSO3.114	DRAWING NUMBER: 129	REV: F	

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