A303 ILMINSTER BYPASS DUALLING

ENVIRONMENTAL ASSESSMENT SCOPING REPORT

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1.0 INTRODUCTION

1.1 The purpose of this report is to identify the work required in order to carry out Environmental Assessment of the scheme. It is intended to outline the potential impacts of the scheme, identify what information is already established, make recommendations for studies and surveys, identify the area to be studied and outline the method of assessment.

1.2 The scope of the work is based on the requirements of the Design Manual for Roads and Bridges (DMRB) Volume 11 Environmental Assessment, and webTAG units appropriate to each environmental aspect (www.webtag.org.uk).

1.3 The scheme, which is shown on plans included at Appendix A, has been identified for development by the London to South Wales and the South West Multi Modal Study (SWARMMS), which was published in May 2002.

1.4 In order to accord with the requirements for 'Speeding Up Delivery' of Trunk Road Schemes environmental assessment is to be progressed as far as possible, as quickly as possible. It is likely that the scheme would be procured using an 'Early Contractor Involvement' (ECI) contract. The ECI Contractor would be required to undertake the DMRB Stage 3 Environmental Assessment and prepare the Environmental Statement. Thus the proposals contained in this report are broadly to carry-out and report an assessment to DMRB Stage 2 level but to collect data for Stage 3 assessments where possible. Where data collection identifies significant issues, judgement will be used to determine a course of action.

1.5 An Appraisal Summary Table (AST) has been produced by Parsons Brinckerhoff on behalf of the Highways Agency for the scheme. This was based on preliminary information and the Environmental Statement produced in the 1990's (see paragraph 2.1.1 below). Additional survey work undertaken during 2003 in preparation of a series of Background Environmental Reports was used to further refine the scheme AST. The latest issue of this dated 30th August 05 is appended to this report at Appendix B.

1.6 This report deals with the following topics detailed in DMRB Volume 11 identifying the assessment requirements for each separately: Air Quality, Cultural Heritage, Ecology and Nature Conservation, Landscape Effects, Land Use, Traffic Noise and Vibration, Pedestrians, Cyclists Equestrians and Other Community Effects, Water Quality and Drainage, and Vehicle Travellers.

1.7 The study area is to be determined by the specific information being obtained. However, in general it is defined by a consistent corridor of appropriate width either side of the existing carriageway as identified in the individual sections within this scoping report.

1.8 The current scheme is at a preliminary stage and as such many details are yet to be established. The level of detail of this report thus reflects this with potential impacts identified in broad terms or from historical information (see Section 2.0 below). Location and constraints mapping is being developed and will be included with the reporting of this assessment.

1.9 A separate Procurement Options Report is being compiled to investigate the options for procuring the A358 Ilminster to Taunton M5 and A303 Ilminster Bypass schemes. This procurement report will review the phasing of the construction works to be carried out on the A358 Improvement and so it is not appropriate to undertake an assessment of likely disruption during the construction phase at this stage until the procurement report is complete. An initial assessment of disruption due to construction was made in the draft Initial Scheme Assessment Report of October 2004. The report identifies the need for the Contractor to prepare "a Construction Environmental Management Plan to minimise any adverse effects of the construction works."

2.0 DETAILS OF SCHEME

2.1 Background to the Scheme

2.1.1 Improvement schemes for the A303/A30 Ilminster to Honiton have previously been designed and promoted. In the 1990s two schemes for the construction of an off-line dual carriageway were developed. These were for A303 Ilminster to Marsh and A303/A30 Marsh to Honiton and were taken to Public Inquiry in 1996. The Public Inquiry Inspector found in favour of the dual carriageways, however, the schemes were put on hold in the late 1990s along with others on the A303.

2.1.2 The London to South Wales and South West Multi Modal Study (SWARMMS), which was published in May 2002, recommended the improvement of the A303 route to the South West. This essentially proposed to upgrade the lengths of existing single carriageway to the east of Ilminster to dual carriageway. The study looked at the issues of this route to the west of Ilminster, that is, dualling of the A303/A30 from Ilminster to Honiton. Because the route is through the Blackdown Hills AONB SWARMMS considered the alternative improvement to the A358 between Ilminster and the M5 at Taunton. Since there is a policy presumption against new or improved infrastructure in AONBs SWARMMS recommended that on balance the A358 alternative should be the preferred scheme, along with dualling of the existing A303 Ilminster Bypass.

2.1.3 The South West Regional Assembly carried out a review of the SWARMMS findings. Following a debate in July 2002 the Assembly included in its recommendations to the Secretary of State that both the A303/A30 Ilminster to Honiton and the A358 Ilminster to M5 should be dualled. In a response to this and SWARMMS the Secretary of State for Transport asked in December 2002 that the feasibility of the A303 Ilminster Bypass Dualling be considered.

2.2 Scheme Description

2.2.1 *Scheme Details*

2.2.1.1 The scheme proposes to widen the existing A303 Ilminster Bypass from a wide single carriageway to a two-lane dual carriageway.

2.2.1.2 It is located in Somerset between the A303 junctions at Southfields Roundabout, which is to the north west of Ilminster, and Hayes End Roundabout near South Petherton.

2.2.1.3 The existing Ilminster Bypass was constructed in the 1980s. It is approximately 10.3km in length. Currently it is marked as two single lanes with a section of three lanes at Boxstone Hill for the provision of a climbing lane. The existing traffic flow is 23600 (Annual Average Daily Traffic 2001).

2.2.1.4 The existing highway network is shown in Figure 1.1. The Ilminster Bypass is a single carriageway, 10.0 m wide with 1.0 m wide hard strips and 2.5 m wide grass verges. Built in 1988 to modern standards, the horizontal and vertical alignments were designed to provide curvature and visibility for a design speed of 100kph (60mph).

2.2.1.5 Over the majority of its length, the bypass originally had road markings indicating a single lane in each direction, except at Boxstone Hill where a 2 km three lane climbing lane section was included. However, after a study undertaken by the Highways Agency, the road markings have now been revised to three lane marking throughout its length, providing a two lane / one lane split with the two lane priority clearly indicated by use of continuous double white line road markings and appropriate signing. In order to enhance the safety of this arrangement

some existing lay-bys were closed. These lay-bys were covered over so that they might be utilised in the future, rather than being removed.

2.2.1.6 A scheme to widen the Ilminster Bypass was previously designed in the 1990's. It was progressed as far as the production of the Environmental Statement before being remitted along with other schemes on the A303 Trunk Road. The information within the Environmental Statement will be used to assist the data gathering and assessment process where possible. It will be updated and supplemented as necessary.

2.2.1.7 The 1990's scheme proposed to widen the Bypass on its north side from Southfields to Boxstone Hill and to the south from Boxstone Hill to Hayes End Roundabout.

2.2.1.8 The proposed plan alignment for upgrading the A303 to dual carriageway standard is shown on the Scheme Plan in Appendix A and is described more fully below.

2.2.1.9 The proposed scheme comprises the construction of a second carriageway alongside the existing to form a new dual carriageway road, 10.3 km (6.4 miles) in length between Southfields and Hayes End roundabouts. The improved road would comprise two 7.3 m wide carriageways with generally a 4.5 m wide central reserve and 3.5 m wide verges. A 1.0m wide hard strip would be provided within both the central reserve and the verges adjacent to each carriageway.

2.2.1.10 There would be no gaps in the central reserve and existing roads would continue to be taken over or under the bypass via bridges. The five existing footpaths that cross the bypass would be diverted to bridges so that there would be no ground level pedestrian crossing points except at the roundabouts. Safety fencing would be provided throughout the central A303 Ilminster Bypass Scheme Assessment Report Document No. HHI80652/2R/01 Page 14 A303 ISAR Volume 1 1st Draft May 2005.doc reserve, and along the verges at high embankments, obstructions such as bridge abutments and piers, culverts, and large signs.

2.2.1.11 As a general principle, minimal works would be undertaken on the opposite side of the existing road from the new carriageway, avoiding disruption to landholdings and established landscaping.

2.2.2 *Southfields Roundabout to Boxstone Hill Overbridge*

2.2.2.1 Studies on the improvement of the A358 between Southfields and the M5 at Taunton are currently ongoing. Consequently, improvements associated with the A303 at Southfields have not been included within the proposals for the Ilminster Bypass. For the purposes of this study the proposals for the dualling of Ilminster Bypass are considered to start a notional 0.7km east of Southfields Roundabout.

2.2.2.2 The new carriageway would closely follow the existing along its northern side on a shallow embankment across the River Isle floodplain. At chainage 4400 it would cross a large flood relief culvert, which also serves as a farm underpass. Landscaping on the new northern embankment would comprise shrubs with intermittent trees and would be of a similar appearance to that which it would replace.

2.2.2.3 Culvert No. 3, which takes the Back Stream under the existing bypass, would be lengthened. A new eastbound lay-by, would be provided at chainage 5200 to replace two existing eastbound lay-bys at chainage 3950 and 5500. The existing westbound lay-by at chainage 5200 would be closed because there would be insufficient sight distance for safe stopping. The existing lay-by pavement would be broken up and the area soiled and seeded and woodland edge planting to the northern embankment will be provided.

2.2.2.4 The new carriageway would pass through the existing northern span of the B3168 Overbridge and would then cross the River Isle/Back Stream flood relief channel on a new two span structure alongside the existing bridge. The downstream channel of the river would be realigned and enhanced to encourage the formation of an improved habitat. Beneath the new bridge the bed of the channel would remain virtually unchanged and would only need to be disturbed as a result of the construction of a new pier for the bridge.

2.2.2.5 At chainage 6260, Culvert No. 6 would be lengthened to accommodate the new carriageway on the northern side. The existing accommodation bridge crossing of the River Isle would remain unaltered, although the approach tracks would need to be realigned. Further east, at chainage 6860, Culvert No. 7 would also be lengthened and a new lagoon would be provided on the south side of the existing bypass to control the flow of run-off into the stream. Between the River Isle and Culvert No. 7 linear planting will be provided to screen views from property to the north.

2.2.2.6 Leaving the River Isle floodplain the existing bypass commences the climb to the foot of Boxstone Hill. The existing eastbound lay-by at chainage 7500 would be re-built, and the existing westbound lay-by at chainage 8500 would be retained. Stocklinch Overbridge can accommodate the new carriageway within its northern span, requiring a short length of retaining wall adjacent to the abutment. Lagoons at chainage 8100 and 8500 would be retained. In order to screen views from property to the north, linear planting would be provided through to chainage 8400.

2.2.2.7 Between chainage 9000 and 9400 the new carriageway would transfer to the southern side of the existing bypass to pass under the southern side span of Boxstone Overbridge. The depth of cutting at this point is approximately 8 metres and construction would involve a 300 metre length of verge disturbance on both sides of the bypass. There would be a short section of retaining wall under the bridge before the new carriageway crosses on to an embankment. The new southern slope of the embankment would be shaped to form a false cutting 2 metres high in relation to the new channel line. This would reduce the impact of traffic crossing this embankment on the village of Seavington St Mary which is situated on A303 Ilminster Bypass Scheme Assessment Report Document No. HHI80652/2R/01 Page 15 A303 ISAR Volume 1 1st Draft May 2005.doc lower ground some 500 metres to the south. The embankment would be sensitively landscaped with woodland.

2.2.2.8 The existing emergency vehicle access to the east of Boxstone Overbridge would remain to allow emergency access to the westbound carriageway. A new emergency access would be provided on the north side of the bypass for the eastbound carriageway. The existing eastbound lay-by at chainage 9700 would be closed, broken-up and the area soiled and seeded.

2.2.3 *Boxstone Hill Overbridge to Watergore*

2.2.3.1 The site of local geological interest on the north side of the existing bypass at chainage 10200 would remain accessible and unaltered. At the crest, the new carriageway would necessitate a cutting 8 m deep. This cutting would be continued in the form of a false cutting 3 metres high to link up with the cutting at David's Lane Overbridge. This would provide additional visual and noise screening to Seavington St Michael and would be planted with woodland planting.

2.2.3.2 The new carriageway would continue on the south side, passing under the side span of David's Lane Overbridge which would require a short section of retaining wall. The 12 m deep cutting to the east would be widened, retaining the steep side slopes, which are only seen from the road corridor itself.

2.2.3.3 One new lay-by in each direction would be provided at chainage 12000, from where planting with shrubs and intermittent trees would be provided on the embankment. Frogmary Green Underbridge would be widened to accommodate the new carriageway. The ecologically interesting original part of Moondown Lane to the north would not be affected. The newer length of Moondown Lane closer to Moor Lane would be repositioned further to the north as the new carriageway is aligned slightly to the north of the existing bypass to minimise landtake from properties in Watergore. This is only a minimal realignment and east of Moor Lane the carriageway generally lies to the south of the existing bypass. At Hayes End Roundabout the carriageway briefly comes back on-line before deviating south and coming back on-line at the termination approximately 1km east of the roundabout. Hayes End Roundabout (South Petherton).

2.2.3.4 At Hayes End the existing at grade roundabout is replaced with a grade separated junction consisting of slip roads linking to roundabouts either side of the dual carriageway. A new overbridge links these roundabouts to form a dumbbell arrangement. On the north side of the bypass the slip roads connect directly to the roundabout; a link road connects the roundabout to South Petherton. On the south side of the bypass the westbound off-slip road terminates at a roundabout on the road from Yeabridge and Lower Stratton, this then links to the main dumbbell roundabout via the improved Harp Road. The westbound on-slip runs directly from the roundabout. The existing South Street Overbridge will de demolished and replaced by the new overbridge; pedestrian and cycleway links would be maintained. The bypass will be in cutting in the vicinity of the roundabouts. It will be at-grade at the existing roundabout and lie on embankment on the approach to the termination point. In mitigation false cuttings and bunding will be provided and this will be supplemented with woodland planting.

2.2.4 *Previous Draft Reports:*

2.2.4.1 Some information from the Environmental Statement prepared by Chris Blandford Associates for an earlier, similar Ilminster bypass scheme, in 1996, has been incorporated into background reports. These reports contain Baseline information but not impact assessments.

- General - A303 ISAR, May 2005
- Ecology A303 Ilminster Bypass Dualling – Biodiversity Background Report, March 2005
- Landscape A303 Ilminster Bypass Dualling – Landscape, Townscape and Visual Background Report, March 2005
- Cultural Heritage A303 Ilminster Bypass Dualling –Historic Environment - Background Report, March 2005
- Agriculture and Land Use A303 Ilminster Bypass Dualling – Agricultural Background Report, April 2005
- Water Quality and Drainage A303 Ilminster Bypass Dualling – Background Water Quality and Drainage Report, March 2005

3.0 AIR QUALITY AND EMISSIONS

3.1 Introduction

3.1.1 *General*

3.1.1.1 The purpose of the Air Quality Assessment is to identify the potential effects of the proposed Ilminster bypass scheme on the air quality in the area.

3.1.1.2 The proposed improvement scheme has the potential for generating both beneficial and adverse impacts on air quality.

3.1.1.3 The assessment shall follow the guidance provided in DMRB Volume 11, Section 3, part 1 and the Transport Analysis Guidance (TAG).

3.1.2 *Potential Impacts*

3.1.2.1 A new road scheme can affect air quality in a number of ways, at both local and regional levels. The scheme may change traffic flows in terms of both volumes and speeds, which will, in turn, result in changes to the level of vehicle exhaust emissions to air. The scheme may also relocate the vehicle emissions in relation to relevant receptors such as residential properties or nature conservation sites.

3.1.2.2 In relation to local air quality, and its potential impacts on human health and ecosystems, the pollutants considered are carbon monoxide (CO), nitrogen dioxide (NO_2), hydrocarbons (benzene and 1,3–butadiene) and particulate matter (PM_{10}). For potential impacts on regional air quality and global warming, carbon dioxide (CO2), nitrogen oxides (NOx), particles, carbon monoxide and hydrocarbons are considered.

3.1.3 *Study Area*

3.1.3.1 In accordance with the assessment procedure set down in DMRB Volume 11, the Study Area for air quality impacts comprises an area 200m either side of the road centreline along the length of the existing and proposed routes.

3.1.4 *Potential Receptors*

3.1.4.1 Key receptors are those residential properties within 200m of the affected route or corridor. The guidance document also notes that particular attention should be paid to locations where susceptible people may be located, judged in terms of the sensitivity to pollution (e.g. schools, hospitals and nursing homes) and the likely exposure to pollution.

3.1.4.2 Other potential receptors include areas of nature conservation interest, as well as Air Quality Management Areas (AQMAs).

3.1.5 *Legislative Framework*

3.1.5.1 Regulation of ambient air quality in the UK follows 'The Air Quality Strategy for England, Scotland, Wales and Northern Ireland', published by the Government in January 2000, and an addendum published in 2003.

3.1.5.2 The strategy sets out standards and objectives for nine air pollutants, of which 7 are designated for local control, including CO, NO_2, PM_{10}, Benzene and 1-3 Butadiene. Air quality standards are purely health-based, and reflect levels thought to ensure avoidance or minimization of risks to health. Objectives are based on what is presently considered to be

realistically achievable, and include deadlines by which the specified objectives must be met. The objectives for each of the pollutants relevant to LAQM together with the target dates for meeting them are summarised in Table 3.1.

Table 3.1: Summary of Current UK Air Quality Objectives

Pollutant	OBJECTIVE	Measured as	To be Achieved by
Benzene	16.25 µg/m^3	Running annual mean	31/12/2003
	5 µg/m^3	Running annual mean	31/12/2010
1,3-Butadiene	2.25 µg/m^3	Running annual mean	31/12/2003
Carbon Monoxide	10 mg/m3	Max daily running 8hr mean	31/12/2003
Nitrogen Dioxide	200 µg/m^3	1 hr mean, not to be exceeded more than 18 times per year	31/12/2005
	40 µg/m^3	Annual mean	31/12/2005
Particulates (PM_{10})	50 µg/m^3	24 hr mean not to be exceeded more than 35 times per year	31/12/2004
	50 µg/m^3	24 hr mean not to be exceeded more than 7 times per year[1]	31/12/2010
	40 µg/m^3	Annual mean	31/12/2004
	20 µg/m^3	Annual mean[1]	31/12/2010

Notes:
1. These objectives are currently provisional for the time being in England, Wales, Northern Ireland; Greater London has set different provisional objectives for particulates.

3.1.5.3 The standards and objectives related to air quality are contained in the Air Quality (England) Regulations 2000, the Air Quality Limit Values Regulations 2001, the Air Quality (England) (Amendment) Regulations 2002, the Air Quality Limit Values (Amendment) Regulations 2003, and the Air Quality Limit Values (Amendment) (England) Regulations 2004.

3.1.5.4 The Air Quality (England) Regulations set out the locations at which the air quality objectives apply, namely at sites outside building or man-made structures where members of the public are regularly present and are likely to be exposed over the averaging period of the objective.

3.2 Baseline Assessment

3.2.1 Baseline air quality shall be established by means of a desk-study, through the collation and review of data from previous studies, relevant local authorities and the UK National Air Quality Information Archive.

3.2.2 Under Part IV of the Environment Act 1985, local authorities are required to review and assess air quality within their area. The scheme falls within the administrative boundaries of South Somerset DC. The local authority has followed the phased approach required by the Government and completed the second round review of air quality in their area.

3.2.3 South Somerset DC has no AQMAs relevant to the scheme.

3.2.4 Empirical air quality modelling has been undertaken by AEAT to supplement information available from the UK national air quality monitoring network. Data from this study is available from the National Air Quality Information Archive (NAQIA) website (www.airquality.co.uk). The archive provides estimated annual average background concentrations at 1km spatial resolution for the entire UK. Data is provided for 2001, 2005

and 2010 for NO_x and NO_2; 2001, 2004 and 2010 for PM_{10}; 2001, 2003 and 2010 for Benzene; 2001 and 2003 for 1-3 Butadiene; and 2001 for CO. Scaling factors are provided to calculate concentrations in other years to 2025.

3.2.5 In accordance with DMRB Volume 11, ambient monitoring need not be routinely incorporated in the air quality assessment of a road scheme. It is not currently proposed to undertake direct measurements of baseline air quality in addition to existing data available nationally. This shall be reviewed if a significant deterioration is predicted.

3.3 Methodology

3.3.1 *General*

3.3.1.1 The assessment of potential air quality effects derived from the proposed scheme shall be carried out following the Stage 2 Assessment method included in the DMRB Volume 11, taking into account Interim Advice Notes 54/04 and 61/05. According to this guidance document, the impact of road schemes upon air pollution is assessment in terms of their effects upon local air quality only. The potential regional impacts of the proposed scheme are calculated at DMRB Stage 3 and shall not be considered in this Stage 2 assessment.

3.3.1.2 The methodology seeks to compare current air quality or emissions levels with those anticipated in the future if the scheme is not built and those anticipated if the scheme is built.

3.3.1.3 An integral part of the DMRB assessment is the Screening Method, provided by the Highways Agency in spreadsheet form. The most recent version of this spreadsheet, v1.02, was released in November 2003, and shall be used to predict pollutant concentrations at the roadside. The methodology provides an initial test, designed to establish whether a road scheme ought to be subject to a more detailed air quality assessment at Stage 3, by a comparison of its predictions with the Objectives set out in Table 1.

3.3.1.4 The DMRB Screening Method requires input data on traffic volumes (annual average daily traffic flows or AADT), speed and the proportion of Heavy Goods Vehicles (HGVs) and background pollutant concentrations (from NAQIA). The Method takes into account improvements in vehicle technology over time, which in turn result in lower vehicle emissions.

3.3.2 *Stage 2 Air Quality Assessment Method*

3.3.2.1 Following the methodology set out in DMRB volume 11, the Stage 2 air quality assessment shall involve the following tasks:

Production of a constraints map showing the residential properties and other relevant receptors that might possibly be affected by a change in air quality.

Production of a table listing the number of residential properties by distance band i.e. 0-50m, 50-100m, 100-150m and 150-200m from the centre of all affected routes.

A DMRB Local Impact Assessment - This assessment allows the prediction of localised changes of CO, Benzene, 1-3 Butadiene, Nitrogen dioxide and particulates (PM10) at specific locations. These locations will be selected to be representative of sites of greatest potential impacts. The years to be assessed are the base year and the opening year with and without the scheme (Do-Scheme and Do-Minimum scenarios). In addition, the year 2010 should be evaluated both with and without the proposals if the scheme is to be operational at these times.

A DMRB Generalised Local Impact Assessment (as amended by IAN 54/04) - This assessment provides an estimation of the overall change in people's exposure to concentrations of NO_2 and PM_{10}, which are of particular concern with respect to compliance with the objectives in the Air Quality Strategy. This assessment shall be undertaken for the scheme opening year.

3.3.2.2 DMRB Volume 11 does not provide guidance for assessing air quality impacts during construction. Potential construction effects i.e. nuisance dust, shall be predicted by means of a qualitative assessment based on information regarding expected construction activities and the location of air quality receptors. It should be noted that these is no detailed construction information at this stage of the scheme, which means that only a broad assessment shall be carried out.

3.3.2.3 DMRB IAN 61/05 provided a methodology for assessing the impact of road schemes on sites of sensitive ecosystems and nature conservation. If required, a Stage 2 assessment shall be carried out for the base year and the scheme opening year, with and without the scheme.

3.3.3 *Evaluation*

3.3.3.1 Following DMRB Volume 11, the Stage 2 air quality assessment shall include a statement explaining the air quality implications of the proposed road scheme. This shall explain why certain areas or properties were selected for investigation of localised pollution effects, the estimated concentrations and an assessment of the results.

3.3.3.2 The assessment of the results shall be undertaken by comparing the predicted levels with the current air quality objectives, whilst considering the change (improvement or worsening) between Do-Minimum and Do-Scheme scenarios.

3.3.3.3 The assessment of the Generalised Local Assessment is based on the overall 'assessment value' of the scheme. A positive value represents an increase in pollution exposure due to the scheme and hence an adverse effect, whilst a negative value indicates a general decrease in exposure and therefore a beneficial effect. In addition, the number of properties where the scheme would result in a worsening or an improvement in air quality is also considered.

3.3.3.4 It should be noted that specific significance criteria for the assessment of impacts (in terms of percentage change for example) are not given in the DMRB or TAG and shall not be used. A breach of the air quality objectives due to the scheme, or an increase in the area of an AQMA, would indicate an adverse impact and would require further air quality modelling at the next stage of the scheme development. Predicted concentrations within the objectives would indicate that no adverse effects are expected as result of the scheme.

4.0 HISTORIC ENVIRONMENT

4.1 Introduction

4.1.1 This scope has been prepared by PB's Archaeology and Cultural Heritage sub-consultant, AC archaeology, following the production of *A303 Ilminster Bypass Dualling: Historic Environment Background Report* (PB Document No. HHI 80651/ACarch/Historic Environment Background Report), contributions to AST worksheets prepared to support the SWARMMS study and a review of the archaeology section of the Environmental Statement for the earlier Ilminster bypass scheme, prepared in 1996 by Chris Blandford Associates.

4.1.2 The proposals contained in the document are based on the requirements of a Stage 3 level of survey as defined in DMRB Volume 11: Environmental Assessment and webTAG. The methodologies to be used will be derived from these documents and described in the report.

4.1.3 The scope of Stage 3 archaeological (and built heritage) assessment, in DMRB Volume 11 is defined; '*The objective at this stage is to undertake sufficient assessment to identify the significant archaeological impacts (or significance of impacts on historic buildings) likely to arise from construction of the preferred route, and to identify the location, type and importance of the archaeological constraints associated with that route.*'

4.1.4 The assessment includes desk-based information derived from the 1996 ES and supporting documentation prepared by sub-consultants at that time. It will be necessary to continue liaison with current team specialists for their comment and interchange of information as assessment progresses.

4.1.5 English Heritage Officers have expressed a desire to be consulted over the detailed scope of any further archaeological and cultural heritage surveys, and have advised that county archaeological officers should also be kept informed of the proposals.

4.2 Potential impacts and receptors

4.2.1 The previous report assessed the preferred scheme as having a slight adverse impact on cultural heritage. The principal impacts may arise on sub-surface remains of prehistoric and Roman date to the NW of Seavington St Michael. There may be slight visual intrusion into the settings of two Listed Buildings during early years of the scheme's completion. Several historically important hedgerows will be crossed by the scheme.

4.3 Surveys undertaken

4.3.1 The level of survey achieved for the 1996 ES reach a partial stage 3 (DMRB) level. The studies included :

- a detailed desk-based study;
- a preliminary walkover, and ;
- a limited field survey comprising geophysical survey of four areas.

4.3.2 Summary results of these surveys are contained in the 1996 ES. A copy of the detailed report on the geophysical survey has been obtained. Information on historic landscape character assessment has been obtained from Somerset County Council and has been incorporated in the latest revision of AST worksheets. The principal databases of archaeological and Listed Building information were checked in February 2003 to confirm no new accessions since 1996.

4.3.3 The monitoring of site geotechnical investigations was undertaken in 2003 and additional archaeological data acquired.

4.4 Additional surveys required

4.4.1 *Validating and updating existing data*

In general the data obtained in 1996 is considered accurate and current, but will be checked prior to resubmission. The County Record Office will be checked for new accessions of historic maps or other relevant documents. Further research will be required to locate original records of archaeological monitoring when the bypass was constructed; these were not available in 1996 and are considered to be important in providing confirmation of the presence / absence of archaeological deposits. Research will also be undertaken, principally by use of aerial photographs, to determine the full extent of damaging land use at the time of the original construction of the Ilminster bypass. Any areas of the present scheme land-take that can be shown to have been wholly disturbed by those works (e.g. in cuttings) will be excluded from further surveys. A check will be made for any new data accessions into the Somerset County Council Historic Environment Record.

Existing available borehole data will be checked for information relating to the extent of alluvium and potential for prehistoric and Roman activity in floodplains.

4.4.3 *Field surveys*

Non-intrusive surveys of land within the scheme boundaries will be undertaken, to record:

- the current land use, in order that future survey options can be assessed;
- any surface evidence for archaeological deposits (including systematic field-walking ,where land use and state of cultivation allows);
- the nature and condition of any archaeological site or structures of historic interest;
- evidence for sub-surface archaeological remains, by geophysical survey, in those areas considered to be of potential.

Further intrusive surveys may be required (post TPI entry) and comprise;

- the excavation of machine-dug trenches or hand-dug trial pits (the former may be required to investigate broad areas or specific geophysical anomalies, the latter may provide comparative information, to field-walking, about artefact densities in pasture land;

4.4.4 *Important hedgerows*

Those hedgerows falling within the scope of the regulations and which are affected by the scheme will be identified for mitigation.

4.4.5 *Listed buildings*

It is not anticipated that detailed surveys of any historically important or Listed buildings will be required. The advice of English Heritage will be sought to clarify the extent to which further information need be presented to resolve issues of visual intrusion.

4.5 Method of assessment

4.5.1 All surveys will be undertaken in accordance with DMRB Vol. 11 and webTAG, as well as in accordance with professional standards and guidance provided by the Institute of Field Archaeologists.

4.5.2 Detailed proposals for intrusive field surveys, including levels of recording, handling of cultural material, professional standards and personnel, will be set out in written project designs and the results assessed in accordance with English Heritage (MAP 2) guidelines where appropriate. The English Heritage Inspector for Somerset and the Somerset County Council archaeological officer will be consulted over the detailed survey proposals.

4.5.3 The results of the assessment will be reviewed with English Heritage and any mitigation options discussed with them and other PB team members to ensure viability.

4.5.4 The assessment report will summarise the results of the assessment and include the detailed mitigation proposals.

5.0 ECOLOGY AND NATURE CONSERVATION

5.1 Introduction

5.1.1 This scope of works has been compiled by PB's Ecological sub-consultant, Ecological Planning & Research (EPR), following Stage 1 studies and a series of Stage 2 ecological surveys undertaken by EPR in 2003. It is based on the requirements of DMRB Volume 11: Environmental Assessment and latest Transport Analysis Guidance (TAG) supplied by the Department for Transport (TAG Unit 3.3.10, the Biodiversity Sub-Objective). The methodologies that will be used in the Stage 2 assessment will be derived from these documents and described in the report.

5.2 Study Area

5.2.1 The study area for ecological studies and assessment relating to the A303 improvements at Ilminster will be dependent on the habitat/species which is to be assessed. However, as much of the proposed route relates to the widening of an existing highway, the width of study area will be no more than a 250m corridor either side of the road.

5.3 Potential impacts and receptors

5.3.1 *Ecology*

The study area is predominantly agricultural, principally arable and improved pasture, and biodiversity interest is generally limited and given that the scheme is essentially an online widening ecological effects are limited. Nevertheless, the Stage 2 surveys undertaken in 2003 identified the following potential effects of the proposed route on the ecological features of importance:

- Effects on woodland – whilst two woodland County Wildlife Sites (CWS) adjoin the scheme, Harcott Copse and Putcombe Copse, these will not be directly affected by the proposals. Minor indirect effects of disturbance may occur. Moondown Copse is the only woodland directly affected, and much of the woodland block will be lost if the road is widened to the north in this area.

- Effects on the River Isle - The River Isle CWS will be affected at the point where the existing bridge is to be widened, which will involve some modification to the channel, although the channel is already heavily modified at this point. Water quality will be unaffected in the long term.

- Effects on hedgerows - The proposed route will involve the loss of predominantly roadside hedges of recent origin and the loss of the ends of hedgerows which have already been severed by the existing road.

- Effects on protected species - surveys have shown that evidence of protected species have been found in the study area, including badgers, bats, reptiles, dormice and otters. The effects on these species together with other potentially present protected species will need to be assessed as part of the ecological assessment of the scheme.

5.4 Surveys undertaken

5.4.1 Stage 1 and Stage 2 surveys were undertaken by EPR in 2003. As part of the Stage 1 desktop exercise the Somerset Environmental Records Centre (SERC) was consulted to establish whether any existing data was held for the study area and to confirm the presence of any designated sites. Existing data collected for the Environmental Statement for an earlier

but similar Ilminster bypass scheme, prepared in 1996 also formed part of the Stage 1 desktop exercise. The species data collected during this Stage 1 desktop exercise was used to inform the scope of further ecological survey work carried out by EPR in 2003. The following Stage 2 surveys were undertaken in 2003:

- Phase 1 habitat survey – 250m either side of the proposed route. March 2003
- Vegetation surveys – undertaken in areas identified as being of interest including Moondown Copse and the road verges on the south facing slopes immediately east of Barrington Main Overbridge in June and July 2003
- Hedgerow surveys – all hedgerows directly affected by the proposed scheme were surveyed in 2003 using the Hedgerow Evaluation and Grading System (HEGS) (Clements & Tofts, 1992).
- River Corridor Survey – a River Corridor Survey of the River Isle was undertaken 300m upstream and 2.5km downstream of the existing A303 crossing in May 2003
- Otter and Water Vole surveys – undertaken on the River Isle in June and July 2003
- Breeding Bird Survey - A walkover and point location breeding bird survey of the survey area 250m either side of the route was undertaken in May and June 2003
- Amphibian surveys – 2 ponds suitable for amphibians identified in the Phase 1 survey were surveyed for amphibians following English Nature's recommended survey methodology, between late April and early June 2003.
- Reptile surveys – surveys of suitable habitat along the road verges were undertaken in June and July 2003.
- Badger survey - A 500m wide corridor was surveyed in April 2003 centred on the existing carriageway.
- Bats – visual checks of structures and trees for evidence of bats and limited emergence surveys were undertaken in potentially suitable habitat in June 2003
- Dormouse Survey – areas identified as potentially suitable habitat during the Phase 1 survey were assessed in more detail as dormouse habitat. Specific dormouse presence surveys were not undertaken due to time limitiations.

Older ecological survey information is also available for the route corridor that is detailed in the ES prepared in 1996. These include:

- A Phase 1 survey of a corridor 200m either side of the proposed route - June 1995
- A River Corridor Survey of the River Isle was undertaken by the NRA in 1985
- A detailed otter survey of the main watercourses near the existing bypass - August 1995
- A badger survey of a corridor 200m either side of the proposed route - (date unknown, but pre-1996)
- A dormouse survey of a corridor 200m either side of the proposed route - August 1995

- A survey for suitable bat roosts of a corridor 200m either side of the proposed route together with an assessment of the suitability of foraging habitat - June 1995,

- A detailed survey for water vole on all suitable watercourses within the study area - April 1996.

5.5 Additional surveys required (for early scheme delivery)

5.5.1 *Introduction*

Whilst sufficient information is available to inform the Stage 2 assessment, in order to progress early scheme delivery further update surveys to Stage 3 level could be undertaken in 2006. These surveys would provide a greater level of detail and coverage than some of the surveys undertaken in 2003, which were inevitably constrained by the limited time available and that they were only to Stage 2. The majority of the additional surveys required relate to protected species.

5.5.3 *Bird Survey*

Breeding bird surveys will need to be carried out in the breeding season and would be best undertaken using an abbreviated version of the standard Common Bird Census survey methodology. The CBC methodology requires 12 visits, mainly early in the morning and would need to be conducted between March and June. This would be targeted at the most appropriate breeding bird habitat along the route.

5.5.4 *Amphibian Survey*

Whilst Great Crested Newts have not been confirmed as present in the ponds within the study area, the survey information now requires updating and all suitable ponds will need to be surveyed following English Nature's recommended survey methodology and would therefore need to be undertaken in the breeding season between March/April and May/June.

5.5.5 *Reptile Survey*

Two species of common reptile have been recorded in low numbers within the study area. Further reptile survey is required to update the existing information and provide information to feed into a detailed mitigation strategy at Stage 3.

5.5.6 *Dormouse Survey*

The potential for woodland and hedgerow to provide suitable habitat for dormouse, which are legally protected under the Wildlife and Countryside Act 1981 (as amended) and the Habitats Regulations 1994, was assessed during 2003 although no specific dormouse surveys were undertaken, because of time limitations. Dormouse are known to be in the area and there is suitable habitat available particularly associated with Moondown Copse and Hurcott Copse. Further survey is required for Stage 3 which will involve placing nest tubes in suitable habitat and checking for the presence of dormouse during the breeding season (May – September).

5.5.7 *Badger Survey*

Whilst a comprehensive badger survey was undertaken in 2003, this will require updating using the same methodology as in the 2003 survey.

5.5.8 *Otters & Water Vole Surveys*

Otters have been confirmed as present within the study area, although detailed survey has only been undertaken along the River Isle. Whilst water vole presence has not been confirmed suitable habitat exists along the River Isle. Both Otter and Water Vole surveys need updating to also include other areas of suitable habitat within the study area.

5.5.8 *Bat Survey*

Whilst bat surveys were undertaken in 2003 survey coverage was limited by the time and further more extensive bat surveys need to be undertaken to inform the Stage 3 Assessment, particularly in relation to foraging and commuting routes which may be affected by a wider carriageway, and may increase the likelihood of road casualties.

5.6 Method of assessment

5.6.1 The ecological impact assessment will be undertaken in accordance with the methodology set out in the DMRB Volume 11, and the latest Transport Analysis Guidance (TAG) supplied by the Department for Transport (TAG Unit 3.3.10, the Biodiversity Sub-Objective), taking into account government policy guidance set out in PPS 9, and current legislation relating to statutory sites and protected species. The nature conservation designations within the study area will be mapped as part of the assessment process, and any likely effects on these sites described.

5.6.2 Consultation with the statutory nature conservation bodies, English Nature and the Environment Agency will be undertaken regarding the assessment of ecological effects.

5.6.3 The ecological impact assessment will be undertaken in accordance with DMRB Volume 11 and will cover:

- Plans showing the locations of habitats and species of nature conservation significance, together with any designated nature conservation sites.
- An evaluation of the nature conservation importance of the features of interest potentially affected by the new route
- A description of any proposed mitigation measures that would reduce the scale and significance of any identified ecological effects.
- An assessment of the significance of the impacts of the preferred route on these nature conservation interests taking into account the proposed mitigation measures.

6.0 LANDSCAPE CHARACTER, QUALITY AND VISUAL IMPACT

6.1 Introduction

6.1.1 This scope of works has been compiled by PB's Landscape sub-consultant, Environs Partnership, following site visits and the preparation of a Draft Final Stage 2 Background Report in March 2005, together with contribution to an Initial Scheme Appraisal Report and Worksheets for AST's. The Background report contained Baseline information but not impact assessments. It incorporated some information from the Environmental Statement prepared by Chris Blandford Associates for an earlier, similar Ilminster bypass scheme, in 1996.

6.1.2 This scope for an updated Stage 2 Report is based on the requirements of DMRB Volume 11: Environmental Assessment, and webTAG sub-Units 3.3.7 and 3.3.8. 'Guidelines for Landscape and Visual Impact Assessment' (Landscape Institute / IEMA, Second Edition), will also be consulted. The methodologies that will be used will be derived from these documents and described in the report.

6.1.3 This is a scope for an assessment report to DMRB Volume 11 Stage 2, for inclusion in an Environmental Assessment Stage 2 report.

6.1.4 The brief for this scoping report also includes a requirement to consider any additional surveys to DMRB Stage 3 that could be carried out to provide background information for those charged with the preparation of the Environmental Statement.

6.2 The Study Area

The study corridor is approximately 5km wide centred on the A303 for topography, landscape character areas, landscape quality and the approximate 'visual envelope', i.e. the containing ridgelines to the south and north-east. A 2km corridor of study has been used for plotting land use and recreation, planning designations and potential visual receptors. Survey of existing woody vegetation that may be affected by the scheme is focused on a narrower band, 0.3km wide.

6.3 Potential impacts and receptors

6.3.1 *Landscape*

The effects of the Preferred Route on landscape elements would be principally:

- loss of woody vegetation, i.e., highways planting that is approximately 15 years old, a small number of mature trees (poplars and possibly oaks) and the ends of hedges abutting the existing highway
- changes to the natural landform on the on-line dualling section, resulting from increasing the footprint of existing highway cuttings and embankments and
- more significant landform change over an approximately 1.5km off-line section at Hayes End, at the eastern end of the scheme.

6.3.2 Because the scheme is almost entirely on-line, the main effect on landscape character is predicted to be a slight incremental change in urbanisation.

6.3.3 *Visual*

The visual receptor groups will largely be as for the existing road, i.e. scattered residential properties and Public Rights of Way, except around the Hayes End junction where the hamlet of Watergore will be more significantly affected than at present. The degree of visual intrusion in their existing views will generally increase in Year 1, due to the loss of highway planting. By Year 15, when new highway planting has established, their views would be expected to be comparable to the present day, unless the scheme also includes additional elements such as gantries or extensive additional lighting.

6.4 Completed and planned surveys and studies

6.4.1 Stage 2 landscape and visual surveys were undertaken by Environs Partnership in 2003/2005 for the Draft Final Background Report. Some of this information will be unchanged and will be used directly in the Preferred Route Stage 2 Report, whilst the remainder will be rechecked and revised as necessary. All the previous survey information would be checked before its use with this assessment.

6.4.2 *Geology, topography and drainage*

Baseline geology information was provided in 2004-5 by PB's specialists and mapping was taken from the 1:50,000 Geological Survey of Great Britain. Topography and drainage information was taken from Ordnance Survey 1:25,000 mapping for the Draft Final Background Report (2005). It is not necessary to revise this for the Preferred Route Stage 2 report, but more detailed topographical survey information is now available to the design team.

6.4.3 *Land use*

This is dealt with under other sections of this Scoping report and was plotted for the Landscape and Visual Draft Final Background Report 2005 in collaboration with the agricultural consultant, and using site survey and Local Plan information. Full air photography coverage is now available and the Land Use mapping will be checked against this and re-plotted as necessary.

6.4.4 *Woody vegetation along the Preferred Route*

This was plotted from earlier scheme drawings for the Draft Final Background Report 2005 but will be taken from the more recent topographical survey for the Preferred Route Stage 2 Report.

6.4.5 *Public Rights of Way and recreational provision*

This information was obtained from Somerset County Council, the Local Plan and SUSTRANS. The information will be rechecked, particularly with regard to the current status of SUSTRANS routes.

6.4.6 *Planning designations, policies and related legislation*

Mapping of landscape and related planning designations from the Structure and Local Plans will be rechecked in the light of the current status of the emerging South Somerset Local Plan that was subject to a second Public Inquiry in 2005. TPO information was obtained from SSDC in the immediate vicinity of the proposed dualling and the Council will be contacted again to ascertain whether any new TPOs have been made within the potential footprint of the

scheme. Hedgerows, that may be considered 'Important' in terms of the Hedgerow regulations (1997) will be noted in the Biodiversity and Cultural Heritage reports.

6.4.7 *Historic landscape*

A review of Somerset County Council's Historic Landscape Characterisation work was taken into consideration in the assessments of landscape character and quality (see below).

6.4.8 The Draft Final historic environment assessment included plotting of Listed Buildings within 1km of the preferred route and provides descriptive information from the Register where there are potential issues regarding effects on their settings. This information will be re-checked and used for the indicative visual impact assessment.

6.4.9 *Landscape character*

Existing landscape character assessments; the Countryside Agency's Countryside Character Volume 8 'South West' and 'The Landscape of South Somerset' (SSDC) were reviewed and the CA boundaries were plotted in the Draft Final Background Report 2005. This information was used as background for a more detailed site-based character assessment. The CPRE's mapping of tranquil areas was also taken into consideration.

6.4.10 Site visits were used to review the landscape character areas mapped in these documents and collect information to expand the character descriptions. On the basis of this information the local landscape character of the route corridor was plotted in the Draft Final Background Report 2005 and comment made on the capacity of the local landscape to accommodate a development of this nature. This assessment will not have changed and will be reused for the Preferred Route Stage 2 Report.

6.4.11 *Landscape quality*

The landscape was graded on a five-point quality scale as required by DMRB Volume 11 in the 2005 Report. The concept of landscape quality evaluation is currently under widespread professional debate and may be reconsidered in the forthcoming revision of this guidance. However, the revised Volume 11 is not expected to be published within the timescale of this Stage 2 report, so the landscape quality evaluation in accordance with DMRB Volume 11 that was plotted in the Draft Final Background Report 2005 will be included. Comment will be made on the capacity of the local landscape to accommodate a development of this nature.

6.4.12 Evaluation of landscape quality areas has been made on site. Local consultation to assess local value as perceived by residents is not considered feasible within the programme.

6.4.13 *Visual impact*

The indicative visual envelope of the scheme was plotted from OS contours, then checked on site. This will be re-checked if the scheme footprint changes.

6.4.14 A survey of potential visual receptors on roads, Rights of Way, public recreation areas, public buildings and residential properties were carried out in winter, to survey the 'worst case' situation. The effects of the existing road at night were surveyed. Views from the road that are considered of value to road users were surveyed and described in the Draft Final Background Report. These have not changed..

6.4.15 Indicative visual impacts in Year 1 and Year 15 will be re-assessed on site.

6.4.16 The following information will be mapped in the Stage 2 Report:

- The study area
- Topography and drainage
- Geology
- Land use
- Landscape designations
- Landscape character and quality
- Existing visual envelope
- Public Rights of Way and recreation facilities
- Woody vegetation - detailed mapping of narrower corridor (0.3km) along the proposed route, showing vegetation that would be retained or lost and important hedgerows
- Proposed preferred route scheme, showing areas of cut and fill and their approximate maximum changes from existing ground level and outline landscape mitigation proposals
- Potential visual envelope, visual receptors and indicative general visual impact assessments
- Photographic viewpoints (because the photographs will be referred to in a number of subsequent sections).

6.4.17 Photographs from the 20 viewpoints in the 2005 Report, that the Countryside Agency were given an opportunity to comment on (and that also show the landscape character of the route corridor) will be included, plus an air photo of the scheme corridor.

6.5 Method of assessment

6.5.1 The assessment of the landscape and visual impacts of the proposed design will take the proposed landscape mitigation measures into account.

6.5.2 The landscape elements and character impact assessment will be written in the light of contemporary guidance (see Introduction). The assessment will include effects on landscape elements, effects on landscape character (including the historic landscape) and quality and the significance of these predicted effects. The assessment will also make reference to substitutability and effects on tranquillity, including night-glow. The landscape character assessment will be carried out in accordance with DMRB Volume 11 and webTAG. Reference will also be made to the advice in 'Guidelines for Landscape and Visual Impact Assessment' where this offers helpful clarification of concepts and terms.

6.5.3 The interpretation of 'landscape quality' was discussed with the Countryside Agency who advised that we should use our professional judgement. It was agreed that quality should be evaluated from a combination of landscape planning designations, condition or degree of ‘intactness’ and elements of special interest.

6.5.4 The visual impact assessment was undertaken in accordance with DMRB Volume 11. The indicative visual impact assessment, which will be revised as necessary, covers:

- views from roads, bridleways and footpaths
- views from public recreation areas and public properties
- views from residential and commercial properties
- the settings of listed buildings, conservation areas and Scheduled Monuments.

A schedule of properties potentially subject to visual effects was included in the Draft Final Background Report 2005, as a checklist to assist those carrying out the final Stage 3 visual impact assessment. This excluded more distant properties, e.g. the fringes of Ilminster, on the

hillside to the south, where potential impacts are considered to be negligible. A revised schedule of indicative visual impacts on properties will be included.

A description of potential night-time impacts will be included. A description of views from the road will also be included in an Appendix.

6.6 Additional work to assist future Stage 3 assessment

6.6.1 Stage 3 assessment would require review of the information provided in the Stage 2 report but no more detailed level of survey.

7.0 LAND USE AND COMMUNITY EFFECTS

7.1 AGRICULTURE SURVEY

7.1.1 Introduction

7.1.1.1 This scope has been prepared by PB's Agricultural advisors Reading Agricultural Consultants.

7.1.1.2 The proposals set out in this chapter are based on the requirements of a Stage 2 level of survey as defined in DMRB Volume 11: Environmental Assessment. The methodologies to be used would be derived from these documents and described in the report.

7.1.1.3 The scope of a Stage 2 agricultural land assessment, in DMRB Volume 11 is defined; '*The objective at this stage is to undertake sufficient assessment to identify the value of agricultural land and the effects upon it to be taken into account by the Design Organisation in developing and refining route options, and to identify and assess their impacts on individual terms in broad terms*'

7.1.1.4 With the exception of the Hayes End grade-separated junction at the east of the scheme, all the proposed work will be alongside the existing road corridor with the effect that the agricultural land-take will be considerably reduced compared to a route passing through open countryside. Based on the information provided, and assuming an average new corridor requirement of no more than 30m (to allow for possible embankment and cutting slopes), some 31 hectares of agricultural land would be affected by the scheme, with possibly a similar area likely to be required for essential landscaping and other mitigation proposals. Based on information already gathered it is known that the majority of this land is likely to be of higher quality including land of the highest category, Grade 1.

7.1.1.5 Based on the work already undertaken it would appear probable that some 15 agricultural holdings will be affected by the development of the scheme.

7.1.2 Methodology

7.1.2.1 The framework for undertaking the Stage 3 assessment is set out in Volume 11 of the Design Manual for Roads and Bridges (Environmental Assessment - Consolidated Edition).

7.1.2.2 National policies for development involving agricultural land are contained in Planning Policy Statement (PPS) Note 7, *'Sustainable Development in Rural Areas'*, issued by the DoE in August 2004. In general terms, this gives a measure of protection to high quality agricultural land (Grades 1, 2 and 3a) against development, though the weight of protection has to be weighed against the potential impact on other environment factors.

7.1.2.3 The DoE's Good Practice Guide - '*Preparation of Environmental Statements for Planning Projects that require Environmental Assessment'* (1995) indicates that any Environmental Statement for development affecting agricultural land should make reference to the implications for government policy and, where the best and most versatile land is affected (Grades 1, 2 and 3a), should set out reasoned arguments for the choice of the proposed development site, the justification for the proposal, and the reason for the rejection of alternative sites. The above is noted as background, and RAC considers that such work should be undertaken once a preferred alignment is established. At this stage the key issues to be identified are the practical implications of the scheme on those farming the adjacent land so that impacts can be mitigated, wherever possible.

7.1.2.4 As far as assessing the implications on practical agriculture, the Good Practice Guide suggests that an assessment should examine:

i) the type of farming system;

ii) the commercial and technical viability of the farm holding at its existing and reduced size;

iii) the scope for restructuring the business through land acquisition or diversification;

iv) any effects that development may have in severing land from the main body of the farm, adding to operating costs and reducing the economic viability of the unit; and

v) any effects on existing land drainage.

7.1.3 Establishing Baseline Conditions

7.1.3.1 The data to assess the impact on farm holdings will to be gathered from a farm survey. Normally, it will be necessary visit all farms directly affected by a development, and interview the farmer in person, as alternative methods (such as postal or telephone questionnaires) meet with limited success and fail to provide a full picture or account of the impact on a farm. A farm survey will normally establish existing land uses, farming enterprises, field accesses, land drainage conditions, and the nature and location of any farm capital. This information will be mapped at a scale of 1:10,000 (subject to that already gathered).

7.1.4 Assessment of Effects

4.1.4.1 As far as the assessment of the effects of the proposed development is concerned, the Good Practice Guide to Environmental Assessment recommends that assessment should be made of the likely impact of developments during the construction, operational and restoration phases.

7.1.4.2 The potential impact issues to be considered for the construction phase may include:

i) temporary land-take, normally associated with construction sites; the methods to be used to restore land to agriculture following the period of land-take and the likely agricultural utility of that land once restored will be relevant;

ii) temporary severance and fragmentation of field units, temporary alterations to field drainage and to ground and surface water sources, which can all have implications for land use and farm management;

iii) nuisance and pollution issues, such as the generation of dust during construction, which can have land use and farm management implications; and

iv) other impacts such as disruption to farm movements and traffic from construction traffic, the potential spread of weeds and disease from spoil storage areas, physical intrusion and litter.

7.1.4.2 Potential operational impacts considered may include:

i) permanent land-take, which has implications for the viability of agricultural activities on affected holdings;

ii) permanent severance and fragmentation, which may have similar implications;

iii) the loss of farm capital, which may cause an imbalance between land and capital on a farm holding;

iv) permanent alterations to field drainage and ground and surface water sources, which can influence future land use and farm management; and

v) nuisance and pollution effects on adjacent agricultural land.

7.1.4.5 Proposals for development will then be assessed in the light of the above considerations with a view to establishing, in particular:

i) the extent of permanent loss of agricultural land;

ii) the extent of temporary loss of agricultural land;

iii) the extent of loss of viability of agricultural land uses or businesses as a result of land loss, severance, fragmentation or loss of capital.

7.1.5 Remedial Works and Mitigation

7.1.5.1 Part of the Brief for a study such as this will be the identification of potential adverse impacts and the formulation of possible mitigation solutions. Such matters can often be addressed by locational, design and physical measures, each of which will be considered in the context of current best practice, practicality and wider land use planning objectives. The proposals for the restoration of land affected by construction sites and the use of surplus soil generated by the development may become relevant at some later stage. Proposals for restructuring farm holdings affected by land loss or severance by, for example, land exchanges between affected holdings, may also be relevant.

7.2 LAND USED BY THE COMMUNITY

7.2.1 General

7.2.1.1 The purpose of the assessment of land used by the community is to identify any scheme effects on common land, garden allotments or public open space. Where land will be taken for the road scheme it will be necessary to identify exchange land.

7.2.1.2 Work undertaken for the 1990's scheme Environmental Statement will be used for initial study.

7.2.2 Study Area

7.2.2.1 Since the proposed scheme is essentially a single route option the study area will be limited to the proposed new road corridor. Where options are to be considered for the Hayes End junction grade separation the study area will widen to 0.3km either side of the scheme shown on the plans at Appendix A.

7.2.3 Potential Impacts and Receptors

7.2.3.1 With respect to the 1990's scheme no community land issues were identified. The area affected by Hayes End junction grade separation requires investigation.

7.2.4 Method of Assessment

7.2.4.1 In order to carry out an assessment to DMRB Volume 11 Part 6 the following tasks will be undertaken. It is intended that these provide a minimum of a Stage 2 assessment with Stage 3 data collection being provided where applicable.

i) Information will be obtained from South Somerset District Council planning authority regarding the location and status of any areas of land used by the community within the study area.

(ii) The location information will be plotted on mapping.

(iii) The likely land-take for the scheme will be established and information obtained about any land usage. Decisions on what land use information will be obtained and how will be made once the land has been identified.

(iv) Where appropriate exchange land will be identified and investigated for suitability.

7.3 DEVELOPMENT LAND

7.3.1 General

7.3.1.1 The purpose of the assessment is to identify the impact of the scheme on any land with planning designations, that is, the impact on future land use changes due to new development. This applies to the route itself and adjacent land, for example, housing developments near to the proposed route.

7.3.1.2 Development status and policy for the area of the scheme was reviewed for the preparation of the Appraisal Summary Table shown at Appendix B. In view of this and the fact that options being proposed are limited a Stage 2 assessment can be undertaken with respect to Development Land.

7.3.2 Study Area

7.3.2.1 Since the proposed scheme is essentially a single route option the study area will be limited to 0.5km either side of the scheme shown on the plans at Appendix A.

7.3.3 Potential Impacts and Receptors

7.3.3.1 The following were examined for the preparation of the Appraisal Summary Table shown in Appendix B: Local Transport Plan for Somerset (2001-2006), Somerset & Exmoor National Park Joint Structure Plan Review (April 2000), Regional Planning Guidance for the South West (September 2001) (RPG10), South Somerset Local Plan (1998), Yeovil Area Local Plan (Oct. 1990) and Chard & Ilminster Local Plan (Jan. 1995). A corridor of 135m width along the existing Ilminster Bypass has been protected. Thus the proposed scheme is thought largely not to affect any designated areas.

7.3.3.2 There are areas of land adjacent to Southfields Roundabout allocated for employment purposes. For the purposes of this assessment this area is considered as part of the scheme to the west of Ilminster. The assumption is that an assessment will be carried out for that scheme and so it is not to be included here.

7.3.4 Method of Assessment

7.3.4.1 In order to carry out an assessment to DMRB Volume 11 Part 6 the following tasks will be undertaken. It is intended that these provide a Stage 2 Assessment, the information will then be updated as appropriate until the appointment of an ECI contractor.

(i) The information collected for the Appraisal Summary Table shall be reviewed and updated if necessary.

(ii) A plot shall be made of the land use designations for the study area.

(iii) Potential land take for the proposed scheme from areas that have local authority designation for future development will be identified. Assessment will be made of how the route will affect the local authority planning designations.

(iv) Potential impacts on land with local authority designation for future development near to the route but not involved with land take will be identified. Assess how the route will affect this land.

(v) The views of South Somerset District Council and Somerset County Council planning teams will be sought on a confidential basis.

(vi) As the scheme progresses the assessment will be updated to take account of any changes to the proposed scheme or local authority planning policies.

7.4 PEDESTRIANS, CYCLISTS, EQUESTRIANS AND OTHER COMMUNITY EFFECTS

7.4.1 Introduction

7.4.1.1 The objective of the assessment is to identify the impact of the scheme on pedestrians, cyclists, equestrians and neighbouring communities. It is intended to identify likely community severance issues caused by changes in journey lengths or patterns.

7.4.1.2 An assessment of severance was made for the preparation of the Appraisal Summary Table. The Environmental Statement prepared for the 1990's scheme will be used for information relating to pedestrians, cyclists and equestrians.

7.4.2 Study Area

7.4.2.1 The study area to be adopted is as shown in the general study area plan at **Figure 2.2 in Appendix A**. This includes the land affected by both the A358 Preferred Option and the alternative A358/A303 Online Option.

7.4.3 Potential Impacts and Receptors

7.4.3.1 The previous Environmental Statement identified five footpath crossings, one of which is a bridleway, and six side road crossings of the existing Ilminster Bypass. It identified the former A303 route through Ilminster and other cycle routes as alternatives for cyclists. There is also another footpath crossing that will coincide with the Hayes End junction grade separation area.

7.4.3.2 The existing footpath crossings of the Ilminster Bypass are 'at grade', that is, pedestrians are required to cross the carriageway. This may not be acceptable for the proposed widened dual carriageway. Alternatives were identified for the previous Environmental Statement.

7.4.3.3 There is potential conflict for non-motorised road users and traffic at the existing Hayes End Roundabout. There may be scope to improve facilities with the grade separation scheme.

7.4.3 Surveys

7.4.3.1 No formal surveys have been undertaken at present. A series of site visits over a number of years have provided observations on the numbers and journey patterns of pedestrians, cyclists and equestrians along the existing A303.

7.4.3.2 Where changed journey times are experienced due to the scheme, it may be necessary to undertake pedestrian counts to provide details of the numbers affected.

7.4.6 Method of Assessment

7.4.6.1 In order to carry out an assessment to DMRB Volume 11 Section 3 Part 8 the following tasks will be undertaken. It is intended that these provide a minimum of a Stage 2 assessment. It is recognised that the time available for the assessment may not allow for surveys to be carried out.

i. Existing routes used by pedestrians, cyclists and equestrians that would be affected by the scheme will be established, rights of way and important community facilities identified.

ii. An assessment will be made of the likely effect of the scheme on journey times. Also, assessment will be made of increase or decrease in amenity value, any increase in deterrent for using the routes and any change in the exposure to risk.

iii. Requirements for any count surveys will be identified and recommendations for implementation made.

iv. Assessment will be made of the likely changes in community severance and mitigation measures identified.

v. Where cyclists will be significantly affected, consultation will be undertaken with local authority officers responsible for cycling provision.

vi. This information will be plotted on plans to indicate locations. This will show the location of community facilities and their estimated catchment areas, the main routes used by pedestrians, cyclists and equestrians, the existing road network and the proposed scheme and any identified mitigation measures.

vii. The assessment will report the number of people experiencing changes in journey times, the extent of the changes, the impact on safety, amenity and community severance.

viii. Consideration will be given to the need for further data collection such as the number of people using community facilities

8.0 TRAFFIC NOISE AND VIBRATION

8.1 Stage 2 Assessment

8.1.1 This assessment is to the requirements of the Design Manual for Roads and Bridges (DMRB) Stage 2 and incorporates the requirements of the Department for Transport's "Transport Analysis Guidance" (TAG).

8.2 DMRB Requirements

8.2.1 The purpose of DMRB Stage 2 Noise and Vibration Assessment is to identify the noise and vibration effects to be taken into account while developing and refining scheme options. A corridor of 300m to either side of the centre-line divided into three 100m wide bands is used for this purpose.

8.2.2 The steps to take at this stage are:

- Estimate the number of properties within 300m
- Calculate noise levels at noise-sensitive locations for example, schools, hospitals, heritage buildings etc. and also for typical locations in the proximity of the corridor. This aims to determine the likely changes in noise levels.
- Include noise mitigation where possible and assessment shows mitigation to be necessary.
- For unscreened buildings within 40m of an existing or proposed scheme, vibration levels will be estimated to establish whether these levels are likely to exceed the threshold of perception.

8.3 Calculation of Noise Levels

8.3.1 Noise levels will be calculated in accordance with the Department for Transport's document "Calculation of Road Traffic Noise" (CRTN) as referred to by DMRB. This document sets out a method for predicting noise levels at a distance from a highway, taking into account factors such as traffic flow, speed and composition, road configuration, ground cover, screening and reflection.

8.3.2 The calculations of road traffic noise (RTN) levels, for receivers standing at ground floor level, will be carried out using the Roadnoise 2000 computer program developed by Atkins Environmental. This program incorporates a graphical representation of the methodology set out in CRTN. The use of Roadnoise 2000 involves the creation of "Noise Models" representative of the traffic, highway layout and geometry, ground topography, buildings and barriers.

8.4 Scheme Options

8.4.1 This assessment considers the following options for the A303 Ilminster Bypass Dualling:

- Do-Minimum
- Proposed Scheme
- Proposed Scheme with Mitigation

8.5 Traffic Flows and Speeds

8.5.1 For this assessment annual average daily 18-hour traffic flows for the Base Year of 2002, Opening Year 2011 and the Design Year of 2026 will be obtained from the revised high growth predictions from A303/A358 Taunton, Ilminster and Exeter Study (TIES), January 2005 by applying a factor of 0.97. This factor was based on the observed base year traffic flows.

8.5.2 Traffic speed will be obtained from the guidance given in CRTN

8.6 Noise Modelling

8.6.1 Noise levels will be calculated for the following years:

- Base Year 2004
- Opening Year 2011
- Design Year 2026

8.6.1.1 Base Year

8.6.1.2. The Base Year noise modelling will be built with normal asphalt surfacing throughout for the noise level calculations.

8.6.1.3 Do-Minimum & Do-Something (Proposed Scheme) Options

8.6.1.4 For the Do-minimum and Do-something situations, it is been assumed that, in accordance with current Highways Agency policy, low noise surfacing will replace the existing surfacing as part of any proposed routine maintenance. It is assumed that the entire scheme length will have low noise surfacing by the Opening Year 2011.

8.7 TAG Requirements

8.7.1 The TAG requires an estimate of the population annoyed in defined noise bands, based on 3 dB(A) and 5dB(A) interval contours. These contours will be calculated using the Roadnoise 2000 for the Do-minimum and Do-something options at the Opening Year (2011) and the Design Year (2026).

8.7.2 In accordance with TAG Unit 3.3.2, the population exposed will be estimated by determining properties affected and multiplying by the national average household size of 2.4 persons per household.

9.0 WATER QUALITY, DRAINAGE AND HYDROLOGY

9.1 Introduction

Highway schemes have the potential to affect the water environment. The effects may be divided between those to surface water and groundwater. These need to be considered in terms of effects to water quantity as well as those to water quality during both the construction and operational phases of the scheme.

9.2 Surface Water

9.2.1 Issues

9.2.1.1 The existing carriageway crosses the floodplain of the River Isle to the northwest and north of Ilminster. The proposed widening will reduce the volume of the floodplain, increasing the risk of flooding outside the natural floodplain.

9.2.1.2 The route crosses the River Isle at Cock's Bridge, north of Ilminster. There is an opportunity for the existing structure and orientation of the crossing to be reviewed, which the Environment Agency (EA) consider leaves "much to be desired" in environmental terms.

9.2.1.3 The increased area of hardstanding will increase the volume of highway runoff. The increased volumes may exceed the design parameters of the existing highway drainage system, which may, in turn, lead to increased risks of localised flooding in receiving watercourses.

9.2.1.4 Alterations to the system of culverts conveying surface flow beneath the carriageway will affect the drainage pattern up-gradient of the scheme and redistribute down-gradient surface flows.

9.2.1.5 There is potential for reduced water quality in watercourses receiving road runoff containing soluble and insoluble pollutants and increased risks to watercourses from pollutants spilt following traffic accidents.

9.2.1.6 There is potential for contamination of the adjacent surface watercourses during the construction phase of the improvements.

9.2.2 Assessment

9.2.2.1 The EA has confirmed that the proposed dualling and crossings for the A303 will require a full Flood Risk Assessment (FRA). The FRA will need to address the following aspects:

1 Detailed analysis of the existing risk.

2 Detailed analysis of existing proposed works, including mitigation/enhancement proposals; and

3 Bridge crossing to be designed with zero afflux for 100 year (including climate change and calculated using the Flood Estimation Handbook). It will also be necessary to check against the 500-year flow to ensure there is no adverse impact on the existing built development.

9.2.2.2 The direct and indirect impacts of the scheme upon the physical and biological habitat of the River Isle corridor needs to be assessed in accordance with DMRB volume 11. (See section 5.0 Ecology and Nature Conservation).

9.2.2.3 An assessment should be made of the effects of the proposals on all water sources (including piped supplies) and water-dependent features. The latter should include both direct and indirect effects. A comprehensive water interests survey will be required in the vicinity of the scheme.

9.2.2.4 A preliminary Water Quality Assessment (WQA) for highway discharges to the surface water system needs to be undertaken to calculate the potential for localised pollution effects and the need for pollution control facilities. Where the results of the preliminary assessment indicate a significant effect upon water quality, a detailed water quality assessment will need to be undertaken at particular problem locations.

9.2.2.5 The requirements for such detailed WQA, if required, should be agreed with the EA. The assessment should include both construction and operational phases and may require mathematical modelling. The elements requiring more accurate assessment include, but are not limited to:

1. the likely discharge quality, quantity and frequency;

2. the dispersion of the pollutants in the receiving water; and

3. the sensitivity of the receiving water to the pollutants.

9.2.2.6 The risk of a serious spillage in the absence of mitigation will be assessed for the entire scheme length and the likely risk of an accidental spillage causing a serious pollution incident be estimated.

9.2.3 Existing Data

9.2.3.1 Archived design information from the original highway construction, as well as from the hydrological assessment undertaken as part of the previous dualling proposals in 1995-96 may be available and of relevance to the current scheme. Details of the existing highway drainage system, including culverts, drains, attenuation lagoons and outfall arrangements, should be available.

9.2.3.2 Details of the extent of the River Isle floodplain are shown on the S.105 floodplain map held by the EA.

9.2.3.3 Details of historic flooding events and river flow monitoring available on the River Isle in the vicinity of the scheme are available from the EA.

9.2.3.4 The main permanent water features are shown on published topographic maps. Details of the licensed surface water abstractions are held on the Public Register, held by the EA.

9.2.3.5 Local climatic data, including rainfall information, is available from The Meteorological Office. Useful information may also be available from the Environment Agency. Other sources include publications by the Institute of Hydrology, such as their Hydrometric Register & Statistics.

9.2.3.6 Details of the surface water quality monitoring undertaken in the vicinity of the scheme and the current water quality classifications of the Main Rivers (GQA scheme) are available from the EA. The EA also have details of the River Water Quality Objectives (RQOs) for these watercourses.

9.2.3.7 Details of the consented discharges in the vicinity of the scheme are held on the Public Register, held by the EA.

9.2.3.8 Details of designated fisheries can be obtained from the EA and local angling associations.

9.2.3.9 Sediment and water samples were taken from upstream and downstream of the existing highway retention lagoons, as well as from the lagoons themselves. This data should be used when reviewing the performance of the existing interception facilities.

9.2.4 Additional Data Requirements

9.2.4.1 9.2.4.1 Details of the proposed scheme drainage are required to complete the Phase 3 assessment, particularly any upgrades, such as containment or pollution control measures.

9.2.4.2 Should insufficient information be currently available, biological resource mapping may be required to assess the impacts of the scheme on the physical and biological habitats of the River Isle. (See section 5.0 Ecology and Nature Conservation).

9.2.4.3 Confirmation of the water-dependent features shown on published sources should be verified by field walkover.

9.3 Groundwater

9.3.1 Issues

9.3.1.1 The scheme passes over a Major Aquifer from which Wessex Water plc abstract at Compton Durville for the Public Supply. The route alignment passes through Zone 2 of the Source Protection Zone for this source. The presence of the SPZ is a significant constraint during both the construction and operational phases of the scheme.

9.3.1.2 Discharges of highway drainage to soakaway within the SPZ would illicit a presumption against from the EA because of the risk of the potential for contamination of the water supply. The EA have indicated that the improvements should incorporate pipework that is less vulnerable to leakage within the SPZ.

9.3.1.3 Discharges to soakaway are generally acceptable outside Zone 3 of the SPZ (total groundwater catchment) but may require investigation before being permitted.

9.3.1.2 There is potential for groundwater contamination to occur during the construction phase.

9.3.1.3 Carriageway widening will increase the proportion of rainfall intercepted by the road pavement, resulting in a consequential reduction of groundwater catchment. Redistribution of the natural recharge may result in slightly lower groundwater levels and reduced groundwater flow adjacent to the scheme.

9.3.1.4 Drains in cuttings have the potential to intercept groundwater, causing a localised reduction in the elevation of the water table. This leads to a reduction of water levels - and hence yield - in wells and boreholes, as well as at springs.

9.3.2 Assessment

9.3.3 The potential for the scheme to cause a reduction in the yield and quality of the Compton Durville borehole source needs to be assessed.

9.3.3.1 The potential for the scheme to affect other groundwater sources and groundwater-dependent features requires assessment.

9.3.3.2 Should highway drainage outfalls to soakaway be envisaged, the likely risk of an accidental spillage causing serious pollution of groundwater should be estimated using the methodology outlined in DMRB 11. The assessment should consider the range of potential contaminants, including road salts and fuel oils.

9.3.3.3 An assessment should also be made of the potential for groundwater contamination to occur during the construction phase and of the mitigation required.

9.3.4 Existing/Available Data

9.3.4.1 Archived design information from the original highway construction, as well as from the hydrological assessment undertaken as part of the previous dualling proposals in 1995-96 may be available and of relevance to the current scheme. Details of the existing highway drainage system, including culverts, drains, attenuation lagoons and outfall arrangements, should be available.

9.3.4.2 The 'solid' and 'drift' geology of the area is shown on published maps produced by the British Geological Survey (BGS) and described in the associated memoirs (e.g. 1:50,000 Sheet 311 "Wellington" and 312 "Taunton").

9.3.4.4 Details of the cover soils in the area are shown on the maps published by the Soil Survey of England and Wales, together with their associated memoir.

9.3.4.5 The susceptibility of the strata in the vicinity of the scheme to groundwater pollution is shown on the Groundwater Vulnerability map for the area produced by the EA (Sheet 50). Reference should also be made to the EA's "Policy and Practice for the Protection of Groundwater".

9.3.4.6 Details of licensed groundwater abstractions in the vicinity of the scheme are available on the Public Register, held by the EA. Information on private domestic water supplies may be available from the local authority.

9.3.4.7 The current SPA for the Compton Durville boreholes is available from the EA.

9.3.4.8 The details of the mains water supply and foul water distribution networks in the vicinity of the scheme are available from Wessex Water plc.

9.3.4.9 Outline details of the proposed highway drainage scheme as well as the predicted two way AADT flows (high growth to the design year).

9.3.5 Additional Data Requirements

9.3.5.1 All groundwater-related features in the area, such as wells, springs or boreholes, require identification. It is possible that not all will be able to be located from the sources identified above, in which case house-to-house interviews with the owners or occupiers may need to be arranged. Where present, details of groundwater elevations and/or flows should be obtained.

9.3.5.2 Source Protection Zones for any unlicensed private abstractions in the vicinity of the scheme will require delineation.

9.3.5.3 Highway drainage solutions to soakaway (which are considered unlikely) may require ground investigation, which would require clarification from the EA.

10.0 VEHICLE TRAVELLERS

10.1 Introduction

10.1.1 The objective of the Stage 2 Environmental Assessment on vehicle travellers is to help in the development and refinement of route options by identifying the factors and effects concerning vehicle travellers.

10.2 Study Area

10.2.1 The study area to be adopted will include the existing A303 and the junctions encompassed within the study area boundary shown in **Figure 2.2 in Appendix A.** This will include the areas affected by both the A358 Preferred Option and the alternative A358/A303 Online Option.

10.3 Potential Impacts and Receptors

10.3.1 The draft Initial Scheme Assessment Report (ISAR) of May 2005, which was prepared on behalf of the Highways Agency, included a brief assessment of Journey Ambience for both the baseline and proposed situations. The proposed route considered in that report is broadly equivalent to the proposed A358/A303 Online Option. The ISAR concluded an overall impact score (based on the TAG appraisal criteria) of Neutral at that stage of the assessment. For the purposes of this scoping report, the receptors are considered to be the vehicle travellers.

10.3.2 The vehicle travellers views from the proposed route would be almost identical to the existing A303 for the majority of its length, except for the views at the Hayes End junction and the impacts of the proposed overbridges on rural views along the route.

10.3.3 The ISAR assessed “driver stress” as Better than the current alignment. The proposed improvements which contributed to this assessment were the increase in highway standard to dual carriageway, the reduction in junctions along the route and the free-flow approach.

10.3.4 Traveller care is assessed under the sub-factors of cleanliness, facilities, information and environment. The ISAR did not consider “traveller care” in detail for the proposed route, however it does identify information signing of local services and the provision of lay-bys on the existing route. The provision and location of lay-bys and driver facilities may impact on the experience of vehicle travellers and the assessment of such impacts will be included the Stage 2 Environmental Assessment.

10.4 Surveys

10.4.1 No surveys have been carried out, other than drive-throughs of the existing A303 route.

10.4.2 It is not proposed to undertake any surveys for the Stage 2 Assessment, although further drive-throughs will be carried out. The latest accident data will also be obtained from Somerset County Council to inform the review of driver stress.

10.5 Method of Assessment

10.5.1 A Stage 2 Environmental Assessment will be carried out in accordance with DMRB Volume 11 Section 3 Part 9: Vehicle Travellers, and in line with the Transport Assessment Guidance (TAG) Journey Ambience sub-objective. This will consist of an assessment of the “view from the road”, “driver stress” and “traveller care” experienced by travellers along this section of the A303 in both the baseline and proposed road situations. Both the A358 Preferred Option and the alternative A358/A303 Online Option will be considered.

10.5.2 The assessments will be based on the review on vehicle travellers that was carried out for the draft ISAR of May 2005, and shall consider the results of the Stage 2 landscape character, quality and visual impact assessment. A review of accident data will also be necessary to assess driver stress. The conclusions of the assessment will include an overall impact score based on the TAG appraisal criteria for the Journey Ambience sub-objective to determine whether there is a change in the experience of vehicle travellers when compared with the baseline situation.

10.6 References

10.6.1 The following documents will be considered as part of this assessment on vehicle travellers:

- DMRB Volume 11 Section 3 Part 9: Vehicle Travellers
- Transport Assessment Guidance (TAG) Journey Ambience sub-objective
- Draft Initial Scheme Assessment Report (ISAR) of May 2005

11.0 GEOLOGY AND SOILS

11.1 Introduction

11.1.1 The draft Initial Scheme Assessment Report (ISAR) of May 2005, prepared by Parsons Brinckerhoff for this scheme, provides an analysis of the existing setting and site conditions based on data available at the time, plus a preliminary engineering assessment.

11.1.2 The BGS 1:50,000 maps, 311(Wellington) and 312 (Yeovil) show the study area consists of Liassic deposits. Three divisions have been noted, namely the lower, middle and upper Lias which includes the junction bed that marks the transition between the middle to upper Lias. Superficial deposits in the River Isle flood plain overlie this solid geology. These strata, subject to detailed site investigation, are considered suitable substrate for road construction. Further geotechnical investigation will be carried out prior to construction with regard to the stability of the proposed deep excavation through; i) west of Boxstone Hill overbridge, ii) East of Boxstone Hill overbridge and iii) east of Barrington main overbridge. Currently the scheme does not achieve a cut/fill balance, there is likely to be a deficit of material that will have to be made up with imported fills. The only material that will be required to be disposed of to tips is any unsuitable material encountered.

11.1.3 Details of agricultural soil types have not been obtained to date, however it is likely that any such soils excavated will be required for landscape purposes. It is believed that there is no intention to translocate soils and therefore this issue will not be taken forwards to the EIA.

11.1.4 Research to date indicates that there are two geological SSSIs (Hurcott Lane Cutting and Seavington St Mary) in the study area. Both sites are a sufficient distance from the proposed widening such that neither site is likely to be affected by the proposed A303 Improvement. A section of the Junction Bed that was exposed during the construction of the existing A303 trunk road has been classified as a Regionally Important Geological or Geomorphological Sites (RIGGS). The exposure is located at the approximate grid reference of ST 403 155 and can be retained.

11.2 Study Area

11.2.1 The study area is a 1km wide corridor encompassing the two route options as shown in Figure 2.2 in Appendix A.

11.3 Potential Impacts and Receptors

11.3.1 Overall, it is likely that the proposed scheme will not have a significant negative impact on the geology and soils of the area, and therefore, apart from further geotechnical investigation mentioned above, sourcing engineering fill and the disposal of unsuitable material, this issue will not be taken forwards to the full EIA.

11.4 Surveys

11.4.1 The baseline data compiled in the Initial Scheme Assessment Report mentioned above provided the required level of detail for the Stage 1 Environmental Assessment. This included a walkover and consultation with landowners with a desk study to review existing data, including previous site investigation reports, historical and other maps. No surveys or geotechnical investigation are planned for the Stage 2 Environmental Assessment.

11.5 Method of Assessment

11.5.1 The following tasks will be undertaken for the Stage 2 Environmental Assessment:

(i) Check with the relevant statutory body and the local planning authorities that no new sites have been designated in the study corridor or further areas of contaminated land identified, and whether any new survey work has been carried out, since Stage 1, which might have a bearing on the route options.

(ii) The appropriate statutory body will be contacted to confirm that no further work is required as the studies to date indicate that the proposed routes will not have any significant impacts on geological or geomorphological conservation.

(iii) As it is not anticipated that areas of contaminated land may be affected, there is no need for further site investigation work to be carried out at this stage, however the need for such surveys will be considered.

11.6 References

11.6.1 The following documents will be considered as part of this assessment on geology and soils:

- British Geological Survey maps - 1:50,000 Sheets 311(Wellington) and 312 (Yeovil) and their associated memoirs
- Parsons Brinckerhoff Draft Initial Scheme Assessment Report (ISAR) of May 2005, plus references contained within sections 4.3 and 5.7 of this report

12.0 SUMMARY

12.1 The existing Bypass was relatively recently constructed and a design for the widening was established in the 1990's. Consequently, the opportunity for suitable and practical route alternatives away from the existing road alignment is minimal. Thus the study areas identified for environmental assessment concentrate on the corridor of the existing road and the proposed widening.

12.2 The information presented for the previous scheme Environmental Statement has been used to assist the data gathering and assessment processes where possible.

12.3 These circumstances and the need to progress the scheme preparation as expediently as possible have dictated the approach to the level of assessment. That is, to achieve a minimum of a DMRB Stage 2 Assessment, with Stage 3 data collection and assessment where possible.

12.4 At the eastern end of the scheme the proposed Hayes End junction grade separation is an addition to the previous design and will require consideration of options.

12.5 This report is intended to ensure that the environmental studies provide as much relevant information as possible on:

- The content and extent of the assessments being undertaken.
- The impacts and effects of the project.
- Measures identified to reduce or offset any significant adverse impact of the scheme on the environment.
- Information for further development of environmental assessment for forwarding to the ECI Contractor.

12.6 Additionally, the Scoping Report identifies DMRB Stage 3 Assessment work that could potentially be undertaken prior to the appointment of the ECI contractor, where early implementation could assist the 'Speeding up Delivery' initiative.

12.7 Agreement on the scope of all remaining Stage 3 Assessment work including the continuation of field survey work commenced prior to ECI Contractor appointment would be the responsibility of the appointed ECI Contractor.

APPENDIX A

SCHEME PLANS

The following scheme plans are included:

A303 Ilminster Bypass Dualling

Drawing No.	Title
HHI 43590B/Figure 1.0	Location Plan
HHI 43590B/Figure 2.1	Route Options
HHI 43590B/Figure 2.2	Study Area

APPENDIX B

APPRAISAL SUMMARY TABLE